**MDOT**

MARYLAND DEPARTMENT
OF TRANSPORTATION

# 2018 ANNUAL
# ATTAINMENT REPORT
## On Transportation System Performance

Implementing the Maryland Transportation Plan &
Consolidated Transportation Program

| Larry Hogan | Boyd K. Rutherford | Pete K. Rahn |
|---|---|---|
| **Governor** | **Lt. Governor** | **Secretary** |

The performance of Maryland's transportation system is a critical component in the overall success of our state economy. Our administration is committed to maintaining and improving Maryland's transportation infrastructure and services, and making the necessary strategic investments to allow Maryland to continue on its path toward renewed growth and prosperity.

By delivering effective transportation solutions that improve our roads, bridges, transit systems, airports and Port, we can greatly improve commute times, relieve congestion and make it easier to do business more efficiently. From implementing BaltimoreLink, a transformative transit network that provides enhanced access to the Baltimore region's job centers, to initiating the Traffic Relief Plan to address some of the nation's toughest congestion in the Baltimore/Washington region, to welcoming a record 25.9 million passengers at BWI Marshall Airport, and introducing new driver's license designs that are more secure and less prone to identity theft, our administration is delivering for every Marylander. We will continue to focus our attention on connecting more people to more places with better transportation systems that meet the demands of the 21st century.

Working together, I know that we will continue to change Maryland for the better!

**LARRY HOGAN**
■ **GOVERNOR**

The Maryland Department of Transportation (MDOT) is a customer-driven transportation agency that directly touches the lives of Maryland residents and visitors. Each day, we facilitate the movement of people and the flow of goods and services, helping to connect our customers to life's opportunities.

We serve our customers through a network of six transportation business units. We strive to ensure Maryland residents and visitors enjoy a transportation system that is safe and reliable, as well as a major contributor to the State's economic vitality. As Secretary of this remarkable organization, I manage a $5.9 billion annual budget (FY 2018) and lead 10,271 employees, all of whom are dedicated to meeting the needs of our customers.

The Annual Attainment Report on Transportation System Performance measures our progress toward achieving our strategic goals through our investment in projects in our Consolidated Transportation Program (CTP), and through our daily operations. This past year, under Governor Hogan's leadership, we have taken several significant steps towards improving our entire transportation network through targeted investments, innovative project delivery, and the use of practical design and strategic costs savings.

We have assembled an excellent team and are committed to getting the most out of every taxpayer dollar we spend. MDOT delivers for its customers through innovation, teamwork, accountability and enhanced communication. I invite you to review this Annual Report and welcome your feedback. Our department will continue to work hard every day to meet and exceed your transportation needs and expectations.

**PETE K. RAHN**
■ **TRANSPORTATION SECRETARY**

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## ONE MDOT–INTEGRATING MULTIMODAL TRANSPORTATION

The Maryland Department of Transportation (MDOT) is unique among state DOTs in the breadth of its responsibilities to deliver an exceptional and comprehensive transportation system to the people and businesses it serves. MDOT brings together all of the State's transportation agencies into one organization, ensuring that the State's highway systems, toll facilities, transit, aviation, ports, and motor vehicle and driver services work together seamlessly and leverage one another's strengths. The ONE MDOT approach goes beyond six functional entities to instill an organizational mindset where everyone works together to deliver an exceptional transportation system that safely and efficiently moves people, goods and services for a more prosperous Maryland. For more information on how MDOT facilitates transportation throughout Maryland, please visit the MDOT OneStopShop website (**mdotonestopshop.maryland.gov**) for useful information in one central location.

## MARYLAND TRANSPORTATION BUSINESS UNITS

| ACRONYM | BUSINESS UNIT |
| --- | --- |
| TSO | The Secretary's Office |
| MDOT MAA | Maryland Aviation Administration |
| MDOT MPA | Maryland Port Administration |
| MDOT MTA | Maryland Transit Administration |
| MDTA | Maryland Transportation Authority |
| MDOT MVA | Motor Vehicle Administration |
| MDOT SHA | State Highway Administration |

The State of Maryland also supports:

| | |
| --- | --- |
| WMATA | Washington Metropolitan Area Transit Authority |

# LIST OF PERFORMANCE MEASURES BY GOAL

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# HIGHLIGHTS:

*Below are some of MDOT's performance results over the past year.*

## ECONOMIC PROSPERITY

- MDOT MPA's general cargo tonnage in 2017 set a new fiscal year record high for the 7th consecutive year, at 10.3 million tons - a 5.7% increase over FY 2016. Containers set record volumes.

- BWI Marshall Airport continued to break monthly passenger records for each of the months in FY 2017. Total passengers increased 4.1% to nearly 25.9 million, an all-time fiscal year record for BWI Marshall Airport.

- MDOT completed 21 major projects across the state in FY 2017, at a total cost of $764.7 million, to improve travel by air, road and transit.

- MDOT SHA's Coordinated Highways Action Response Team (CHART) incident management program saved drivers $1.5 billion in user costs and helped reduce delay by 43.6 million vehicle hours in CY 2016.

- As part of the "One Stop Shop" for Marylanders, MDOT MVA implemented the ability for Maryland residents to obtain a TSA Pre-Check and Transportation Worker Identification Card (TWIC) at six MDOT MVA Branch Offices. Through September 30, 2017, just under 2,300 TSA Pre-Checks and more than 820 TWIC cards were issued.

## SAFETY & SECURITY

- MDOT MTA was named America's safest transit system in terms of Part I crimes in 2016 from among 12 of the largest transit agencies.

- MDOT MPA has received perfect U.S. Coast Guard annual security inspections for seven consecutive years.

- MDOT MVA piloted a digital driver's license, which offers a secure and convenient way to display identification documents.

## SYSTEM PRESERVATION

- In CY 2016, MDOT SHA and MDTA roadway mileage exceeded their performance targets of 87% by achieving an acceptable ride quality of 88% on the state's roadway network.

- MDOT SHA treated or re-paved nearly half of the entire roadway system between 2015 and 2017.

- MDOT MPA plans to increase capacity by expanding the existing Cox Creek dredged material containment facility and by removing and innovatively reusing the dredged material.

- MDOT SHA recorded 67 structurally deficient bridges in April 2017, less than 3% of the total number of MDOT SHA's 2,567 bridges and the lowest number reported since tracking began.



## QUALITY OF SERVICE

- Additional travelers took advantage of electronically tolls as MDTA's percent of electronic toll transaction by three percentage points over a two year period, 2015 to 82% in 2017.

- MDOT MTA launched a new customer satisfaction survey in 2016.

- MDOT MVA customer satisfaction continues to exceed over 90% for the second year in a row due to strategic process enhancements to reduce wait time.

- MDOT SHA achieved an 85.7% rating for the overall maintenance condition of its highway network, including elements such as sign maintenance, guardrail repair, drainage work, and brush and tree cutting.

- MDOT MVA enhanced customer convenience by expanding the MDOT MVA website and kiosks to add other services, such as *E-ZPass®*.

- As of October 10, 2017, 638 *E-ZPass* transponders were sold through the MDOT MVA online shop.

- MDOT MVA mobile driving test app has been recognized as a Gold Winner by the Horizon Interactive Awards, a prestigious international competition recognizing outstanding achievement among interactive media producers.

## ENVIRONMENTAL STEWARDSHIP

- MDOT SHA performed over 3,800 Erosion and Sediment Control (ESC) inspections with only 23 non-compliance findings for a compliance rate of 99.4%.

- MDOT MPA continued expansion of the Poplar Island Environmental Restoration project in 2017; eventually this will increase the island by 575 acres.

- MDOT MVA streamlined the Vehicle Emissions Inspection Program (VEIP) system which will save customers $2.3 million.

- MDTA instituted a 3rd-Party Environmental Auditing program to ensure compliance with appropriate federal and state environmental regulations.

## COMMUNITY VITALITY

- MDOT MTA launched BaltimoreLink in 2017, a complete overhaul of the Baltimore bus system that improves service quality and reliability, better connects bus and rail, and aligns the network with existing and emerging job centers.

- MDOT SHA added 93.9 directional miles of improved bicycle access along the state roadway network in FY 2017.

- MDOT invested $3.1 million in FY 2017 to design and construct dedicated bicycle retrofit projects including the development of a statewide multi-jurisdictional bicycle spine network to connect regionally significant destinations.

- The number of nonstop markets served by BWI Marshall Airport increased to 83 markets in FY 2017.

# INTRODUCTION

## GUIDING MARYLAND'S TRANSPORTATION SYSTEM

MDOT continually takes steps to plan, invest in and evaluate the transportation system to ensure it connects customers to key destinations–enabling a growing economy. MDOT's strategic approach is presented through the State Report on Transportation (SRT) which is comprised of three documents: (1) MDOT sets a vision for the transportation system through the Maryland Transportation Plan (MTP); (2) the six-year budget for transportation projects is produced annually as the Consolidated Transportation Program (CTP); and (3) MDOT evaluates and reports the performance of Maryland's transportation system through the Annual Attainment Report on Transportation System Performance (AR), focusing on the goals adopted in the MTP. MDOT also evaluates its performance quarterly through the MDOT Excellerator performance management system to ensure the Department is delivering on its commitments to its customers and to respond in a nimble manner throughout the year to improve decision-making and performance.

**For more information on the FY 2018–FY 2023 CTP, please visit** *www.CTP.maryland.gov*.

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.

## MTP GOALS

**ECONOMIC PROSPERITY** – Support a healthy and competitive Maryland economy.

**SAFETY & SECURITY** – Enhance the safety of transportation system users and provide a transportation system that is resilient to natural or man-made hazards.

**SYSTEM PRESERVATION** – Preserve and maintain the State's existing transportation infrastructure and assets.

**QUALITY OF SERVICE** – Maintain and enhance the quality of service experienced by users of Maryland's transportation system.

**ENVIRONMENTAL STEWARDSHIP** – Ensure that the delivery of the State's transportation infrastructure program conserves and enhances Maryland's natural, historic and cultural resources.

**COMMUNITY VITALITY** – Provide options for the movement of people and goods that support communities and quality of life.

# MARYLAND'S INVESTMENT IN TRANSPORTATION

MDOT invests in the transportation system by applying all the resources it has available, the majority of which come from the Transportation Trust Fund (TTF). The TTF funding sources include motor vehicle fuel taxes, vehicle titling taxes, motor vehicle fees, corporate income taxes, sales and use taxes, operating revenues, bond proceeds, federal sources and minor sources. MDOT also engages private partners on projects to minimize risk and maximize the efficiency of each dollar spent. The Purple Line transit project is one such example of a Public-Private-Partnership (P3). MDOT is also taking action to ease traffic on the state's most congested highways through a $9.0 billion P3 that will reduce congestion on three of Maryland's most congested highways—the Capital Beltway, Interstate 270 and the Baltimore-Washington Parkway.

MDOT supports strategies across every mode of transportation – improving the customer experience on the transportation network by improving safety, reducing congestion, providing more and better non-motorized and transit options, increasing connections between modes, and improving the flow of goods. In the FY 2018–FY 2023 CTP, Maryland will invest $14.8 billion in transportation projects across the state, ranging from connecting Maryland with expanded transit options

to addressing congestion to optimizing waterways for trade. MDOT continues to invest in the Helen Delich Bentley Port of Baltimore berths and shipping channels that lead to increased efficiency and additional containers moving through the Port, as well as the ability to service larger ships that travel through the expanded Panama Canal.

Maryland also continues to ensure its transportation infrastructure is well maintained and preserved. In FY 2018, MDOT Transportation Business Units (TBUs) allocated $576.4 million towards system preservation, and in FY 2017 MDOT SHA spent more than $317 million on preserving and improving its pavements, an 8% increase over FY 2016.

MDOT continues to track the "percentage of budgeted dollars expended" in order to manage the current budget with borrowing levels. In FY 2017, MDOT expended 94.1% of allocated dollars, exceeding the goal of 92%. For more information on MDOT financial information, please see the FY 2018–FY 2023 CTP.

## MDOT TOTAL CAPITAL PROGRAM LEVELS (BILLIONS)



Bar chart. Y-axis: DOLLARS (Billions), from $0.0 to $18.0. X-axis periods with CTP Total Capital Program bars and CTP Total Capital Program Level Adjusted for Inflation* line:

| Period | Bar ($B) | Inflation-Adjusted Line ($B) |
|---|---|---|
| 09-14 | $8.5 | $9.5 |
| 10-15 | $9.1 | $10.3 |
| 11-16 | $9.4 | $10.6 |
| 12-17 | $9.9 | $10.7 |
| 13-18 | $10.1 | $10.8 |
| 14-19 | $15.6 | $16.4 |
| 15-20 | $15.8 | $16.2 |
| 16-21 | $15.7 | $16.1 |
| 17-22 | $14.8 | $15.0 |
| 18-23 | $14.8 | $14.8 |

Legend: ■ CTP Total Capital Program — CTP Total Capital Program Level Adjusted for Inflation*

*\* The inflation adjusted amounts are calculated using the Consumer Price Index (CPI), which measures the average change in prices of a variety of consumer goods and services.*

# TRANSPORTATION MOBILITY AND ACCESSIBILITY

Key transportation issues for MDOT's customers include mobility (the ease of traveling along the network) and accessibility (the ease of reaching desired destinations or activities, often considered in terms of travel choice). MDOT addresses mobility through projects such as the $151.4 million investment in the MD 404 widening project which will improve safety and operations and the $64.9 million of new funding dedicated to the US 219 realignment project north of I-68, a key investment that will enhance accessibility and promote economic development. Examples of MDOT projects that improve regional accessibility by providing travel options to customers include the development of the Purple Line, which will enhance connections between Montgomery and Prince George's Counties, as well as the inclusion of bicycle facilities and dedicated bus lanes along Baltimore City's North Avenue corridor.

MDOT anticipates that travel demand and supply will change in the future based on factors such as population growth, Vehicle Miles Traveled (VMT) and car ownership rates. Maryland's population growth is expected to increase over the next 25 years, with most of the growth occurring in urban areas. By 2040, Maryland's population will be nearly 6.9 million, an increase of 16% from 2015. Jobs are also projected to grow, albeit at a slower pace, showing an increase of 9% by 2040. As the population grows, more demand for travel choices by both residents and businesses is expected. Consequently, total VMT in the state is estimated to increase. In 2017, VMT is expected to increase to a record number – 59.6 billion – a 4% increase from 2015.

As Maryland's demographics shift in the next 25 years, so will the travel preferences for different population groups. Much of the baby boomer generation is aging in place and may need alternative transportation options other than single occupant vehicles, while millennials show preferences for more walkable and transit-rich neighborhoods. MDOT is considering how future transportation technologies and services, including Transit Network Companies (TNCs) like Lyft and Uber, and Connected and Automated Vehicles (CAV), can maximize accessibility, mobility and connectivity within the larger transportation system. As vehicles become increasingly automated and connected, MDOT and the Maryland CAV Working Group are assessing the potential impacts of these new technologies, and how the State can ensure people traveling in Maryland benefit from the advances. Anticipating a range of scenarios and planning for changes in travel demand is necessary for MDOT to make strategic investments in order to meet its long-term goals of developing a coordinated and balanced approach to transportation.

# ANNUAL NUMBER OF VEHICLES MILES TRAVELED AND VMT PER CAPITA

Economic and population growth create more demand for mobility by residents, visitors and companies conducting their business. As these demands increase, past trends indicate that it can be expected that total VMT will also increase. MDOT anticipates demand and responds with investments in capital projects, operational improvements and other strategies to ensure multimodal networks and services remain efficient, viable and safe. MDOT is also aware that as it makes investments in transportation to improve services and increase capacity, travelers are naturally drawn to new facilities that are expected to improve the travel experience.

## ANNUAL NUMBER OF VEHICLE MILES TRAVELED (VMT) AND VMT PER CAPITA



| Calendar Year | Annual VMT | Annual VMT per Capita |
|---|---|---|
| 2008 | 56,148 | 9,877 |
| 2009 | 55,631 | 9,708 |
| 2010 | 56,206 | 9,711 |
| 2011 | 56,051 | 9,598 |
| 2012 | 56,389 | 9,583 |
| 2013 | 56,457 | 9,523 |
| 2014 | 56,400 | 9,439 |
| 2015* | 57,314 | 9,542 |
| 2016* | 58,974 | 9,802 |
| 2017** | 59,579 | 9,854 |

*Annual VMT* ■   *Annual VMT per Capita* ━■━

*\* 2015 and 2016 data has been revised from the previous Attainment Report.*
*\*\* 2017 data is preliminary and subject to change.*

## MDOT MVA TRANSACTIONS (THOUSANDS)

| FISCAL YEAR | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016* | 2017 |
|---|---|---|---|---|---|---|---|---|---|
| Number of registered vehicles | 4,736 | 4,816 | 4,809 | 4,838 | 4,824 | 4,882 | 4,963 | 5,051 | 5,100 |
| Number of Driver's Licenses issued | 4,049 | 4,082 | 4,084 | 4,102 | 4,140 | 4,143 | 4,186 | 4,265 | 4,330 |
| Number of motorcycle licenses issued | 252 | 257 | 263 | 269 | 274 | 275 | 277 | 279 | 281 |
| Number of Commercial Driver's Licenses issued | 168 | 170 | 173 | 176 | 180 | 180 | 184 | 188 | 193 |
| Total number of MDOT MVA transactions per year | 12,263 | 11,011 | 11,880 | 11,995 | 10,315 | 10,756 | 11,117 | 11,100 | 11,200 |

* 2016 data revised from previous Attainment Report.

# MODE SPLIT FOR MARYLAND COMMUTERS

**COMMUTE MODE SHARE (AMERICAN COMMUNITIES SURVEY, U.S. CENSUS)**

As one of the top states with a high share of commuters who walk, bicycle or use transit to travel to work, Maryland's commute share is truly multimodal. In 2016, Maryland saw no change in the percentage of people who drive alone or bicycle to work, while seeing a greater percentage of commuters work at home. The percentage of commuters traveling by transit decreased by half of a percentage point; this decrease is consistent with national trends.

| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|---|---|---|---|---|
| Drive Alone | 74.3% | 73.2% | 73.4% | 73.0% | 73.3% | 73.4% | 74.0% | 73.9% | 73.8% | 73.8% |
| Carpool | 10.2% | 10.8% | 10.0% | 10.7% | 10.1% | 9.8% | 9.0% | 9.3% | 8.9% | 9.0% |
| Transit | 8.4% | 8.5% | 8.8% | 8.6% | 9.2% | 8.9% | 9.1% | 9.0% | 9.0% | 8.5% |
| Work at Home | 3.6% | 3.8% | 4.1% | 4.3% | 4.1% | 4.2% | 4.2% | 4.1% | 4.4% | 4.7% |
| Walk | 2.6% | 2.3% | 2.6% | 2.3% | 2.3% | 2.5% | 2.4% | 2.3% | 2.6% | 2.5% |
| Other | 0.7% | 1.0% | 0.7% | 0.9% | 0.8% | 0.9% | 0.9% | 1.0% | 1.1% | 1.2% |
| Bicycle | 0.2% | 0.3% | 0.4% | 0.2% | 0.3% | 0.4% | 0.3% | 0.3% | 0.3% | 0.3% |

**KEY**

- ■ DRIVE ALONE
- ■ CARPOOL
- □ TRANSIT
- ■ WORK AT HOME
- ■ WALK
- □ OTHER
- ■ BICYCLE

## KEY ACTIVITIES & ACCOMPLISHMENTS TO PROMOTE ALTERNATIVES TO DRIVING ALONE

**2010** Guaranteed Ride Home Expansion, Maryland TOD Designation, MTA Charm Card

**2011** ICC/MD 200 Commuter Bus, MARC Penn Line Service enhancement, MARC Rail Car and Locomotive Replacement

**2012** Maryland Bikeways and Bikeshare programs

**2013** Transportation Infrastructure Investment Act, MARC Penn Line weekend service, implementation of Bikeways and Bikeshare programs

**2014** Inclusion of the streamlined Purple Line, and CCT in the FY 2016–FY 2021 CTP

**2015** Announcement of BaltimoreLink, a $135 million multi-phase initiative to transform transit throughout the Baltimore metropolitan area, expansion of MARC Weekend Service and addition of new bike car service

**2016** Implementation of BaltimoreLink including launching new Express BusLink suburb-to-suburb services on Routes 102, 106, 107 and launching of some of the expanded and new Commuter Bus service. Enhanced QuickBus 40 (QB 40) service between the Centers for Medicare and Medicaid in Baltimore County and City Hall in Baltimore City, and began service for a new reverse commute bus Route 425 between Baltimore to Aberdeen Proving Ground

**2017** MDOT MTA launched BaltimoreLink, a complete overhaul of the Baltimore bus system that improves service quality and reliability, better connects bus and rail, and aligns the network with existing and emerging job centers

Initiated construction on the Purple Line that is being built through a P3 contract with the Purple Line Transit Partners to design, build, finance, operate and maintain the 16-mile Light Rail system from Bethesda to New Carrollton

# BALANCING THE MULTIMODAL APPROACH AND PROVIDING TRANSPORTATION OPTIONS

Providing a balanced and comprehensive multimodal approach requires consideration of numerous factors, including travel demand, population growth, community needs, needs unique to rural and urban areas, and economic development opportunities. As Marylanders continue to seek ways to address their personal and commercial needs for mobility, the ability to choose from a diverse menu of multimodal options can optimize travel.

MDOT meets the current demand for multimodal travel by providing comprehensive transportation options, including highways, an international airport as well as local airports, transit networks, ridesharing, bicycle facilities and pedestrian networks. Active and effective partnerships are integral to MDOT's efforts. MDOT works with State, local and non-profit partner organizations to improve safety and enhance multimodal travel options. Progress towards improving safety and reducing fatalities across the multimodal network happens when goals are shared by MDOT and partner agencies. An example of MDOT's work to build effective partnerships can be seen in the Bicycle and Pedestrian Priority Areas (BPPAs) (see text box below). An outcome of the collaborative approach of the BPPAs is shared commitments by MDOT and partner agencies to implement the bicycle and pedestrian improvements outlined in the BPPA plan.

MDOT took some major steps forward to advance transportation alternatives in 2017, by launching a major overhaul to the state's bus network: The BaltimoreLink effort ushered in a new era of more efficient bus routes, combined with particular attention to improving overall accessibility and improving first mile, last mile connections for transit riders. Another major undertaking will examine ways to improve the state's capacity for Transportation Demand Management (TDM). MDOT supports several ongoing programs like Commuter Choice Maryland, Telework Baltimore, park-and-ride lots and rideshare coordination, and is reaching out to employers to build new tools to improve the efficiency of this system.

Maryland is also working to promote active transportation in communities across the state through federal and State grant programs. In the spring of 2017, MDOT held workshops for local jurisdictions and other eligible applicants on how to access available funding for bicycle and walking infrastructure projects. Between FY 2018 and FY 2023, MDOT will administer over $12 million in grants through the Maryland Bikeways Program; $49 million in grants through the Transportation Alternatives and Safe Routes to School program; and over $5 million in grants through the Recreational Trails Program.

# BIKING AND WALKING IN MARYLAND

MDOT works to enhance the safety and accessibility of biking and walking as viable transportation options through strategic funding investments and policy initiatives as a part of larger projects throughout the state. MDOT manages and administers a variety of funding and strategic policy programs that support bicycle and pedestrian projects.

- Sidewalk Reconstruction for Pedestrian Access (Fund 33): This MDOT SHA system preservation program works to upgrade existing pedestrian facilities adjacent to state highways to ensure compliance with the Americans with Disabilities Act (ADA) Accessibility Guidelines (ADAAG) and MDOT SHA's Accessibility Policy and Guidelines for Pedestrian Facilities along state Highways.

- New Sidewalk Construction Program for Pedestrian Access (Fund 79): This program works to construct new sidewalks along state highways when no other project is planned. Projects are prioritized to complete gaps in the sidewalk network, provide access to transit or other public services and improve safety.

- Bicycle Retrofit Program (Fund 88): This program looks to upgrade bicycle access through the construction of bicycle paths adjacent to state highways or the retrofit of state roadways for on-road bicycle accommodation.

- Bicycle Pedestrian Priority Areas (BPPAs): The BPPA program focuses on planning bicycle and pedestrian facility improvements in areas with a high concentration and/or potential of bicycling and walking. This program facilitates a collaborative approach between state and local transportation agencies to align planning goals with innovative bicycle and pedestrian treatments.

- Urban Reconstruction Program: This program coordinates planning efforts between MDOT SHA staff and local stakeholders to promote safety and economic development within state roadways in urbanized areas. Key transportation improvements addressed as a part of these projects include pedestrian access and safety through pedestrian lighting, sidewalk construction/reconstruction to the latest ADA standards and intersection improvements.

# TRANSIT RIDERSHIP

MDOT MTA and local transit partners provide transit options for residents and visitors in both urban and rural parts of the state. MDOT continues to strategically invest in its transportation infrastructure as shown in the FY 2018–FY 2023 CTP. In June 2017, MDOT MTA launched BaltimoreLink, the complete and transformative rebranding and system overhaul of Baltimore's interconnected bus system. Future projects include the Purple Line, a 16.2 mile Light Rail line extending from Bethesda in Montgomery County to New Carrollton in Prince George's County, numerous improvements to the MARC and Light Rail systems in Baltimore, and funding of Locally Operated Transit Systems (LOTS) with an investment of $39.8 million in capital projects.

MDOT is a key partner, along with neighboring jurisdictions, in providing funding for the Washington Metropolitan Area Transit Authority (WMATA), supporting an extensive transit network that spans the National Capital Region. Residents and visitors depend on WMATA to provide key connections to regionally significant activity centers and many local and regional transit modes throughout Maryland, including MARC, Commuter Bus, Amtrak, Montgomery County Ride On and Prince George's County's TheBus. Nearly 105 million passengers used the WMATA Metrorail, Metrobus and MetroAccess system in Maryland in 2017.

| FISCAL YEAR | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017* |
|---|---|---|---|---|---|---|---|---|---|
| TRANSIT RIDERSHIP–MTA DIRECT-OPERATED SERVICES (THOUSANDS) | | | | | | | | | |
| LOCAL BUS | 75,694 | 74,926 | 78,390 | 79,535 | 80,071 | 75,780 | 78,697 | 75,619 | 69,587 |
| BALTIMORE METRO | 13,567 | 13,364 | 14,588 | 15,364 | 15,208 | 14,632 | 13,901 | 12,222 | 10,960 |
| LIGHT RAIL | 8,644 | 8,158 | 8,655 | 8,540 | 8,647 | 8,106 | 7,657 | 7,431 | 7,414 |
| TRANSIT RIDERSHIP–CONTRACTED SERVICES AND LOTS (THOUSANDS) | | | | | | | | | |
| MARC | 8,021 | 8,096 | 8,233 | 8,452 | 9,062 | 9,168 | 9,246 | 8,962 | 9,185 |
| CONTRACTED COMMUTER BUS | 3,974 | 3,859 | 4,097 | 4,290 | 4,187 | 4,017 | 4,034 | 3,928 | 3,866 |
| MOBILITY PARATRANSIT & TAXI ACCESS | 1,450 | 1,481 | 1,660 | 1,900 | 2,084 | 2,289 | 2,495 | 2,556 | 2,746 |
| LOTS | 45,635 | 45,700 | 40,243 | 40,908 | 40,281 | 42,500 | 39,441 | 38,476 | 39,818 |

*\* 2017 data is preliminary and subject to change.*

## MARYLAND-ONLY WMATA RIDERSHIP (THOUSANDS)



| FISCAL YEAR | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017* |
|---|---|---|---|---|---|---|---|---|---|
| MARYLAND-ONLY WMATA RIDERSHIP | 134,468 | 129,952 | 123,177 | 126,797 | 123,277 | 121,243 | 122,800 | 111,648 | 104,707 |
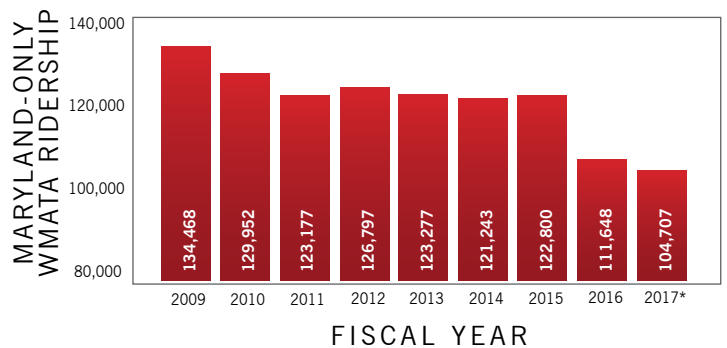
*\* 2017 data is preliminary and subject to change.*

# ECONOMICS DRIVERS IN MARYLAND

## AIR TRAVEL IN MARYLAND

Maryland's comprehensive airport system serves as a key economic resource for the state. BWI Marshall Airport supports 97,000 jobs and over $10.0 billion in business revenue from passengers and air cargo activities. The largest public airport in Maryland is BWI Marshall Airport which continues to see an increase in passengers on an annual basis. FY 2017 is projected to create a new record of 25.9 million passengers, an increase of over 3% from 2016. This increase is due in part to the increasing number of domestic and international routes BWI Marshall Airport offers passengers. In 2017, the airport offered passengers and air cargo operators access to 83 nonstop air markets, an increase from 79 in 2016. To continue the success of BWI Marshall Airport's economic activity, as well as that of airports throughout the state, MDOT MAA has funded over $323.9 million in major projects and $201.4 million in system preservation projects in the FY 2018–FY 2023 CTP. As an example, to support the increased international travel and tourism opportunities at BWI Marshall Airport, the Maryland Board of Public Works approved construction of a three-level, 70,000 square foot extension, to expand and improve Concourse E, the airport's international terminal facility. Air cargo is also an important economic driver at BWI Marshall Airport and over 127,690 metric tons of cargo passed through BWI Marshall Airport in FY 2017, which is an increase of 6.9% from FY 2016.

BWI Marshall Airport is one of 36 public airports in the state, and since 2008 MDOT MAA has funded over $33.0 million in regional airport projects (excluding federal and local funds), and invested over $3.4 million in FY 2017. These investments in regional airports support an inclusive and comprehensive public use airport system in Maryland and provide passengers and air cargo operators more choices and opportunities to connect to the global transportation system. Another key part of Maryland's air transportation system is Martin State Airport. As a general aviation reliever and support facility for the Maryland Air National Guard and the Maryland State Police, it is a strategic asset for Maryland when natural disasters or threats occur.

## TOTAL ANNUAL COMMERCIAL PASSENGERS AT BWI MARSHALL AIRPORT



| Calendar Year | Total Passengers (Millions) |
|---|---|
| 2007 | 21.0 |
| 2008 | 20.5 |
| 2009 | 21.0 |
| 2010 | 21.9 |
| 2011 | 22.4 |
| 2012 | 22.7 |
| 2013 | 22.5 |
| 2014 | 22.3 |
| 2015 | 23.8 |
| 2016* | 25.1 |
| 2017** | 25.9 |

*\* 2016 data was revised from the previous Attainment Report.*
*\*\* 2017 data is estimated and subject to change.*

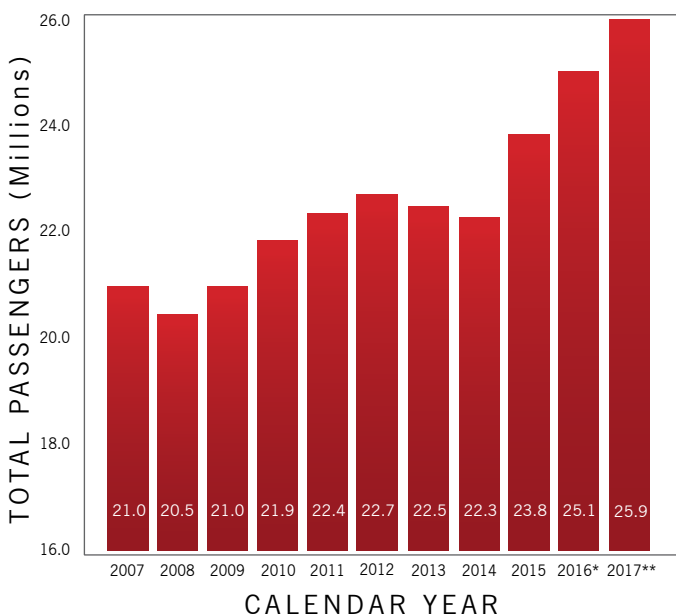Maryland's airports continue to offer more destinations to opportunities and are crucial to supporting and growing the state's tourism and economy. For example, BWI Marshall Airport added new domestic routes from Allegiant Air to Destin-Fort Walton Beach Airport in Northwest Florida, and Alaska Airlines' three transcontinental routes between BWI Marshall Airport and Portland, Oregon, San Diego and San Francisco, California. Southern Airways Express also added new routes from BWI Marshall Airport to Johnstown, Pennsylvania and Morgantown, West Virginia. New international routes include Spirit Airline's service between BWI Marshall Airport and Cancun, Mexico which began in November 2017; this is the first international route for Spirit Airlines at BWI Marshall Airport. In 2017, BWI Marshall Airport also had the honor of welcoming Contour Airlines as a new carrier to the airport with service to Middle Georgia Regional Airport in Macon, Georgia. These new routes and destinations continue to provide opportunities to better connect Maryland with the global economy and support growth in tourism and freight in the state.

## THE PORT OF BALTIMORE

The Port of Baltimore serves as a strategic economic asset in Maryland and was responsible for over $2.9 billion in personal income, as well as generating $310.0 million in state, county and municipal tax revenues in FY 2017. The Port's economic activities support approximately 127,000 jobs in Maryland. This includes 13,650 direct and 20,270 inducted and indirect jobs. These jobs and technical skills are vital to the continued economic success of the region; it is noteworthy that, the average Port direct job salary is 16% higher than the state's average salary.

The Port of Baltimore continues to see its investments in its facilities pay dividends as it is ranked as the top port among all U.S. ports for handling autos and light trucks, farm and construction machinery, and imported sugar. The Port of Baltimore handled 31.8 million tons of international cargo worth $49.9 billion in 2016 and is ranked ninth for the total dollar value of international cargo and 14th for international cargo tonnage for all U.S. ports.

Another growth driver is Baltimore's two year-round cruise lines offering cruises to exciting destinations as over 400,000 passengers passed through the Cruise Maryland Terminal in FY 2017. The Port hosted 86 home-port cruises and an additional 10 port-calls by international cruises, and is second in the Mid-Atlantic for the number of cruise passengers served. The Port serves as a main cruise terminal for Carnival Cruise Lines and Royal Caribbean International Cruise Lines.

MDOT MPA continues to make key strategic investments to ensure the economic success and position of the Port. In 2017, MDOT MPA purchased 70 acres of property behind the Seagirt Marine Terminal in Baltimore for additional cargo space to ensure the Port maintains the capacity to respond to future growth opportunities. Other investments include increasing the number of inbound truck gate lanes, which improves safety and efficiency, as well as maintaining port operations through dredging. Since 2013, the Port has invested millions of dollars to keep the Port's navigation channels clear.

Environmental stewardship is a critical issue for the Port, and in 2017 Inbound Logistics magazine named the Port of Baltimore one of their "Green Partners" in recognition of its Clean Diesel program and other environmental initiatives. A key part of the Port's environmental commitment is the continued expansion of the Poplar Island Environmental Restoration Project.

# MARYLAND FREIGHT ACTIVITY

Supporting a high-quality multimodal freight network, Maryland's freight transportation network connects jobs and goods to the global economy and helps support Maryland's strategic economic assets like the Port of Baltimore and BWI Marshall Airport. Multiple sectors of the Maryland economy depend upon the safe and dependable movement of goods and people across the state every day. Maryland's freight industry is a key driver of the economy, and employs over 1.5 million people and contributes over $123.0 billion to the state's annual GDP.

Freight in Maryland has long contributed to the economy through sectors including manufacturing, wholesale and retail trade, transportation logistics, financial services, agriculture and government contracting. In recent years, the State has also experienced growth in information technology, telecommunications and aerospace. The freight impacts from these economic trends will include increased freight traffic and more demand on transportation infrastructure. The increase in Commercial Drivers Licenses (CDL) in the past year also indicate the significant growth of freight traffic in the state. MDOT MVA has seen a 3% growth in CDL holders and has made key enhancements to the CDL medical certification process and records process to help keep drivers on the road and minimize down time. To ensure Maryland remains economically competitive in the global marketplace, transportation infrastructure improvements are more important today than ever.

Having recently completed Maryland's Strategic Goods Movement Plan - 2017 Update to address FAST Act requirements, MDOT and freight industry partners have recognized future challenges and opportunities for Maryland's freight network. Transportation and logistics workforce jobs will be needed and technical training for these employees will be needed. Key industry freight sectors in Maryland are working with MDOT to ensure the strategies identified in the plan are implemented and new strategies developed.

Major investments in reducing congestion include the $100 million I-270 Innovative Congestion Management project that improves 14 bottlenecks by adding new lane miles, adding more than 25 real-time traffic communication signs, and installing more than 30 intelligent signals that work together to deliver dynamic traffic management along the heavily traveled I-270 corridor. Reducing congestion in this significant technology and life sciences corridor will increase travel reliability and allow for increased economic development in the region.

Two other key parts of Maryland's multimodal freight network are the Statewide Rail Plan and the Maryland Freight Lines Strategic Plan. These plans outline investments and policies needed to ensure the efficient, safe and sustainable movement of freight and passengers by rail and establishes an investment program for infrastructure upgrades to the State-owned short line rail system on Maryland's eastern shore.

MDOT and its freight industry partners will continue to work together to ensure a safe and reliable multimodal freight network that will be prepared to meet the demands of a growing economy.

## KEY INITIATIVES

- The State will prepare for the expected growth of east coast ports, spurred by the Panama Canal expansion, congestion at west coast ports, rising cost of diesel fuel and other factors. To be competitive and to attract these larger vessels, Maryland must continue to improve highway and rail freight connections to the Port of Baltimore. To support this growth, the MDOT MPA will make investments including rail and terminal improvements to facilitate heavy-lift and containerized cargoes, and will work to enable high cubed, double stack train access to/from the Port of Baltimore.

- MDOT and partners will address the challenges of truck parking, an issue which has become a nationwide challenge, as truck freight volumes increase and parking supply cannot keep pace. With the projected growth of truck traffic, the demand for truck parking will continue to exceed the supply of parking facilities in Maryland and around the nation. In 2014, estimated truck parking demand exceeded parking supply by 36%. This was even after MDOT constructed 21 new truck parking spaces at the I-95 Welcome Center along with the Chesapeake House renovations. Maryland is taking steps to expand existing rest areas and welcome centers to add truck parking where it already exists but exceeds capacity.

- Maryland is taking advantage of several opportunities that will increase freight and cargo movements in the state and make the State more competitive in the Mid-Atlantic Region. The Federal Infrastructure for Rebuilding America (INFRA) grants program will make approximately $1.5 billion available for projects that address critical issues facing the nation's highways and bridges. MDOT has submitted two grant requests under this new program.

# $ GOAL: Economic Prosperity

*Support a healthy and competitive Maryland economy*

TARGET ACHIEVED

MAKING PROGRESS

FACING CHALLENGES

## OBJECTIVES

■ Improve the movement of freight and support growth in the flow of goods within and through Maryland

■ Facilitate opportunities for growth in jobs and business across the state

Maryland's economic success is directly fueled by the State's transportation network, providing key connections and efficient movement for residents, businesses and visitors. Residents rely each day on the multimodal transportation network, from commuting to work or picking up groceries to reaching vacation destinations, while businesses depend on the network to receive incoming deliveries of materials, ship final products and provide services. Investing in the State's transportation network supports these and other day-to-day activities and sustains a healthy economy.

Maryland's transportation initiatives and projects continue to enhance and grow the State's economy. MDOT SHA continues to contract and complete projects addressing the State's growth, utilizing two alternatives to low-bid awards to advance projects: 1) A+B bidding, which considers both the cost and time to build the improvement; and 2) Design-Build delivery, overlapping the design and construction phase to save time and money. Economic growth is also occurring in Maryland's ports and airports. The Port of Baltimore is the fourth fastest-growing container port in North America, continuing to experience record growth in 2017. The Port remains only one of four East Coast ports able to receive the larger post-Panama Canal expansion container ships, with the first ship arriving in July 2016. BWI Marshall Airport continues to grow and is the busiest in the Washington, D.C. region, with a record 25.9 million passengers and expanded service, including to San Francisco, New Orleans, Seattle and Mexico, in FY 2017.

Improvements in key corridors and assets can provide a competitive advantage to businesses on the regional, national and global scale. MDOT anticipates that the multimodal projects listed in the FY 2018–FY 2023 CTP will provide direct and indirect benefits to the State's economy. Construction jobs and spending result from the implementation of projects, and the resulting projects provide long-lasting job accessibility and economic support benefits. A few examples include: providing opportunities along MDOT MTA's Purple Line (now under construction), expanding access to international markets at BWI Marshall Airport with the International Concourse Extension (six additional gates), and connecting economic growth centers through completion of the MD 200 / Intercounty Connector (ICC).

## KEY INITIATIVES AND CTP PROJECTS

**MDOT MAA:** BWI Marshall Airport experienced record breaking growth in 2017. The FY 2018–FY 2023 CTP programs aim to support additional passenger traffic, from the $6.4 million renovations of Concourses D and E and extending the international terminal Concourse E, valued at $62.5 million.

**TSO:** In the FY 2018–FY 2023 CTP, MDOT has committed to spend $14.8 billion in transportation projects across the state, ranging from connecting Maryland with expanded transit options to optimizing waterways for trade.

**MDTA:** MDTA is improving congestion and productivity for businesses and commuters through the construction of two Express Toll Lanes (ETL) along the I-95 John F. Kennedy Memorial Highway, which includes the reconstruction of three interchanges.

**MDOT MPA:** MDOT MPA is supporting the Port of Baltimore's growth through the Port of Baltimore Export Expansion Project, which provides rail access to Fairfield Marine Terminal, widening and straightening the channel to Seagirt Marine Terminal, and filling the Fairfield Basin to develop seven acres of new land for cargo storage.

**MDOT MTA:** MDOT MTA is improving mobility options in the Baltimore region through the implementation of BaltimoreLink, which launched in 2017. Key features of this enhanced service include essential connections to job centers, and better integration between MDOT MTA transit services, such as CityLink, LocalLink, MetroLink, Light RailLink and MARC.

**MDOT MVA:** MDOT MVA continues to advance innovation in customer service, through projects such as the Project Core (Enterprise Management System), an IT project with an emphasis on modernizing the MDOT MVA IT infrastructure.

**MDOT SHA:** Through incident management, MDOT SHA helped reduce delay by 43.6 million vehicle-hours and saved roadway users $1.512 billion. To build on these results, MDOT SHA will produce an integrated Freeway and Arterial Master Plan that will identify priority corridors for improvements.

# MARYLAND AND FREIGHT: IMPROVING THE MOVEMENT OF GOODS

*Freight contributes to nearly every aspect of the lives of people living, visiting and working in Maryland. Freight goods include products such as sensitive high-cost goods such as medicines and technology, household items purchased online, items found in grocery, convenience and retail stores, industrial goods, raw materials, finished goods, and even new vehicles. Industries in Maryland that compete on the global market, such as mining, agriculture, retail and wholesale trade, manufacturing, construction, and warehousing, depend on freight movement and account for over one million jobs in Maryland. MDOT strategically plans for investments in projects and programs to ensure that freight movement is efficient and interconnected. MDOT works closely with private partners to ensure the right investments are made at the right time, in the most cost-effective manner. Over the last year, MDOT updated its Strategic Goods Movement Plan to meet the requirements of the Fixing America's Surface Transportation (FAST) Act. As part of this update, MDOT identified critical urban and rural freight corridors. The FAST Act established both formula and discretionary grant programs to fund critical transportation projects to benefit freight movements, including Nationally Significant Freight and Highway Projects, or Infrastructure for Rebuilding America (INFRA) grants, for projects that contribute to economic development and competitiveness. The INFRA grant program recently superseded the FASTLANE program. MDOT will seek every opportunity to apply for this grant funding.*

## FREIGHT ORIGINATING AND TERMINATING IN MARYLAND

| METHOD FOR MOVING FREIGHT | TOTAL VALUE (MILLIONS) | TOTAL TONNAGE (THOUSANDS) |
|---|---|---|
| Air* | $13,646 | 144 |
| Other** | $260 | 33 |
| Rail* | $15,364 | 26,730 |
| Truck* | $324,436 | 218,604 |
| Water (International waterborne cargo in 2016) | $49,900 | 31,800 |
| All Freight | $432,030 | 287,694 |

\* Source: U.S. Department of Transportation Freight Analysis Framework (FAF4) Version 4. Other, Rail, and Truck value and tonnage data is estimated based on FAF3 data. The data is adjusted yearly to account for previous year actual data and a 2% annual growth rate consistent with the Federal Highway Administration's Freight Summary 2008. The 2% growth rate reflects a conservative estimate of domestic and international freight growth given current economic conditions.

\*\* Freight consists largely of postal and courier shipments weighing less than 100 pounds and other intermodal combinations.

## Maryland Freight Highlights

- Water is well suited to haul goods cost-effectively over long distances. Ships transport waterborne cargo to and from the Port, which is then distributed by motor carrier and rail to communities around the nation. The Port's national rankings include: #14 in the U.S. in foreign cargo tonnage (31.8 million tons); #9 in the U.S. in the value of foreign cargo ($49.9 billion), #1 in autos and Roll on/roll off (Ro/Ro) heavy equipment; #1 in imported sugar; #2 in exported coal and #2 in imported salt.

- Heavy goods that need to be hauled long distances over land are typically moved by rail. Examples of these commodities hauled on Maryland's Class I railroads include coal, chemicals and nonmetallic minerals. Maryland is taking advantage of several opportunities that will increase freight and cargo movements in the state and make the State more competitive in the Mid-Atlantic Region.

- Trucks carry nearly every type of commodity, from consumer products to chemicals and machinery. MDOT SHA roads carry more than 38 billion ton-miles of goods movement a year; in addition, MDOT SHA roads are estimated to carry 219 million tons of freight and over $324 billion in value. Nonmetallic minerals, distribution center and food products account for some of the highest tonnage hauled on Maryland's roads. Currently, freight bottlenecks exist along Maryland's highway and rail corridors that will need to be addressed to reduce highway congestion. MDOT will work with internal and external freight stakeholders to address highway bottlenecks along Interstates 70, 95, 270, 495 and 695. Further coordination is also needed to improve truck travel times and rail bottlenecks along the CSX and NS rail corridors due to competition between passenger and freight rail movements. MDOT will also submit an INFRA program grant for the I-81 Corridor Widening project to address safety issues and accommodate growing freight volume.

- High value and time-sensitive products are commonly shipped via air. The top air freight commodities shipped out of MDOT MAA facilities include mail, machinery and transportation equipment. To support commercial cargo, BWI Marshall Airport offers warehousing, transportation and distribution for air cargo and easy, interconnected access to Maryland's transportation system.

# MDOT MPA: PORT OF BALTIMORE FOREIGN CARGO & MDOT MPA GENERAL CARGO TONNAGE*



Chart: TONS (Millions) by YEAR

| YEAR | Port of Baltimore foreign cargo tonnage (CY) | MDOT MPA total general cargo tonnage (FY) |
|------|------|------|
| 2008 | 33.0 | 9.1 |
| 2009 | 22.4 | 7.8 |
| 2010 | 32.8 | 7.6 |
| 2011 | 37.8 | 8.7 |
| 2012 | 36.7 | 9.3 |
| 2013 | 30.3 | 9.6 |
| 2014 | 29.5 | 9.6 |
| 2015 | 32.4 | 9.7 |
| 2016** | 31.8 | 9.8 |
| 2017* | 34.0 | 10.3 |

■ Port of Baltimore foreign cargo tonnage (CY)   ■ MDOT MPA total general cargo tonnage (FY)
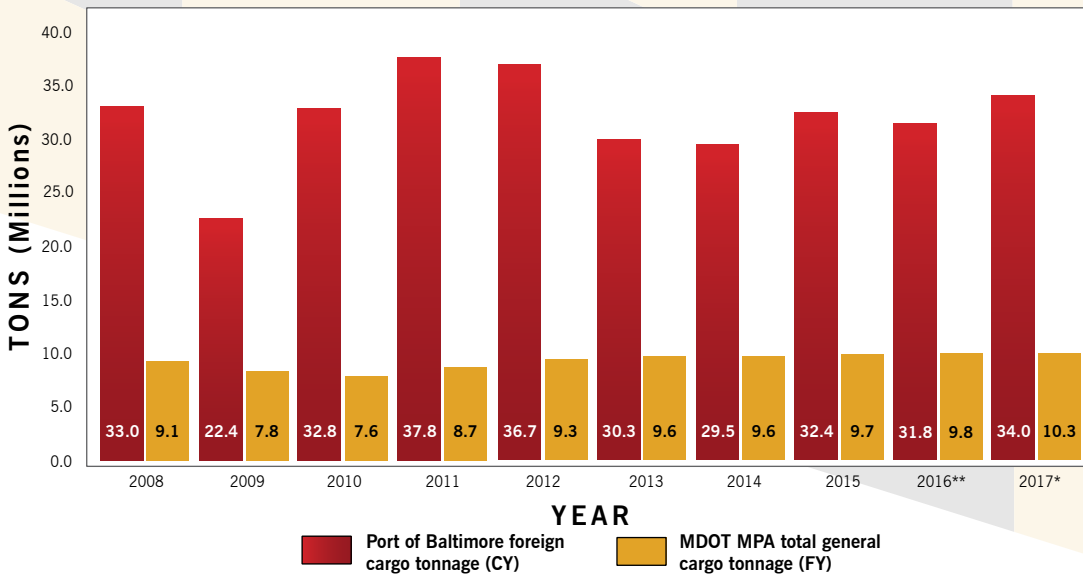
\* MDOT MPA general cargo includes both foreign and domestic waterborne cargo. Port of Baltimore foreign cargo data for 2017 is an estimate.
\*\* 2016 data for Port of Baltimore was revised from previous Attainment Report.

## Why Did Performance Change?

- In FY 2017, MDOT MPA handled 10.3 million tons of general cargo, which is a new fiscal year high-water mark at +5.7% over the FY 2016 record; this is the seventh consecutive fiscal year record for the state's cargo terminals

- MDOT MPA's container tonnage increased 8.7%, imported forest products increased 3.8%, but automobile units were down 2% compared to the prior year

- Ro/Ro farm, mining and construction equipment fell 7.5% due to weakness in the overseas markets and the strong U.S. dollar; the Port of Baltimore remains the largest Ro/Ro port in the U.S.

- For the sixth consecutive year, the Port of Baltimore handled more cars than any other U.S. port in 2016

- MDOT MPA's terminal improvements include complete reconstruction and re-opening of Dundalk Berth 4, development of Beverley Slip for cargo storage, fill and stabilization of the Fairfield Wet Basin, South Locust Point Fruit Slip and flood alleviation improvements at Dundalk Lot 402

- Port of Baltimore handled 31.8 million tons of international cargo worth $49.9 billion in 2016; general cargo has about 95% of the international cargo's value

## What Are Future Performance Strategies?

- Use the 70 acres at the Point Breeze Business Center to benefit the large container ships transiting to the Port from the larger set of locks opened in Panama in June 2016

- Continue to coordinate roadway permit issues with MDOT SHA and the City to facilitate cargo movement and positive community relations

- Continue QCHAT and encourage existing auto processors and Ro/Ro customers to increase cargo volumes and develop new Dundalk gate procedures to increase volumes of POVs as it relates to TWIC escorts

- Continue to retain existing forest product customers

- Attract a new container ocean carrier and a new service to the Port from an existing container carrier

- Work with state and regional economic development offices to locate sites to attract new distribution centers to Maryland

- Continue to work with all stakeholders to develop the Duke property and Sparrows Point as distribution centers

- Work with MDOT and CSX to enable high cubed double stack train access to/from Seagirt Marine terminals

- Work with the City to encourage land use practices and zoning efforts that preserve industrial land and freight routes leading to/from the Port's terminals

- Negotiate with manufacturers and international logistics providers to obtain long-term contracts

# MDOT MPA: REVENUE, OPERATING EXPENSE & NET INCOME

*Revenues are an important measure of business activity at the MDOT MPA terminals. MDOT MPA's operating expenses are usually recovered by revenues generated. Net income is the difference between revenues and expenses.*



**DOLLARS\* (Millions)**

| | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|
| Total Revenue | $96.8 | $91.4 | $69.3 | $49.1 | $55.9 | $48.4 | $48.0 | $50.0 | $50.3 | $49.2 |
| Operating Expenses | $104.9 | $97.9 | $68.2 | $44.4 | $41.6 | $42.1 | $45.5 | $47.9 | $47.5 | $46.5 |
| Net Income | -$8.1 | -$6.5 | $1.1 | $4.7 | $14.3 | $6.3 | $2.5 | $2.1 | $2.8 | $2.8 |

**FISCAL YEAR**

Legend: MDOT MPA Total Revenue | MDOT MPA Operating Expenses (including exclusions) | MDOT MPA Net Income
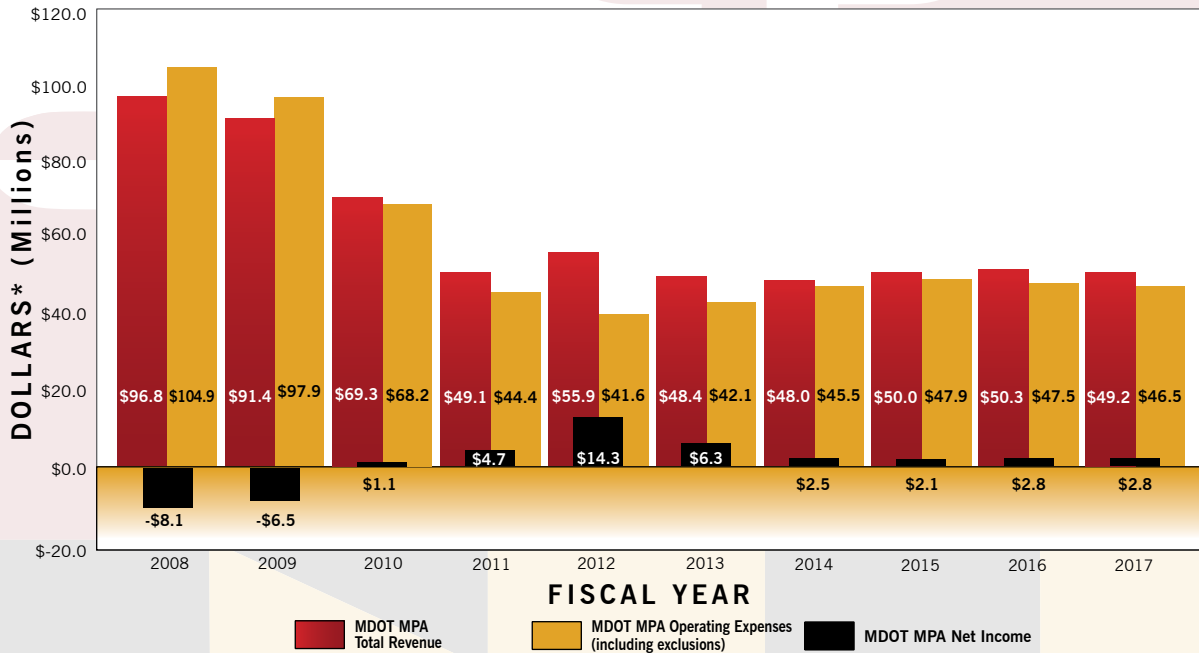
*\* The cost data were adjusted for inflation in past reports, but are not adjusted for this report.*

## Why Did Performance Change?

- MDOT MPA's billable cargo tonnage in FY 2017 exceeded 13.0 million tons, showing a slight increase over FY 2016
- The Port of Baltimore has been recognized repeatedly as the most efficient port for ship-to-shore container handling in the U.S.
- The Port remains the largest auto port and Ro/Ro heavy equipment port in the U.S.; this cargo is predominantly handled at the state-owned marine terminals



## What Are Future Performance Strategies?

- Attract and retain sufficient cargo volumes to provide future revenue growth
- Research potential advancements to MDOT MPA's systems that provide efficient, accurate and technologically advanced transmission of vessel activity
- Continue to develop business synergies with MDOT MPA's P3 partner, PAC, to maximize container volumes through the Port
- Reach out to State and regional economic development offices to locate sites to attract new distribution centers to Maryland and thereby increase Beneficial Cargo Owners and their cargo to the Port
- Invest in MDOT MPA's facilities so that MDOT MPA can provide customers safe, secure and efficient facilities and services

# MDOT MPA: INTERNATIONAL CRUISES USING THE PORT OF BALTIMORE

*Measures cruise business activity departing from the Port of Baltimore to foreign destinations.*

| FISCAL YEAR | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017\* |
|---|---|---|---|---|---|---|---|---|---|---|
| Number of International Cruises using MDOT MPA's Terminal\* | 30 | 35 | 96 | 111 | 100 | 93 | 99 | 75 | 94 | 86 |

**TARGET: Maintain two year-round cruise operations at the Port**

*\* 2017 data is preliminary and subject to change.*

## Why Did Performance Change?

- In FY 2017, there were 86 home-port cruises from Baltimore and an additional 10 port-calls by international cruises
- Carnival Cruise Lines and Royal Caribbean International Cruise Lines offer year-round service from the Port of Baltimore; has fewer cruises because they changed some nine-day to 12-day voyages
- Carnival Cruise Lines and Royal Caribbean International reports that their ships are cruising at over 100% capacity (more than two people per cabin)
- MDOT MPA made improvements to the Cruise Maryland terminal, including changes to keep waiting passengers out of the extreme weather conditions

## What are Future Performance Strategies?

- Continue promoting the Port as a convenient location for year-round cruising
- Continue the partnership with existing cruise lines and develop new opportunities for additional cruise lines to come to Baltimore
- Capital improvements to exterior signage and vehicular entrance circulation are currently underway

# MDOT MAA: NUMBER OF NONSTOP AIRLINE MARKETS SERVED

*Growth in the number of nonstop destinations served provides enhanced mobility options to passengers traveling to cities in the U.S. and around the world, increases the attractiveness of BWI Marshall Airport as the airport of choice in the region, and reflects the success of MDOT MAA's marketing efforts to increase the competitiveness of BWI Marshall Airport for business and leisure travel.*

**NUMBER OF NONSTOP MARKETS SERVED**

TARGET: 73

| Fiscal Year | Value |
|---|---|
| 2008 | 69 |
| 2009 | 70 |
| 2010 | 72 |
| 2011 | 75 |
| 2012 | 76 |
| 2013 | 73 |
| 2014 | 74 |
| 2015 | 77 |
| 2016 | 78 |
| 2017 | 83 |
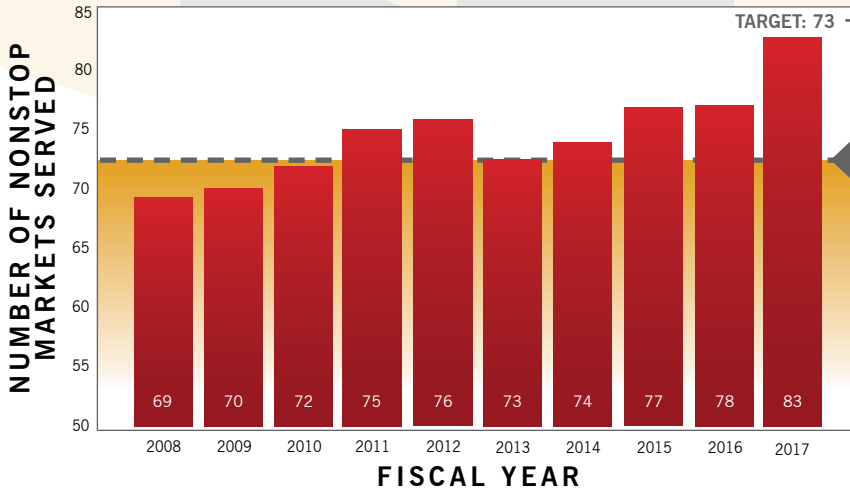
**FISCAL YEAR**

## Why Did Performance Change?

- BWI Marshall broke monthly passenger records every month in FY 2017; the total passengers increased 4.1% to nearly 25.9 million, an all-time fiscal year record for the airport
- New service at BWI Marshall Airport from three carriers increased the number of nonstop markets served in the fiscal year
- Saw new nonstop and additional nonstop services from Allegiant Airlines, Alaska Airlines, Spirit and Southwest Airlines

## What Are Future Performance Strategies?

- Continue to meet with both potential new entrant and current carriers to promote potential new air service opportunities to BWI Marshall Airport
- Focus BWI Marshall Airport advertising and awareness campaigns to passengers on the advantages and options the airport offers, including air service options, parking and ease of access, and ground transportation options

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# MDOT MAA: NON-AIRLINE REVENUE PER ENPLANED PASSENGER (RPE)*

**DOLLARS****

| Fiscal Year | BWI Marshall Airport non-airline RPE | Comparable airports non-airline RPE mean amount** |
|---|---|---|
| 2008 | $10.18 | $11.35 |
| 2009 | $10.03 | $9.59 |
| 2010 | $10.09 | $10.86 |
| 2011 | $10.31 | $10.80 |
| 2012 | $10.13 | $10.88 |
| 2013 | $11.09 | $12.04 |
| 2014 | $10.07 | $12.82 |
| 2015 | $10.06 | $13.79 |
| 2016 | $9.85 | $14.23 |
| 2017 | $9.71 | |

**FISCAL YEAR**

■ BWI Marshall Airport non-airline RPE
━ Comparable airports non-airline RPE mean amount**

**TARGET: BWI Marshall non-airline RPE to achieve or exceed the airport revenue RPE at BWI Airport at or above comparable airports****

*\* RPE is based on non-airline revenue (e.g., parking, concessions and ground transportation).*
*\*\* Comparable airports are defined as Washington Reagan National, Washington Dulles International and Philadelphia International.*

## Why Did Performance Change?

- BWI Marshall continues to compare favorably with its peer airports on non-airline revenue per enplaned passenger. However, MDOT MAA is monitoring an increase in connecting passengers for its effect on non-airline revenue, as connecting passengers spend less money at the airport than local passengers do

## What Are Future Performance Strategies?

- Continue parking strategies to increase overall parking revenues
- Work in conjunction with BWI Marshall Airport's master concessionaire to enhance the existing retail, food and beverage concessions in the terminal by adding new locally and nationally recognized concepts

# MDOT SHA: PERCENT OF ROADWAY ACCESS PERMITS ISSUED WITHIN 21 DAYS OR LESS (AFTER RECEIPT OF A COMPLETE APPLICATION PACKAGE)

*Access permits help promote safe and efficient roads for travel while supporting economic growth for jobs and businesses. Issuing access permits and construction of roadway and entrance improvements by developers are some of the last steps before opening businesses and/or selling commercial or residential properties for occupancy. This contributes to a larger tax base for the State, creation of jobs for businesses and redevelopment of vacant properties.*

*This measure tracks MDOT SHA efforts to improve customer service with a predictable, consistent and transparent process for obtaining an access permit in Maryland.*



**TARGET: 100% Annually**

Legend:
- **Complete permit applications**
- **Roadway access permits issued within 21 days or less**
- **Percent of Roadway Access Permits Issued within 21 days or less (after receipt of a complete application package)**
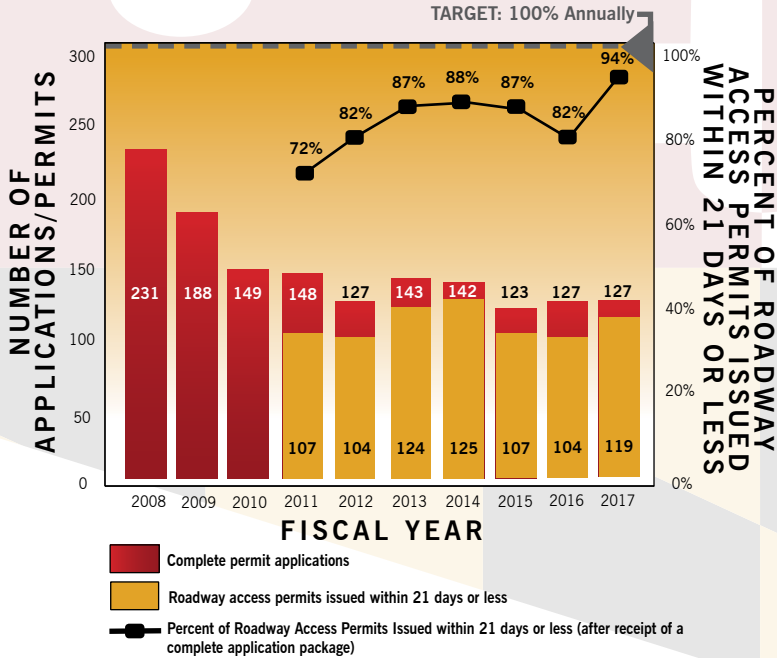
## Why Did Performance Change?

- Issued 94% of all roadway access permits within 21 days or less, the highest percentage achieved since tracking began in FY 2011
- Updated Access Hydraulic-Hydrologic Guidelines, Technical Guidance, and Supplemental Design Guidance
- Access management stakeholders identified three areas of commitment (communication, process improvement and culture development) at the August 2016 MDOT SHA Access Management Forum, which became the foundation of a collaborative work plan

## What Are Future Performance Strategies?

- Continue to meet with stakeholder groups to assess the effectiveness of change and resource needs
- Implement improved tracking and accountability processes
- The electronic submittal process was delayed by a lack of compatible software that would meet MDOT SHA needs; MDOT SHA is developing an electronic submittal review in-house; expected implementation date is Spring 2018
- Complete update of the Traffic Impact Study Guidelines
- Finalize the pre-application meeting process with stakeholders to clarify expectations during the conceptual phase of the project
- Finalize an access management customer service oriented survey
- Incorporate practical design into access management decision making

# MDOT SHA: USER COST SAVINGS FOR THE TRAVELING PUBLIC DUE TO INCIDENT MANAGEMENT

*The total user cost savings to motorists and commercial traffic (from reduced delay on Maryland state and interstate roadways) reflects the tangible benefits of the Coordinated Highways Action Response Team (CHART) incident management program.*
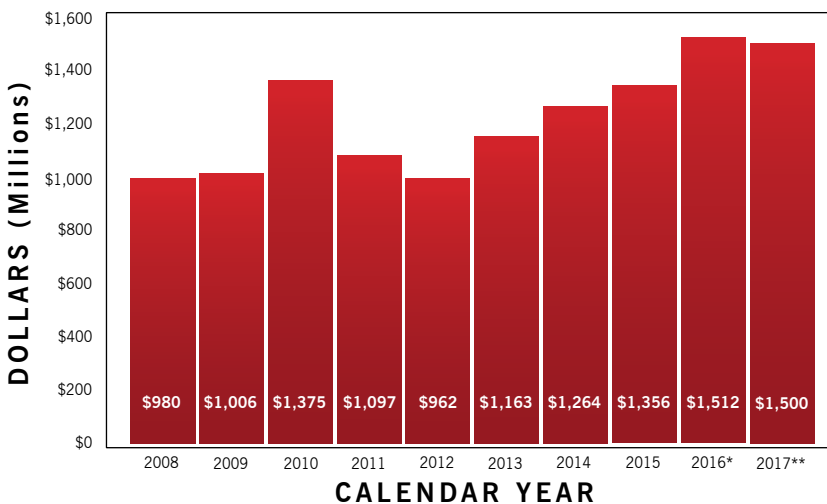


**TARGET: $1,500 MILLION ANNUALLY**

*\* 2016 data was revised from previous Attainment Report.*
*\*\* 2017 data is preliminary and subject to change.*

## Why Did Performance Change?

- Helped reduce delay by 43.60 million vehicle-hours
- Saved roadway users $1.512 billion
- Handled 141,607 events, including incident responses, assistance with disabled vehicles, and traffic management operations for special and weather-related events
- Coordinated 68 Strategic Highway Research Program (SHRP) 2 Traffic Incident Management (TIM) Responder training sessions; CHART directly facilitated 24 sessions at which 1,635 incident responders were trained
- Completed the Business Area Architecture that will guide CHART Advanced Traffic Management System development efforts over the next five to 10 years
- Implemented Work Zone Impacts and Strategies Estimator (WISE) initiative for optimal work zone planning, scheduling and operations decision support

## What Are Future Performance Strategies?

- Complete an Integrated Freeway and Arterial Master Plan with traffic management tools to reduce congestion and enhance safety
- Evaluate the CHART patrol program to determine continuing improvements in reduction of roadway delays and user cost savings ($111.2 million State funds in the FY 2018–FY 2023 CTP for CHART)

# GOAL: Safety & Security

*Enhance the safety of transportation system users and provide a transportation system that is resilient to natural or man-made hazards*

## OBJECTIVES

- Reduce the number of lives lost and injuries sustained on Maryland's transportation system

- Provide secure transportation infrastructure, assets and operations for the safe movement of people and goods

MDOT and its associated partners are continuously working towards improving safety on Maryland's roadways, implementing projects and initiatives to reduce transportation crashes, injuries and fatalities. The framework of the strategies, action steps and goals for transportation safety in Maryland is outlined in the 2016-2020 Strategic Highway Safety Plan (SHSP). This comprehensive and coordinated plan focuses on various emphasis areas, such as aggressive driving, occupant protection, distracted driving and more, which all support Maryland's overall safety mission of Toward Zero Deaths. The primary program objective is to reduce transportation-related fatalities and injuries by half by 2030 and to achieve zero traffic deaths.

Transportation safety also relies on drivers to obey all laws of the road, not driving with distractions or aggressively. MDTA, in a joint effort with multiple law enforcement agencies, has supported multiple campaigns and initiatives to improve roadway safety by encouraging safe driver behaviors. The Maryland SafeZones Automated Speed Enforcement (ASE) program is a joint program of MDTA, MDOT SHA and the Maryland State Police (MSP) whose purpose is to safeguard workers and protect motorists traveling through construction work zones. Multiple police departments are more heavily enforcing speeding, especially along I-95, by increasing patrols.

Multiple Transportation Business Units (TBUs) have received recognition for providing safe and secure service. For the sixth consecutive year, the Port of Baltimore received a top security assessment rating of "excellent" from the U.S. Coast Guard. MDOT MTA was awarded the American Public Transportation Association's (APTA) Rail Safety and Security Gold Award and Certificate of Merit for Bus Safety.

Technological improvements, upgrades to existing infrastructure and new assets also aim to improve safety and security in Maryland. Examples of such projects identified in the FY 2018–FY 2023 CTP include MDOT MAA's reconfiguration of the International Checked Baggage Inspection System at BWI Marshall Airport, and installation of traffic management and communication infrastructure under MDOT SHA's Coordinated Highways Action Response Team (CHART) initiative. Engineering solutions, such as bridge replacements, pavement preservation and sidewalk installation, further support the safety initiatives and programs by ensuring the transportation connections are safe, complete and secure.

## KEY INITIATIVES AND CTP PROJECTS

**MDOT MAA:** Completed in FY 2017, the International Airport Checked Baggage Inspection System improved baggage screening capabilities and system capacity to accommodate international passenger growth. The FY 2018–FY 2023 CTP also includes continued work for the Runway Safety Area, Standards Compliance and Pavement Management Program Improvements, consisting of $1.2 million for Phase 2.

**TSO:** TSO conveys the message to all of its TBUs that safety is priority in all activities. This message is underscored in Maryland's unified mission to move the state Toward Zero Deaths. To continue making progress, all partners must continue to address challenges that affect safety for all users of the transportation system.

**MDTA:** Demonstrate commitment to transportation safety through campaigns such as speeding enforcement, unsecured loads education and sobriety checkpoints. The FY 2018–FY 2023 CTP includes infrastructure-related safety improvements, such as updating and replacing signs along the John F. Kennedy Memorial Highway ($13.8 million) and replacing the Fort McHenry Tunnel lighting systems ($17.8 million).

**MDOT MPA:** 2016 marked the sixth consecutive year that the Port of Baltimore received a top rating of "excellent" on security assessment from the U.S. Coast Guard. New security initiatives and enhancements, such as closed circuit televisions, cyber security and stronger access control, contributed to receiving this award.

**MDOT MTA:** MDOT MTA was named America's safest transit system in terms of Part I crimes in 2016 from among 12 of the largest transit agencies. The FY 2018–FY 2023 CTP outlines programs and improvements for continued safety, Light RailLink and MetroLink safety improvements.

**MDOT MVA:** 2017 marked the one-year anniversary of Maryland Secure ID Cards, with over 1.5 million cards issued within the first year. This effort added multiple layers of security to protect customers from identify theft and fraud.

**MDOT SHA:** In 2017, MDOT SHA completed a $158.5 million safety and congestion relief project to dualize MD 404 between US 50 and Denton, widening MD 404 from a two-lane road to a four-lane divided highway.

# MDOT MVA/MDOT SHA/MDTA: ANNUAL NUMBER OF TRAFFIC FATALITIES & INJURIES ON ALL ROADS IN MARYLAND

*Maryland measures the numbers of both traffic fatalities and injuries on all Maryland roadways, focusing on fatalities and serious injuries in six emphasis areas related to desired safety outcomes. Maryland joined other states and organizations in adopting the goal of the national initiative Toward Zero Deaths: A National Strategy on Highway Safety, to reduce traffic fatalities by half by 2030. Maryland supports the long-term goal of zero deaths and is committed to adopting strategies to achieve that purpose.*

## ANNUAL NUMBER OF TRAFFIC FATALITIES ON ALL ROADS IN MARYLAND

**TARGET: ≤0.64 fatality rate by 12/31/2020**

**TARGET: ≤ 391 fatalities per year by 12/31/2020**

RATE PER 100 MILLION MILES TRAVELED / NUMBER OF FATALITIES

| Year | Rate | Fatalities | MDTA subset |
|------|------|------------|-------------|
| 2008 | 1.05 | 592 | 11 |
| 2009 | 0.99 | 550 | 6 |
| 2010 | 0.88 | 496 | 10 |
| 2011 | 0.87 | 488 | 9 |
| 2012 | 0.91 | 511 | 5 |
| 2013 | 0.83 | 466 | 4 |
| 2014 | 0.79 | 443 | 1 |
| 2015 | 0.91 | 521 | 3 |
| 2016* | 0.89 | 522 | 6 |

**CALENDAR YEAR**

Legend:
- Annual number of traffic fatalities on all roads in Maryland (including MDTA-owned roads)
- Annual number of traffic fatalities on all MDTA-owned roads, a subset of total annual number of traffic fatalities on all roads in Maryland
- Traffic fatality rate per 100 million miles traveled on all roads in Maryland

*\* 2016 data is preliminary and subject to change.*

## ANNUAL NUMBER OF PERSONAL INJURIES ON ALL ROADS IN MARYLAND

**TARGET: ≤5.23 serious injury rate by 12/31/2020**

RATE PER 100 MILLION MILES TRAVELED / NUMBER OF INJURIES

| Year | Rate | Personal Injuries | Serious Injuries |
|------|------|-------------------|------------------|
| 2008 | 85.8 | 48,148 | 4,544 |
| 2009 | 85.2 | 47,380 | 4,383 |
| 2010 | 79.2 | 44,486 | 4,051 |
| 2011 | 79.6 | 44,609 | 3,809 |
| 2012 | 78.7 | 44,398 | 3,312 |
| 2013* | 75.8 | 42,757 | 2,961 |
| 2014 | 78.3 | 44,158 | 3,053 |
| 2015** | 78.0 | 44,816 | 2,595 |
| 2016*** | 86.7 | 50,878 | 3,163 |

**CALENDAR YEAR**

Legend:
- Annual number of personal injuries on all roads in Maryland
- Annual number of serious personal injuries on all roads in Maryland
- Personal injury rate per 100 million miles traveled on all roads in Maryland

*\* 2013 serious injury data revised from previous Attainment Report.*
*\*\* Changes to law enforcement crash data collection has affected serious injury statistical reporting, since the implementation of the Automated Crash Reporting System (ACRS) on January 1, 2015.*
*\*\*\* 2016 data is preliminary and subject to change.*

## Why Did Performance Change?

- With increased vehicle miles traveled (VMT) on Maryland roadways, the number of vehicles and drivers on the road created greater exposure in environments where risky driver behavior escalates negative outcomes
- The results of the run-off-the-road study led to an updated MDOT SHA policy on rumble strips, to include them on beltways and all interstate roadways
- Implemented Pedestrian Road Safety Audits (PRSA) to improve a data-driven approach to the selection and programming of pedestrian safety enhancement projects and educational outreach
- Implemented educational marketing in tandem with engineering improvements, as well as targeted geographic areas with specific issues (i.e., pedestrian safety at schools and college campuses, bicycle safety where cyclists commute)
- Applied strategies from the SHSP and local plans for reducing fatalities and serious injuries

## What Are Future Performance Strategies?

- MDOT TBUs will host activities as part of National Distracted Driving Awareness Month and host National Work Zone Safety Awareness Week
- Focus on geographical locations with the highest crash severity
- Develop and implement a communications and marketing plan that addresses high priority traffic safety issues; explore increased social media marketing
- MDOT TBUs have assembled a team to work on geospatial analysis of crash data to identify high risk curves and screen candidate locations for high friction surface treatments
- Work with local jurisdictions to encourage their adoption of a local Strategic Highway Safety Plan

# MDOT MVA/MDOT SHA: NUMBER OF BICYCLE & PEDESTRIAN FATALITIES & INJURIES ON ALL MARYLAND ROADS
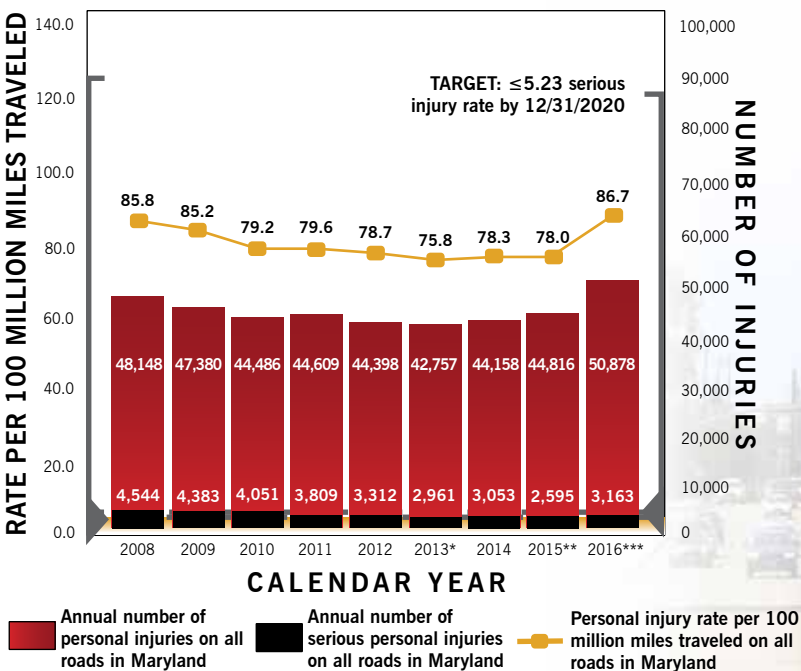
*Maryland measures the numbers of both traffic fatalities and injuries on all Maryland roadways, focusing on fatalities and serious injuries in six emphasis areas related to desired safety outcomes. Maryland joined other states and organizations in adopting the goal of the national initiative Toward Zero Deaths: A National Strategy on Highway Safety, to reduce traffic fatalities by half by 2030. Maryland supports the long-term goal of zero deaths and is committed to adopting strategies to achieve that purpose.*

## NUMBER OF BICYCLE FATALITIES AND INJURIES ON ALL MARYLAND ROADS

**NUMBER OF BICYCLE INJURIES**

TARGET: ≤ 5 fatalities per year by 12/31/2020 (2016-2020 average)

TARGET: ≤ 52 serious injuries per year by 12/31/2020 (2016-2020 average)

**NUMBER OF BICYCLE FATALITIES**

| Calendar Year | Bicycle injuries | Serious injuries | Fatalities |
|---|---|---|---|
| 2008 | 619 | 75 | 7 |
| 2009 | 559 | 63 | 10 |
| 2010 | 601 | 74 | 8 |
| 2011 | 575 | 76 | 5 |
| 2012 | 660 | 68 | 5 |
| 2013 | 556 | 52 | 7 |
| 2014 | 639 | 71 | 5 |
| 2015* | 668 | 51 | 10 |
| 2016** | 675 | 65 | 16 |

**CALENDAR YEAR**

- ■ (dark red) Number of bicycle injuries on all roads in Maryland
- ■ (black) Number of serious bicycle injuries on all roads in Maryland
- ■ (orange line) Number of bicycle fatalities on all roads in Maryland

*\* 2015 serious injury data was revised from previous Attainment Report.*
*\*\* 2016 data is preliminary and subject to change.*

## NUMBER OF PEDESTRIAN FATALITIES AND INJURIES ON ALL MARYLAND ROADS

**NUMBER OF PEDESTRIAN INJURIES**

TARGET: ≤293 serious injuries per year by 12/31/2020 (2016-2020 average)

TARGET: ≤78 pedestrian fatalities per year by 2020 (2016-2020 average)

**NUMBER OF PEDESTRIAN FATALITIES**

| Calendar Year | Pedestrian injuries | Serious injuries | Fatalities |
|---|---|---|---|
| 2008 | 2,469 | 445 | 115 |
| 2009 | 2,348 | 397 | 111 |
| 2010 | 2,339 | 346 | 101 |
| 2011 | 2,173 | 339 | 105 |
| 2012 | 2,442 | 334 | 96 |
| 2013 | 2,343 | 344 | 110 |
| 2014 | 2,545 | 361 | 102 |
| 2015 | 2,827 | 320 | 99 |
| 2016* | 3,201 | 419 | 107 |

**CALENDAR YEAR**

- ■ (dark red) Number of pedestrian injuries on all roads in Maryland
- ■ (black) Number of serious pedestrian injuries on all roads in Maryland
- ■ (orange line) Number of pedestrian fatalities on all roads in Maryland

*\* 2016 data is preliminary and subject to change.*

## Why Did Performance Change?

- Established an official pedestrian safety committee/task force within MDOT SHA which continued to develop a strategic approach to improve pedestrian safety around the state
- Identified high crash locations across the state to focus additional engineering, enforcement and education efforts to improve pedestrian safety
- Performed PRSA and implemented innovative engineering solutions to improve pedestrian safety in high incident locations in Ocean City, College Park and in Montgomery, Prince George's and Baltimore counties
- Began implementing pedestrian safety action plans developed through the PRSA process, in coordination with local government and community leaders in high crash locations
- 2016 saw 16 bicyclist fatalities, a significant increase from past trends; increases have also been noted nationally, indicating a larger trend throughout the country that is reflected at the state and local level; indicators, such as observational information, national surveys, and increases in bike lanes and trails and bike share programs, express increased exposure combined with risky behavior by roadway users presents opportunities for negative outcomes
- MDOT TBUs are tracking data associated with bicycle crashes, such as time of year, time of day, age cohort, driver awareness and other factors, to target strategies to reduce crashes

## What Are Future Performance Strategies?

- Continue to coordinate education and enforcement efforts with engineering efforts to more effectively improve pedestrian and vehicular behaviors in high crash locations
- Enhance the PRSA program by streamlining the process from initial audit to final implementation and developing a data management system to integrate seamlessly with the eGIS portal
- Work with local governments to coordinate on enhanced bicycle markings, such as green pavement (green-colored pavement to enhance visibility in bicycle lanes)
- MDOT is leading the Task Force to Study Bicycle Safety on Maryland Highways, which is studying safety issues related to bicycle operators and vehicles on highways in the state
- Implement the strategies of MDOT's SHSP for reducing fatalities and serious injuries; a group of statewide and local stakeholders is forming a SHSP Emphasis Area Team to meet quarterly and at an annual summit to monitor and update an action plan to reduce pedestrian/bicyclists fatalities and serious injuries
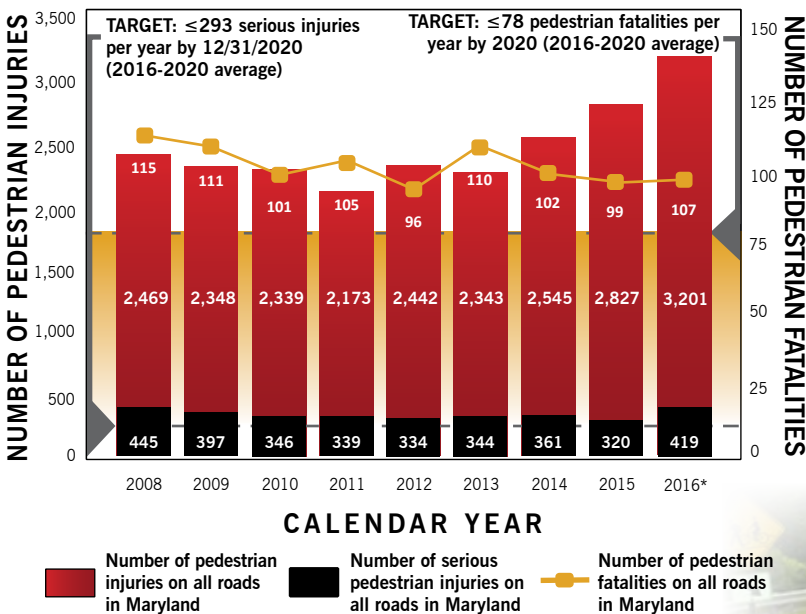
# MDOT MTA: CUSTOMER PERCEPTIONS OF SAFETY ON THE MDOT MTA SYSTEM

*A positive perception of personal safety is correlated with higher ridership and stronger commitment to transit as a mode of travel.*

**LOCAL BUS** — TARGET: 3.5

| 2010 | 2011 | 2012 | 2014 | 2016 |
|------|------|------|------|------|
| 3.5  | 3.5  | 3.2  | 3.3  | 3.5  |

**MARC** — TARGET: 3.5

| 2010 | 2011 | 2012 | 2014 | 2016 |
|------|------|------|------|------|
| 4.1  | 4.1  | 4.2  | 4.2  | 4.3  |

**LIGHT RAIL** — TARGET: 4.0

| 2010 | 2011 | 2012 | 2014 | 2016 |
|------|------|------|------|------|
| 3.5  | 3.3  | 3.3  | 3.4  | 3.6  |

**CONTRACTED COMMUTER BUS** — TARGET: 4.0

| 2010 | 2011 | 2012 | 2014 | 2016 |
|------|------|------|------|------|
| 4.3  | 4.4  | 4.4  | 4.3  | 4.2  |

**BALTIMORE METRO** — TARGET: 3.5

| 2010 | 2011 | 2012 | 2014 | 2016 |
|------|------|------|------|------|
| 3.5  | 3.5  | 3.3  | 3.3  | 2.9  |

**MOBILITY PARATRANSIT** — TARGET: 3.5

| 2010 | 2011 | 2012 | 2014 | 2016 |
|------|------|------|------|------|
| 4.1  | 3.9  | 4.3  | 3.7  | 4.4  |
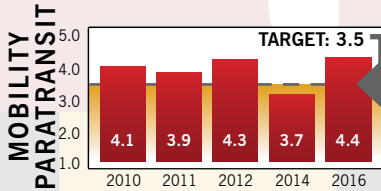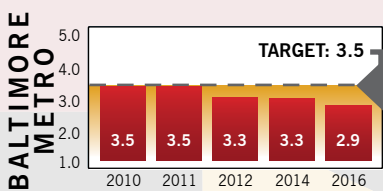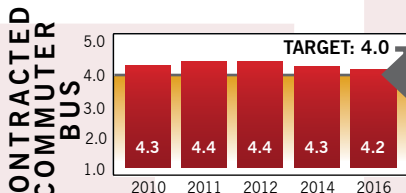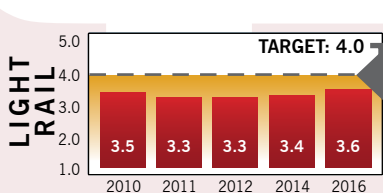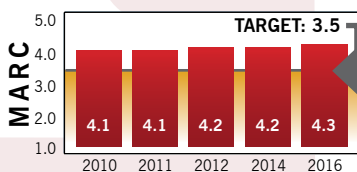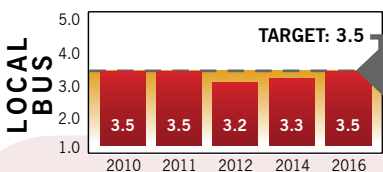
**YEAR***
(1=Poor and 5=Excellent)

* A survey was not completed in 2009, 2013 or 2015.

## Why Did Performance Change?

- Continued safety and security programs such as unannounced and highly visible police sweeps of MDOT MTA facilities and CompStat, a weekly review of all reported incidents
- Continued installation of closed circuit television (CCTV)
- Created a Mobile Field Force Team (deployable team of officers with special crowd control equipment and training)
- Lead an initiative to implement technological safety improvements, such as a bus turn alert system to reduce vehicle-pedestrian crashes and initiated the Light Rail Fare Evasion Prevention Program to reduce crime and fare evasion

## What Are Future Performance Strategies?

- Continue use of unannounced police sweeps and CompStat programs
- Make improvements to the CCTV facility with state-of-the-art monitoring
- Implement upgrades to the police radio communications for statewide coverage and interoperability improvements
- Implement enhanced crowd/rioting control training for all officers
- Support SchoolStat Taskforce, a joint program between the Baltimore City public schools and MDOT MTA that provides safe transportation options for students, while addressing school age crime and safety concerns
- Continue the Light Rail Fare Evasion Prevention Program to reduce crime and fare evasion ($19.9 million in the FY 2018–FY 2023 CTP for Light Rail Safety Improvements)

# MDOT MTA: PREVENTABLE ACCIDENTS PER 100,000 VEHICLE MILES

*MDOT MTA has developed a baseline from which to target preventable accidents to reduce fatalities and injuries, increase efficiency and provide a safer ride to customers.*

| CALENDAR YEAR | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | TARGET |
|---------------|------|------|------|------|------|------|------|------|--------|
| PREVENTABLE ACCIDENTS PER 100,000 VEHICLE MILES | | | | | | | | | |
| Local Bus | 3.49 | 2.61 | 2.43 | 1.49 | 1.42 | 1.43 | 1.54 | 1.68 | 2.26 |
| Light Rail | 0.13 | 0.13 | 0.24 | 0.03 | 0.06 | 0.14 | 0.24 | 0.22 | 0.24 |
| Baltimore Metro | 0.11 | 0.10 | 0.06 | 0.00 | 0.00 | 0.00 | 0.06 | 0.00 | 0.06 |
| Paratransit/Taxi Access | 0.34 | 0.48 | 1.74 | 1.55 | 1.10 | 0.79 | 1.04 | 1.85 | 1.01 |

## What Are Future Performance Strategies?

- Enhancement of GIS applications to identify accident zones to address unsafe behaviors
- MDOT MTA will review the Safety Performance Evaluation System (SPES) policy for updates and streamlining
- Continue accountability efforts to ensure that operators with multiple preventable accidents receive appropriate retraining and corrective action via SPES on core modes: Local Bus, Light Rail and Baltimore Metro
- Equipping Light Rail vehicles with new software and hardware that will assist MDOT MTA in monitoring performance and reducing accident frequency
- MDOT MTA has revised its Bus Safety System Policy Directive to reflect and address changes in accident frequency and locations
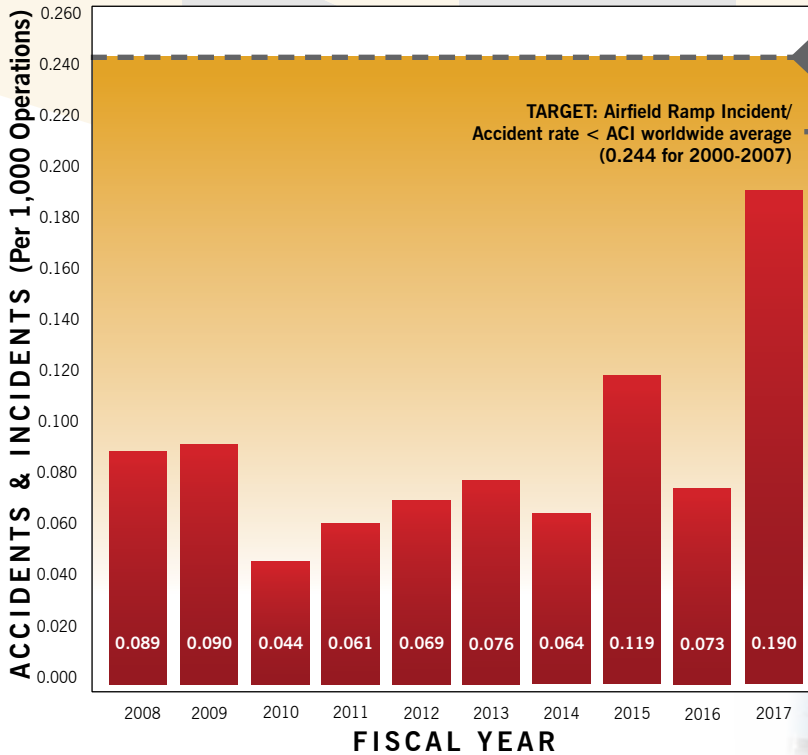
## Why Did Performance Change?

- Lead an initiative to implement technological safety improvements, such as a bus turn alert system to reduce vehicle-pedestrian crashes
- Metro achieved a zero-accident rate in FY 2017
- Light Rail had a .02 decrease in preventable accidents per 100,000 miles from FY 2016 to FY 2017

# MDOT MAA: RATE OF AIRFIELD RAMP INCIDENTS & ACCIDENTS PER 1,000 OPERATIONS

*This measure provides an indication of the safety and security of operations-related activity at BWI Marshall Airport. The rate of airfield incidents and accidents remains well below the average rate as reported by Airports Council International (ACI).*

**ACCIDENTS & INCIDENTS (Per 1,000 Operations)**

TARGET: Airfield Ramp Incident/ Accident rate < ACI worldwide average (0.244 for 2000-2007)

| Fiscal Year | Value |
|---|---|
| 2008 | 0.089 |
| 2009 | 0.090 |
| 2010 | 0.044 |
| 2011 | 0.061 |
| 2012 | 0.069 |
| 2013 | 0.076 |
| 2014 | 0.064 |
| 2015 | 0.119 |
| 2016 | 0.073 |
| 2017 | 0.190 |

**FISCAL YEAR**

## Why Did Performance Change?

- The rate of airfield incidents and accidents remains below the average rate as reported by ACI. An increase in the number of airfield vehicle incidents is being monitored for trends and new strategies are being implemented to reduce incidents

- MDOT MAA implemented new reporting systems internally and is receiving more information from its tenants about incidents and accidents. In the past, tenants were not reporting all incidents and accidents to MDOT MAA

## What Are Future Performance Strategies?

- Continue to monitor all incident reports for trends that need to be addressed and implement safety changes as required ($2.3 million in the FY 2018–FY 2023 CTP for Runway Safety Area, Standards and Pavement Improvements Phase 4 at BWI Marshall Airport)

- A Safety Task Force Committee including BWI Marshall Airport's airlines has been established to discuss ways to reduce airfield incidents and accidents

- Have monthly meetings of a Safety Advisory Committee to come up with strategies to reduce incidents/accidents at the airport

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# MDOT MAA: BWI MARSHALL AIRPORT CRIME RATE

*This measure provides an indication of the relative safety passengers experience when traveling through BWI Marshall Airport. Poor performance in this area could result in a decline in passenger numbers.*

**CRIMES (Per 100,000 Passengers)**

TARGET: 1.50 per 100,000 passengers

| Calendar Year | Value |
|---|---|
| 2008 | 1.18 |
| 2009 | 1.30 |
| 2010 | 0.83 |
| 2011 | 0.84 |
| 2012 | 1.05 |
| 2013 | 0.84 |
| 2014 | 0.79 |
| 2015 | 0.67 |
| 2016* | 0.60 |
| 2017** | 1.50 |

**CALENDAR YEAR**

\* 2016 data updated from estimated to actual from previous Attainment Report.
\*\* 2017 is estimated and subject to change.
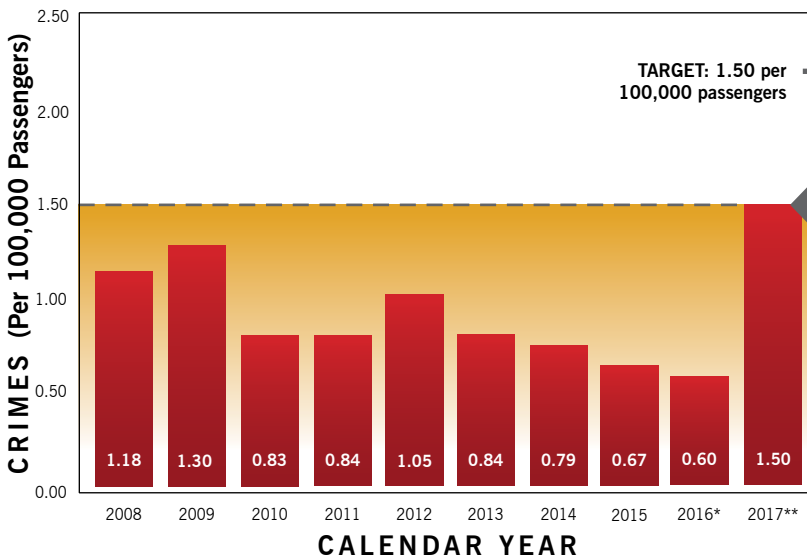
## Why Did Performance Change?

- BWI Marshall Airport's actual number of crimes committed continues to be well below target and are a direct relationship with the increase in passengers and other visitors to the airport

- Continued inspections by Airport Operations to identify problems and hazards before they became accidents and incidents

- Continued strategies in place by MDTA police to reduce crime and continued to utilize CCTV to monitor, record and respond to security and life safety incidents

## What Are Future Performance Strategies?

- Continue inspections by Airport Operations to identify problems and hazards before they become accidents and incidents

- Continue strategies in place by MDTA police to reduce crime

- Continue to utilize CCTV to monitor, record and respond to security and life safety incidents

# MDOT MAA: NUMBER OF REPEAT DISCREPANCIES IN THE ANNUAL FEDERAL AVIATION ADMINISTRATION'S FEDERAL AVIATION REGULATION INSPECTION

*The passing of Federal Acquisition Regulation (FAR) Part 139, which governs the certification and operation of U.S. commercial airports, is required for the airport to remain open and operational. Each year, MDOT MAA works closely with the FAA to ensure that BWI Marshall Airport remains in compliance with the provisions of FAR Part 139 and maintains its FAA-issued operating certificate. Compliance is determined by annual inspections conducted by the FAA. Work orders are generated when Letters of Correction are issued and are given high priority with urgent resolution. BWI Marshall Airport successfully completed the 2015 FAA safety and certification inspection with zero repeat discrepancies. MDOT MAA will continue to address all discrepancies in accordance with the federally prescribed timeline. BWI Marshall Airport continues to pass the annual safety certification inspection process required to keep the airport open.*

## Why Did Performance Change?

- BWI Marshall Airport continues to pass the annual safety certification inspection process required to keep the airport open by applying the strategies noted below

## What Are Future Performance Strategies?

- Continue to work closely with FAA to ensure that the airport passes the annual FAA Part 139 safety and certification inspection
- Have monthly meetings of a Safety Advisory Committee to come up with strategies to reduce incidents/accidents at the airport. MDOT MAA has established a Safety Task Force Committee including BWI Marshall Airport's airlines to discuss ways to reduce airfield incidents and accidents
- Continue efforts to work toward a goal of 100% compliance with FAA safety and certification requirements
- Continue to reduce the number of noted discrepancies and reduce airfield safety incidents involving aircraft, vehicles and personnel

# MDOT MPA: COMPLIANCE WITH THE MARITIME TRANSPORTATION SECURITY ACT OF 2002

*MDOT MPA incorporates a personnel and physical security plan which meets or exceeds the security requirements as outlined within the Maritime Transportation Security Act of 2002 (MTSA). MDOT MPA's security procedures are documented within its Facility Security Plan, which is approved by the U.S. Coast Guard. For the past six years, MDOT MPA has received 'Excellent' ratings following the U.S. Coast Guard's annual security inspection. MDOT MPA is required to maintain and execute a Facility Security Assessment and Facility Security Plan. The U.S. Coast Guard has approved the Facility Security Plan for all MDOT MPA terminals and this plan currently meets the MTSA 2002 requirements. MDOT MPA continues to assess its security plans and make adjustments or additions to maintain the delicate balance between security requirements and enhanced commerce capabilities.*

*MDOT MPA's security program is recognized as one of the top maritime security programs in the U.S. MDOT MPA has received perfect U.S. Coast Guard annual security inspections for four consecutive years.*

## Why Did Performance Change?

- MDOT MPA completed the following actions in recent years: a physical security enhancement at the North Locust Point Marine Terminal Gate in FY 2015, cyber-related vulnerability assessment of physical security technology in FY 2016; and CCTV Video Analytics in FY 2017
- The MDOT MPA was recognized by Government Security News as the magazine's 'Most Notable Seaport Security Program'

## What Are Future Performance Strategies?

- Remain an active participant within the State's CCTV Interoperability System that is coordinated by Maryland Coordination and Analysis Center (MCAC)
- In the near term, MDOT MPA will execute capital projects (State and federal funds) to improve and protect critical infrastructure on the public terminals of the Port of Baltimore; projects include Dundalk gate upgrades and CCTV Video Analytics Systems Integration

# MDOT MVA: PERCENT OF HOMELAND SECURITY REAL ID ACT BENCHMARKS ACHIEVED

*The federal REAL Identity Act of 2005 (REAL ID) set new standards for issuing driver licenses and identification cards and is intended to improve the integrity and security of State-issued driver licenses and identification cards. In 2008, MDOT was directed to create a State driver's license that fully complies with the federal REAL ID regulations released by the Department of Homeland Security. The REAL ID compliant license in Maryland requires an individual to provide proof of lawful presence in the U.S., per legislation enacted in 2009. The federal government has phased in the REAL ID process over time to enable states to achieve the required 39 federal benchmarks in order to be in Full Compliance with REAL ID.*

*As of December 2017, MDOT MVA has achieved a 100% Material Compliance rate since September 2015, achieving 18 of 18 required material compliance benchmarks, and a 97.4% Compliance rate, meaning 38 of the 39 benchmarks are complete. After all federal systems become fully implemented, Maryland will work to achieve all 39 benchmarks. MDOT MVA continues to implement technical and program enhancements as they become available by the federal government in an effort to achieve full compliance, in partnership with the American Association of Motor Vehicle Administrators (AAMVA).*

## Why Did Performance Change?

- The implementation of Maryland's Secure Identification Card continues to meet the requirements of the federal REAL ID Act and is the most secure identification in the country

## What Are Future Performance Strategies?

- Continue to proactively implement policies, procedures and technologies to achieve completion of the federal REAL ID benchmarks
- Modify the State-to-State application such that issues are resolved faster. This modification to the verification process will reduce duplicates and increase the safety and security of our customer's driver's license and identification cards

# GOAL: System Preservation

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

SUMMARY OF
**GOAL ACHIEVEMENT**

TARGET
ACHIEVED

MAKING
PROGRESS

FACING
CHALLENGES

## OBJECTIVES

■ Preserve and maintain State-owned or supported roadways, bridges, public transit, rail, bicycle and pedestrian facilities, port, airports and other facilities in a state of good repair

The preservation and maintenance of Maryland's transportation network is essential for continued mobility throughout the state. Similar to owning a car, the transportation network must be maintained to reduce long-term costs and repairs. This continuous upkeep improves pavement conditions, ensures bridges are safe for travel and reduces personal vehicle maintenance costs. Numerous investments and projects in the FY 2018–FY 2023 CTP support this goal, including rehabilitation activities, resurfacing of roadways, bridge reconstruction and other asset preservation projects. In FY 2018 alone, total system preservation projects total $886.8 million and are expected to increase to $1004.1 billion by 2023. In FY 2017, MDOT completed 182 projects totaling $612 million, including 35 highway segment-resurfacing projects, 24 bridge repairs, eight roadway designs and 86 multimodal rehabilitation projects.

Planned upkeep for roadways and bridges reduces total life cycle costs for maintenance while ensuring these routes remain safe and efficient for everyday use. MDOT SHA is the primary State agency charged with rehabilitating and resurfacing the State's roadways. In FY 2017, MDOT SHA spent more than $317 million on preserving and improving pavements, an increase of eight percent since FY 2016. MDOT SHA is also responsible for repair, rehabilitation and construction of state bridges, specifically aiming to reduce the number of 'structurally deficient' bridges. Structurally deficient bridges are programmed as needing repair or replacement but are safe for travel. Out of the total MDOT SHA 2,567 bridges, less than 3% have been identified as structurally deficient, one of the lowest percentages out of all State DOTs.

System preservation also extends to infrastructure and assets outside of roadways and bridges, such as vehicle maintenance, port terminals, sidewalks and vehicle registration records. Upkeep of these and other resources reduces long-term costs, ensures the safety of employees and travelers and maintains quality of service. Total funds by business unit in the FY 2018–FY 2023 CTP include $900.0 million for the Maryland share of Washington Metropolitan Area Transit Authority (WMATA) state of good repair and preservation program, $86.0 million for MDOT MVA, $192.7 million for MDOT, $201.4 million for MDOT MAA, $202.1 million for MDOT MPA, $406.9 million for MDOT MTA and $5.4 billion for MDOT SHA. In total, the FY 2018–FY 2023 CTP has allocated $7.3 billion for system preservation projects across all business units. The preservation of the transportation network has a direct impact on all goals in this Attainment Report and all business units will fund projects that support the continued safety, maintenance and efficiency of the network.

## KEY INITIATIVES AND CTP PROJECTS

**MDOT MAA:** System preservation covers a wide range of projects, from Apron Pavement Reconstruction, upgrades to Concourses D and E, Aircraft Maintenance Facility Infrastructure, and Shuttle Bus service Fleet Replacement. Improvements have a direct impact on passengers and employees at the BWI Marshall Airport.

**TSO:** In the FY 2018-FY 2023 CTP, MDOT committed $80.0 million dollars to 29 completed statewide projects including highway safety, crash prevention, guardrail end treatment, drainage, sidewalks, traffic management, urban reconstruction, and intersection capacity improvements.

**MDTA:** Maryland's roadways and bridges are under constant maintenance and rehabilitation. The FY 2018– FY 2023 CTP lists various projects to continue the system preservation of the network, including the replacement of Harry W. Nice Memorial Bridge to meet current standards and anticipate increased traffic, preventing further deterioration along the I-95/I-395 Fort McHenry Tunnel and rehabilitation of MD 695 Francis Scott Key Bridge.

**MDOT MPA:** Reconstruction continues on Berths 1 – 6 at Dundalk Marine Terminal, with $31.2 million allocated in FY 2018–FY 2023 CTP. These berths are essential to the Port of Baltimore, handling a variety of cargoes such as automobiles, forest products and other break-bulk.

**MDOT MTA:** The FY 2018–FY 2023 CTP includes $406.9 million for system preservation, minor projects, including MARC maintenance, layover and storage facilities; replacement and improvements on rail lines; overhaul and replacement of transit vehicles and cars; and upgrades at stations.

**MDOT MVA:** Ongoing initiatives include system preservation for Central Document Processing System, Computer Equipment, Security and Telecommunication Systems, along with other programs.

**MDOT SHA:** Numerous investments and projects in the FY 2018–FY 2023 CTP support this goal, including rehabilitation activities, resurfacing of roadways, bridge reconstruction and other asset preservation projects. In FY 2018 alone, total system preservation projects total $886.8 million and are expected to increase to $1004.1 billion by 2023. In FY 2017, MDOT completed 182 projects totaling $612 million, including 35 highway segment-resurfacing projects, 24 bridge repairs, eight roadway designs and 86 multimodal rehabilitation projects.

# MDOT SHA & MDTA: PERCENT OF ROADWAY MILES WITH ACCEPTABLE RIDE QUALITY*

*The traveling public has identified acceptable ride quality (i.e., the smoothness or roughness of the pavement) as a priority. Ride quality facilitates mobility, efficiency and safe movement of people and goods within Maryland.*



**PERCENT OF ROADWAY MILEAGE**

TARGET: 87% Annually

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 86% | 87% | 86% | 86% | 86% | 86% | 87% | 87% | 88% | 89% |
| 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016** | 2017*** |

**CALENDAR YEAR**
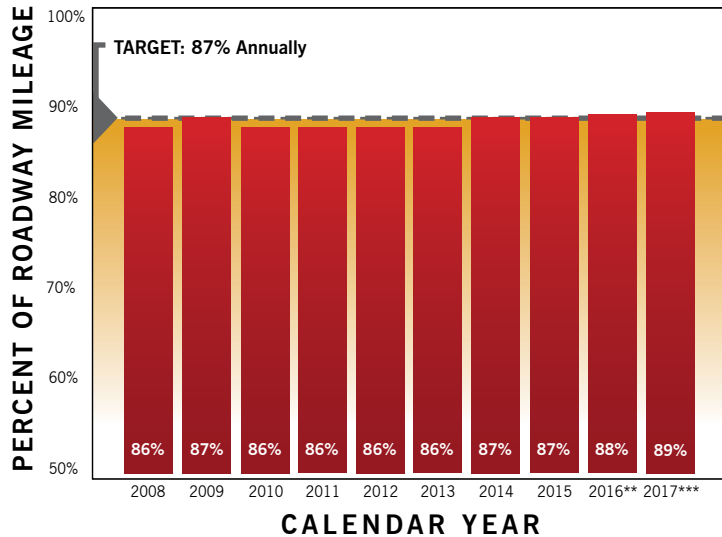
\* Ride quality is represented by the International Roughness Index (IRI).
\*\* 2016 data was revised from previous Attainment Report.
\*\*\* 2017 data is preliminary and subject to change.



## Why Did Performance Change?

- MDOT SHA continued to focus on improving roadways with deficient ride quality and continued the increased use of pavement preservation treatments, where appropriate, to extend the service life of MDOT SHA roadways at the lowest possible cost

- MDOT SHA preserved and improved 8% of the MDOT SHA pavement network, compared to 6% the previous year ($18.8 million in the FY 2018–FY 2023 CTP for milling and resurfacing along MD 213, MD 298, MD 292 and MD 566)

- MDTA's revised approach toward system-wide preventative maintenance and preservation emphasizes an advanced response to needs identified in the annual inspection reports

- MDTA overhauled and enhanced their inspection program over the past several years to better identify, report and address inspection findings; developed and implemented the Facility Inspection Program Strategic Plan; and continued the use of an integrated facility management software to collect inspection findings, track repair efforts and compare facility needs over time

- MDTA performed needed preservation improvements to all facilities, including resurfacing travel lanes and ramps, full-depth pavement repairs and crack sealing

## What Are Future Performance Strategies?

- Focus on higher-priority prevention and maintenance

- Utilize design and construction contract schedules to perform structural repairs in high priority preventative maintenance programs

- Increase the use of more durable materials in high-demand MDOT SHA roadways and investigate alternative pavement treatments to extend the pavement life within budget realities

- Target low surface friction locations and expand the use of recycled materials in MDOT SHA roadway projects

- Continue to implement the FHWA and MDOT SHA Pavement Preservation program to strategically utilize system preservation activities

# MDOT SHA & MDTA: NUMBER OF BRIDGES & PERCENT THAT ARE STRUCTURALLY DEFICIENT

*The structurally deficient rating is an early warning sign for engineers to initiate the rehabilitation or replacement process and is used when prioritizing and recommending system preservation funding. The rating applies to three main elements of a bridge: 1) deck (riding surface); 2) superstructure (main supporting element of the deck); and 3) substructure (supports to hold up the superstructure and deck). These elements are rated on a scale from zero (closed to traffic) to nine (relatively new). If any of the three elements is rated as a four or less, the bridge is categorized as structurally deficient by federal standards. This does not mean that the bridge is unsafe; if a bridge becomes unsafe, it is closed. The transportation business units (TBUs) place a high priority on bridge programs, as impassable bridges can cause significant rerouting of traffic and congestion delay and in rural areas, closed bridges can create significantly longer travel distances for rural communities' daily activities and commutes.*

| CALENDAR YEAR | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|
| Number of Deficient – MDTA | 4 | 5 | 4 | 1 | 1 | 1 | 1 | 1 |
| Number of Deficient – MDOT SHA | 107 | 106 | 97 | 87 | 81 | 69 | 69 | 67 |
| Total Number Deficient | 111 | 111 | 101 | 88 | 82 | 70 | 70 | 68 |
| Percent Deficient – MDTA | 1.57% | 1.59% | 1.27% | 0.30% | 0.30% | 0.30% | 0.30% | 0.30% |
| Percent Deficient – MDOT SHA | 4.15% | 4.11% | 3.76% | 3.38% | 3.15% | 2.69% | 2.69% | 2.61% |
| Total Percent Deficient | 3.9% | 3.8% | 3.5% | 3.0% | 2.8% | 2.4% | 2.4% | 2.4% |

## Why Did Performance Change?

- MDOT SHA reported 67 structurally deficient bridges in April 2017 and addressed 235 bridges with an aggressive minor rehabilitation program to help keep them from becoming structurally deficient

- MDTA developed and implemented a comprehensive Facility Inspection Program, integrated facilities asset management software and completed a comprehensive inspection manual specific to MDTA

## What Are Future Performance Strategies?

- Evaluate, monitor and prioritize bridges with a rating of five (fair condition) in at least one main element

- Replace the Canton Viaduct of the I-895 Baltimore Harbor Tunnel Thruway

# MDOT MPA: DREDGED MATERIAL PLACEMENT CAPACITY REMAINING FOR HARBOR & POPLAR ISLAND SITES

*MDOT MPA is responsible for obtaining dredged material placement sites.*



DREDGED MATERIAL PLACEMENT CAPACITY REMAINING FOR HARBOR AND POPLAR ISLAND SITE (mcy)

| FISCAL YEAR | Harbor Material | Poplar Island Site Material |
|---|---|---|
| 2008 | 7.6 | 22.6 |
| 2009 | 6.5 | 22.0 |
| 2010 | 4.6 | 22.0 |
| 2011 | 21.6 | 19.1 |
| 2012 | 19.5 | 18.0 |
| 2013 | 18.1 | 15.0 |
| 2014 | 18.1 | 15.7 |
| 2015 | 16.5 | 12.3 |
| 2016 | 16.0 | 9.8 |
| 2017* | 15.5 | 9.0 |

■ Harbor Material  ■ Poplar Island Site Material
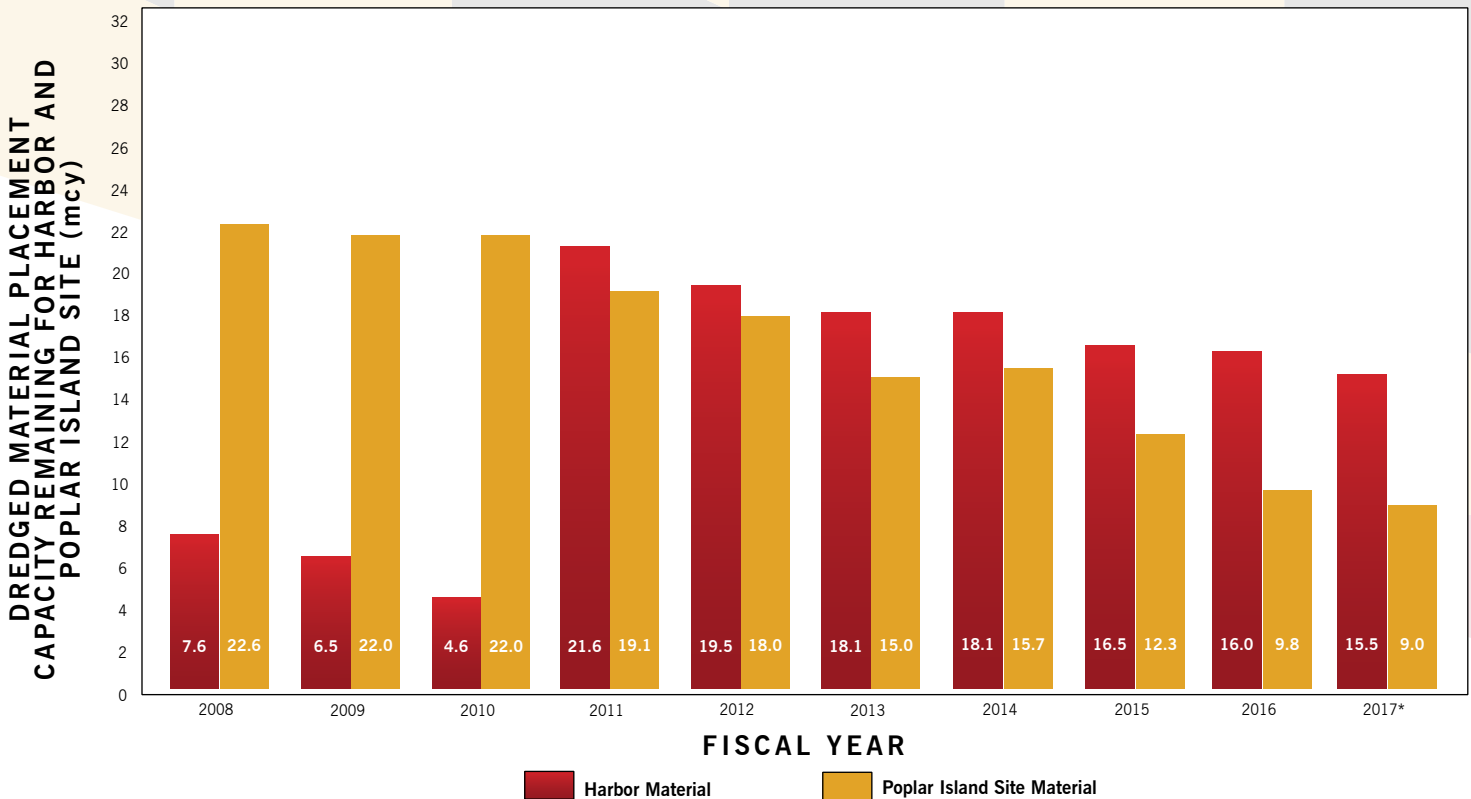
**TARGET: Maintain a rolling 20-year plan for adequate dredged material placement capacity**

*\* 2017 data is preliminary and subject to change.*

## Why Did Performance Change?

- Dredged material capacity at placement sites is being consumed faster than new capacity can be brought online; only maintenance dredging of Harbor channels can be accommodated without overloading existing placement sites

- Continued design for Stage 1 expansion of the Cox Creek Dredged Material Containment Facility (DMCF), which will bring an additional seven million cubic yards (mcy) of Harbor material capacity online in FY 2023

- A Confined Aquatic Disposal (CAD) pilot cell was constructed, filled and is being monitored

- The State's Dredged Material Management Program (DMMP) continued to support the Corps' DMMP and Limited Reevaluation Report for completion of widening the existing 50 ft. channel

- Effective implementation of safety and mobility efforts occurred to ensure unimpeded shipping access to the Port

- Significant advances were made in FY 2017 to bring additional dredged material placement capacity online for all major channel segments

## What Are Future Performance Strategies?

- Manage an effective dredging program to maintain and improve the shipping channels for safe, unimpeded access to the Port

- Explore and provide additional capacity solutions for the Bay and Harbor channels

- Complete Cox Creek Expansion Stage 1

- Continue construction of the expansion of the Poplar Island Environmental Restoration Project and construct the Pearce Creek water line

- The FY 2018-FY 2023 CTP includes $483.9 million to implement the Governor's Strategic Plan for Dredged Material Management, which will help maintain shipping channels

- MDOT MPA and MDOT-OPCP are monitoring several national developments and developing strategies to ensure that the competitive position of the Port is maintained

- MDOT MPA will monitor the CAD pilot project near the Fairfield Vessel Berth in FY 2018 to determine whether CAD may become a dredged material management option

# MDOT MTA: AVERAGE FLEET AGE OF TRANSIT REVENUE VEHICLES

*The average fleet age of revenue vehicles is used to understand the status and age of the fleet used to transport patrons. Calculating fleet age informs the agency of the age of vehicles used in revenue service indicating fuel consumption, energy efficiencies, preventative maintenance needs and repair expectations.*
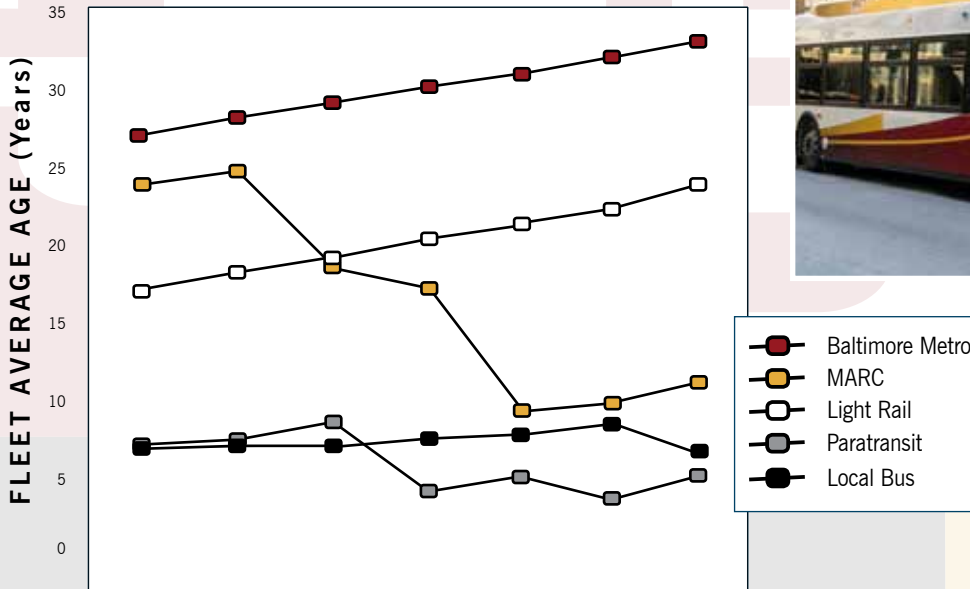




|  | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|
| Baltimore Metro | 27.3 | 28.3 | 29.3 | 30.3 | 31.3 | 32.3 | 33.3 |
| MARC | 23.6 | 24.6 | 18.7 | 17.2 | 9.3 | 10.4 | 11.7 |
| Light Rail | 17.3 | 18.3 | 19.3 | 20.3 | 21.3 | 22.3 | 23.3 |
| Paratransit | 6.8 | 7.5 | 8.5 | 4.4 | 4.9 | 3.8 | 4.9 |
| Local Bus | 6.9 | 7.1 | 7.1 | 7.6 | 7.9 | 8.5 | 6.7 |

**TARGET\*: AVERAGE FLEET AGE OF SIX YEARS FOR THE LOCAL BUS SYSTEM**

*\* Rail cars do not have a target for the fleet age as rather than replacing cars the vehicles are often overhauled, replacing or updating key components.*

## Why Did Performance Change?

- Acquired 77 new Mobility small, cut-away buses during FY 2017
- The entirety of the MDOT MTA's Light Rail Vehicles began a mid-life overhaul in FY 2018
- MARC continues to overhaul vehicles

## What Are Future Performance Strategies?

- Overhaul MARC railcars and procurement of new diesel locomotives in accordance with manufacturer's schedule of retirement to maintain a state of good repair
- Continue with Light Rail's ongoing mid-life inspection and renovation to ensure vehicle reliability and useful life
- Enhance passenger comfort and conveniences, ensure better reliability, reduce system failures and offer improved safety through the replacement of all Metro vehicles and overhaul of Metro signaling systems
- Procure replacement vehicles and equipment repair for Mobility Paratransit
- Maintain the average age of the bus fleet ($256.0 million in the FY 2018–FY 2023 CTP for Bus Procurement)

# GOAL: Quality of Service

*Maintain and enhance the quality of service experienced by users of Maryland's transportation system*

TARGET ACHIEVED

MAKING PROGRESS

FACING CHALLENGES

## OBJECTIVES

- Increase the efficiency of transportation service delivery through the use of systems, processes, partnerships, technologies and improved service delivery methods

- Maintain and enhance customer satisfaction with transportation services across modes

- Seek to maintain or improve travel reliability for key transportation corridors and services

- Continue to apply enhanced technologies to improve the transportation system and to communicate with the traveling public

Maryland's residents, businesses and travelers interact with the State's transportation network on a daily basis and rely on the system to be reliable and efficient. The quality of this service is dependent on the network being well maintained, comfortable, efficient and convenient. Service quality is also a reflection of interactions with MDOT employees and services, such as MDOT MVA licensing and registration, MDTA tolling system ease of use, or MDOT MTA transit wayfinding. MDOT has streamlined this interaction through the implementation of One Stop Shop, a website for users to view information about Maryland's transportation system and services across business units and modes. In 2017, this website was visited more than 350,000 times. Information on flight delays, license renewal or transit pass purchasing is among that which is available. Continuous attention on the quality of service of the entire multimodal transportation network, and on the customer's perspective, ensures reliable movement throughout the state while supporting the other goals listed in this Attainment Report.

Technological advances, upgraded facilities and projects that improve the efficiency and user-friendliness of Maryland's transportation network are underway. MDOT MVA's Project Core is modernizing the IT infrastructure to support customer products and interactions. MDOT MPA has updated the Cruise Maryland Terminal, completely renovating the terminal's interior with new furniture, carpeting, check-in counters, signage, and entrances. MDOT MAA is making terminal improvements and introducing improved passenger amenities at BWI Marshall Airport Concourses D and E. MDOT MTA is upgrading its fare collection system and is overhauling or replacing nearly 200 MARC coaches to ensure security and improve customer satisfaction. MDOT SHA implemented the Maryland One system, a one-stop shop for multi-jurisdictional permit processing for oversize and overweight vehicles for Maryland, including Baltimore City.

## KEY INITIATIVES AND CTP PROJECTS

**MDOT MAA:** Passenger growth is being promoted through expansion of markets and adding services at BWI Marshall Airport. Improvements such as a fitness gym, new shops and new restaurants in 2017 also improved service at the airport for passengers.

**TSO:** A key program of MDOT's Customer Service Initiative, MDOT has implemented the One Stop Shop, a website for users to view information about Maryland's transportation system and services across business units and modes. It helps customers streamline transactions with MDOT, including getting permits or purchasing an *E-ZPass®*.

**MDTA:** To increase reliability and reduce congestion, the FY 2018–FY 2023 CTP includes Express Toll Lanes (ETL) along the I-95 John F. Kennedy Memorial Highway ($11.3 million), reconfiguring of I-95 from Moravia Road to Tunnel ($49.2 million) and construction of MD 200 / Intercounty Connector (ICC), a new east-west, multimodal highway ($25.1 million).

**MDOT MPA:** The Port of Baltimore was named the fourth fastest-growing port in North America in 2016, by a leading industry media company. The Port had a 9.8% increase in the amount of Twenty Foot Equivalent Units (TEU's) handled from the previous year, to improve service, MDOT MPA's tenant will open five new inbound gates at Vail St and will install a new terminal operating system (TOS).

**MDOT MTA:** In 2017, BaltimoreLink is fully underway. MDOT MTA is also providing new connections linking Kent Island and Annapolis to Baltimore. Dedicated lanes, new high frequency routes and increased connection to job centers are just some of the improvements through this new transit service.

**MDOT MVA:** MDOT MVA projects in the FY 2018–FY 2023 CTP show commitment to continued customer service at MDOT MVA. Included is funding for several Alternative Service Delivery (ASD) projects which, support electronic delivery of MDOT MVA services through the internet, kiosks and telephone Interactive Voice Response (IVR) systems. Project Core, totaling $21.7 million, aims to modernize MDOT MVA IT infrastructure to improve customer service and increase employee productivity.

**MDOT SHA:** MDOT SHA started construction of its $119.3 million I-270 Interchange project at Watkins Mill Road. This project will improve one of Maryland's most heavily traveled roadways in Montgomery County, benefiting commuters who travel the I-270 corridor.

# MDOT SHA: MARYLAND DRIVER SATISFACTION RATING*

*Customer Satisfaction Surveys help determine if MDOT SHA services are better than average in the eyes of its customers. MDOT SHA strives to achieve a "B" grade, which is equivalent to a four out of five rating.*

| CALENDAR YEAR | 2008 | 2010 | 2012 | 2014 | 2016* |
|---|---|---|---|---|---|
| Maryland driver satisfaction rating | 3.90 | 3.94 | 3.92 | 3.88 | N/A |

**TARGET: 4 out of 5**

*\* The biennial Maryland Driver Satisfaction Survey was not conducted in 2016; instead, MDOT SHA participated in an MDOT-wide external customer satisfaction survey in 2017. The next Maryland Driver Satisfaction survey, if conducted, will be in 2018.*

## Why Did Performance Change?

- Handled nearly 25,000 service requests via the Customer Care Management System (CCMS), MDOT SHA's online customer service system, including nearly 4,600 pothole inquiries
- Updated CCMS Basic User training module, which includes detailed information on how to use the system and conducted CCMS face-to-face training at seven district offices and shops
- Enhanced CCMS, streamlining MDOT SHA's ability to create service requests from social media posts via Facebook and Twitter
- Approximately 60% of customers rated MDOT SHA as providing excellent or good customer service via the CCMS
- Deployed CCMS social media interface to expedite service requests initiated indirectly on social media platforms

## What Are Future Performance Strategies?

- Integrate the Customer Service Promise with MDOT SHA customer service training, update the New Employee Orientation Customer Service Presentation and implement position-specific customer service training for all MDOT SHA employees
- Host more in-person CCMS Advanced User training sessions across the state and update Advanced CCMS training module
- Support general customer service training from the Governor's office for all State employees

# MDOT SHA: PERCENTAGE OF MDOT SHA NETWORK IN OVERALL PREFERRED MAINTENANCE CONDITION

*The overall condition of the network reflects how well asset management strategies improved operations and technology have sustained the quality and safety of existing highways.*



**TARGET: 84% Annually**

Percent of Network by Calendar Year:
- 2008: 81.7%
- 2009: 86.9%
- 2010: 85.8%
- 2011: 82.2%
- 2012: 85.1%
- 2013: 83.4%
- 2014: 83.4%
- 2015: 78.8%
- 2016: 78.6%
- 2017: 85.7%
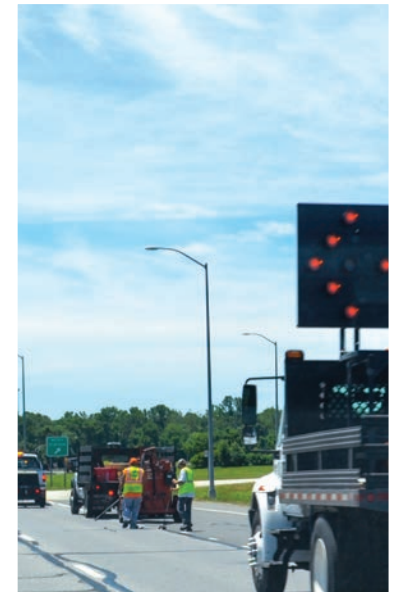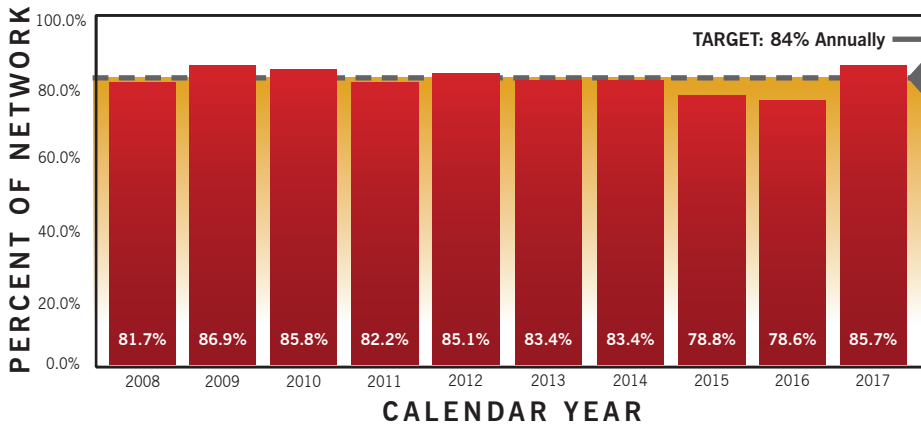
## Why Did Performance Change?

- The relatively light winter did not cause as much damage as in recent years and allowed maintenance forces to catch up on deferred work from prior years, such as sign maintenance, pavement markings, line striping, guardrail repair, brush and tree cutting, and drainage work
- MDOT SHA made a significant change to the evaluation criteria for pavement markings to be more aligned with the criteria used by Federal Highway Administration (FHWA) and other states, resulting in an almost 30% increase in the level of service statewide for pavement markings

## What Are Future Performance Strategies?

- Maintain focus for additional work efforts on safety-related assets, such as signs, pavement markings, line striping, guardrail repair, and brush and tree cutting, while ensuring adequate contract resources that support these activities
- Continue to collaborate with the finance and the procurement and contract management offices with having adequate contract authority within the maintenance program so additional work can be performed on assets falling below the desired maintenance condition
- Evaluate the efficiency and effectiveness of maintenance programs and policies, including the line striping and guardrail repair policies, and the litter, vegetation management and roadway lighting programs

# MDOT MTA: PERCENT OF SERVICE PROVIDED ON TIME

*On time performance (OTP) is an important indicator of service quality and efficiency and correlates highly with system usage and customer satisfaction.*

## LOCAL BUS

**TARGET: 80% by 2018**

| 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|------|------|------|------|------|------|------|------|------|------|
| 71% | 73% | 87% | 85% | 83% | 82% | 81% | 81% | 85% | 77% |

## LIGHT RAIL

**TARGET: 95% by 2018**

| 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|------|------|------|------|------|------|------|------|------|------|
| 98% | 99% | 97% | 98% | 96% | 97% | 96% | 97% | 98% | 96% |

## BALTIMORE METRO

**TARGET: 95% by 2018**

| 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|------|------|------|------|------|------|------|------|------|------|
| 97% | 98% | 95% | 97% | 96% | 97% | 96% | 95% | 96% | 96% |

## MARC

**TARGET: 92% by 2018**

| 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|------|------|------|------|------|------|------|------|------|------|
| 87% | 87% | 89% | 89% | 93% | 93% | 92% | 92% | 94% | 91% |

## MOBILITY PARATRANSIT & TAXI ACCESS

**TARGET: 92% by 2018**

| 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|------|------|------|------|------|------|------|------|------|------|
| 91% | 92% | 91% | 89% | 90% | 89% | 91% | 88% | 92% | 93% |

**FISCAL YEAR**

## Why Did Performance Change?

- MDOT MTA efficiently and effectively deployed resources to deliver service on time by either improving or maintaining OTP for all modes
- Light RailLink and MetroLink conducted several periods of track work in FY 2016 and FY 2017 to improve quality and reliability of service

## What Are Future Performance Strategies?

- Improve OTP with the BaltimoreLink initiative, redesigned the Local and Express Bus routes through Baltimore, transforming the connectivity of transit in the Baltimore Metropolitan region
- Target and resolve issues creating OTP challenges for the Local Bus system, using better data systems to find and troubleshoot performance issues
- Improve OTP through better schedule design and better operational supervision, using Automatic Vehicle Location (AVL) and Automatic Passenger Counter (APC) technologies
- Complete the Metrorail track work and signals replacement project thereby improving service reliability
- Continue with Light Rail vehicle mid-life overhaul project to increase fleet reliability
- Schedule Light Rail and Baltimore Metro Rail track maintenance activities during periods of low ridership, minimizing the effect of the work on riders
- Continue aggressive monitoring of MARC's contracted operations and pursue infrastructure and schedule improvements that will benefit MARC riders

# MDOT MTA: OPERATING COST PER PASSENGER TRIP

*Together, the operating cost per passenger trip and operating cost per revenue vehicle mile are key industry performance measures that show MDOT MTA's ability to provide service effectively and efficiently to passengers on various modes of travel.*
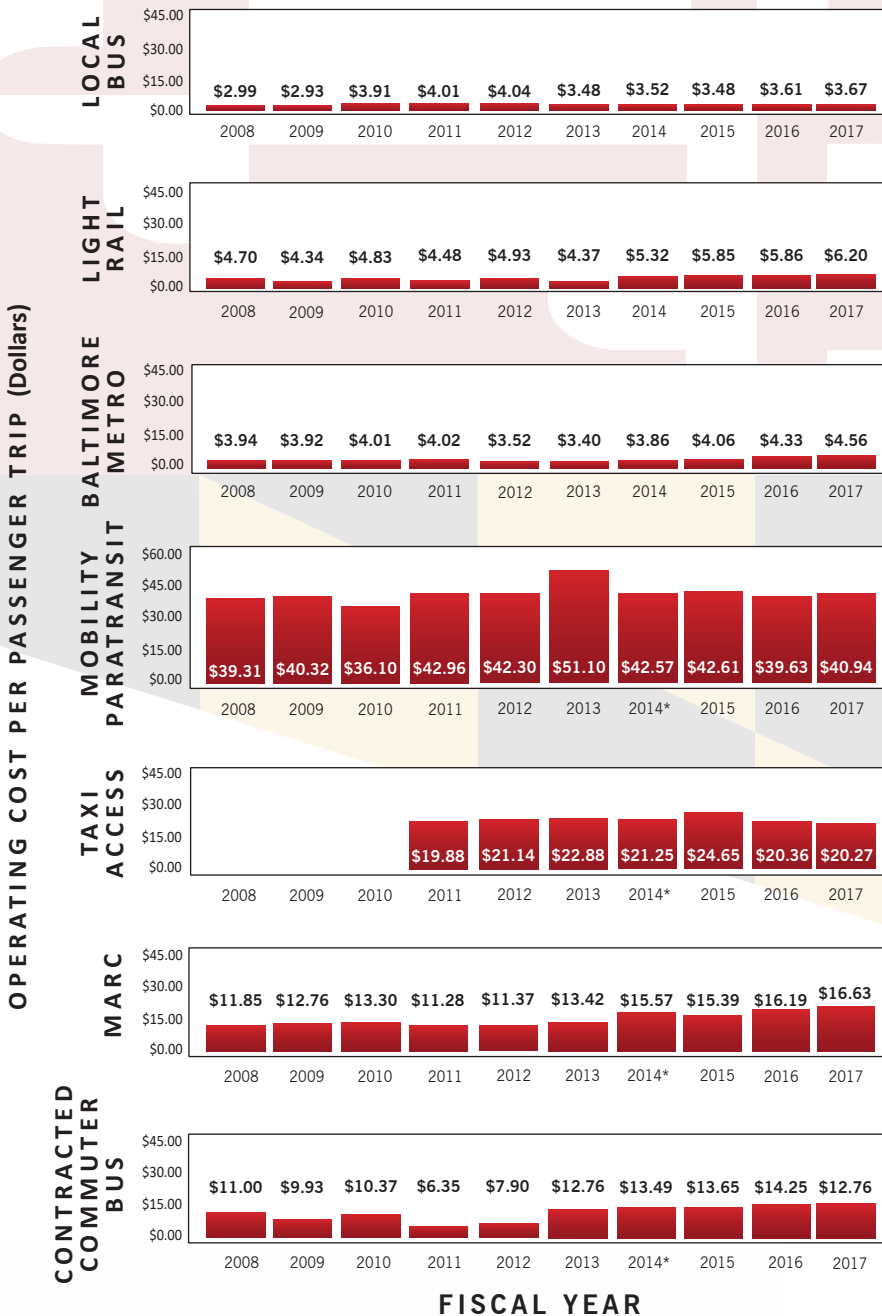
## Why Did Performance Change?

- Cost per trip increased for all modes from FY 2016 to FY 2017, primarily due to contract increases and general inflation

- The BaltimoreLink bus service is still MDOT MTA's most efficient way to move passengers, with cost growth well in line or below historical trends

- While Metro's cost per trip this year was higher than last, the costs are still within historical trends given track work/single tracking which occurred throughout the fiscal year

- While MARC and Commuter Bus cost per trip increased this year, better contractual management has minimized this cost growth

## What Are Future Performance Strategies?

- Improve the efficiency of MDOT MTA's transit system and increase capacity in high-demand areas through the BaltimoreLink initiative, designed to transform the connectivity of transit in the Baltimore Metropolitan region

- Continue efforts to control system costs while maintaining high levels of service quality

- Continue aggressive management and auditing of contracted service providers to ensure 100% accuracy of invoices and claims

- Provide maximum transit capacity in areas of highest demand potential in order to provide increased passenger trips while utilizing agency resources efficiently

**OPERATING COST PER PASSENGER TRIP (Dollars)**

### LOCAL BUS

| 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|------|------|------|------|------|------|------|------|------|------|
| $2.99 | $2.93 | $3.91 | $4.01 | $4.04 | $3.48 | $3.52 | $3.48 | $3.61 | $3.67 |

### LIGHT RAIL

| 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|------|------|------|------|------|------|------|------|------|------|
| $4.70 | $4.34 | $4.83 | $4.48 | $4.93 | $4.37 | $5.32 | $5.85 | $5.86 | $6.20 |

### BALTIMORE METRO

| 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|------|------|------|------|------|------|------|------|------|------|
| $3.94 | $3.92 | $4.01 | $4.02 | $3.52 | $3.40 | $3.86 | $4.06 | $4.33 | $4.56 |

### MOBILITY PARATRANSIT

| 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014* | 2015 | 2016 | 2017 |
|------|------|------|------|------|------|------|------|------|------|
| $39.31 | $40.32 | $36.10 | $42.96 | $42.30 | $51.10 | $42.57 | $42.61 | $39.63 | $40.94 |

### TAXI ACCESS

| 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014* | 2015 | 2016 | 2017 |
|------|------|------|------|------|------|------|------|------|------|
| | | | $19.88 | $21.14 | $22.88 | $21.25 | $24.65 | $20.36 | $20.27 |

### MARC

| 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014* | 2015 | 2016 | 2017 |
|------|------|------|------|------|------|------|------|------|------|
| $11.85 | $12.76 | $13.30 | $11.28 | $11.37 | $13.42 | $15.57 | $15.39 | $16.19 | $16.63 |

### CONTRACTED COMMUTER BUS

| 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014* | 2015 | 2016 | 2017 |
|------|------|------|------|------|------|------|------|------|------|
| $11.00 | $9.93 | $10.37 | $6.35 | $7.90 | $12.76 | $13.49 | $13.65 | $14.25 | $12.76 |

**FISCAL YEAR**

**TARGET: Cost per passenger trip for Local Bus, Baltimore Metro and Light Rail to increase at a rate no higher than the Consumer Price Index (CPI)\*\***

*\* 2014 data point was revised from previous Attainment Report.*
*\*\* The CPI provides information about price changes in the national economy.*





GOAL: QUALITY OF SERVICE

# MDOT MTA: OPERATING COST PER REVENUE VEHICLE MILE

**OPERATING COST PER REVENUE VEHICLE MILES (Dollars)**

### LOCAL BUS

| 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|
| $12.76 | $12.76 | $13.50 | $14.23 | $15.60 | $11.85 | $13.30 | $13.64 | $13.55 | $13.68 |

### LIGHT RAIL

| 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|
| $13.28 | $13.58 | $12.39 | $12.37 | $14.00 | $11.60 | $12.98 | $15.11 | $13.82 | $13.96 |

### BALTIMORE METRO

| 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|
| $10.59 | $10.13 | $11.95 | $11.95 | $11.58 | $10.12 | $11.18 | $11.25 | $10.56 | $10.67 |

### MOBILITY PARATRANSIT

| 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|
| $4.81 | $5.01 | $5.15 | $6.06 | $5.34 | $6.06 | $5.14 | $5.16 | $4.57 | $4.98 |

### TAXI ACCESS

| 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|
| | | | $4.57 | $4.82 | $5.37 | $5.27 | $6.05 | $4.95 | $4.54 |

### MARC

| 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|
| $18.26 | $19.75 | $21.49 | $17.21 | $16.67 | $17.56 | $22.30 | $22.70 | $22.73 | $23.63 |

### CONTRACTED COMMUTER BUS

| 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2015 | 2017 |
|---|---|---|---|---|---|---|---|---|---|
| $9.16 | $8.84 | $8.93 | $5.83 | $6.51 | $9.95 | $10.02 | $9.32 | $8.91 | $9.00 |

**FISCAL YEAR**

**TARGET: Cost per revenue vehicle mile for Local Bus, Baltimore Metro and Light Rail to increase at a rate no higher than the Consumer Price Index (CPI)\***

*\* The CPI provides information about price changes in the national economy.*

## Why Did Performance Change?

- Cost per trip increased for all modes from FY 2016 to FY 2017, primarily due to contract increases and general inflation
- Across all modes the costs per revenue vehicle mile increased by 2%

## What Are Future Performance Strategies?

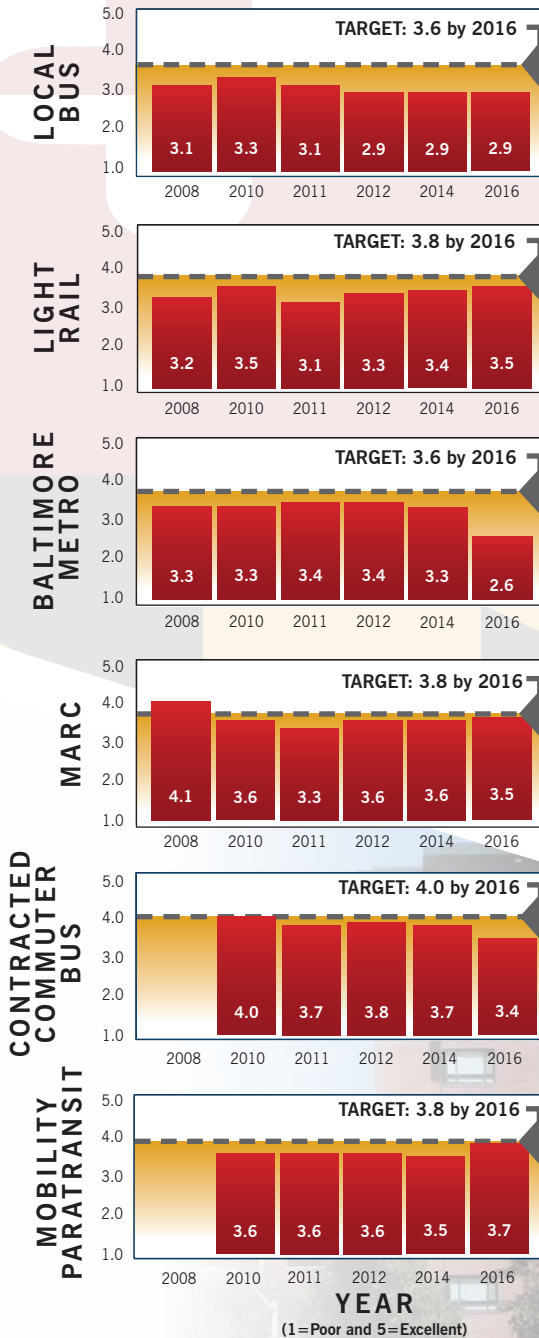- Improve efficiency and operating cost per revenue vehicle mile of MDOT MTA's transit system and increase capacity in high-demand areas through improved connectivity of transit in the Baltimore Metropolitan region
- Continue to improve the Local Bus network to maximize efficiency and connectivity to places of employment

# MDOT MTA:  CUSTOMER SATISFACTION RATING*

*Safe, efficient and reliable service are key factors in attracting transit riders. Customer satisfaction reflects whether MDOT MTA is meeting its customer service standards and signals which modes require improvement.*

## LOCAL BUS

TARGET: 3.6 by 2016

| 2008 | 2010 | 2011 | 2012 | 2014 | 2016 |
|------|------|------|------|------|------|
| 3.1  | 3.3  | 3.1  | 2.9  | 2.9  | 2.9  |

## LIGHT RAIL

TARGET: 3.8 by 2016

| 2008 | 2010 | 2011 | 2012 | 2014 | 2016 |
|------|------|------|------|------|------|
| 3.2  | 3.5  | 3.1  | 3.3  | 3.4  | 3.5  |

## BALTIMORE METRO

TARGET: 3.6 by 2016

| 2008 | 2010 | 2011 | 2012 | 2014 | 2016 |
|------|------|------|------|------|------|
| 3.3  | 3.3  | 3.4  | 3.4  | 3.3  | 2.6  |

## MARC

TARGET: 3.8 by 2016

| 2008 | 2010 | 2011 | 2012 | 2014 | 2016 |
|------|------|------|------|------|------|
| 4.1  | 3.6  | 3.3  | 3.6  | 3.6  | 3.5  |

## CONTRACTED COMMUTER BUS

TARGET: 4.0 by 2016

| 2008 | 2010 | 2011 | 2012 | 2014 | 2016 |
|------|------|------|------|------|------|
|      | 4.0  | 3.7  | 3.8  | 3.7  | 3.4  |

## MOBILITY PARATRANSIT

TARGET: 3.8 by 2016

| 2008 | 2010 | 2011 | 2012 | 2014 | 2016 |
|------|------|------|------|------|------|
|      | 3.6  | 3.6  | 3.6  | 3.5  | 3.7  |

**YEAR**
(1=Poor and 5=Excellent)

*\* A survey was not completed in 2015. The FY 2017 Customer Satisfaction Survey will not be completed until February 2018.*
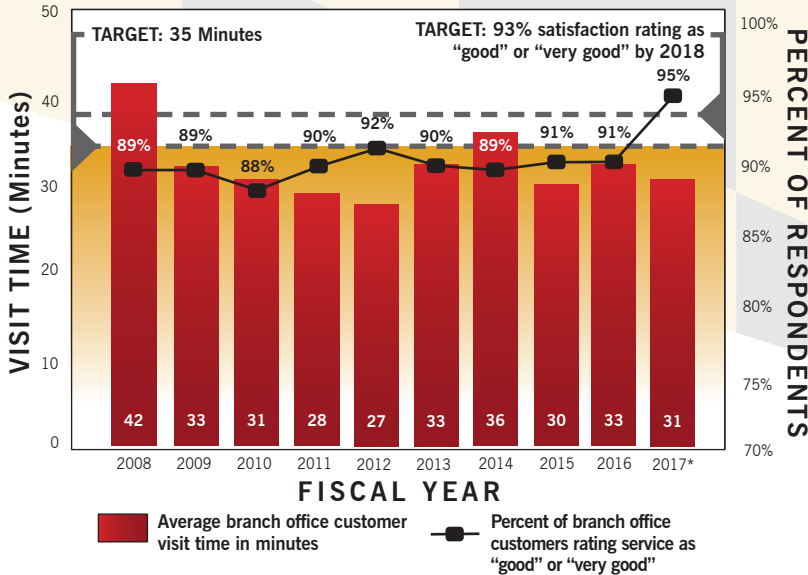
## Why Did Performance Change?

■ Improved the efficiency and operating cost per revenue vehicle mile of MDOT MTA's transit system and increase capacity in high-demand areas through improved connectivity of transit in the Baltimore Metropolitan region

## What Are Future Performance Strategies?

■ Provide real-time customer information to help increase customers' access to next vehicle arrivals, service disruptions, diversions and other important transit information

■ Complete the Metrorail track work and signals replacement project to improve service reliability

■ Continue conducting field observations to identify and correct performance issues

■ MDOT MTA has re-implemented the Rate-Your-Ride app that is available via smart phone or the MDOT MTA website. This brief survey collects valuable information on the experience customers have while using MDOT MTA transit services

■ MDOT MTA coordinates several citizens advisory committees; these groups meet each month and provide MDOT MTA with valuable feedback from a customer perspective

■ BaltimoreLink launched in June 2017, and since implementation MDOT MTA has experienced improvements in efficiency and operating cost per revenue vehicle mile

## MDOT MVA: BRANCH OFFICE CUSTOMER VISIT TIME VERSUS CUSTOMER SATISFACTION RATING

*Average customer visit time is a key indicator of the quality and efficiency of service delivery to customers and is directly related to customer satisfaction (i.e., as MDOT MVA branch customer visit time decreases, customer satisfaction increases).*



TARGET: 35 Minutes

TARGET: 93% satisfaction rating as "good" or "very good" by 2018

VISIT TIME (Minutes) — PERCENT OF RESPONDENTS

Satisfaction ratings: 89%, 89%, 88%, 90%, 92%, 90%, 89%, 91%, 91%, 95%

Visit times: 42, 33, 31, 28, 27, 33, 36, 30, 33, 31

FISCAL YEAR: 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017*

■ Average branch office customer visit time in minutes

— Percent of branch office customers rating service as "good" or "very good"

*\* 2017 data is preliminary and subject to change.*

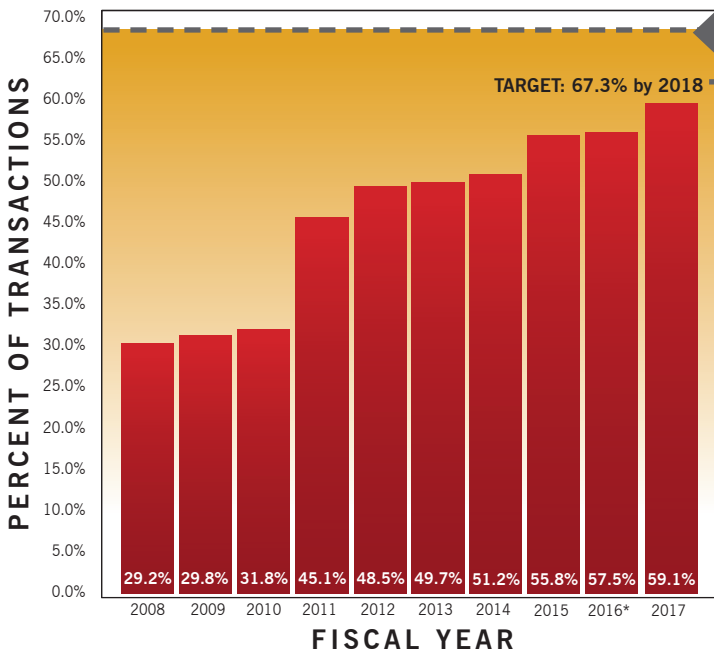### Why Did Performance Change?

- Implemented process enhancements to reduce wait time and the overall visit time for the customer, with the use of handheld devices, which can be used to determine eligibility to complete their transaction online or at a kiosk
- Implemented the ability to pre-fill the driver's license applications online and schedule an appointment for completion of the application at one of the branch offices; customers can expect to be served within 15 minutes of their scheduled appointment, which reduces the overall visit time

### What Are Future Performance Strategies?

- Plan, design and implement an enhanced technical platform that will allow for the full integration of core business services and processes, providing comprehensive account management services to more efficiently access services and products
- Pilot the automation of Customer Service Satisfaction surveys at the end of all driver's license transactions
- Continue to implement Service Enhancements of the Customer Service Plan to support customer interactions, such as acceptance of veteran medical cards to obtain the Veteran indicator on driver's license and identification cards, increased eligibility for customers to use online and kiosk services, extending VEIP testing to three years and exempting vehicles older than 1996 and enhancements to the Commercial Driver License (CDL) Medical Certificate Process

## MDOT MVA: ALTERNATIVE SERVICE DELIVERY TRANSACTIONS AS PERCENT OF TOTAL TRANSACTIONS

*Alternative services offer the ability to provide fast and convenient service delivery to the MDOT MVA customer. These transactions do not involve a walk-in interaction and require development of new information technology systems and changes in customer behavior, which may be offset by new legislation and programs that require a walk-in transaction.*



TARGET: 67.3% by 2018

PERCENT OF TRANSACTIONS

Values: 29.2%, 29.8%, 31.8%, 45.1%, 48.5%, 49.7%, 51.2%, 55.8%, 57.5%, 59.1%

FISCAL YEAR: 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016*, 2017

*\* 2016 data revised from previous Attainment Report.*
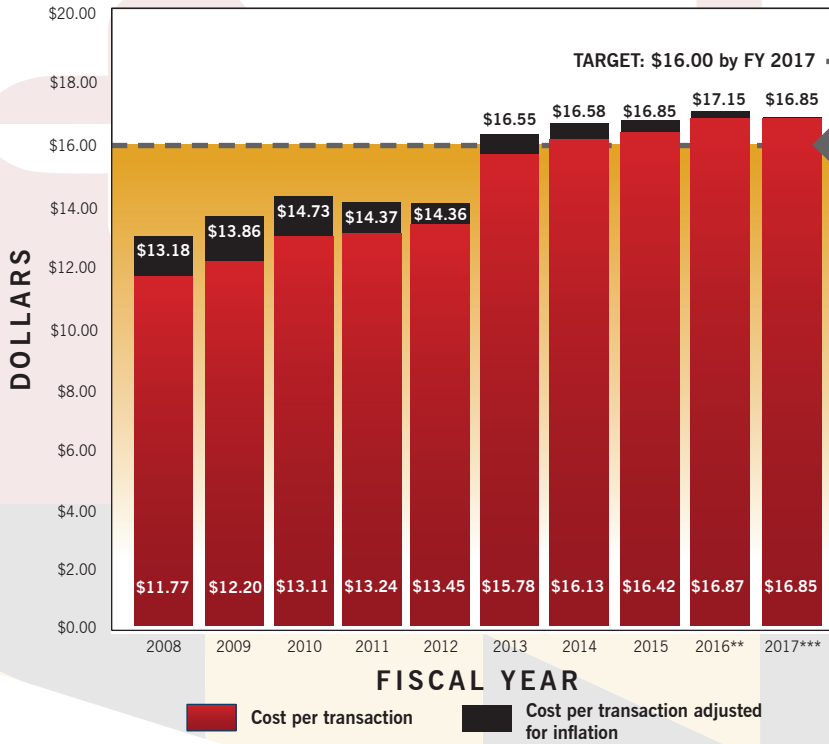
### Why Did Performance Change?

- Enhanced the customer email notifications for various transactions to include registration renewals, which increased the ability for customers to complete their transaction in one-click
- Continue to promote and better communicate with customers about the ability to complete transactions online

### What Are Future Performance Strategies?

- Continue to coordinate with other State and federal agencies to offer combined customer services, where available, such as having the MDOT MVA Call Center to service MDOT MTA Charm Card calls, processing the Transportation Security Administration (TSA) Pre-check and Transportation Worker Identification Credential (TWIC) cards at various MDOT MVA Branch Offices, and providing the option to purchase *E-ZPass* transponders and process Department of Natural Resources (DNR) boat registrations on MDOT MVA website and kiosk
- Expand the eligibility requirements to offer the ability for more customers to use internet and kiosks to complete their transactions
- Offer vision screening stations in branch offices, which will allow customers to compete the remainder of their driver's license renewal using the internet or kiosk
- Continue to implement policies, technologies and strategies contained in the comprehensive MDOT MVA Customer Service Plan

# MDOT MVA: COST PER TRANSACTION*

*Cost per transaction is an indication of whether MDOT MVA business practices and programs are increasingly cost effective through the employment of better technology and operational practices.*



TARGET: $16.00 by FY 2017

Cost per transaction bars (red) with cost per transaction adjusted for inflation (black):

| Fiscal Year | Cost per transaction | Adjusted for inflation (total) |
|---|---|---|
| 2008 | $11.77 | $13.18 |
| 2009 | $12.20 | $13.86 |
| 2010 | $13.11 | $14.73 |
| 2011 | $13.24 | $14.37 |
| 2012 | $13.45 | $14.36 |
| 2013 | $15.78 | $16.55 |
| 2014 | $16.13 | $16.58 |
| 2015 | $16.42 | $16.85 |
| 2016** | $16.87 | $17.15 |
| 2017*** | $16.85 | $16.85 |

**DOLLARS** / **FISCAL YEAR**

Legend: ■ Cost per transaction   ■ Cost per transaction adjusted for inflation

* Includes all transactions (e.g. licensing, registration, titling).
** Data revised from previous Attainment Report.
*** Data is preliminary and subject to change.

## Why Did Performance Change?

- MDOT MVA cost per transaction has remained relatively the same this fiscal year as compared to FY 2016
- The percentage of MDOT MVA transactions performed through methods other than the branch offices continues to increase leading to higher credit card and postage costs
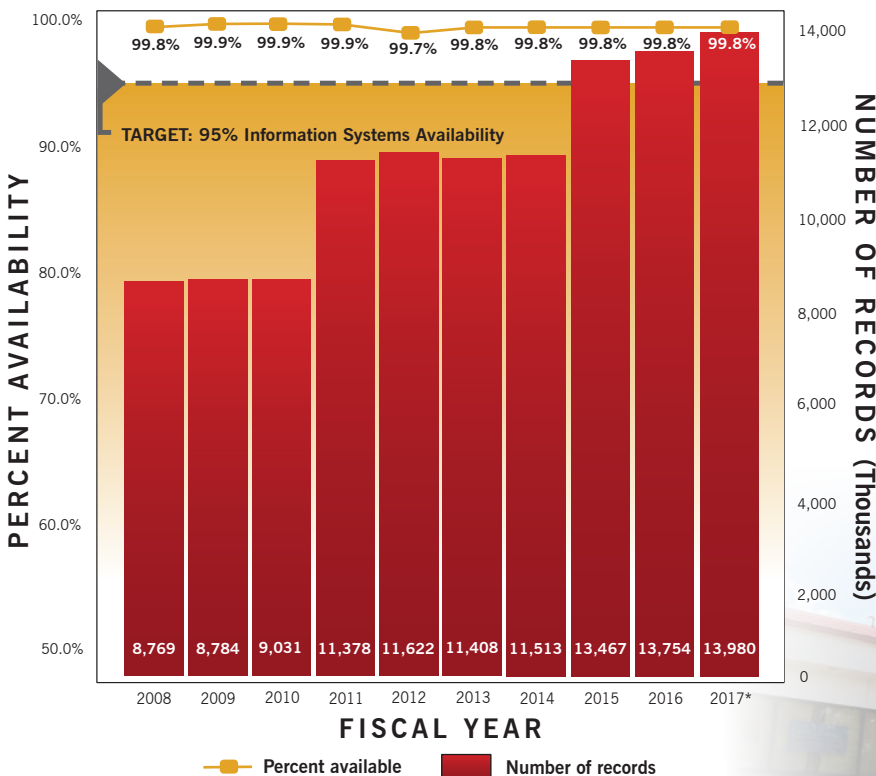
## What Are Future Performance Strategies?

- Continue to invest in the modernization of IT systems at MDOT MVA, which will support convenient and efficient customer transactions
- Developed a working group to research, track and monitor the calculation of cost per transaction as compared to industry standards and other Departments of Motor Vehicles (DMV) standards



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# MDOT MVA: PERCENT OF INFORMATION SYSTEM AVAILABILITY COMPARED TO TOTAL NUMBER OF RECORDS MAINTAINED

*This measures progress in maintaining the availability, integrity and security of MDOT MVA data because access to driver and vehicle data is critical to law enforcement and government agencies, 24 hours a day, seven days a week.*



TARGET: 95% Information Systems Availability

| Fiscal Year | Percent available | Number of records (Thousands) |
|---|---|---|
| 2008 | 99.8% | 8,769 |
| 2009 | 99.9% | 8,784 |
| 2010 | 99.9% | 9,031 |
| 2011 | 99.9% | 11,378 |
| 2012 | 99.7% | 11,622 |
| 2013 | 99.8% | 11,408 |
| 2014 | 99.8% | 11,513 |
| 2015 | 99.8% | 13,467 |
| 2016 | 99.8% | 13,754 |
| 2017* | 99.8% | 13,980 |

**PERCENT AVAILABILITY** / **NUMBER OF RECORDS (Thousands)** / **FISCAL YEAR**

Legend: —■— Percent available   ■ Number of records

## Why Did Performance Change?

- The safety and security of mainframe data is very important to MDOT MVA, that continues to take steps to ensure security of the data
- The roll out of the new Secure MD ID was an integral part in the development of the security of products and service
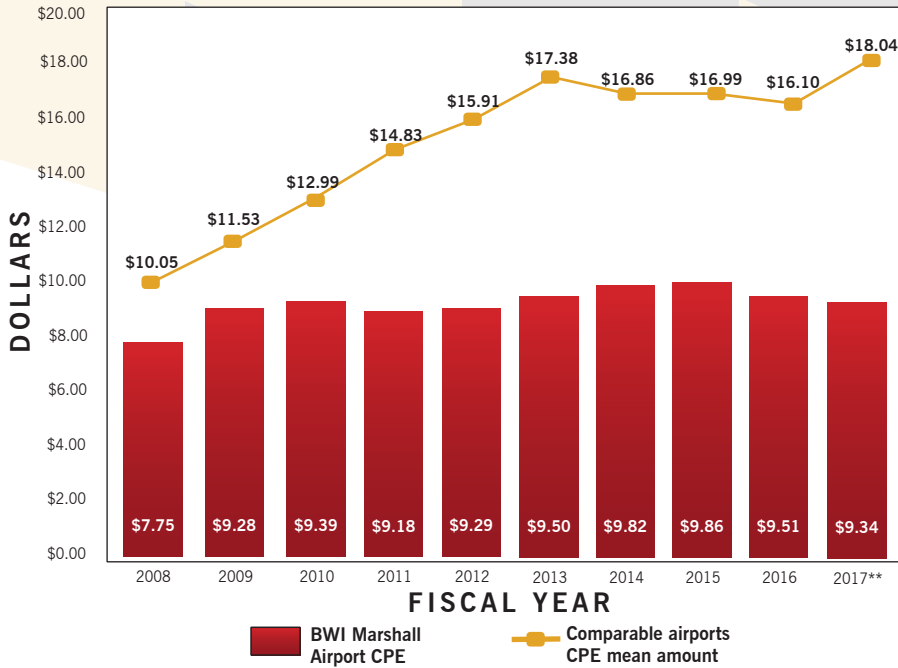
## What Are Future Performance Strategies?

- Continue to invest in the modernization of IT systems at MDOT MVA which will support convenient and efficient customer transactions
- Developed a Working Group to research, track and monitor the calculation of cost per transaction as compared to industry standards and other DMVs



* 2017 value is preliminary and subject to change.

## MDOT MAA: AIRLINE COST PER ENPLANED PASSENGER (CPE)*

*Airline cost and non-airline revenue measures allow BWI Marshall Airport to remain competitive in a region that is unique because it has four proximate airports.*

Comparable airports CPE mean amount:
- 2008: $10.05
- 2009: $11.53
- 2010: $12.99
- 2011: $14.83
- 2012: $15.91
- 2013: $17.38
- 2014: $16.86
- 2015: $16.99
- 2016: $16.10
- 2017**: $18.04

BWI Marshall Airport CPE:
- 2008: $7.75
- 2009: $9.28
- 2010: $9.39
- 2011: $9.18
- 2012: $9.29
- 2013: $9.50
- 2014: $9.82
- 2015: $9.86
- 2016: $9.51
- 2017**: $9.34

Y-axis: DOLLARS ($0.00–$20.00)
X-axis: FISCAL YEAR

Legend:
- ■ BWI Marshall Airport CPE
- ● Comparable airports CPE mean amount

**TARGET: BWI Marshall Airport CPE below the mean CPE of comparable airports***

*\* Comparable airports are defined as Washington Reagan National, Washington Dulles International and Philadelphia International.*
*\*\* Data is preliminary and subject to change.*

### Why Did Performance Change?

- The CPE at BWI Marshall Airport continues to be the lowest in the mid-Atlantic region and is well below the mean of comparable airports. Passenger growth at BWI Marshall Airport during FY 2017 was higher than cost growth, which lead to a lower than forecast CPE for the time period

### What Are Future Performance Strategies?

- Continue to review the cost effectiveness of capital projects before moving forward with design and construction
- Continue to closely monitor all airport costs in order to keep BWI Marshall Airport rates competitive with other regional airports



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## MDOT MAA: PERCENT OF BWI MARSHALL AIRPORT CUSTOMERS RATING THE AIRPORT "GOOD" OR "EXCELLENT" ON KEY SERVICES*

**TARGET: 80%**

Percent of passengers likely to fly from BWI Marshall Airport on their next trip:
- 2009**: 81%
- 2011: 83%
- 2012: 83%
- 2013: 85%
- 2014: 87%
- 2015: 86%
- 2016: 85%
- 2017***: 86%

Percent of "good" or "excellent" passenger rating:
- 2009**: 88%
- 2011: 92%
- 2012: 91%
- 2013: 93%
- 2014: 92%
- 2015: 91%
- 2016: 90%
- 2017***: 92%

Y-axis: PERCENT (50%–100%)
X-axis: FISCAL YEAR

Legend:
- ■ Percent of "good" or "excellent" passenger rating
- ● Percent of passengers likely to fly from BWI Marshall Airport on their next trip
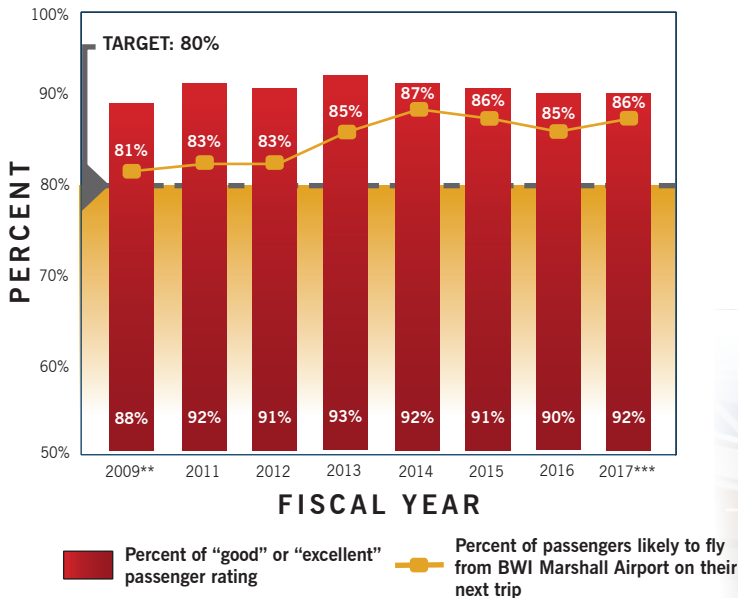
*\* Surveys not administered in 2010.*
*\*\* The 2009 rating only reflects first quarter 2009 data, not the full fiscal year.*
*\*\*\* 2017 data is preliminary and subject to charge.*

### Why Did Performance Change?

- BWI Marshall Airport continues to exceed its customer satisfaction goals
- The addition of the Concourse D/E security checkpoint and connector lead to improved customer service scores from passengers using both Concourse D and Concourse E

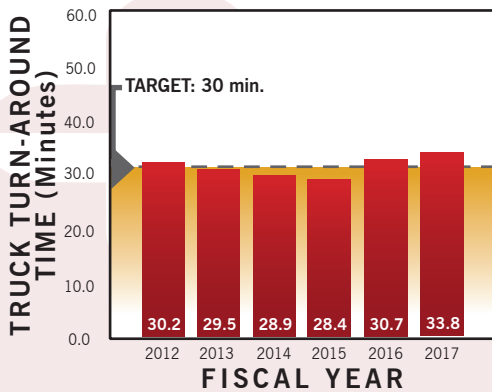### What Are Future Performance Strategies?

- Continue to manage the BWI Marshall Airport cleaning contracts to ensure that the cleanliness of the terminal building, restrooms, etc. meets the expectations of passengers at BWI Marshall Airport
- Continue to enhance the food/beverage and retail options at BWI Marshall Airport
- Continue to develop parking strategies to enhance the customer experience

# MDOT MPA: AVERAGE TRUCK TURN-AROUND TIME PER CONTAINER AT SEAGIRT MARINE TERMINAL

*Truck turn-around time is a gross measure of the efficiency and operations of the Seagirt Marine Terminal. Reductions in turn-around times improve terminal operations, throughput capacity and result in incremental environmental benefits.*

**TARGET: 30 min.**

Chart — Truck Turn-Around Time (Minutes) by Fiscal Year:

| Fiscal Year | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|
| Minutes | 30.2 | 29.5 | 28.9 | 28.4 | 30.7 | 33.8 |

### Why Did Performance Change?

- With the expansion of the Panama Canal, vessel size and cargo volume increased, causing terminal congestion when several large ships arrived together
- Made improvements to truck drive lanes to improve safety and efficiency and increased inbound truck gate lanes

### What Are Future Performance Strategies?

- Continue to market MDOT MPA facilities to BCO's (an importer that takes control of their cargo at the point of entry and does not utilize a third party source)
- Purchase additional cargo handling equipment and open Vail Street gates

# MDTA: OVERALL CUSTOMER SATISFACTION OF *E-ZPASS* CUSTOMERS

*This measure tracks the satisfaction of E-ZPass private account holders. Three surveys conducted from 2007 to 2013 report an average overall customer satisfaction of 86.3%, which surpasses MDTA's target of 80% or higher for this measure.*

| FISCAL YEAR* | 2007 | 2010 | 2013 |
|---|---|---|---|
| Percent Satisfied | 87% | 86% | 86% |

**TARGET: 80% or higher**

*\* Surveys were not conducted in FY 2012 due to demands on time and staffing constraints.*
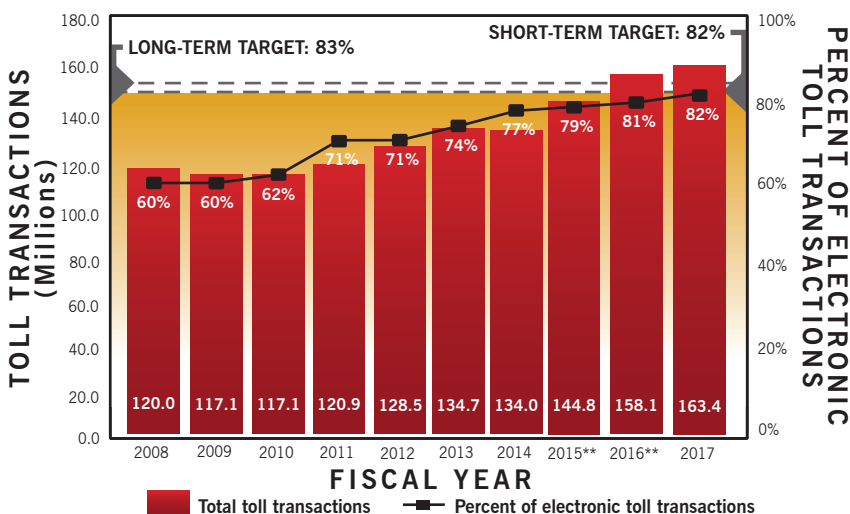
### Why Did Performance Change?

- Changed the names of the *E-ZPass* Stop-In Centers to *E-ZPass* Customer Service Centers to better-reflect the agency's emphasis on customer service
- Marketed *E-ZPass* within fiscal constraint, leveraging the Outreach Team's participation in community events

### What Are Future Performance Strategies?

- Field *E-ZPass* customer satisfaction survey in FY 2018
- Undertake new research methodology to collect customer satisfaction data on an on-going basis

# MDTA: PERCENT OF TOLL TRANSACTIONS COLLECTED ELECTRONICALLY*

*Electronic toll collection systems expedite the toll collection process, reduce delays at toll plazas, decrease emissions and are available at all eight toll facilities across the state.*

**LONG-TERM TARGET: 83%**   **SHORT-TERM TARGET: 82%**

Chart — Total toll transactions (Millions) and Percent of electronic toll transactions by Fiscal Year:

| Fiscal Year | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015** | 2016** | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|
| Percent of electronic toll transactions | 60% | 60% | 62% | 71% | 71% | 74% | 77% | 79% | 81% | 82% |
| Total toll transactions | 120.0 | 117.1 | 117.1 | 120.9 | 128.5 | 134.7 | 134.0 | 144.8 | 158.1 | 163.4 |

Legend:
- Total toll transactions
- Percent of electronic toll transactions

### Why Did Performance Change?

- *E-ZPass* transactions increased by 1.8% and total transactions increased by 3.4% between FY 2016 and FY 2017
- The number of *E-ZPass* accounts increased significantly (11.4%) due to a 3.4% increase in total traffic and a public outreach campaign to encourage use of *E-ZPass*
- Toll decreases and the new I-95 ETL had a strong impact on transaction volume increase

### What Are Future Performance Strategies?

- Manage the citation system through MDOT MVA and Central Collection Unit to encourage the use of *E-ZPass* transponders
- Complete studies to facilitate the movement to All Electronic Tolls (AET) for Francis Scott Key (FSK) and the Thomas J. Hatem (TJH) bridges ($63.6 million in the FY 2018–FY 2023 CTP for Authority-Wide - Replace Electronic Toll Collection and Operating System - 3rd Generation)
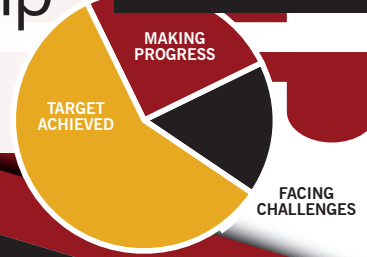
*\* Toll collections are paid as cash, ticket or electronic transaction. ETC includes Transponder, I-tolls and Video Tolls.*
*\*\* 2015 and 2016 data points revised from previous Attainment Report.*

# GOAL: Environmental Stewardship

*Ensure that the delivery of the State's transportation infrastructure program conserves and enhances Maryland's natural, historic and cultural resources*

MAKING PROGRESS

TARGET ACHIEVED

FACING CHALLENGES

## OBJECTIVES

- Limit the impacts of transportation on Maryland's natural environment through impact avoidance, minimization and mitigation

- Employ resource protection and conservation practices in project development, construction, operations and maintenance of transportation assets

- Implement transportation initiatives to mitigate the impacts of climate change and improve air quality

- Support broader efforts to improve the health of the Chesapeake Bay, protect wildlife, conserve energy and address the impacts of climate change

The projects, programs and initiatives improving the State's transportation system aim to protect Maryland's natural, community and cultural resources. Transportation directly affects various components in the built environment, such as development patterns and stormwater runoff, which can adversely affect the environment and air quality. Maryland's Green Infrastructure Plan and Chesapeake Bay Restoration priorities are just some of the guides for coordinating transportation with land use, natural features and other components to help ensure that transportation improvements have minimal or mitigated impacts to the environment.

MDOT's commitment to environmental protection influences a wide variety of plans, projects and initiatives and is present in the day-to-day operations of the Transportation Business Units (TBU). Examples of the far-reaching environmental initiatives of the department include the Port of Baltimore Dray Truck Replacement Program, new guidelines for reuse of dredged material, MDTA's Police Headquarters Shoreline Cleanup and MDOT SHA's recycling of solid waste. MDOT's approach includes commitments by its management and employees, complying with laws and regulations, maintaining sustainable practices and procedures, incorporating environmental goals into planning, and communicating its environmental policies and goals to employees and the public while continuously improving its environmental performance with training, review and implementation of new initiatives.

Some programs address specific areas needing attention, such as the Pearce Creek Waterline Project, which addresses dredged material placement. Other programs address broader impacts, such as the Transportation Emission Reduction Program, which aims to improve Maryland's air quality. MDOT's TDM approach is being continuously refined, deploying a listening campaign of commuters, residents and employers in the summer of 2017 to understand the motivation and barriers for utilizing various TDM options. Environmental stewardship comprises many different facets of the transportation network and MDOT is committed to protecting these resources.

## KEY INITIATIVES AND CTP PROJECTS

**MDOT MAA:** BWI Marshall Airport is in the process of developing an Environmental Management System (EMS) to reinforce environmental programs. This document will outline a series of guidelines, policies, procedures and processes that address environmental impacts in day-to-day business activities.

MDOT MAA continues to promote recycling as a key component of its environmental mission. Currently, BWI Marshall Airport recycles 30% of its trash including solid waste, refuse, building materials and pavement. MDOT MAA also take steps to reduce the amount of and cost of energy used at BWI Marshall Airport, MDOT MAA installed a 505 Kw Solar Plant at the airport that has generated over 1,316,049 kWh of Solar Energy since 2011. Solar Energy produced at BWI Marshall Airport is equivalent to $CO_2$ absorbed by planting 5,194 trees or $CO_2$ emitted by driving 761,721 miles.

**TSO:** The FY 2018–FY 2023 CTP contains $25.6 million for the Transportation Emission Reduction Program, an initiative to incorporate and expand strategies to reduce emissions in the State's air quality non-attainment areas. MDOT also supported alternative transportation modes, with Governor Hogan declaring May 19 as Maryland Bike to Work Day.

**MDTA:** MDTA continues to implement an active environmental management program through the deployment of Electric Vehicle (EV) charging stations. In 2017, MDTA established EV charging stations for drivers of electric vehicles at the Maryland House Travel Plaza and the Chesapeake House Travel Plaza. The Maryland House has eight Tesla charging stations, four universal charging stations and one universal charging station in a handicapped parking space. The Chesapeake House Travel Plaza has 10 Tesla charging stations, four universal charging stations and one universal charging station in a handicapped parking space. This effort provides customers who drive electric vehicles a location where they will be able to charge their vehicles conveniently.

**MDOT MPA:** Significant progress in improving air and water quality has been made through various programs. Projects include installing two engineered stormwater treatment technologies, contributing to the second trash wheel in the Baltimore Harbor, and receiving a grant from the Maritime Administration to test if algae that is grown on the flow way to remove harmful nutrients from the harbor can be converted to a biogas to feed a fuel cell to generate electricity.

In partnership with Blue Water Baltimore, MDOT MPA also installed over 300 trees in Baltimore City neighborhoods for water and air quality improvement.

# KEY INITIATIVES AND CTP PROJECTS (CONTINUED)

**MDOT MPA:** The Environmental Strategic Plan will be the driver for programs and initiatives and will be updated to ensure that it is meeting the environmental goals of the MDOT MPA. Some of the action items from the Plan to be addressed include the following: (1) develop a clean air and water strategy for the terminal based on emerging technologies and programs; (2) implement a "trash-free port" pilot program with a tenant; and (3) initiate a study to determine carbon sequestration in the created wetland/coastal ecosystems at Hart Miller Island.

Inbound Logistics magazine named the Port of Baltimore one of their "Green Partners" in recognition of its Clean Diesel program and other environmental initiatives.

**MDOT MTA:** MDOT MTA coordinates with employers and colleges to provide transit passes, resulting in less vehicles on the roadways and helping to reduce congestion, as well as vehicle emissions and greenhouse gas (GHG).

**MDOT MVA:** Energy conservation efforts are continuing, including addressing GHG emissions and carbon footprint and reducing facility energy consumption by 20% by FY 2020, while providing comfortable cooling and heating temperatures aligned with Maryland's Energy Code. MDOT MVA contracted with an Energy Service Company to conduct an Engineering, Procurement and Construction (EPC) contract, including performing an energy audit, establishing a Phase II Energy Performance Proposal, and implementing 15 energy conservation measures. During the operation and maintenance Phase of EPC, MDOT MVA is guaranteed to save $572,108 annually over 13 years six months. MDOT MVA strives to reduce and far exceed the energy consumption of all State-owned and leased facilities in accordance with the State of Maryland energy conservation efforts.

**MDOT SHA:** As part of its overall Climate Adaptation Plan, MDOT SHA is developing a methodology for prioritizing locations vulnerable to flooding. MDOT SHA will investigate and develop new tools and methods to determine asset vulnerability to climate change and expand analysis to all tidally influenced counties of Maryland. National Environmental Policy Act (NEPA) reviews for MDOT SHA projects now include screening for locations subject to future sea level inundation.

MDOT SHA achieved its interim FY 2017 goal of 8% by treating 8.2% of MDOT's impervious surface not previously treated by stormwater controls. Overall, 85.6% of the current MDOT SHA inventory of stormwater management facilities were functioning as designed at the close of FY 2017.
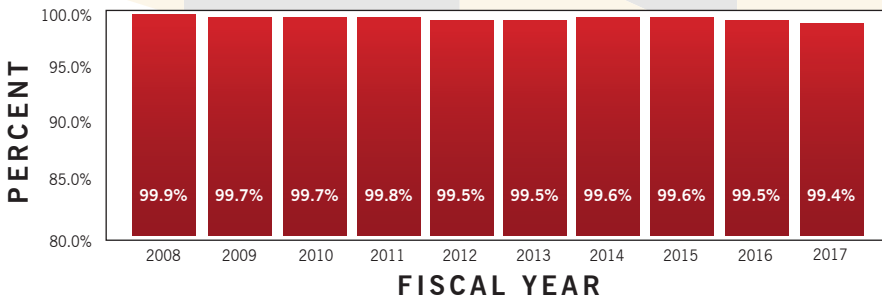
MDOT SHA is improving performance in reducing salt usage to protect the environment while maintaining the safety of the traveling public by implementing several best practices that focus on workforce training and technology upgrades including the Winter Maintenance Decision Support System, weather and pavement forecasting, Road Weather Information System (RWIS), anti-icing and piloting targeted route locations to treat snow and ice with liquid-only methods.

MDOT SHA continues to successfully incorporate the use of reclaimed asphalt pavement (RAP), recycled concrete (RC-GAB), roofing shingles, fly ash and blast furnace slag into highway construction projects and is working with recycle producers and design teams to increase the variety and volumes of recycled materials in highway construction. It used 327,485 tons of RAP and 9,917 tons of reclaimed aggregate in highway construction projects in CY 2016. It recycled 58% of its solid waste in CY 2016, which far exceeds the mandated 30% requirement under the Maryland Recycling Act.
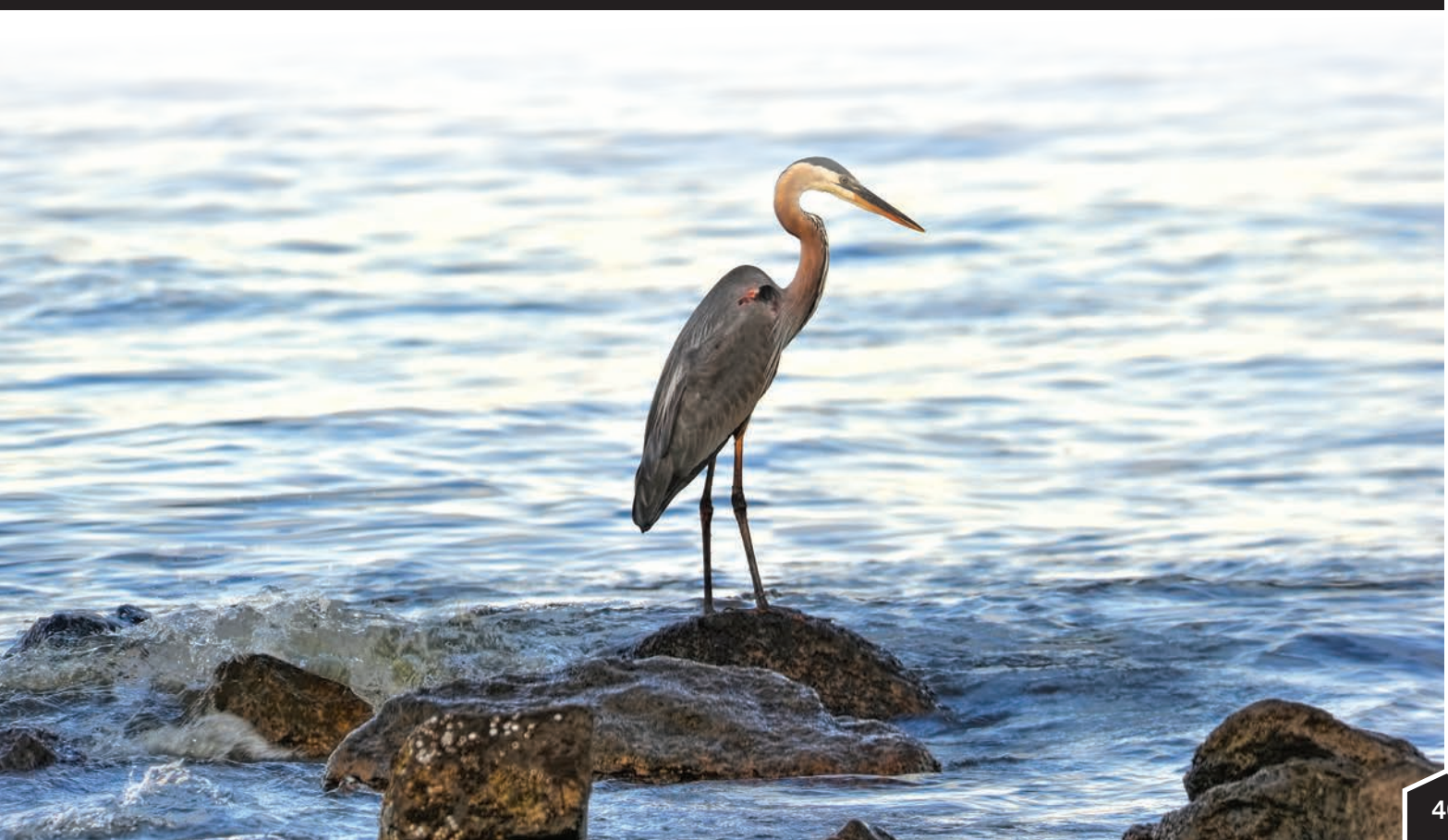
# MDOT SHA: PERCENT OF COMPLIANCE ON EROSION & SEDIMENT CONTROL (ESC) RATINGS

*State and federal regulations mandate erosion and sediment control (ESC) during construction of any land disturbing activity. ESC is a system of structural and vegetative measures that minimize soil erosion and off-site sedimentation from construction and roadway runoff. At any given time, MDOT SHA has many construction and maintenance activities that cause earth disturbance and require ESC. The Maryland Department of the Environment (MDE) has delegated inspection authority with oversight to MDOT SHA with specific parameters to be observed and rated. The results of the individual project inspection rating indicate compliance or non-compliance with the ESC requirements and the law.*

| FISCAL YEAR | PERCENT |
|---|---|
| 2008 | 99.9% |
| 2009 | 99.7% |
| 2010 | 99.7% |
| 2011 | 99.8% |
| 2012 | 99.5% |
| 2013 | 99.5% |
| 2014 | 99.6% |
| 2015 | 99.6% |
| 2016 | 99.5% |
| 2017 | 99.4% |

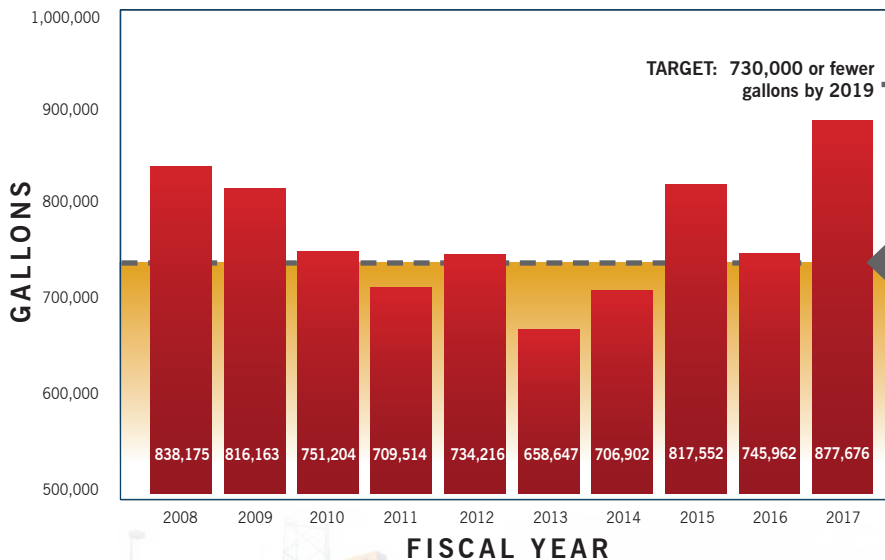**TARGET: 100% Annually**

## Why Did Performance Change?

- Performed over 3,800 erosion and sediment control inspections with only 23 noncompliance findings documented by MDOT SHA's Quality Assurance Team in FY 2017
- Overall annual erosion and sediment control percentage of compliance in FY 2017 was 99.4%
- MDOT SHA has achieved 99.6% ESC rating compliance since FY 2008

## What Are Future Performance Strategies?

- Include incentives/liquidated damages to ensure compliance statewide using the Quality Assurance rating system
- Utilize MDE approval for stormwater management and ESC plan review and permitting authority, which allows MDOT SHA to approve ESC field changes during construction, reduces project delays and costs, ensures desired environmental outcomes, and improves customer service to all stakeholders
- Deliver ESC training and certification programs for contractors, inspectors and designers

# MDOT SHA: TOTAL FUEL USAGE OF THE LIGHT FLEET

*This measure is tracked statewide to monitor success in reducing consumption of gasoline through conservation strategies, including use of higher fuel efficiency vehicles for scheduled fleet replacements.*

**TARGET: 730,000 or fewer gallons by 2019**

| FISCAL YEAR | GALLONS |
|---|---|
| 2008 | 838,175 |
| 2009 | 816,163 |
| 2010 | 751,204 |
| 2011 | 709,514 |
| 2012 | 734,216 |
| 2013 | 658,647 |
| 2014 | 706,902 |
| 2015 | 817,552 |
| 2016 | 745,962 |
| 2017 | 877,676 |

## Why Did Performance Change?

- Increased fuel usage due to growth in the capital construction program, leading to more activity with light fleet vehicles, weather event call outs and replacement of outgoing diesel trucks with gasoline trucks
- Enforced the automobile engine-idling policy for all employees and consultants and encouraged employees to save fuel through carpooling and videoconferencing for state business trips
- Conducted employee outreach to encourage use of the existing E-85 distribution facility at the MDOT SHA Hanover Complex and planned for E-85 fueling stations at Maryland State Police (MSP) facilities
- Since MDOT SHA has structured its fleet to maximize efficiency levels, MDOT SHA has reached a plateau in use reduction and fuel efficiency for the light duty fleet

## What Are Future Performance Strategies?

- Look for opportunities to institute fleet reductions to cut overall fuel consumption
- Replace older diesel pickup trucks with flex-fueled pickup trucks of similar hauling and towing capacity
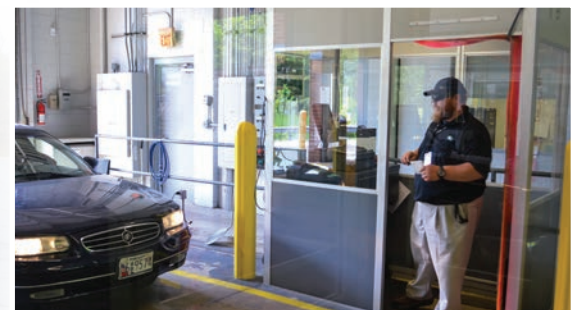
# MDOT MPA: ACRES OF WETLANDS OR WILDLIFE HABITAT CREATED, RESTORED OR IMPROVED SINCE 2000*

*MDOT MPA is in compliance with the various permits that are granted to construct projects needed for MDOT MPA customers (e.g., landside tenants or steamship lines).*



**TARGET: Mitigate projects as required by federal, state and local statutes**

*\* Represents cumulative mitigation efforts by MDOT MPA since 2000.*

## Why Did Performance Change?

- MDOT MPA worked with MDE to allow for dredged material to be safely reused in innovative ways that protect and benefit the environment
- Expansion of the Poplar Island Environmental Restoration Project continued in FY 2017
- An additional nine acres were improved at Masonville Uplands (Zone 3)

## What Are Future Performance Strategies?

- Continue with strategic communication for the dredged material management program and public communication leading to a recommendation for construction of placement sites and options
- MDOT MPA and MDOT are monitoring national developments affecting the DMMP and developing strategies to ensure that the competitive position of the Port is maintained
- Potential future acreage: HMI North poplar wetland cell 5AB, poplar island expansion

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# MDOT MVA: COMPLIANCE RATE AND NUMBER OF VEHICLES TESTED FOR VEHICLE EMISSIONS INSPECTION PROGRAM (VEIP) VERSUS CUSTOMER WAIT TIME**

*Monitoring the VEIP testing compliance rate ensures system effectiveness and identifies vehicles exceeding allowable standards. Tracking the average wait time at VEIP stations ensures that the 15-minute average wait time requirement is met. Timely and efficient customer service helps the state meet federal clean air standards by identifying polluting vehicles and encouraging regular vehicle maintenance.*
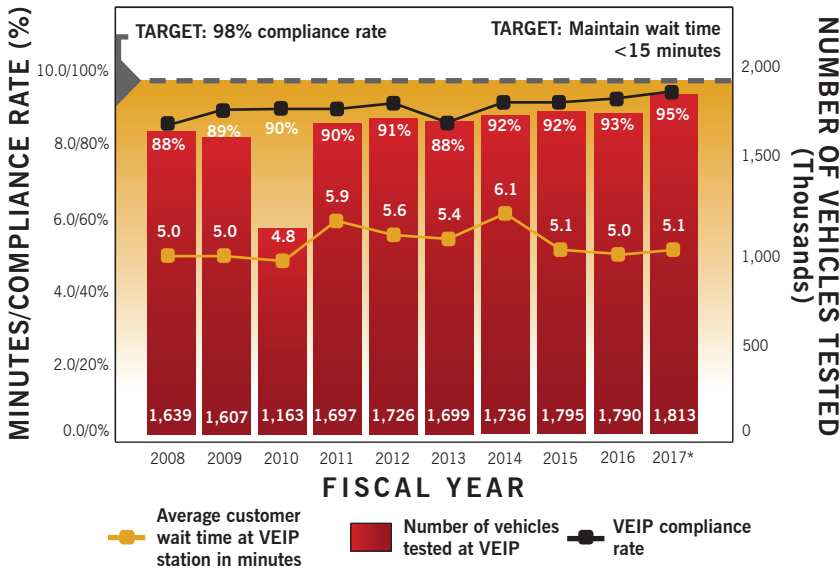


*\* 2017 data is preliminary and subject to change.*

*\*\* 14 counties offer VEIP tests: Anne Arundel, Baltimore, Baltimore City, Carroll, Harford, Howard, Queen Anne's, Cecil, Washington, Calvert, Charles, Frederick, Montgomery and Prince George's.*

## Why Did Performance Change?

- Implemented additional self-service VEIP kiosks that allow customers to complete VEIP testing at their convenience while providing a cost savings of $4 for using the self-service VEIP kiosks
- VEIP self-service kiosks are available 24/7 in a total of 10 locations for the customer's convenience, five at VEIP Stations and five at branch offices

## What Are Future Performance Strategies?

- Continue to monitor performance of the installed vehicle emissions self-service kiosks and research emerging technologies for future changes to the program
- In partnership with MDE, continue to develop strategies, policies and regulations to ensure compliance with state emissions testing mandates
- Extend the test date for newly registered vehicles from two years to three years, saving customers $2.2 million
- Eliminate the "tailpipe test" for light duty vehicles with model year 1995 and older

# TRAVEL DEMAND MANAGEMENT (TDM)

*TDM offsets vehicle congestion by offering incentives for Marylanders to use public transit, carpool, walk, bicycle, telecommute and work flexible work hours, instead of driving alone as a way to reduce or shift trips to times when roadway capacity is less constrained. TDM initiatives also contribute to reduced emissions and improved air quality by cutting down on single-occupant vehicle trips and reducing peak period congestion.*

## MDOT MTA/MDOT SHA: REDUCTION IN VEHICLE MILES TRAVELED (VMT) THROUGH PARK-AND-RIDE USAGE
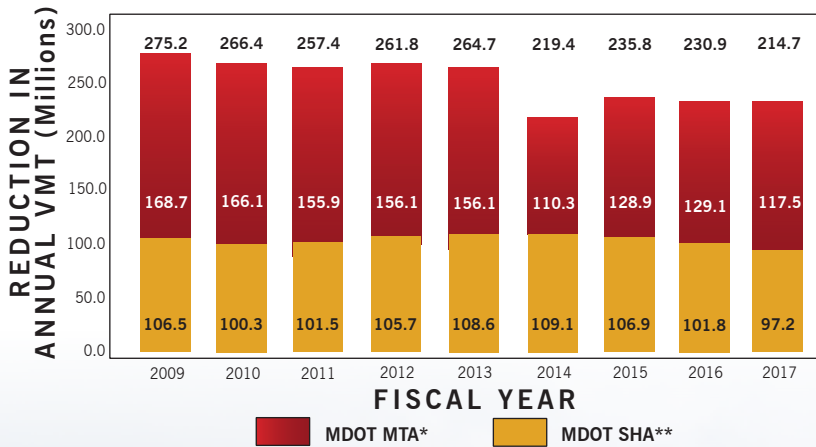
*By offering park-and-ride facilities, MDOT SHA and MDOT MTA provide commuters with an alternative to driving to their destinations and supports increased carpooling and public transit ridership.*

| AGENCY | TOTAL SPACES | AVERAGE WEEKDAY UTILIZATION* |
|---|---|---|
| MDOT SHA (2017) (Estimated) | 13,349 *** | 6,687*** |
| MDOT MTA (2017) | 22,001 | 13,925 |
| Transit Multipurpose** | 33,336 | 22,581 |
| **Total** | **68,686** | **43,193** |

*\* Facility usage fluctuates due to the economy; weather conditions; special events; emergencies; delays or shutdowns of parallel lines or modes; maintenance and repair; storage of plowed snow; increases in frequency, service, and capacity; and other factors.*

*\*\* Includes facilities operated by MDOT MTA, Amtrak, WMATA, Penn Station in Baltimore and Union Station in Washington, D.C.*

*\*\*\* Data is preliminary and subject to change.*

## Why Did Performance Change?

- Low fuel prices impacted ridership and, as a result, average usage at the park-and-ride lots has been low
- MDOT SHA statewide park-and-ride lots were at 51% capacity in CY 2016, a decrease from the 53% in CY 2015

## What Are Future Performance Strategies?

- Look for opportunities to construct park-and-ride lots while planning major projects along interstate and principal arterials
- Complete construction of a 390-space park-and-ride lot in conjunction with the US 15/ Monocacy Blvd interchange project in Summer 2018
- Complete construction of a 250-space park-and-ride lot in conjunction with the MD 5 at MD 373 interchange project in Summer 2019
- Advertise through media to increase public awareness of park-and-ride lots
- Improve the appearance of existing and new park-and-ride lots by resurfacing, line striping, lighting and signing
- MDOT SHA will work with MDOT MTA to provide bus service to park-and-ride lots. Historically, added bus service has greatly increased usage
- MDOT SHA will complete the design of three park-and-ride projects at US 15 at MD 140, MD 32 at Broken Land Pkwy and US 15 at Mt. Zion Road
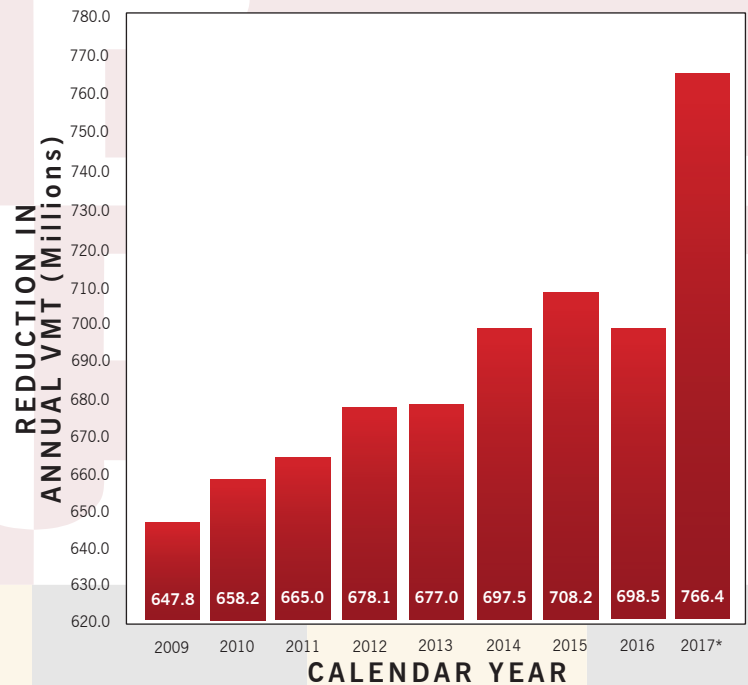
### REDUCTION IN ANNUAL VMT (Millions)

| FISCAL YEAR | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|
| Total | 275.2 | 266.4 | 257.4 | 261.8 | 264.7 | 219.4 | 235.8 | 230.9 | 214.7 |
| MDOT MTA* | 168.7 | 166.1 | 155.9 | 156.1 | 156.1 | 110.3 | 128.9 | 129.1 | 117.5 |
| MDOT SHA** | 106.5 | 100.3 | 101.5 | 105.7 | 108.6 | 109.1 | 106.9 | 101.8 | 97.2 |

*\* MDOT MTA park-and-ride lot VMT reductions are estimated based on the same assumptions used to calculate VMT reductions associated with MDOT MTA Transportation Emission Reduction Measures.*

*\*\* MDOT SHA 2009 to 2016 actual data revised from previous Attainment Report.*

# MDOT: REDUCTION IN VEHICLE MILES TRAVELED THROUGH TRANSPORTATION EMISSION REDUCTION MEASURES (TERMS)

*Maryland supports a wide variety of programs and projects to promote TDM, including Commuter Choice Maryland, Commuter Connections, the Telework Partnership, transit marketing and subsidy programs, and statewide park-and-ride facilities. These programs support reductions in single-occupant vehicle driving while increasing ridesharing, transit and telecommuting.*

Look for the Commuter Connections app on your mobile device. The Commuter Connections mobile app provides commuters in the Washington D.C. metropolitan region access to ridesharing matches with other commuters living and working in the same area and park-and-ride lot locations close to home.

## ESTIMATED ANNUAL REGIONAL VMT REDUCTION THROUGH TERMS



Chart: REDUCTION IN ANNUAL VMT (Millions) vs CALENDAR YEAR

| Year | Value |
|------|-------|
| 2009 | 647.8 |
| 2010 | 658.2 |
| 2011 | 665.0 |
| 2012 | 678.1 |
| 2013 | 677.0 |
| 2014 | 697.5 |
| 2015 | 708.2 |
| 2016 | 698.5 |
| 2017* | 766.4 |

*\* 2017 data point has been calculated using a different methodology from years past as Commuter Choice data is not available at this time.*

## 2017 MDOT AND MDOT MTA TRANSPORTATION EMISSION REDUCTION MEASURES

| PROGRAM | PROGRAM DESCRIPTION | DAILY REDUCTION IN VEHICLE TRIPS* | DAILY REDUCTION IN VMT* |
|---------|---------------------|-----------------------------------|-------------------------|
| Commuter Connections Transportation Emission Reduction Measures** | | | |
| Guaranteed Ride Home | Provides transit users or carpoolers up to four rides home per year in a taxi or rental car in the event of an unexpected personal or family emergency | 6,398 | 181,335 |
| Employer Outreach | Supports marketing efforts to increase employee awareness and use of alternatives to driving alone to work every day | 102,625 | 1,841,429 |
| Integrated Rideshare | Promotes other alternative transportation services to employers and to the general public. Commuter information system documentation is provided with comprehensive commute information, to include regional TDM software updates, transit, telework, park-and-ride and interactive mapping | 1,779 | 51,340 |
| Commuter Operations and Ridesharing Center | Updates and maintains the Commuter Connections database for ride-matching services and provides information on carpooling, vanpooling, telecommuting, bicycling, and walking for the Washington-Baltimore metropolitan region | 19,949 | 401,327 |
| Telework Assistance | Provides information to employers in Maryland on the benefits of telecommuting and assists in setting up new or expanded telework programs for employers | 14,839 | 361,204 |
| Mass Marketing | Promotes and communicates the benefits of alternative commute methods to single-occupant vehicle commuters through the media and other wide-reach communications | 10,133 | 163,250 |
| MDOT MTA Transportation Emission Reduction Measures | | | |
| MDOT MTA College Pass | Offers a subsidized monthly transit pass to full- or part-time students enrolled in greater Baltimore metropolitan area colleges or universities | 1,247 | 9,847 |
| Transit Store in Baltimore | Provides customer access to transit information and for purchases of transit passes. Some 15-20% of total transit pass sales occur through this outlet | 3,376 | 56,959 |

*\* The impacts shown reflect the current definitions and most recent data available for each of the measures.*
*\*\* The Commuter Connections program is run through the Metropolitan Washington Council of Governments. The reduction in trips and VMT for Commuter Connections reflect reductions for all of the Metro Washington region, including Maryland, District of Columbia and Virginia.*

# MDOT: TRANSPORTATION-RELATED EMISSIONS BY REGION*

*Reducing vehicle emissions improves air quality in compliance with federal regulations and provides health benefits for Maryland residents. MDOT programs supporting TDM, transit, ridesharing, bicycling and walking, as well as projects that reduce roadway congestion all support air quality goals.*

| PERFORMANCE MEASURE | REGION | CALENDAR YEAR | | | % CHANGE 2005-2014 |
|---|---|---|---|---|---|
| | | 2008 | 2011 | 2014 | |
| Volatile Organic Compound (VOC) Tons per Day | Baltimore | 44.5 | 44.5 | 45.3 | -13% |
| | Washington** | 40.5 | 40.5 | 40.0 | -16% |
| Nitrogen Oxide (NOx) Tons per Day | Baltimore | 97.1 | 97.1 | 116.7 | -20% |
| | Washington** | 78.5 | 78.5 | 103.0 | -3% |
| Carbon Monoxide (CO) Tons per Day | Baltimore | 514.7 | 514.7 | 575.1 | -18% |
| | Washington** | 454.2 | 454.2 | 699.9 | 11% |
| Particulate Matter (PM2.5) Tons per Day | Baltimore | 623.4 | 623.4 | 4.7 | -99% |
| | Washington** | 503.6 | 503.6 | 5.6 | -99% |

\* All emission estimates developed as part of the USEPAs National Emissions Inventory (NEI). The NEI is published every three years.
\*\* All Washington data represents Maryland's share of emissions in the Washington region non-attainment areas, including Charles, Frederick, Montgomery and Prince George's counties.

## Why Did Performance Change?

- Vehicle emissions continue to decrease nationwide due to improved vehicle technologies and fuels even as VMT has steadily increased since 2014

- Continued increases in financial support for alternative modes of transportation at the state and local levels improves the convenience and reliability of these modes

- Through partnerships with Baltimore Metropolitan Council (BMC) and Metropolitan Washington Council of Governments (MWCOG), MDOT implemented emission-reduction strategies in the Baltimore and Washington non-attainment areas to foster transportation alternatives to single occupancy vehicles (SOV)

- MDOT continues to support a diversity of emission reduction strategies in air quality non-attainment and maintenance areas through congestion mitigation, ridesharing and commuter incentive programs
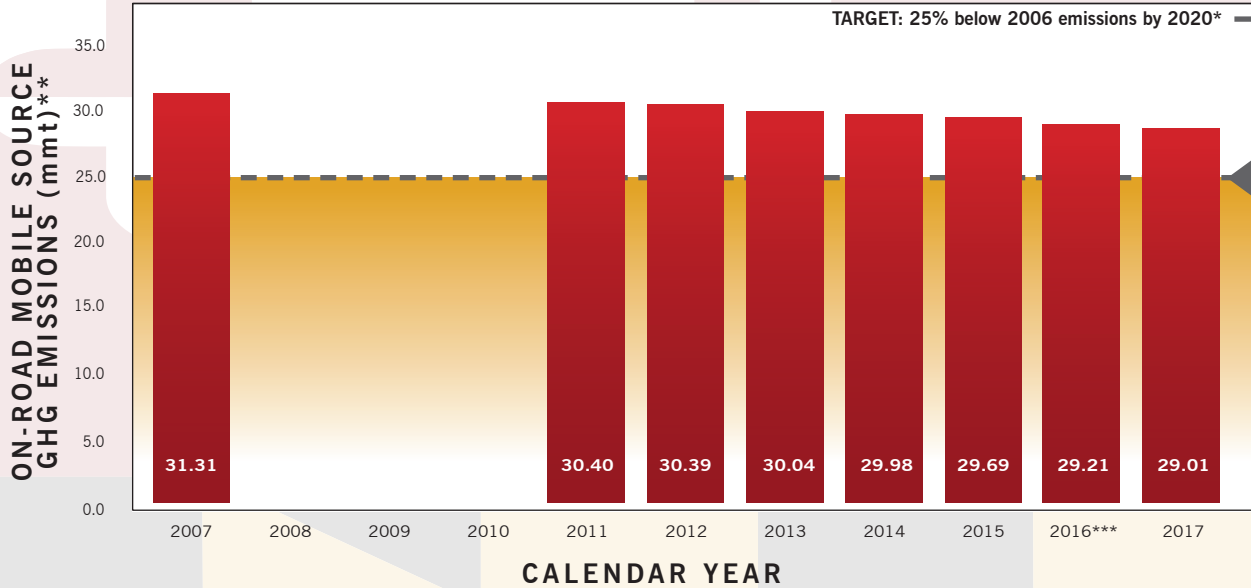
## What Are Future Performance Strategies?

- MDOT MAA is purchasing 20 new compressed natural gas buses, with delivery expected in 2018, to support passenger shuttle service from the Consolidated Rental Car Facility to the BWI Marshall Airport

- In the FY 2018–FY 2023 CTP, MDTA has committed $63.6 million to replace its electronic toll collection system with a Next Generation system that will substantially increase the capacity for handling Video Tolling and citations, enabling MDTA to reduce traffic delays and emissions at toll plazas over time

- Work with State Agency and other partners to achieve Electric Vehicle and Electric Vehicle Supply Equipment (EVSE) goals

- In 2016, MDOT MPA was awarded a $978,302 grant under EPA's Clean Diesel Program to replace or repower up to 26 pieces of cargo handling equipment at the Port of Baltimore

- MDOT MVA continues to work with MDE to ensure compliance with State emissions regulations and continues to monitor the number of registered vehicles in non-attainment counties to ensure VEIP testing compliance

- MDOT is leading the State's efforts on emerging connected and autonomous vehicle technologies that have the potential to significantly reduce traffic incidents while enhancing the capacity and efficiency of the transportation system

# MDOT: TRANSPORTATION-RELATED GREENHOUSE GAS EMISSIONS

*A reduction in the growth of overall VMT is one of several strategies that MDOT is pursuing to address climate change through mitigation of GHG emissions. Reducing growth in VMT through providing transportation alternatives has other potential benefits to Marylanders, such as reduced congestion, reduced travel costs and improved travel time reliability. Other strategies include providing alternatives to SOV travel and transitioning to a less carbon intensive vehicle fleet and lower carbon fuels.*

**TARGET: 25% below 2006 emissions by 2020***

| Calendar Year | ON-ROAD MOBILE SOURCE GHG EMISSIONS (mmt)** |
|---|---|
| 2007 | 31.31 |
| 2008 | |
| 2009 | |
| 2010 | |
| 2011 | 30.40 |
| 2012 | 30.39 |
| 2013 | 30.04 |
| 2014 | 29.98 |
| 2015 | 29.69 |
| 2016*** | 29.21 |
| 2017 | 29.01 |

**CALENDAR YEAR**

**TARGET: 25% below 2006 emissions by 2020 and 40% below 2006 emissions by 2030***

* The MDOT selected GHG emission reduction goal is consistent with the statewide target set in the 2009 Greenhouse Gas Reduction Act and the subsequent 2016 Greenhouse Gas Reduction Act reauthorization.

** MMT $CO_2$e stands for million metric tons of carbon dioxide equivalents, the standard unit of measurement for GHG emissions. Emissions are calculated using the most recent data and version of EPAs MOVES model available at time of analysis. MOVES2014a is used for analysis year 2016 and 2017.

*** 2016 annual VMT revised to reflect actual MDOT SHA reported 2016 HPMS VMT.

## Why Did Performance Change?

- Vehicle emissions decreased due to improved vehicle technologies, including total battery-electric and plug-in hybrid electric vehicles registered in Maryland approaching 10,000 vehicles in 2017

- MDOT increased financial support for alternative modes of transportation at the state and local levels

## What Are Future Performance Strategies?

- Support and continue to research GHG reduction strategies recommended by the Maryland Commission On Climate Change

- Endeavor to help meet the GHG emission reduction goals of the Greenhouse Gas Reduction Act of 2009 and updated 2016 Maryland Climate change legislation. This bill seeks to reduce GHG emissions by 25% from 2006 levels by 2020, and by 40% from 2006 levels by 2030

- MDOT's leadership of the Electric Vehicle Infrastructure Council (EVIC) continues to build opportunities, financial incentives and promotion of the purchase of EVs and the installation of EVSE to support the State's EV goals

- Under the federal Volkswagen Settlement, Maryland is seeking opportunities to enhance the EVSE infrastructure through the National ZEV Investment Plan and the Maryland Volkswagen Mitigation Plan

- MDOT issued a Request for Proposal (RFP) in June 2017 to create a program for qualified contractors to design, construct, commission, finance, operate and maintain renewable energy facilities at MDOT locations throughout Maryland. Current MDOT solar and wind power facilities have reduced over 30 million pounds of $CO_2$ emissions while in operation
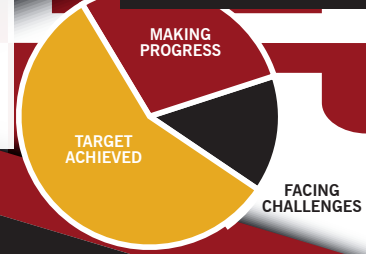
# GOAL: Community Vitality

*Provide options for the movement of people and goods that support communities and quality of life*

MAKING PROGRESS

TARGET ACHIEVED

FACING CHALLENGES

## OBJECTIVES

- Better coordinate transportation investments and land use planning to support the environmental, social and economic sustainability of Maryland's existing communities and planned growth areas

- Enhance transportation networks and choices to improve mobility and accessibility and to better integrate with land use

- Increase and enhance transportation connections to move people and goods within and between activity centers

MDOT and its Transportation Business Units (TBUs) aim to provide continuous improvements to Maryland's entire multimodal network, allowing residents and visitors to reach key destinations through a variety of modes. Transportation connections vary depending on the needs and unique characteristics of an area. Elements include traditional highways, light rail lines, greenways and traditional sidewalks. Infrastructure supporting bicyclists and pedestrians can provide healthy alternative transportation options while strengthening foot traffic for businesses. These efforts can also boost Transit-Oriented Development (TOD), further leveraging investments in transit infrastructure and increasing the opportunities to jobs, businesses and recreation. Supporting all transportation modes provides residents and visitors options for travel, suitable to their schedule, preferences and purpose.

On the statewide level, MDOT has funding programs for bicycle, pedestrian and multimodal programs, and provides guidance on designing and implementing these programs. Some of these grants include the Bikeways Program, Transportation Alternatives Program, Safe Routes to School and the Recreational Trails Program. These grants have funded a variety of improvements, ranging from the Gerardi Boulevard sidewalk reconstruction, design and construction of a portion of the Upper Chesapeake Rail Trail, and bikeshare systems in the Wheaton Central Business District and Wheaton Metro Station. Improvements are underway for connecting key community and economic centers, decreasing congestion and increasing travel times along key routes, such as the New Express Commuter Bus Route 215 linking Downtown Baltimore to Annapolis.

MDOT's commitment to providing a comprehensive and integrated multimodal transportation network improves connectivity in local areas, providing safe alternative transportation options, supporting existing alternative infrastructure and attracting new development and investment throughout the state.

## KEY INITIATIVES AND CTP PROJECTS

**MDOT MAA:** BWI Marshall Airport's Hiker-Biker trail is a 12.5-mile trail that visitors and the community are invited to enjoy. The park connects to Dixon Park and a children's playground. A bike rack is located just outside the international terminal and rental bikes are also available at this location.

**TSO:** TSO is taking action to ease traffic on the state's most congested highways through a $9 billion Public-Private Partnership (P3) that will reduce congestion on three of Maryland's most congested highways–the Capital Beltway, Interstate 270 and the Baltimore-Washington Parkway.

**MDTA:** The FY 2018–FY 2023 CTP includes $33.2 million to develop a comprehensive evaluation of potential improvements to the I-95 ramps required to support major planned development on the Port Covington Peninsula located in Baltimore City.

**MDOT MPA:** MDOT MPA offered presentations to community, business and civic organizations, engagement of Dredged Material Management Program (DMMP) advisory committees, environmental education and community activities at Masonville Cove. MDOT MPA also provided professional development opportunities for teachers' participation in the Baltimore Port Alliance's education and outreach program, and site visits and tours offer numerous opportunities for the public to become engaged and knowledgeable about MDOT MPA's various projects, partnerships and environmental initiatives.

**MDOT MTA:** MDOT MTA is advancing the North Avenue Rising project to improve safety and service along the North Avenue corridor for transit, pedestrian and bicycle movement. Included is streetscaping, station improvements, roadway repaving, dedicated bus lanes, transit signal priority and other improvements to increase the reliability and speed of transit service while supporting economic development ($27.3 million in the FY 2018–FY 2023 CTP).

**MDOT MVA:** MDOT MVA and the Maryland DNR opened the newly combined Essex MDOT MVA Office and DNR Licensing and Registration Service Center. For the first time ever, Marylanders are able to renew their hunting, fishing and driver's licenses all in the same office.

**MDOT SHA:** MDOT SHA began construction of the $119.3 million I-270 Interchange at Watkins Mill Road project, which will improve one of Maryland's most heavily traveled roadways, benefiting tens of thousands who travel the I-270 corridor. MDOT SHA is also investing $50.3 million to deploy smart traffic signals that will improve traffic operations and ease congestion for approximately 700,000 drivers per day on 14 major corridors across the state.

# MARYLAND TRANSIT-ORIENTED DEVELOPMENT (TOD)

*MDOT's Transit-Oriented Development (TOD) strategy is a key component in addressing traffic congestion, environmental issues and development adjacent to Maryland's transit hubs. TOD is defined as a dense, mixed-use, deliberately planned development within a half-mile of transit stations that is designed to promote transit ridership. It is also used as a tool to support economic development, and to ensure the efficient use of transportation infrastructure. MDOT coordinates with local jurisdictions and private partners by providing TOD technical assistance, planning studies, financing tools and coordination across several other state agencies.*

## New Carrollton Metro Station TOD

New Carrollton continues to present a key TOD focus area for the state, as evidenced by the move of the State Department of Housing and Community Development offices to this location. MDOT efforts in realizing the potential of this area have recently been focused on advancing what is arguably the most important component of TOD: quality transit. Our work to advance the Purple Line project will add major new transit access to an area already rich with transit and transportation options, including MARC, Amtrak, Metro, and multiple bus and highway connections. In 2017, the effort to achieve stronger TOD outcomes in the area was boosted by the announcement of a major new development by Kaiser Permanente at the Metro station: to include a 176,000 square-foot administrative and IT facility, which will house roughly 850 employees. Clearly TOD is gaining momentum in the area, which will support transit ridership and transportation efficiencies, not only for WMATA and MTA, but for all residents and businesses in the area.
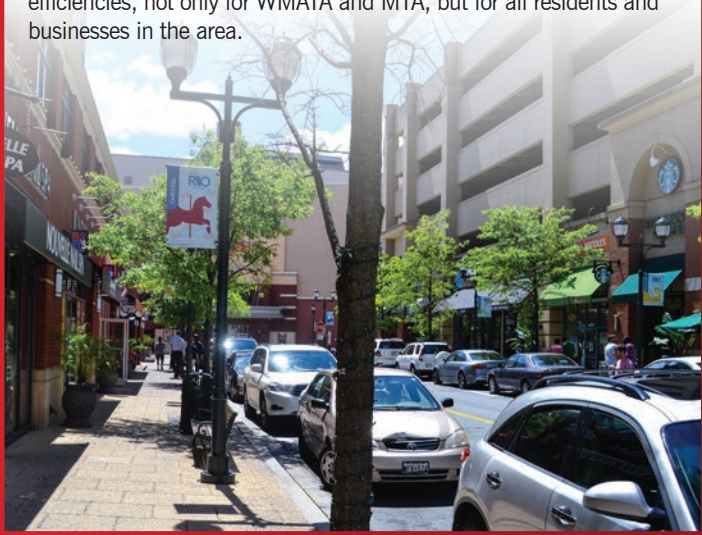


## Owings Mills TOD

The Owings Mills TOD located in northwest Baltimore County provides 1.2 million square feet of commercial office space, 300,000 square feet of complementary retail space, 1,700 residential units, a restaurant and hotel properties. The only TOD development in Baltimore County, current leasing activity shows over 85% of Phase I apartments being occupied. Key development activity includes completion of a new four-story, 200,000 square foot mixed-use office and retail building, and anticipated openings of several restaurants and businesses. With the arrival of new tenants at the Owings Mills TOD, regular events and programming are featured in the public square within the TOD, available to both residents and visitors to Baltimore County. The Owings Mills TOD will feature educational facilities totaling 120,000 square feet, special event facilities, a hotel with conference space and a boutique upon completion of the project.
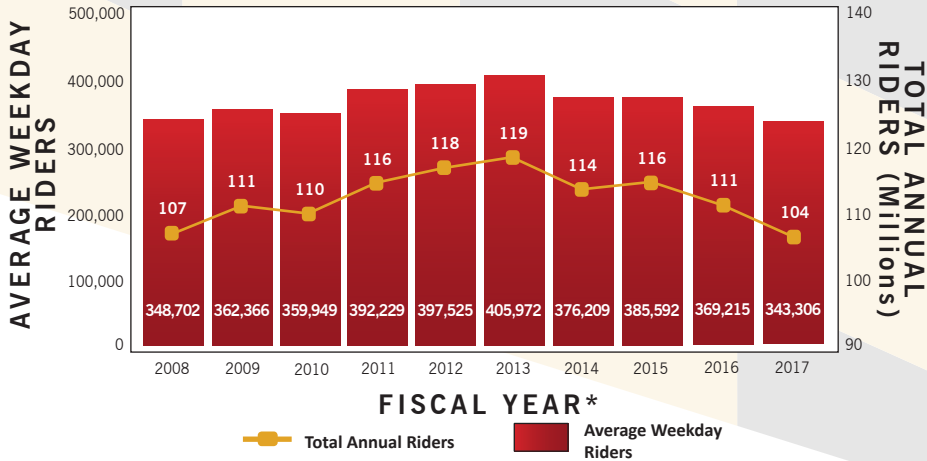
## Annapolis Junction TOD

Howard County's first TOD, the Annapolis Junction Town Center, has welcomed its first residents in the summer of 2017. The Annapolis Junction TOD includes 416 residential units adjacent to the Savage MARC Station in Howard County. The TOD site occupies an 18.8-acre site with a commuter garage. Additional features include a 150-room hotel, 19,000 square feet of retail space including a coffee shop, and a 704-space commuter parking garage, in addition to 101,200 square feet of office space. The facility is also designed to accommodate a pedestrian bridge across the railroad tracks in the future. The Annapolis Junction TOD is strategically located midway between the Baltimore and Washington, D.C. metro areas. The residential units represent the residential component of the mixed-use TOD.

## TOD BENEFITS

| ECONOMIC | PEOPLE | ENVIRONMENT |
|---|---|---|
| • Enhance economic opportunity by linking residents with employment and service destinations<br>• Leverages investment in transportation infrastructure to improve return on public investment<br>• Supports local community development goals by creating new development and jobs | • Creates pleasant places to live, work and play in walkable communities<br>• Increases transportation options and reduces time spent in traffic<br>• Can lower household costs for transportation through reduced need to own, drive and park vehicles | • Promotes clean air by reducing traffic congestion<br>• Reduces impervious surface for surface parking, thereby improving water quality<br>• Creates new opportunities for natural resource preservation and open space by promoting more efficient land use |

# MDOT MTA: TRANSIT RIDERSHIP

*Weekday transit usage demonstrates progress toward better mobility for our customers and contributes to statewide goals.*



AVERAGE WEEKDAY RIDERS (left axis) / TOTAL ANNUAL RIDERS (Millions) (right axis)

| Fiscal Year | Average Weekday Riders | Total Annual Riders |
|---|---|---|
| 2008 | 348,702 | 107 |
| 2009 | 362,366 | 111 |
| 2010 | 359,949 | 110 |
| 2011 | 392,229 | 116 |
| 2012 | 397,525 | 118 |
| 2013 | 405,972 | 119 |
| 2014 | 376,209 | 114 |
| 2015 | 385,592 | 116 |
| 2016 | 369,215 | 111 |
| 2017 | 343,306 | 104 |

FISCAL YEAR*

— Total Annual Riders ■ Average Weekday Riders

*\* To maintain the integrity of historical comparisons of bus ridership, MDOT MTA used ridership estimate differences between the new APC system and previous systems to adjust previous bus ridership estimates and allow for comparable data for fiscal years.*



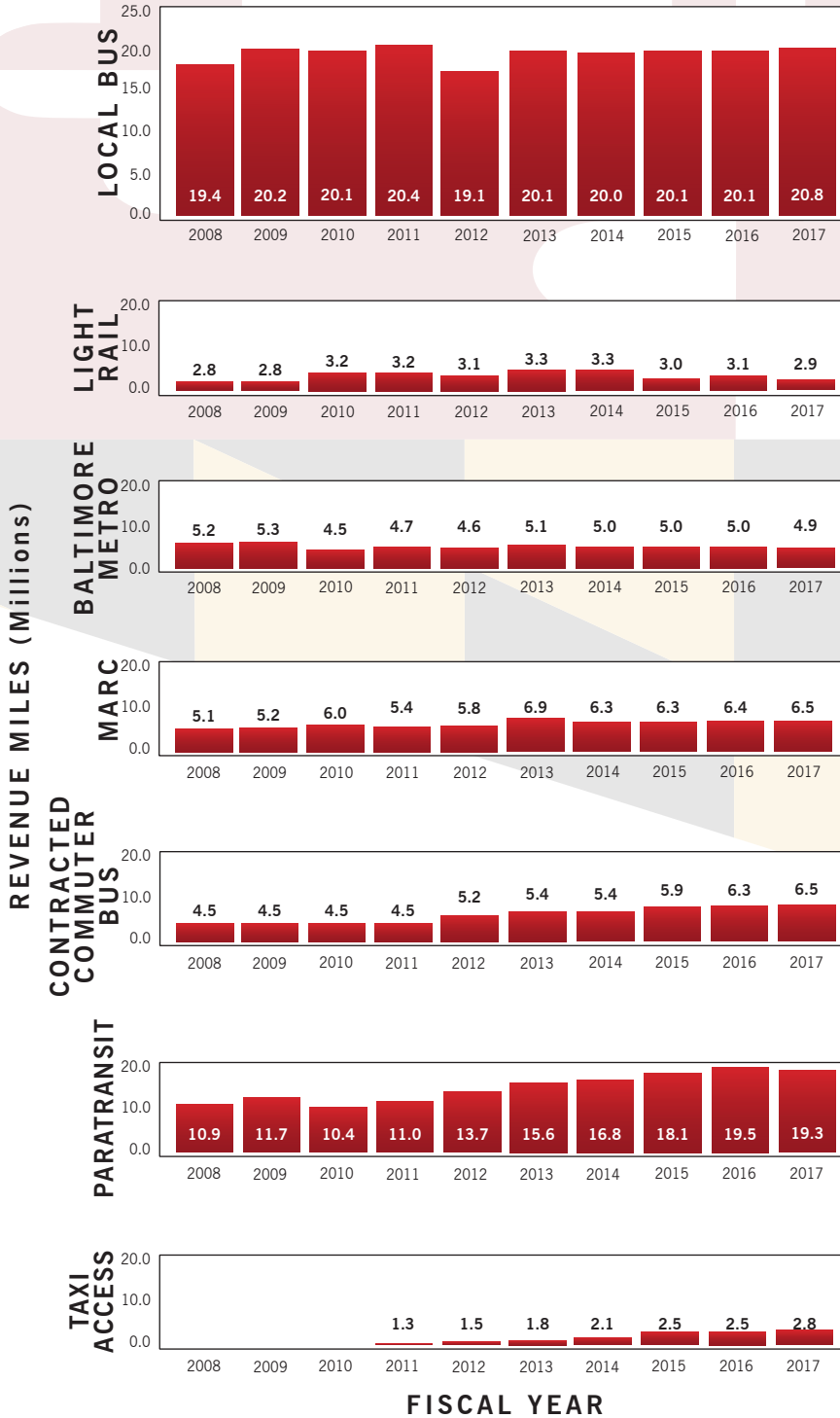## Why Did Performance Change?

- MDOT MTA experienced a decrease in ridership from 116.0 million in FY 2015 to 111.0 million in FY 2016, which is an overall decrease of 4%
- The low costs of fuel, contribute to potential riders opting to drive instead of ride transit
- Proliferation of ridesharing services like Lyft and Uber are replacing some transit trips. The Institute of Transportation Studies at the University of California at Davis survey reports this is a national trend
- According to the National Transit Database, other peer agencies to the MDOT MTA such as WMATA (Washington, D.C.), SEPTA (Philadelphia), MARTA (Atlanta) and PAAC (Pittsburgh) are experiencing similar ridership decreases

## What Are Future Performance Strategies?

- BaltimoreLink has increased transit connectivity in the Baltimore region and current centers of employment will be vastly improved by increased transit service
- Aggressively seek solutions to maximize Local Bus system capacity while controlling costs through efficient scheduling and system design
- Implement real-time passenger information on MDOT MTA's transit services
- Increase system reliability through reductions in mechanical failures and improving on time performance (OTP)
- $148.1 million in the FY 2018–FY 2023 CTP for MARC Improvements on Camden, Brunswick and Penn Lines

# MDOT MTA: ANNUAL REVENUE VEHICLE MILES OF SERVICE PROVIDED*

*Revenue vehicle miles, or each mile for which a transit vehicle is in service and accepting customers, indicates the level of transit service available to, and in use by, the general public.*

**REVENUE MILES (Millions)**

### LOCAL BUS

| 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|------|------|------|------|------|------|------|------|------|------|
| 19.4 | 20.2 | 20.1 | 20.4 | 19.1 | 20.1 | 20.0 | 20.1 | 20.1 | 20.8 |

### LIGHT RAIL

| 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|------|------|------|------|------|------|------|------|------|------|
| 2.8 | 2.8 | 3.2 | 3.2 | 3.1 | 3.3 | 3.3 | 3.0 | 3.1 | 2.9 |

### BALTIMORE METRO

| 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|------|------|------|------|------|------|------|------|------|------|
| 5.2 | 5.3 | 4.5 | 4.7 | 4.6 | 5.1 | 5.0 | 5.0 | 5.0 | 4.9 |

### MARC

| 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|------|------|------|------|------|------|------|------|------|------|
| 5.1 | 5.2 | 6.0 | 5.4 | 5.8 | 6.9 | 6.3 | 6.3 | 6.4 | 6.5 |

### CONTRACTED COMMUTER BUS

| 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|------|------|------|------|------|------|------|------|------|------|
| 4.5 | 4.5 | 4.5 | 4.5 | 5.2 | 5.4 | 5.4 | 5.9 | 6.3 | 6.5 |

### PARATRANSIT

| 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|------|------|------|------|------|------|------|------|------|------|
| 10.9 | 11.7 | 10.4 | 11.0 | 13.7 | 15.6 | 16.8 | 18.1 | 19.5 | 19.3 |

### TAXI ACCESS

| 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|------|------|------|------|------|------|------|------|------|------|
|  |  |  | 1.3 | 1.5 | 1.8 | 2.1 | 2.5 | 2.5 | 2.8 |

**FISCAL YEAR**

*\* Excludes Locally Operated Transit Systems (LOTS) and WMATA.*

## Why Did Performance Change?

- In June of 2017, MDOT MTA launched the BaltimoreLink system, a complete overhaul and rebranding of the core transit system operating within the city and throughout the greater Baltimore region

- To achieve MDOT MTA's overarching mission of providing safe, efficient and reliable transit across Maryland, with world-class customer service, BaltimoreLink improves service quality and reliability, maximizes access to high-frequency transit, strengthens connections between MDOT MTA's bus and rail routes, aligns the network with existing and emerging job centers, and engages riders, employees, communities and elected officials in the planning process

- A large increase in Paratransit mileage was due to the large increase in number of trips provided

- Baltimore Metro continued to perform scheduled track repair and maintenance, having an impact on the revenue miles but little impact to the riding public

- MDOT MTA split various Commuter Bus routes into separate routes to reduce stops and make the travel time more convenient for patrons
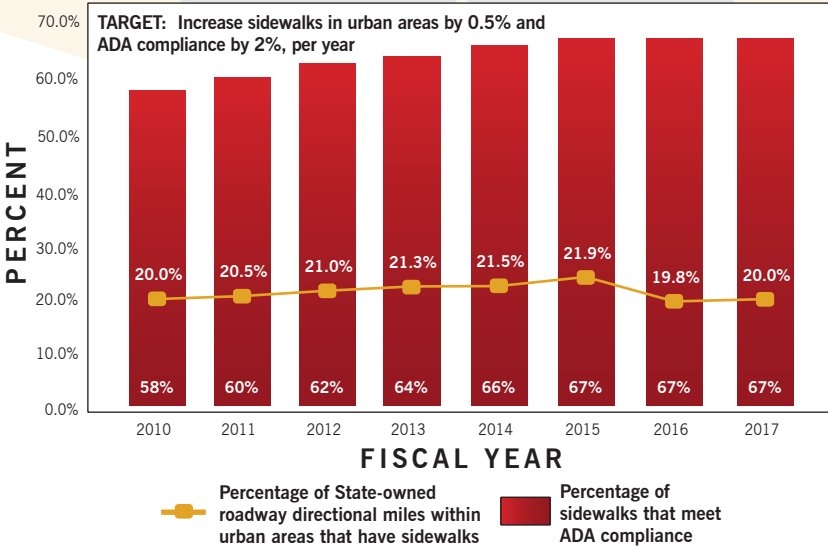
## What Are Future Performance Strategies?

- Continue to improve upon the successes of BaltimoreLink through route optimization, public comments and internal outreach
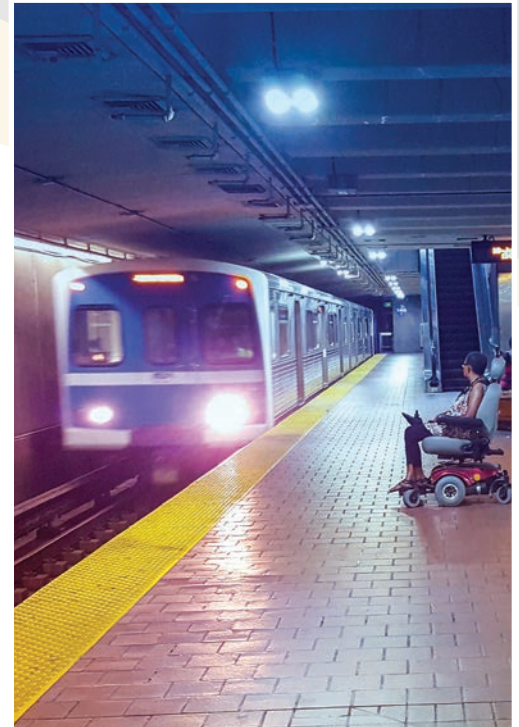
# MDOT SHA: PERCENTAGE OF STATE-OWNED ROADWAY DIRECTIONAL MILES WITHIN URBAN AREAS THAT HAVE SIDEWALKS & PERCENT OF SIDEWALKS THAT MEET AMERICANS WITH DISABILITIES ACT (ADA) COMPLIANCE*

*Available sidewalk facilities provide mobility for pedestrians. Tracking the percent that are Americans with Disabilities Act (ADA) compliant helps ascertain whether Maryland's sidewalk program meets federal benchmarks.*



TARGET: Increase sidewalks in urban areas by 0.5% and ADA compliance by 2%, per year

Percentage of State-owned roadway directional miles within urban areas that have sidewalks

Percentage of sidewalks that meet ADA compliance

Bar values (Percentage of sidewalks that meet ADA compliance): 2010: 58%, 2011: 60%, 2012: 62%, 2013: 64%, 2014: 66%, 2015: 67%, 2016: 67%, 2017: 67%

Line values (Percentage of State-owned roadway directional miles within urban areas that have sidewalks): 2010: 20.0%, 2011: 20.5%, 2012: 21.0%, 2013: 21.3%, 2014: 21.5%, 2015: 21.9%, 2016: 19.8%, 2017: 20.0%

* In the future, Bike and Pedestrian Attainment Report performance measures might include Attainment Report Advisory Committee (ARAC) approved updates and modifications that result from the MDOT Bike and Pedestrian Master Plan update.

## Why Did Performance Change?

- Invested $16.0 million in FY 2017 to improve and construct sidewalks and to address ADA accessibility, including the construction of new directional miles of sidewalk in Charlestown and North East

- Decrease from previous report due to a re-evaluation of sidewalks previously noted as ADA compliant; ADA Accessibility Guidelines now call for specific passing zone requirements and some sidewalks no longer meet these guidelines. Re-evaluation was initiated in FY 2016 and completed in FY 2017
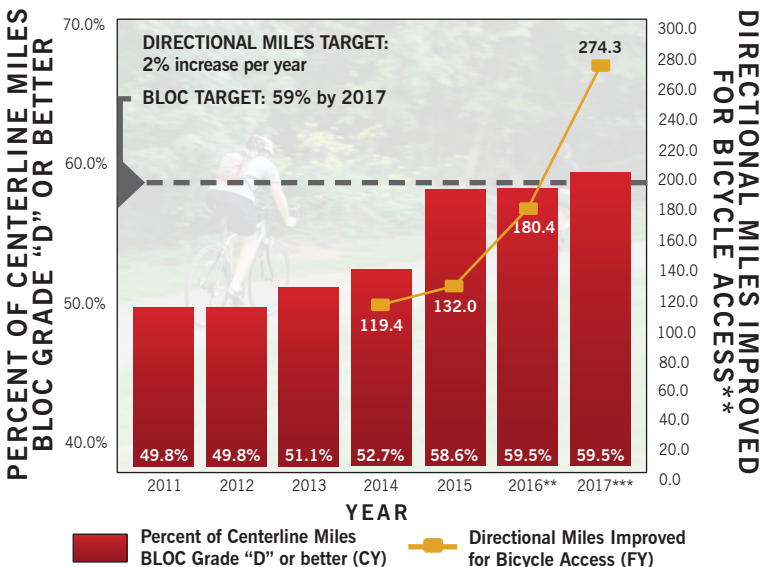
## What Are Future Performance Strategies?

- Collaborate with urban counties and local governments to identify new sidewalk projects based on local requests and safety and access needs

- Begin construction of sidewalk projects in Brunswick, Crofton and Westminster in FY 2018

- Support safe pedestrian access along state highways ($31.7 million for the New Sidewalk Construction for Pedestrian Access Program and $43.4 million for the Sidewalk Reconstruction for Pedestrian Access Program (ADA Compliance) in the FY 2018–FY 2023 CTP)



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# MDOT SHA: PERCENTAGE OF STATE-OWNED ROADWAY CENTERLINE MILES WITH A BICYCLE LEVEL OF COMFORT (BLOC) GRADE "D" OR BETTER & NUMBER OF DIRECTIONAL MILES IMPROVED FOR BICYCLE ACCESS*

*Bicycle Level of Comfort (BLOC) (scale "A" to "F") is a measure for assessing the quality of the statewide roadway system for its comfort and compatibility with bicycle users. It accounts for multiple characteristics of the roadway through a formula, which produces a single BLOC grade for any section of roadway. "Improved for bicycle access" means that shoulder and travel lanes have permanent markings to designate use for bicyclists. Bicycle access is a good measure of "bike friendliness"; however, access is not captured in the BLOC formula; thus, both must be taken into account when evaluating the quality of the bicycling environment.*



DIRECTIONAL MILES TARGET: 2% increase per year

BLOC TARGET: 59% by 2017

Bar values (Percent of Centerline Miles BLOC Grade "D" or better (CY)): 2011: 49.8%, 2012: 49.8%, 2013: 51.1%, 2014: 52.7%, 2015: 58.6%, 2016**: 59.5%, 2017***: 59.5%

Line values (Directional Miles Improved for Bicycle Access (FY)): 2014: 119.4, 2015: 132.0, 2016**: 180.4, 2017***: 274.3

Percent of Centerline Miles BLOC Grade "D" or better (CY)

Directional Miles Improved for Bicycle Access (FY)

* In the future, Bike and Pedestrian Attainment Report performance measures might include ARAC approved updates and modifications that result from the MDOT Bike and Pedestrian Master Plan update. Please note that BLOC results are conservative in some cases because actual outside lane width is greater than average lane width.

** 2016 revised from previous Attainment Report.

*** 2017 BLOC data is preliminary and subject to change.
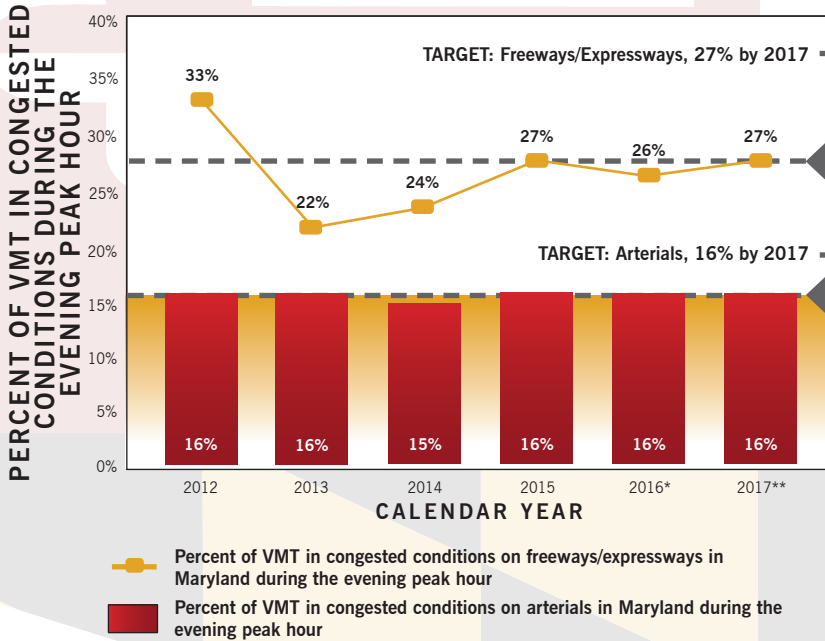
## Why Did Performance Change?

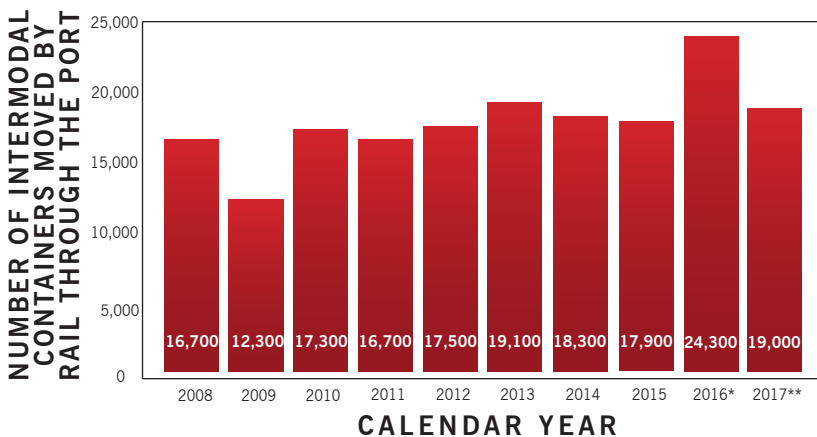- Coordinated with bicycle and pedestrian groups to review and recommend approaches and strategies to statewide bicycle safety education and outreach

- Significantly increased the number of directional miles improved for bicycle access, due to evaluation and inclusion of bicycle improvements in all projects to the maximum extent practical

- Spent $1.6 million for construction of the missing link of the Bethesda Trolley Trail along MD 187

- Invested $3.1 million in FY 2017 to design and construct dedicated bicycle retrofit projects along MDOT SHA roadways, including a dedicated bicycle lane project on MD 182 from Poplar Run Drive to MD 200

## What Are Future Performance Strategies?

- Develop the bicycle spine network to identify priority routes for bicycle improvements and update of the MDOT bicycle access policy to focus bicycle improvements on supporting State, regional and local master plans or bicycle plans

- Support bikeway projects along state highways ($15.7 million for the Bicycle Retrofit Program in the FY 2018–FY 2023 CTP)

## MDOT SHA & MDTA: PERCENT OF VMT IN CONGESTED CONDITIONS ON FREEWAYS/EXPRESSWAYS & ARTERIALS DURING THE EVENING PEAK HOUR

*This measure tracks MDOT SHA performance in reducing congestion on the state highway system. This is an indicator of congestion and the people/vehicles impacted by congestion.*



**PERCENT OF VMT IN CONGESTED CONDITIONS DURING THE EVENING PEAK HOUR**

TARGET: Freeways/Expressways, 27% by 2017

TARGET: Arterials, 16% by 2017

Freeways/Expressways line: 33% (2012), 22% (2013), 24% (2014), 27% (2015), 26% (2016*), 27% (2017**)

Arterials bars: 16% (2012), 16% (2013), 15% (2014), 16% (2015), 16% (2016*), 16% (2017**)

**CALENDAR YEAR**

- Percent of VMT in congested conditions on freeways/expressways in Maryland during the evening peak hour
- Percent of VMT in congested conditions on arterials in Maryland during the evening peak hour

*\* 2016 data was revised from previous Attainment Report.*
*\*\* 2017 data is preliminary and subject to change.*

### Why Did Performance Change?

- Percent of VMT experiencing congestion on freeways/expressways in evening peak hour has remained steady in last few years; with the steadily improving economy and job market, and low fuel prices, travel demand on Maryland freeways and arterials continues to grow
- The traffic volume using Maryland freeways and arterials in the evening peak hour is constrained by capacity; because of this, the number of vehicles served during the evening peak hour has remained the same in the last few years
- VMT projections in coming years show a continued increase at a similar rate as the past few years. This will result in higher travel demand on Maryland's roadways

### What Are Future Performance Strategies?

- Implement Transportation Systems Management and Operations (TSM&O) and innovative technology solutions to efficiently serve the increased traffic volumes
- Develop and implement practical design and short-term congestion management solutions to improve traffic operations, including geometric improvements, incident management, special event planning and ITS strategies, to improve traffic operations on the freeway/expressway system
- Continue signal retiming and optimization programs to improve arterial operations

## MDOT MPA: INTERMODAL CONTAINERS MOVED BY RAIL THROUGH THE PORT

*Tracking intermodal containers moved by rail through the Port provides an understanding of the options for containerized freight movement to/from MDOT MPA's terminals (particularly Seagirt & Dundalk) via CSX or Norfolk Southern (NS) railroads.*



**NUMBER OF INTERMODAL CONTAINERS MOVED BY RAIL THROUGH THE PORT**

16,700 (2008), 12,300 (2009), 17,300 (2010), 16,700 (2011), 17,500 (2012), 19,100 (2013), 18,300 (2014), 17,900 (2015), 24,300 (2016*), 19,000 (2017**)

**CALENDAR YEAR**

*\* 2016 data revised from previous Attainment Report.*
*\*\* 2017 data is preliminary and subject to change.*

### Why Did Performance Change?

- Mergers continued to dominate the ocean container industry with another six companies absorbed by larger rivals. Most volume lost from Interdom management has been retained, but specific lanes and customers have routed some cargo away from Baltimore
- Aggressive rail pricing by Class I railroads operating in other ports also diverted box-car traffic away from the Port of Baltimore. Some truck cargo has returned
- Recent expansion of the Panama Canal represents more cargo opportunity in both volume and number of ocean carriers calling on the Port of Baltimore

### What Are Future Performance Strategies?

- To provide parity in the rail costs associated with Baltimore compared to competing ports despite not having double stack capabilities, MDOT MPA launched its ocean carrier-based intermodal rail incentive program; MDOT MPA will monitor the program to determine strategies for targeting discretionary cargo
- MDOT/MDOT MPA are committed to the Howard Street Tunnel project and will continue to seek a double-stacked container rail route between the Port of Baltimore and the Mid-West
- Work with CSX, NS, Canton RR, PAC and ocean carriers to facilitate the option for two Class I railroads at Seagirt

# GLOSSARY

| GLOSSARY TERM | DEFINITION |
|---|---|
| All Electronic Tolling (AET) | Collection of tolls at highway speeds using *E-ZPass*® transponders or video tolling; no toll booths or cash collection. |
| Annual Attainment Report on Transportation System Performance (AR) | Pursuant to Transportation Article Section 2-103.1 of the Annotated Code of Maryland, the State is required to develop or update an annual performance report on the attainment of transportation goals and benchmarks in the Maryland Transportation Plan (MTP) & Consolidated Transportation Program (CTP). The Attainment Report must be presented annually to the Governor and General Assembly before they may consider the MTP and CTP. |
| Automated Vehicles (AV) | Automated vehicles (AV) have numerous driving automation features, these features allow the vehicle to operate at different levels of automation depending upon the feature(s) that are in place. |
| Calendar Year (CY) | The period of 12 months beginning January 1 and ending December 31 of each reporting year. |
| Connected Vehicles | Connected vehicles use technologies that will enable cars, buses, trucks, trains, roads and other infrastructure, and our smartphones and other devices to "talk" to one another. |
| Coordinated Highways Action Response Team (CHART) | CHART is an incident management system aimed at improving real-time travel conditions on Maryland's highway system. CHART is a joint effort of the State Highway Administration, Maryland Transportation Authority and the Maryland State Police, in cooperation with other federal, state and local agencies. |
| Consolidated Transportation Program (CTP) | A six-year program of capital projects, which is updated annually to add new projects and reflect changes in financial commitments. |
| E-ZPass® | An electronic toll collection system utilized to provide a more efficient flow of traffic through MDTA toll facilities. *E-ZPass* toll collection is available at all eight MDTA toll facilities. The benefits of *E-ZPass* membership allow travel from Virginia to Maine and as far west as Illinois, with tolls paid from a Maryland *E-ZPass* account. |
| Fiscal Year (FY) | A yearly accounting period covering the time frame between July 1 and June 30 of each reporting year. |
| Fixing America's Surface Transportation Act or "FAST Act" | On December 4, 2015, President Obama signed the FAST Act (Pub. L. No. 114-94) into law—the first federal law in over a decade to provide long-term funding certainty for surface transportation infrastructure planning and investment. The FAST Act authorizes $305 billion over fiscal years 2016 through 2020 for highway, highway and motor vehicle safety, public transportation, bicycle and pedestrian planning, motor carrier safety, hazardous materials safety, rail, and research, technology, and statistics programs. |
| Intercounty Connector (ICC)/MD 200 | All electronic toll-road from I-270 in Montgomery County to US-1. |
| Locally Operated Transit Systems (LOTS) | Transit systems that provide primarily bus service and demand response within the local areas in which they operate. They are funded through a combination of federal, state and local money. MDOT provides financial, technical and operating support for these services. |
| Maryland Transportation Plan (MTP) | The MTP is MDOT's long-range transportation policy plan and includes the vision, goals and objectives that provide the policy framework and context for Maryland's transportation programs and investments. The MTP sets Department policy for the 20-year period and is updated every five years. |
| MDOT MPA General Cargo | Foreign and domestic waterborne general cargo handled at the public (MDOT MPA) terminals. |
| Port of Baltimore Foreign Cargo | International (Foreign) cargo handled at public and private terminals within the Baltimore Port District. This includes bulk cargo (e.g., coal, sugar, petroleum, ore, etc. shipped in bulk) and all general cargo (e.g., miscellaneous goods shipped in various packaging). |
| MAP-21 | On June 6, 2012, President Obama signed into law the Moving Ahead for Progress in the 21st Century (MAP-21) P.L. 112-141- legislation that set national, statewide and metropolitan transportation planning and policy direction. |
| Mode | Form of transportation used to move people or cargo (e.g., truck, rail, air). |
| REAL ID | The federal REAL ID Act of 2005 sets new standards designed to improve the integrity and security of State-issued driver's licenses and identification cards. The legislation contains 39 benchmarks for states to meet the requirements of the REAL ID Act. The full text of the REAL ID Act (including benchmarks) is available on the Department of Homeland Security's website at **www.dhs.gov**. General information about Maryland's involvement with the REAL ID Act is available on MVA's website at **www.mva.maryland.gov**. |
| State Report on Transportation (SRT) | The SRT is prepared annually and distributed to the General Assembly, local elected officials and interested citizens. It consists of two documents, the Maryland Transportation Plan (MTP) and the Consolidated Transportation Program (CTP). |
| Transit-Oriented Development (TOD) | Transit-Oriented Development (TOD) is a land use strategy intended to promote efficient use of land and transportation infrastructure. TODs are places of relatively higher density, pedestrian-friendly development with a mix of land uses located within an easy walk of a bus or rail transit center. In 2008, the legislature adopted a definition of TOD. As defined in statute, a TOD is: "a dense, mixed-use deliberately-planned development within a half-mile of transit stations that is designed to increase transit ridership." |
| Transportation Business Unit (TBU) | MDOT's Transportation Business Units (TBUs) include Maryland Aviation Administration (MDOT MAA); Maryland Port Administration (MDOT MPA); Maryland Transit Administration (MDOT MTA) Motor Vehicle Administration (MDOT MVA); State Highway Administration (MDOT SHA) and the MDOT Secretary also serves as Chairman of the Maryland Transportation Authority (MDTA). |
| Transportation Network Company (TNC) | A transportation network company (TNC) (also known as mobility service providers or MSPs, such as Uber or Lyft) allow potential passengers to use websites and mobile apps to pair with drivers who provide passengers with rides using the driver's non-commercial vehicle. |
| Travel Demand Management (TDM) | TDM strategies support the use of alternatives to the traditional single-occupant vehicle through a variety of programs and incentives (e.g., carpooling, car sharing, transit, park-and-ride facilities, teleworking and flexible work hours). |
| Vehicle Miles of Travel (VMT) | A measurement of the total miles traveled by all vehicles. |

# APPENDIX: List of Performance Measures by Business Unit

| MTP GOAL | PERFORMANCE MEASURE | DEFINITION | PAGE |
|---|---|---|---|
| **Maryland Department of Transportation (MDOT)** | | | |
| Economic Prosperity | Freight originating and terminating in Maryland (value and tonnage) | Data is based upon the following sources, U.S. Department of Transportation Freight Analysis Framework (FAF3) Version 3. The data is adjusted yearly to account for previous year actual data and a 2% annual growth rate consistent with the Federal Highway Administration's Freight Summary 2008. BWI Marshall Airport report to Airports Council International (2011); and MPA and U.S. Army Corps of Engineers (2010) | 14 |
| Environmental Stewardship | Transportation Emissions Reduction Measures (TERMs)<br><br>• Commuter Operations and Ridesharing Center<br>• Employer Outreach (including Employer Outreach for Bicycles)<br>• Guaranteed Ride Home | TERMs and Travel Demand Management (TDM) strategies support the use of alternatives to the traditional single-occupant vehicle | 44 |
| Environmental Stewardship | Transportation-related emissions by region | Tons of Volatile Organic Compound (VOCs) and Nitrogen Oxide (NOx), precursors of Ozone, emitted per day for an average weekday from transportation sources in the Baltimore and Washington regions | 45 |
| Environmental Stewardship | Transportation-related greenhouse gas (GHG) emissions | GHG emissions primarily include carbon dioxide, methane, nitrous oxide, carbon monoxide, oxides of nitrogen and non-methane volatile organic compounds | 46 |
| **Maryland Aviation Administration (MDOT MAA)** | | | |
| Economic Prosperity | Number of nonstop airline markets served | Nonstop flights are direct to destination without connections | 17 |
| Economic Prosperity | Non-airline revenue per enplaned passenger (RPE) | Total non-airline revenue (ground transportation, parking, concessions, etc.) / Total enplaned passengers at BWI Marshall Airport | 17 |
| Safety & Security | Rate of airfield ramp incidents and accidents per 1,000 operations | Incident reports collected by MDOT MAA / 1,000 operations (take offs and landings) | 23 |
| Safety & Security | BWI Marshall Airport crime rate | Crimes include all crimes against persons or property at BWI Marshall Airport facilities | 23 |
| Safety & Security | Number of repeat discrepancies in the annual Federal Aviation Administration's Federal Aviation Regulation inspection | Annual FAA Part 139 Federal Aviation Regulation (FAR) assessment conducted by the Federal Aviation Administration | 24 |
| Quality of Service | Airline cost per enplaned passenger (CPE) | Total airline-related fees / Total enplaned passengers at BWI Marshall Airport | 37 |
| Quality of Service | Percent of BWI Marshall Airport customers rating the airport "good" or "excellent" on key services | Percent of customers giving a score of 4 or 5 (on a 5 point scale) for "Overall Satisfaction" and "How likely to fly from BWI Marshall Airport on their next trip" | 37 |
| **Maryland Port Administration (MDOT MPA)** | | | |
| Economic Prosperity | Port of Baltimore foreign cargo and MPA general cargo tonnage | MDOT MPA general cargo includes foreign and domestic waterborne cargo; Port of Baltimore foreign cargo includes bulk and general cargoes within the Port District, but does not include domestic cargo | 15 |
| Economic Prosperity | Revenue, operating expense and net income | Total revenues compared to operating expense of MDOT MPA | 16 |
| Economic Prosperity | International cruises using the Port of Baltimore | Number of international cruises using the Port of Baltimore as a home port | 16 |
| Safety & Security | MPA compliance with the Maritime Transportation Security Act of 2002 | MDOT MPA activities in support of a compliance (Pass / Fail) rating from the U.S. Coast Guard | 24 |
| System Preservation | Dredged material placement capacity remaining for Harbor and Poplar Island sites | Monitors existing capacity remaining at Harbor and Poplar Island dredged material placement sites | 27 |
| Quality of Service | Average truck turn-around time at Seagirt Marine Terminal | Amount of time for a truck to enter the Terminal gate, drop off and/or receive a container, and exit the gate | 38 |
| Environmental Stewardship | Acres of wetlands or wildlife habitat created, restored or improved since 2000 | Cumulative tally of acreage created, restored or improved for wildlife habitat | 42 |
| Community Vitality | Intermodal containers moved by rail through the Port | Tracks intermodal containers that are moved by rail through the Port. This is containerized freight movement to/from MDOT MPA's terminals (particularly Seagirt & Dundalk) via CSX or Norfolk Southern railroads | 52 |

| MTP GOAL | PERFORMANCE MEASURE | DEFINITION | PAGE |
|---|---|---|---|
| **Maryland Transit Administration (MDOT MTA)** | | | |
| **Safety & Security** | Customer perceptions of safety on the MDOT MTA system | Average score for: Feeling safe while riding, while waiting at stops and stations, and for my vehicle left in an MDOT MTA parking lot | 22 |
| **Safety & Security** | Preventable accidents per 100,000 vehicle miles | Preventable accidents are accidents in which drivers did not do everything they could to avoid an accident / 100,000 vehicle miles | 22 |
| **System Preservation** | Average fleet age of transit revenue vehicles | Average fleet age of revenue vehicles to understand the status of the fleet used to transport patrons. This indicates fuel consumption, energy efficiencies, preventative maintenance needs and repair expectations | 28 |
| **Quality of Service** | Percent of service provided on time | Baltimore Metro and MARC: Number of trips arriving on schedule. Local Bus: Calculated from data-transmitting buses tracking the number of time points arrived at on time divided by the total number of scheduled time points | 31 |
| **Quality of Service** | Operating cost per passenger trip | Total operating expenses / Number of unlinked passenger | 32 |
| **Quality of Service** | Operating cost per revenue vehicle mile | Operating cost for each mode / Total miles when vehicle is in service (not deadheading or down time) | 33 |
| **Quality of Service** | Customer satisfaction rating | Average score for: Overall satisfaction of each MDOT MTA service (Local Bus, Light Rail, Baltimore Metro and MARC) | 34 |
| **Environmental Stewardship** | Travel Demand Management<br>• Number of park-and-ride spaces– MDOT MTA Operated<br>• Transit Multipurpose | Transit lots are MDOT MTA-owned; multipurpose lots are not MDOT MTA-owned | 43 |
| **Environmental Stewardship** | Transportation Emissions Reduction Measures<br>• MDOT MTA College Pass<br>• Transit Store in Baltimore | TERMs and Travel Demand Management strategies support the use of alternatives to the traditional single-occupant vehicle | 44 |
| **Community Vitality** | Transit ridership | Ridership for Local Bus, Light Rail, Baltimore Metro, MARC, Contracted Commuter Bus, and Paratransit & Taxi Access | 49 |
| **Community Vitality** | Annual revenue vehicle miles of MDOT MTA service provided | Revenue vehicle miles are defined as each mile for which a transit vehicle is in service and accepting customers | 50 |
| **Maryland Transportation Authority (MDTA)** | | | |
| **Quality of Service** | Overall customer satisfaction of E-ZPass customers | Customer satisfaction based on customer satisfaction survey | 38 |
| **Quality of Service** | Percentage of tolls collected electronically | Toll collections by E-ZPass and Automatic Vehicle Identification/Total number of toll collections | 38 |
| **Motor Vehicle Administration (MDOT MVA)** | | | |
| **Safety & Security** | Percent of Homeland Security REAL ID Act benchmarks achieved | Federal legislation contains 39 benchmarks for states to meet requirements of the federal REAL ID Act | 24 |
| **Quality of Service** | Branch office customer visit time versus customer satisfaction rating | Average visit time plotted against percentage of customers rating their MDOT MVA experience as "good" or "very good" (based on quarterly survey of customers) | 35 |
| **Quality of Service** | Alternative service delivery transactions as percent of total transactions | Transactions by alternative services (using a means other than a visit to an MDOT MVA branch) / Total transactions | 35 |
| **Quality of Service** | Cost per transaction | Operating costs and capitalized costs / Number of transactions | 36 |
| **Quality of Service** | Percent of information system availability compared to total number of records maintained | Includes availability of data records by type and systems up time | 36 |
| **Environmental Stewardship** | Compliance rate and number of vehicles tested for Vehicle Emissions Inspection Program (VEIP) versus customer wait time | Registered vehicles in non-attainment counties are scheduled for VEIP testing every two years. Compliance rate is the number of vehicles registered in non-attainment counties scheduled for testing / Number of registered vehicles in non-attainment counties tested | 42 |

| MTP GOAL | PERFORMANCE MEASURE | DEFINITION | PAGE |
|---|---|---|---|
| **State Highway Administration (MDOT SHA)** | | | |
| Economic Prosperity | Percent of roadway access permits issued within 21 days or less (after receipt of a complete application package) | Access permits are issued to parties desiring to perform work in the MDOT SHA right- of-way and/or for the construction of entrances and public streets connecting to the State roadways | 18 |
| Economic Prosperity | User cost savings for the traveling public, including commercial traffic due to incident management | Cost saving calculated using Coordinated Highways Action Response Team (CHART) incident response data | 18 |
| Quality of Service | Maryland driver satisfaction rating | Satisfaction rating based on weighted average score for 26 questions | 30 |
| Quality of Service | Percentage of the Maryland MDOT SHA network in overall preferred maintenance condition | Internal peer review assessment of roadway features entails 30% of the overall MDOT SHA total lane miles, resulting in excess of 3,000 one-half mile segments | 30 |
| Environmental Stewardship | Percent of compliance on erosion and sediment control ratings | A system of structural and vegetative measures that minimize soil erosion and off-site sedimentation | 41 |
| Environmental Stewardship | Total fuel usage of the MDOT SHA light fleet | Fuel used by fleet of State-owned cars, dispensed at MDOT SHA facilities that contains ethanol (MDOT SHA light fleet consists of sedans, SUVs, half-ton pickup trucks and vans that use gasoline or gasoline/ethanol blends) | 41 |
| Environmental Stewardship | Travel Demand Management<br>• Number of MDOT SHA park-and-ride spaces<br>• Reduction in vehicle miles traveled through park-and-ride usage | MDOT SHA operates a number of park-and-ride facilities to support TDM | 43 |
| Community Vitality | 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* | On MDOT SHA roads where pedestrian access is allowed and within urban areas as defined by the U.S. Census Bureau | 51 |
| Community Vitality | Percentage of State-owned roadway centerline miles with a bicycle level of comfort (BLOC) grade "D" or better and number of directional miles improved for bicycle access | BLOC is an "A" to "F" scale, a formula based on many factors, including outside lane width, the presence of on-street parking, roadway speed, shoulder width and truck percentage, with the greatest driving factors being shoulder width, speed and truck percentage | 51 |

| MEASURES SHARED BY BUSINESS UNITS | | | PAGE |
|---|---|---|---|
| **State Highway Administration (MDOT SHA) and Motor Vehicle Administration (MDOT MVA)** | | | |
| Safety & Security | Number of bicycle and pedestrian fatalities and injuries on all Maryland roads | Number of bicyclists and pedestrians killed / injured in traffic related crashes in a calendar year, on all Maryland roads including MDTA and locally owned facilities | 21 |
| **State Highway Administration (MDOT SHA), Motor Vehicle Administration (MDOT MVA) and Maryland Transportation Authority (MDTA)** | | | |
| Safety & Security | Annual number of traffic fatalities and personal injuries on all roads in Maryland | The annual number of traffic fatalities and personal injuries on all Maryland roads including MDTA and locally owned facilities (the fatality and personal injury rate is calculated as fatalities and personal injuries per 100 million vehicle miles of travel) | 20 |
| **State Highway Administration (MDOT SHA) and Maryland Transportation Authority (MDTA)** | | | |
| System Preservation | Percent of roadway miles with acceptable ride quality | Percent of road with acceptable International Roughness Index (IRI) score | 26 |
| System Preservation | Number of bridges and percent that are structurally deficient | Number of bridges where at least one major structural element has a condition rating of four or less (on a scale from zero (closed to traffic) to nine (relatively new)) | 26 |
| Community Vitality | Percent of VMT in congested conditions on freeways/expressways and arterials in Maryland during the PM peak hour | Annual average daily traffic / Number of through lanes | 52 |

**MARYLAND DEPARTMENT
OF TRANSPORTATION**

## 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."