

# 2021 ANNUAL ATTAINMENT REPORT

*On Transportation System Performance*

Implementing the Maryland  
Transportation Plan and Consolidated  
Transportation Program

Larry Hogan  
Governor

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Lt Governor

Gregory Slater  
Secretary





**Larry Hogan**  
Governor

Maryland, like all states in the nation, faced extraordinary challenges in 2020 due to the COVID-19 global pandemic. As Governor, my first priority will always be to keep Marylanders safe. That is why we have consistently taken a data-driven approach to fighting the virus while implementing our Maryland Strong Roadmap to Recovery to rebuild our economy and get Maryland moving again.

Marylanders are doing their part to be safe and transportation is essential to move health care workers, grocery store clerks, and other essential workers, to serve Marylanders and ensure people have the goods and services they need.

Despite these uncertain times and the impact COVID-19 has had on our Transportation Trust Fund (TTF) revenues, Maryland is working to preserve our transportation system and plan for future projects. We have developed project selection procedures to ensure the biggest bang for the buck; implemented enhanced cleaning and disinfecting measures in our public facing agencies; promoted safety for all road users; and ensured our transportation assets remain in a state of good repair.

It is a tall order, but one we must face together. Maryland cannot successfully recover from COVID-19 without a safe and efficient transportation system. As we look to Marylanders to do their part to stay safe, we pledge to do our part in maintaining a world class transportation system that addresses the needs of all travelers whether they travel by air, land, or sea, and to do so in a way that keeps the safety of all users as our number one priority.



**Gregory Slater**  
Transportation Secretary

There is no denying the tremendous impact the COVID-19 global pandemic had on every aspect of Maryland's transportation system in 2020. A comparison on the use of transportation services from April this year to April last year shows declines in traffic volumes (51%) — truck volumes (26%), toll transactions (58%), Baltimore-Washington International Thurgood Marshall Airport passenger traffic (97%), and transit (67%). These declines severely impacted revenue to the Maryland Transportation Trust Fund (TTF) and put many major new improvements on hold.

In the face of challenges presented by the pandemic, the Maryland Department of Transportation (MDOT) employees worked hard to ensure critical services remained functional. Now, as we move forward on the Hogan Administration's Maryland Strong Roadmap to Recovery, we will continue to work efficiently, targeting our resources and investments for our top transportation priorities. We know how important an efficient transportation system is to the State's economy.

In keeping with the Governor's Roadmap to Recovery, safety remains a critical priority for our employees and customers. It is something we will not compromise under any circumstances. Our public facing agencies, including transit, aviation, and motor vehicle services, have all implemented aggressive cleaning and disinfecting protocols, along with social distancing efforts so people can move and work in a safe environment. We also continue to promote a culture of safety in our business practices and work to educate the traveling public on safety behavior.

As in the past, we will continue to base our decisions and investments on system performance. That is why the Attainment Report on Transportation System Performance is so important. It provides us with the information we need to make the best decisions possible, particularly now with reduced resources. We want to ensure that we continue to meet the highest expectations of Maryland residents and those using our transportation system. Throughout this difficult time, I remain proud of MDOT's employees and the commitment they have shown to our customers. We will continue to ensure we deliver the best possible customer service in a manner that keeps all of us safe and healthy.



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ONE MDOT – INTEGRATING MULTIMODAL TRANSPORTATION

The Maryland Department of Transportation (MDOT) has a unique ability to deliver an expansive and integrated multimodal transportation system that provides a superior experience to the people and businesses it serves. MDOT houses all of the State’s transportation agencies in one organization, enabling an integrated and balanced approach to planning and investment that results in seamless connectivity between State Highways, toll facilities, transit, airports, ports, and motor vehicle and driver services.

The organization is ONE MDOT instead of six separate entities; one Department with each of the nearly 11,000 employees working together towards the mission of ensuring MDOT is “a customer-driven leader that delivers safe, sustainable, intelligent, and exceptional transportation solutions to connect our customers to life’s opportunities.” The MDOT Secretary serves as Chairman of the Maryland Transportation Authority (MDTA), which owns, operates, and maintains the State’s toll facilities – two turnpikes, two tunnels, and four bridges. While the Washington Metropolitan Area Transit Authority (WMATA) is not part of MDOT, the Governor appoints two Maryland WMATA Board members and MDOT staff work closely with those appointees and the other Board members to ensure efficient and effective transit services in the metropolitan Washington region.

MARYLAND TRANSPORTATION BUSINESS UNITS (TBU)

ACRONYM	BUSINESS UNIT
MDOT 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



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## HIGHLIGHTS—BELOW ARE SOME OF MDOT'S PERFORMANCE RESULTS AND KEY STRATEGIES OVER THE PAST YEAR

### GOAL: ENSURE A SAFE, SECURE, AND RESILIENT TRANSPORTATION SYSTEM

- MDOT SHA is working on a *Be Street Wise – Drive Safe. Walk Safe. Bike Safe.* campaign that will target all road users and continues to use a context-driven approach in the planning and engineering of roadways to ensure access and mobility for all users.
- MDOT is enhancing pedestrian and bicycle infrastructure at bus stops and transit stations and continues to support Transit-Oriented Development (TOD) to leverage multimodal access to transit.
- MDOT MTA is investing in fleet modernization and has focused recently on cleaning and awareness of overall safety of employees and the public during COVID-19.
- As a result of COVID-19, the U.S. Department of Homeland Security extended the federal REAL ID deadline by one year (to October 1, 2021) and MDOT MVA has successfully continued to increase Maryland's REAL ID compliance rates for all driver license and identification card holders to 72%.
- In a response to COVID-19, MDOT MVA has implemented appointment-only transactions in order to meet limited capacity requirements at all branch offices. Along with Customer Connect, MDOT MVA continues to expand Alternative Service Delivery (ASD) transaction offerings and encourages customers to utilize ASD platforms when possible. Additionally, safety equipment and protocols have been implemented in the branches to ensure that customers feel safe when visiting MDOT MVA facilities.

### GOAL: FACILITATE ECONOMIC OPPORTUNITY AND REDUCE CONGESTION IN MARYLAND THROUGH STRATEGIC SYSTEM EXPANSION

- CY 2019 saw passenger counts at BWI Marshall Airport stay mainly flat; however, Spirit Airlines increased its traffic 21% for the year and Frontier Airlines inaugurated service; MDOT MAA continues to work with regulators and airline partners on several initiatives aimed at restoring passenger confidence in safe travel.
- Prior to COVID-19, both cruise lines at the Port of Baltimore reported ships sailing with more than two people per cabin; when cruising resumes post COVID-19, both cruise lines have scheduled sailings from Baltimore through 2023.
- MDOT MTA saw a significant reduction in overall demand for service due to COVID-19, affecting revenue vehicle miles for scheduled mobility service.
- Despite COVID-19 funding challenges causing budget cuts across the board, MDOT has preserved projects like the Howard Street Tunnel and Cox Creek Dredge Placement, that are important to goods movement and will be important to supporting Maryland's economic recovery.
- MDOT also maintained funding, despite COVID-19 funding reductions: to system preservation; light rail vehicle overhaul and new Metro cars at MDOT MTA; as well as to MDOT MVA's Customer Connect Phase Two which provides more efficient vehicle, business licensing, and motor carrier services to all customers.
- MDOT SHA opened I-270 Watkins Mill Road interchange, creating access from one side of I-270 to the other for vehicles, bicyclists, and pedestrians.
- MDOT MVA established an email and phone line to assist Commercial Drivers License (CDL) drivers and essential employees with emergency services and opened several branches for emergency CDL tests, as well as added the ability for CDL holders to perform driver license renewal, obtain a corrected license, or a duplicate license online.

### GOAL: MAINTAIN A HIGH STANDARD AND MODERNIZE MARYLAND'S MULTIMODAL TRANSPORTATION SYSTEM

- MDOT SHA took advantage of the 50% drop in traffic volumes due to COVID-19 to extend work hours to complete construction projects, while ensuring MDOT employees were safe, appropriately physically distanced, and using personal protective equipment.
- MDOT reported to the Federal Highway Administration (FHWA) that Maryland has only 36 poorly rated bridges, the lowest level since tracking began and has one of the lowest percentages of poorly rated bridges of any state transportation agency in the nation.
- Despite deferring projects due to COVID-19-related funding reductions, MDTA has preserved the Bay Crossing Tier I NEPA Study, ongoing and future Bay Bridge work, DriveEzMD, and the *Bay Bridge Summer Travel* campaigns.
- MDOT MPA initiated the permitting and design for a second 50-foot deep berth at Seagirt Marine Terminal due to increasing containerized cargo growth.
- MDOT MTA launched real-time tracking for the MARC Train service via the Transit app.





- MDOT invested \$3.9 million in FY 2020 to design and construct new sidewalks and invested \$7.4 million in FY 2020 to design and construct sidewalk improvements addressing Americans with Disabilities Act (ADA) accessibility.
- In 2019, MDOT MAA began operations at the new 200,000-square-foot Midfield Cargo Building H, which is primarily operated by Amazon and has brought in the range of 2,000 new jobs to the region at BWI Marshall Airport.

## GOAL: IMPROVE THE QUALITY AND EFFICIENCY OF THE TRANSPORTATION SYSTEM TO ENHANCE THE CUSTOMER EXPERIENCE

- MDOT SHA completed a new MD 180 bridge over US 15 and US 340, reopened the MD 355 bridge over CSX in the Monocacy National Battlefield, and opened a new I-270 bridge over MD 85.
- MDOT SHA's Coordinated Highways Action Response Team (CHART) handled 129,282 events, including incident responses, assistance with disabled vehicles, and traffic management operations for special and weather-related events and coordinated 56 Strategic Highway Research Program (SHRP2) Traffic Incident Management (TIM) Responder training sessions statewide.
- Construction was completed in the Fall of 2020, on the five-gate expansion of Concourse A at BWI Marshall Airport, adding five new gates, restrooms, and concessions.
- MDTA implemented permanent all-electronic (cashless) tolling (AET) statewide in August 2020, in advance of the initial projected date, and completed the westbound Bay Bridge re-decking project including installation of a new tolling gantry in advance of the summer 2020 goal.
- MDOT MVA launched Phase One of Customer Connect in July of 2020, enhancing the customer experience for vehicle, motor carrier, and business licensing transactions; Phase Two addresses driver services transactions, with implementation currently scheduled for December 2021.
- In 2020, MDOT MVA expanded ASD services for customers. Part of these enhancements include a new tool called First Stop that helps customers navigate the many services MDOT MVA offers online by entering their license or vehicle information and then being directed to the services they are eligible to complete.

## GOAL: ENSURE ENVIRONMENTAL PROTECTION AND SENSITIVITY

- MDOT MAA received the 2019 Maryland Quality Initiative (MDQI) Module Award for replacing the aging Airport Noise & Operations Monitoring System (ANOMS) for BWI Marshall Airport and for launching WebTrak, a public facing interactive website providing near real-time aircraft flight and noise data.
- MDOT MVA continues to manage and closely monitor its carbon footprint by mitigating vehicle emissions and reducing facility energy consumption, all while conducting energy audits at branches throughout the State of Maryland.
- MDOT's Zero Emission Electric Vehicle Infrastructure Council (ZEEVIC) continues to promote purchase of electric vehicles (EVs) and installation of electric vehicle supply equipment (EVSE); as a part of ZEEVIC's efforts, MDOT worked with the U.S. Department of Transportation (U.S. DOT) to designate a total of 21 EV charging corridors.
- Waste diversion efforts at MDTA focus on recycling, including a program announced by Governor Hogan in 2019 to encourage E-ZPass® holders to trade-in (or swap) their existing transponders for new units.

- MDOT was recognized as a 2020 Electronic Product Environmental Assessment Tool (EPEAT) Purchaser Award winner, an award that celebrates leaders in sustainable electronics procurement.

## GOAL: PROMOTE FISCAL RESPONSIBILITY

- Despite challenges with COVID-19, the number of nonstop markets served from BWI Marshall Airport increased in FY 2020 as airlines added routes to Greenville/Spartanburg, New York-LaGuardia, and Providenciales in the Turks and Caicos. The cost per enplaned passenger (CPE) at BWI Marshall Airport continues to be the lowest in the mid-Atlantic region and below the mean of comparable airports.
- CHART began deployment of a pilot consisting of 52 mobile road weather information sensors (MARWIS) on MDOT SHA's vehicle fleet, saving road users money and congestion costs.
- Frederick Municipal Airport received 100% FY 2021 federal grant assistance of \$3.6 million for a runway extension and a major reconstruction of Taxiway T at BWI Marshall Airport will be fully funded by the federal government with more than \$11.0 million in Coronavirus Aid, Relief, and Economic Security (CARES) Act funds.
- MDOT MPA will receive \$10.0 million in U.S. DOT Better Utilizing Investments to Leverage Development (BUILD) grant funds to help protect the MDOT MPA's Dundalk Marine Terminal against severe weather, sea level rise, and other climate change impacts.
- MDOT's transportation needs are thoroughly assessed to determine the best delivery method; MDOT SHA used alternative project delivery methods to complete the \$124.2 million I-270 at Watkins Mill interchange project six months early with A+B bidding and the \$73.0 million final phase of the US 113 widening Worcester County was completed using Design-Build (DB) delivery.

## GOAL: PROVIDE BETTER TRANSPORTATION CHOICES AND CONNECTIONS

- MDOT announced \$3.78 million in FY 2021 grants to support bicycle safety and access improvements for 19 projects across the State, including a \$400,000 grant for the City of Frederick's H&F Trail design and a \$162,000 grant to construct Phase IV of the Wayne Gilchrest Rail Trail in Chestertown.
- MDOT introduced Maryland's first ever *WALKTOBER*, a month where the MDOT and other partnering agencies promoted and hosted events and free webinars called "*WALKINARS*" spotlighting Maryland pedestrians' Safety, Health and Commuting options, expanding the agenda to reflect broader planning, safety, and advocacy concerns identified as part of Maryland's Bicycle and Pedestrian Master Plan.
- MDOT MTA is currently developing a Statewide Transit Plan, which will provide a 50-year vision of coordinated local, regional, and intercity transit across the State and will define public transportation goals and strategies for Maryland's rural, suburban, and urban regions with a vision toward an increasingly coordinated, equitable, and innovative mobility.
- Over the past year, MDOT has promoted the well-being of all Marylanders through "Context Driven: Access and Mobility for All Users" guidance to better align our road network to evolving land uses and to help ensure that our investments support the safety and efficiency needs of all roadway users.
- Commuter Choice Maryland expanded and enhanced the delivery of the Maryland Commuter Tax Credit through the Maryland OneStop Online Portal and updated marketing materials for the Maryland Commuter Tax Credit to help communicate the benefits and how to claim the tax credit; Maryland commute trips made by driving alone fell nearly 9% between 2007 and 2019 and use of transit and telework continued to increase.

# INTRODUCTION • Guiding Maryland's Transportation System

## CONNECTING YOU TO LIFE'S OPPORTUNITIES

Planning, investing in, and evaluating the Maryland transportation system helps MDOT provide balanced, reliable, safe, and well-managed transportation options to connect customers to key destinations and facilitate continued economic growth. Maryland's strategic approach is presented through the State Report on Transportation (SRT) which is made up of three documents:

- The Maryland Transportation Plan (MTP) sets a vision for the transportation system;
- The Consolidated Transportation Program (CTP) is an annually produced six-year budget for Maryland transportation projects; and
- The Attainment Report on Transportation System Performance (AR), evaluates and reports on the performance of Maryland's transportation system, with a focus on the goals adopted in the MTP.

MDOT also evaluates its performance quarterly and reports its performance semi-annually through the MDOT Excellerator performance management system to ensure the Department is delivering on commitments to customers and to adapt as needed throughout the year to improve decision-making and performance. This strategic approach to providing transportation service also allows MDOT to respond quickly when unforeseen circumstances, such as the COVID-19 global pandemic in 2020, warrant changes to funding, projects, services, and programs. COVID-19 has had a significant impact on Transportation Trust Fund (TTF) revenues and some data points reported in this AR.

For more information in the FY 2021-FY 2026 CTP, please visit: [www.CTP.maryland.gov](http://www.CTP.maryland.gov)

Progress towards achieving MDOT's goals and objectives is assessed through the use of performance measures and data, which correspond to each of the seven goals of the MTP. The AR also provides an overview of the Maryland transportation system, system investment, mobility, safety, and accessibility. Both the AR performance measures and the MTP were recently updated in 2019. The MTP reflects MDOT's 20-year horizon vision, mission, and goals. The AR performance measures are updated every five years with an AR Advisory Committee as part of the MTP update. When performance measure data has been affected by COVID-19, it will be referenced with a footnote or in the text. Despite the challenges of the global pandemic, MDOT remains committed to progressing towards transportation goals and objectives and serving MDOT customers.

## MTP GOALS AND OBJECTIVES



### Ensure a **safe, secure, and resilient** transportation system

- Reduce the number of lives lost and injuries sustained on Maryland's transportation system
- Provide for the secure movement of people, goods, and data
- Provide a resilient multimodal system by anticipating and planning for changing conditions and hazards whether natural or man-made
- Improve roadway clearance times and facilitate efficient and coordinated responses to emergency and disaster events throughout the transportation system



### Facilitate **economic opportunity and reduce congestion** in Maryland through strategic system expansion

- Pursue capital improvements to the transportation system that will improve access to jobs and tourism and leverage economic growth opportunities
- Improve the movement of goods within and through Maryland by investing in intermodal connections and improvements to reduce freight bottlenecks
- Strategically invest in expansion and operational improvements to reduce congestion along the multimodal transportation system



### Maintain a **high standard and modernize** Maryland's Multimodal Transportation System

- Preserve and maintain State-owned or funded roadways, bridges, public transit, rail, bicycle and pedestrian facilities, ports, airports, and other facilities in a state of good repair
- Strategically modernize infrastructure through new and innovative technologies, enhanced partnerships, design standards, and practices to facilitate the movement of people and goods



### Improve the **quality and efficiency** of the transportation system to enhance the customer experience

- Increase the efficiency of transportation services through partnerships, advanced technologies, and operational enhancements to improve service delivery methods
- Enhance customer satisfaction with transportation services across all modes of transportation
- Minimize travel delays and improve predictability of travel times on Maryland's transportation system
- Apply enhanced technologies to improve communications with the transportation system users and to relay real-time travel information



### Ensure **environmental protection and sensitivity**

- Protect and enhance the natural, historic, and cultural environment through avoidance, minimization, and mitigation of adverse impacts related to transportation infrastructure, including support for broader efforts to improve the health of the Chesapeake Bay
- Employ resource protection and conservation practices in project development, construction, operations, and maintenance of transportation assets
- Implement initiatives to reduce fossil fuel consumption, mitigate Greenhouse Gas (GHG), and improve air quality



### Promote **fiscal responsibility**

- Accelerate project completion through improved and efficient use of alternative project delivery methods and strategic partnerships
- Provide transportation services and solutions that maximize value
- Ensure a consistent revenue stream and ample financing opportunities



### Provide better transportation **choices and connections**

- Enhance, through statewide, regional, and local coordination, transportation networks to improve mobility and accessibility
- Increase and enhance multimodal connections to improve movement of people and goods within and between activity centers
- Inform and educate customers on transportation options and benefits



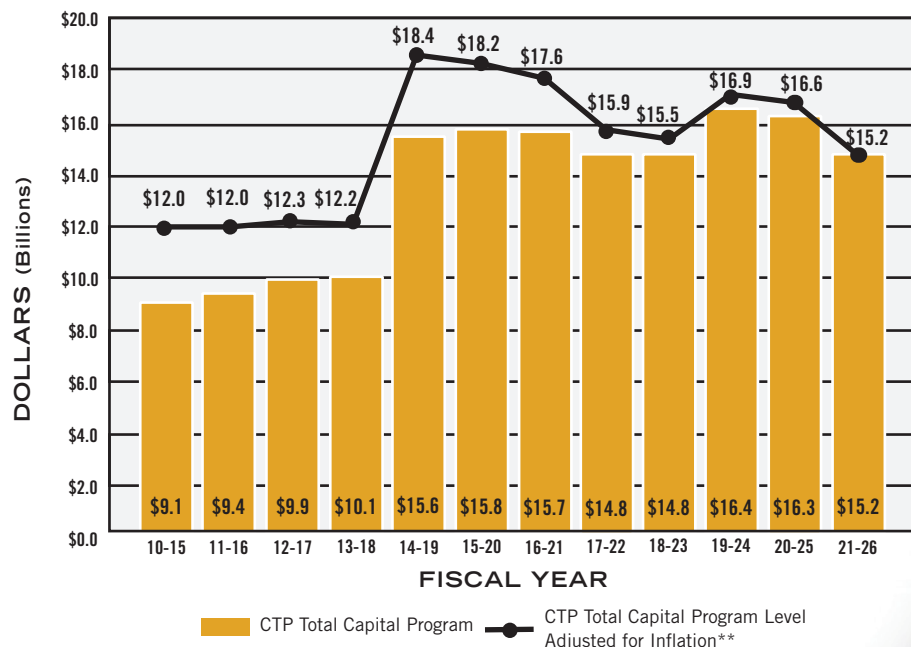
## MARYLAND'S INVESTMENT IN TRANSPORTATION

In 2020, due to the COVID-19 global pandemic, use of the MDOT transportation system and the TTF revenues dropped dramatically. While transportation started to return in the Fall there are still many unknowns about the effect COVID-19 will have on our TTF revenues. The current budget reflects the difficult decisions required in every Transportation Business Unit (TBU) across the entire state. Our vision for transportation has not changed but the parameters have transformed and the dollar amounts are smaller. MDOT continues to pursue several key focus areas while delivering big infrastructure projects that solve congestion challenges statewide in a way that incorporates technology, flexibility, and future growth; prioritizing state of good repair and system preservation efforts to build intelligence across our assets; providing safe and accessible mobility choices for all users, including pedestrians and bicyclists, that considers the interplay of land use and transportation; and establishing a sustainable, customer-focused, transportation vision that incorporates roadway, transit, freight, air, and port infrastructure.

In the FY 2021-FY 2026 CTP, Maryland will invest approximately \$15.2 billion on transportation projects across the State to keep Maryland on the road to recovery from the COVID-19 crisis. This effort will include maintaining existing transportation assets, finishing projects already in construction, and planning and designing future projects. Key projects such as modernizing the tolling system to all-electronic (cashless) tolling (AET) statewide, finishing the Purple Line transitway, and expanding capacity through the Howard Street Tunnel will continue to progress.

In the FY 2021-FY 2026 CTP, MDOT also allocates \$1,180.1 million in system preservation projects for FY 2021. In FY 2021 \$745.5 million will go towards completing MDOT SHA safety, congestion relief, highway, and bridge projects, a significant decrease compared with FY 2020's \$974.4 million program for these projects.

### MDOT TOTAL CAPITAL PROGRAM LEVELS (BILLIONS)\*



\* Index numbers have changed to reflect use of the Construction Cost Index.

\*\* The inflation adjusted amounts are calculated using the Construction Cost Index, which measures the average change in construction costs.



## TRANSPORTATION MOBILITY AND ACCESSIBILITY

In the face of a growing population, changing demographics, and a warming climate, Maryland must continue to adapt its transportation networks and policies. According to the U.S. Census, Maryland's population grew by 4.7% between 2010 and 2019, with a current population of over six million people. By 2045, Maryland's population is expected to reach nearly seven million – an increase of over 15%. The increase in population is likely to increase Vehicle Miles Traveled (VMT), though the share of commute trips made by driving alone fell nearly 9 percentage points between 2007 and 2019 while use of transit and telework continued to increase (pre-COVID-19). Several new modes, such as ride-hail, scooters, and bikeshare, also joined traditional modes for commute travel.

While this population increase is expected to create additional demand for the State's transportation systems, VMT in Maryland dropped dramatically in 2020 due to the COVID-19 pandemic. As of August 2020, VMT is expected to drop roughly 17% this year compared to 2019, with an estimated 50.0 billion VMT statewide. While MDOT anticipates that VMT will rebound back to 2019 levels in the next five years, there remains great uncertainty surrounding the exact timeline and speed of the recovery. Planning for growth amidst this uncertainty presents challenges, but MDOT remains committed to maintaining a resilient and adaptive transportation network to suit the needs of its population. In order to make these choices, MDOT will consider mobility and accessibility within the transportation network. Mobility is defined by the ease of traveling along the transportation network, while accessibility describes the ease of reaching desired destinations or activities.

As part of its mission to ensure a safe and accessible transportation network, MDOT engages in constant efforts to keep its bridges and roads in good repair. Currently, only 2% of Maryland's bridges are in poor condition according to MDOT SHA, and 88.7% of the State Highway network is rated in fair/good position, well above the 78.6% national average.

Maryland also remains committed to increasing the efficiency of its toll roads, while passing on savings to its toll customers. In November 2019, the MDTA Board approved a statewide toll modernization plan as well as a package of new payment options, which included Pay-by-Plate, an early payment discount, and new and expanded vehicle classifications that will reduce toll rates by 17% to 50%. In August 2020, Governor Hogan announced permanent statewide AET. AET's benefits include less idling time for better fuel efficiency and reduced emissions, decreased congestion, increased driver safety, and a safer work environment for employees. Finally, the Maryland Traffic Relief Plan (TRP) aims to reduce congestion through a number of key projects, such as the I-95 Express Toll Lanes<sup>SM</sup> (ETL) Northbound Extension program in the Baltimore region and the ongoing I-495 and I-270 Managed Lanes Study in the National Capital Region.

MDOT has also undergone efforts to increase the efficiency and accessibility of its transit system. The BaltimoreLink, which has revamped the bus networks and routes in Baltimore since 2017, continues to improve bus on time performance (OTP) in conjunction with the speed improvements from the Transit Signal Priority (TSP) program. Additionally, in partnership with the Transit app, MDOT has provided riders real-time tracking of buses and MARC trains, improving the user experience of these transit services.

Finally, Maryland has remained on the cutting edge of new technologies that seek to modernize its road network capabilities. Currently, MDOT leads both the Maryland Connected and Automated Vehicle (CAV) Working Group as well as Maryland's Zero Emission Electric Vehicle Infrastructure Council (ZEEVIC). MDOT has demonstrated leadership in its provision of electric vehicle (EV) charging infrastructure. With EV ownership growing almost 300% between 2016 and 2020 in Maryland, MDOT has shown its commitment to the future of EVs by successfully attaining alternative fuel corridor (AFC) designations for 21 interstates, U.S., and State routes across Maryland.

## FUTURE TOLL PROCESS





## BALANCING THE MULTIMODAL APPROACH AND PROVIDING TRANSPORTATION OPTIONS

MDOT continues to advance a variety of projects and programs that support multimodal, active, and alternative transportation and provide alternatives to single-occupancy vehicle travel such as transit, biking, walking, ridesharing, and teleworking. These alternative modes of transportation not only help reduce congestion on roadways and emissions from automobiles, but also help support the safety, health, and well-being of all Marylanders. MDOT continues to work with a broad range of partners, to ensure there are multimodal options that are safe and accessible for users of all ages and abilities.

In 2020, MDOT pushed forward with construction of the Purple Line, a 16-mile light rail corridor which will connect Prince George's and Montgomery Counties inside the Capital Beltway, with 21 stations. MDOT MTA has also been heavily investing in fleet modernization to support safety, comfort, and reliability. These investments include \$400.0 million for replacement of Metro railcars and signal system, \$160.0 million for a 53-vehicle light rail fleet vehicle overhaul to be completed in 2022, as well as \$207.0 million to rehabilitate and renew Metro tunnel, track, systems, and stations. MDOT MTA has also made investments to reduce the environmental impact of its transit operations by purchasing 140 clean diesel buses, and receiving a federal Low or No Emission grant. This discretionary grant will fund three articulated low or no emission buses, charging equipment, and inform the larger bus fleet transition.

MDOT continued its commitments to bicyclists and pedestrians by announcing \$3.78 million in grants in FY 2021 to support safety and access. The State is also debuting new technologies such as High-Intensity Activated Crosswalk (HAWK) beacon to help facilitate safe pedestrian crossings. This technology is currently being installed in locations in Annapolis, as well as Montgomery County.

In order to promote alternative travel choices, from transit to ridesharing to teleworking, MDOT has invested in Transportation Demand Management (TDM) strategies, as directed by the Commuter Choice Maryland program. The program encourages commuters to consider a variety of alternative travel modes or choices to help relieve congestion and reduce their environmental impact. Businesses who offer commuter benefits can take advantage of certain commuter tax credits such as the Maryland Commuter Tax Credit. As a result of the COVID-19 pandemic, teleworking and alternative travel options and work schedules may have lasting long-term effects that will be important to monitor.

### Biking and Walking in Maryland

MDOT is taking major steps forward to implement measures identified in the 2019 Update of the 2040 Maryland Bicycle and Pedestrian Master Plan. MDOT continues to focus attention on pedestrian safety and partnerships and programs that enhance these efforts throughout the State. Through partnering with other state and local agencies, and working with advocates, MDOT looks forward to building from such efforts as the Maryland Department of Health (MDH) *Walk Maryland Day*, which celebrated Maryland's official State exercise along with core agency partners from the Departments of Health, Education, and Aging. MDOT introduced a new *WALKTOBER* website (<https://bit.ly/WalktoberMD>) with pedestrian resource information and videos of *WALKINARS* (90-minute webinars with pedestrian expert presenters from across the country) for post viewing. Through such partnerships, and by coordinating with the Maryland Bicycle and Pedestrian Advisory

Committee, MDOT looks forward to helping refocus needed attention and intervention around pedestrian safety, while also emphasizing the health, economic, and social benefits of walking and walkability across the State.

MDOT's commitment to pedestrian and bicycle safety will become more evident as MDOT implements Context Driven Guidance and implements a new Strategic Highway Safety Plan (SHSP), utilizing the fundamentals of *Vision Zero*. As a part of the updated SHSP there will continue to be a focus on pedestrian and bicycle safety. With the emphasis in the *Vision Zero* component of the updated SHSP on pedestrian and bicycle safety, MDOT MVA's Maryland Highway Safety Office (MHSO) will also be a key player to develop and deliver on the kinds of information and intervention needed to make both walking and cycling a safer option across Maryland.

In recent years, the Hogan Administration has also shown a renewed commitment to supporting bicycle activity across the State, including with a December 2019 announcement of a major expansion of Maryland's Bikeways Program. Previously funded at a level of roughly \$2.0 million a year, it was declared that \$3.8 million would be available in each of the next two fiscal years. This funding commitment was made in honor of the late Kim Lamphier, an important Maryland cycling advocate who died of cancer earlier that year. Maryland subsequently (in 2020) passed a statute mandating a name change to the discretionary grant program, which is now to be known as the MDOT Kim Lamphier Bikeways Network Program. With expanded program funding levels, MDOT was able to support an impressive range of new projects in FY 2021.



## ECONOMIC DRIVERS IN MARYLAND

### Air Travel in Maryland

Maryland has 36 public-use airports, the largest being BWI Marshall Airport. In 2019, nearly 27 million passengers used BWI Marshall Airport, a decrease of 0.6% from 2018. Total cargo increased a total of 13.7% from CY 2018 to CY 2019, with a record in December 2019 for total cargo transported of 26.7% (this data demonstrates pre-COVID-19 conditions). With more than 9,700 badged employees at the airport, and thousands more related to the facility's operations, air travel is a crucial economic driver in the State.

While the full effects of the pandemic remain to be seen, early data demonstrates some of the immediate impacts. Business and leisure travel were severely reduced by travel restrictions and public health concerns, while the stay-at-home order spurred an unprecedented demand for e-commerce. At the start of the pandemic, MDOT MAA noted that passenger volume was down 93%. According to a June 2020 report, the number of commercial passengers was down 70% compared to the same period in 2019, showing that leisure travel, a competitive strength of BWI Marshall Airport, is rebounding faster than international or business travel. February 2020 data shows an 7.8% increase in passengers and 17.4% increase in freight (by pounds) from the same period (February 2019) last year. Well into the pandemic, in June and July 2020, passenger traffic at BWI Marshall Airport exceeded that of Washington Dulles International and Reagan National Airports combined. Air cargo is up 36.2% in comparing June 2020 to June 2019, while neighboring airports Washington Dulles International and Reagan National are seeing declines of 47% and 50%, respectively.

MDOT MAA has implemented new safety measures and sanitization protocols at both BWI Marshall Airport and Martin State Airport. Increased touch-point cleaning and social distancing efforts extend from the parking shuttles and garages, through the terminals to the aircraft boarding gates, and within all MDOT MAA staff and support buildings.

Maryland airports received significant grant awards from the U.S. Department of Transportation (U.S. DOT) and Federal Aviation Administration (FAA) through the FAA's Airport Improvement Program (AIP). MDOT MAA was awarded \$17.2 million for multiple projects at BWI Marshall Airport and the AIP provided another \$29.8 million to other public-use airports throughout Maryland. In response to the pandemic, Congress enacted the Coronavirus Aid, Relief, and Economic Security (CARES) Act which allocated \$107.7 million in additional funding to Maryland airports, of which 82% went to BWI Marshall and Martin State Airports (\$87.8 million).

A few project highlights include the Midfield Air Cargo Expansion and the 5-gate extension of Concourse A at BWI Marshall Airport. In October 2019, the new 200,000-square-foot Cargo Building H was completed. Primarily developed by longtime BWI tenant Aviation Facilities Co. (AFCO), MDOT MAA oversaw the program and performed capital construction projects, including rehab to existing taxi lanes and the extension of connecting taxiways. This facility is primarily operated by Amazon and has resulted in about 2,000 new jobs to the region. The five-gate expansion of Concourse A, completed in 2020, is a critical enabler to a major taxiway rehabilitation project and adds five new gates, restrooms, and concessions. These initiatives continue to provide opportunities to better connect Maryland with the global economy and support growth in tourism and freight in the State.





## Port of Baltimore

In 2019, the Port of Baltimore handled a record 43.6 million tons of cargo, including more than 11 million tons of general cargo at the public marine terminals. The Port ranks 11th among major U.S. ports for tons of cargo handled and 9th nationally for total cargo value. The Port generates 15,000 direct jobs, with more than 140,000 overall jobs linked to Port activities.

The Port experienced unprecedented impacts due to COVID-19 in the second quarter of 2020. While total volumes are down compared to last year due to COVID-19, cargo counts have grown steadily in 2020, with autos and light trucks up 55%, general cargo up 15%, and containers up nearly 12%. New demand for e-commerce is contributing to increasing volumes at the Port. In mid-March 2020, cruises were halted nationally due to the pandemic; and cruises are not anticipated to restart until 2021. In 2019, cruises departing from the Maryland Cruise Terminal carried 224,000 passengers, up from 218,849 in 2018. Once cruises resume, both Carnival Cruise Line and Royal Caribbean have plans to reopen at the Port of Baltimore as part of a strategy to lure cruisers back, particularly to ports like Baltimore that are easily accessible by car.

Investments at the Port continue, with a focus on efficiency, safety, and fiscal responsibility. The value of these investments was on display in 2020 when the Port and its longshore workers set a record for the

largest number of container moves from a single ship in the Port's 314-year history, moving 5,536 containers from the Maersk Edinburgh, a vessel with a total capacity of 13,092 twenty-foot equivalent units (TEUs). Planning and design for a second 50-foot-deep berth at Seagirt Marine Terminal has begun; that is expected to be operational in the second half of 2021 in anticipation of continued growth at the Port. MDOT MPA was awarded a \$6.6 million grant to support this modernization of Seagirt, as well as a \$10.0 million Better Utilizing Investments to Leverage Development (BUILD) grant for climate resiliency at Dundalk Marine Terminal.

Despite the challenges of 2020, MDOT MPA has already secured funding for the Howard Street Tunnel Project through a variety of federal, state, and private sources. When complete, the enhanced 125-year-old tunnel will be able to handle double-stacked shipping containers to and from the Port. In addition, the MDOT MPA was awarded a \$1.16 million Federal Emergency Management Agency's (FEMA) port security grant in 2020 for cybersecurity enhancements and closed-circuit television (CCTV) capabilities.







# GOAL: *Ensure a Safe, Secure, and Resilient Transportation System*

## OBJECTIVES:

- Reduce the number of lives lost and injuries sustained on Maryland's transportation system
- Provide for the secure movement of people, goods, and data
- Provide a resilient multimodal system by anticipating and planning for changing conditions and hazards whether natural or man-made
- Improve roadway clearance times and facilitate efficient and coordinated responses to emergency and disaster events throughout the transportation system

Maryland remains committed to *Zero Fatalities* on the State's transportation system whether traveling by road, air, or waterway. MDOT customers want to make sure they, their family, and their friends all arrive safely at their destinations.

MDOT's goal is to maintain our safety efforts, while continuing to educate road users about their responsibility to be safe when they drive, walk, or ride. Throughout the pandemic, MDOT continued to promote safety for all transportation users and MDOT employees. That responsibility is even more critical as our customer-facing programs now require extra caution and aggressive cleaning and disinfecting procedures along with preventive measures, including masks and social distancing.

MDOT supports safety and security in how our transportation system is designed, constructed, operated, and maintained. MDOT promotes a culture of safety in our business practices and through the MDOT MVA Highway Safety Office (MHSO), educating the public on proper safety behavior and practices. MDOT also works closely with federal, state, and local law enforcement to implement programs and projects that reduce risk to road users and invest in those that bring the greatest benefit.

Many safety efforts in the State are addressed through the MDOT MVA's Strategic Highway Safety Plan (SHSP). The SHSP is a statewide, comprehensive safety plan that provides a coordinated framework for reducing deaths and severe injuries on all public roads. Through extensive outreach and involvement of federal, state, local, and private sector safety stakeholders, the plan establishes statewide goals and critical emphasis areas. As an outgrowth of this initiative, many local communities have developed, or are in the process of developing, local road safety plans using the SHSP as a guide.

Recently, the MDOT MVA announced a new safety campaign with a direct message for drivers – do not just talk about saving lives, *Be the Driver* who does it. The *Be the Driver* highway safety campaign focuses on common situations that drivers, riders, and pedestrians face, as well as their individual responsibility in eliminating deaths and serious injuries on Maryland's roads. The campaign focuses on common contributing factors of fatal crashes, including occupant protection, aggressive driving, impaired driving, distracted driving, motorcycle safety, and pedestrian and bicycle safety. Each highway safety area is broken down into a sub-theme, providing more concise actions that drivers, riders, and pedestrians can take to protect themselves and others on the road. By following the rules of the road and engaging in safe driving behavior, drivers will keep themselves, passengers in their car, and others on the road safe.

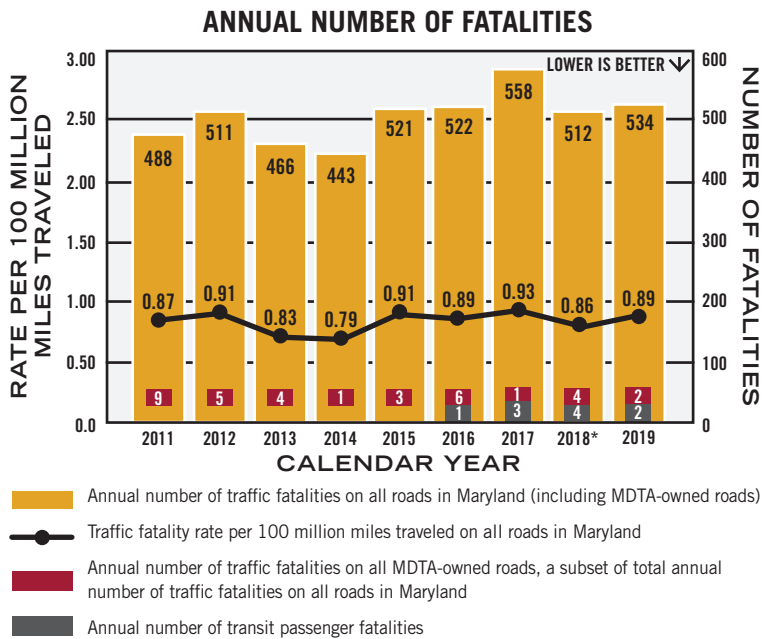
MDOT also promotes safety through a variety of infrastructure projects implemented by MDOT SHA, including traffic signal and signage maintenance and improvements, new innovative intersection designs, and work zone safety and mobility. MDOT utilizes a Context Driven - Access and Mobility for all Users design guide when implementing projects to create a safe, accessible, and effective multimodal transportation system.



## OBJECTIVE:

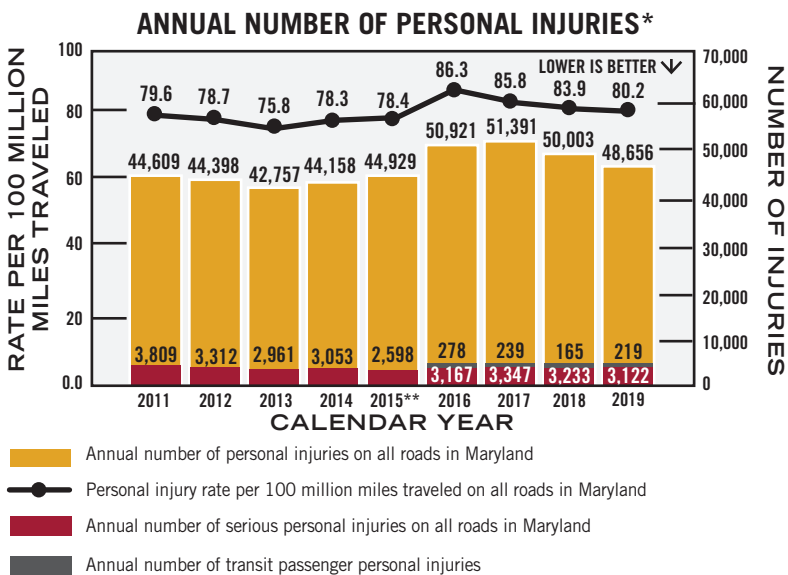
Reduce the number of lives lost and injuries sustained on Maryland's transportation system

### ANNUAL NUMBER OF TRAFFIC FATALITIES AND INJURIES ON ALL ROADS IN MARYLAND AND ON TRANSIT FACILITIES



**Target:** ≤ 0.69 traffic fatality rate on all roads in Maryland by 12/31/2022, ≤ 394.4 fatalities on all state-owned roads per year by 12/31/2022

\* 2018 data has been revised from previous report.



**Target:** ≤ 4.487 serious personal injury rate on all roads in Maryland by 12/31/2022, ≤ 5.073 serious injury rate of transit passengers on all facilities in Maryland by 2022

\* 2015-2018 serious personal injuries and personal injury rate has been revised from previous 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.

Every person, regardless of their age, ability, or mode of transport, should expect a transportation system that gets them where they want to go efficiently and, most importantly, safely. Maryland's long-term goal is zero deaths. To help reach that goal, the State measures trends in traffic injuries and fatalities for bicyclists, pedestrians, and transit passengers to determine the best investment strategies.

#### Why Did Performance Change?

- MDOT SHA continued the *Look Up, Look Out* campaign, which urges teen drivers not to text and drive; the campaign won a national award of excellence from the American Association of State Highway Transportation Officials (AASHTO) for their *Look Up, Look Out* video
- MDOT MTA maintained the policies and practices, which make MDOT MTA one of the safest transit systems among the top 12 U.S. transit agencies
- MDOT implemented the *Be the Driver* highway safety campaign to reduce deaths and serious injuries on Maryland's roads
- MDOT MVA supported high visibility enforcement efforts including *Checkpoint Strikeforce*, *Bay to Beach*, and *Click It or Ticket*
- MDOT MVA supported alternatives to impaired driving including the *Be Legendary* campaign, which advocates for alternatives to driving impaired, and the Washington, D.C. metropolitan area *Sober Ride* program
- MDOT maintained a focus on aggressive driving through the MDOT MVA *Aggressive Drivers Are Public Threats (ADAPT)* campaign, and on distracted driving through the *Park the Phone, Before You Drive* initiative

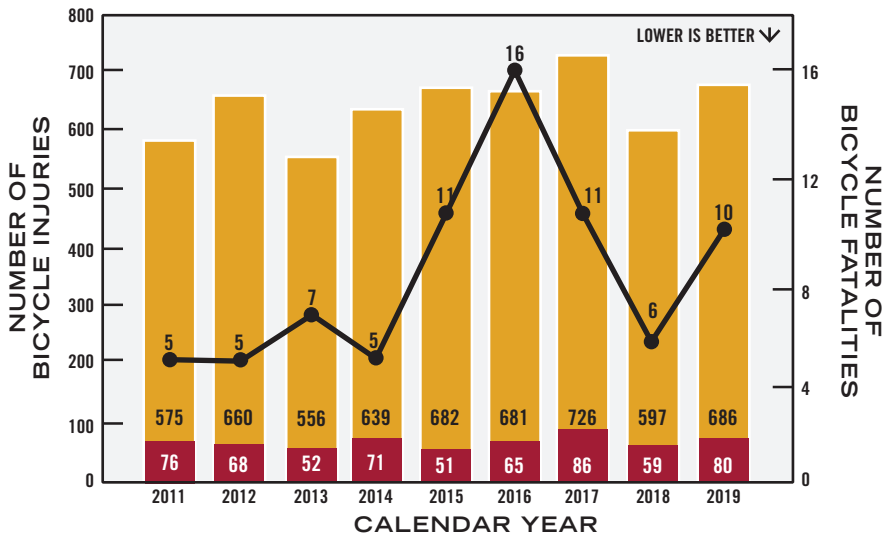
#### What Are Future Performance Strategies?

- MDOT to begin implementing the updated 2021-2025 SHSP, which will include proven behavioral and infrastructure programs and projects designed to eliminate traffic related fatalities and serious injuries and to reach zero vehicle-related deaths and serious injuries by 2030
- MDOT will continue supporting and working with local jurisdictions when developing local SHSPs that address the traffic safety needs and concerns of their individual areas and communities
- MDOT MTA continues to improve safety for both customers and employees through a Safety Management System (SMS) designed to reduce the risk of injury and property damage by proactively identifying and removing potential hazards in the transportation system
- During COVID-19 the total number of crashes and incidents on Maryland roadways were down but reduced traffic volumes and free flow conditions have resulted in increased crash severity

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



## NUMBER OF BICYCLE FATALITIES AND INJURIES\*

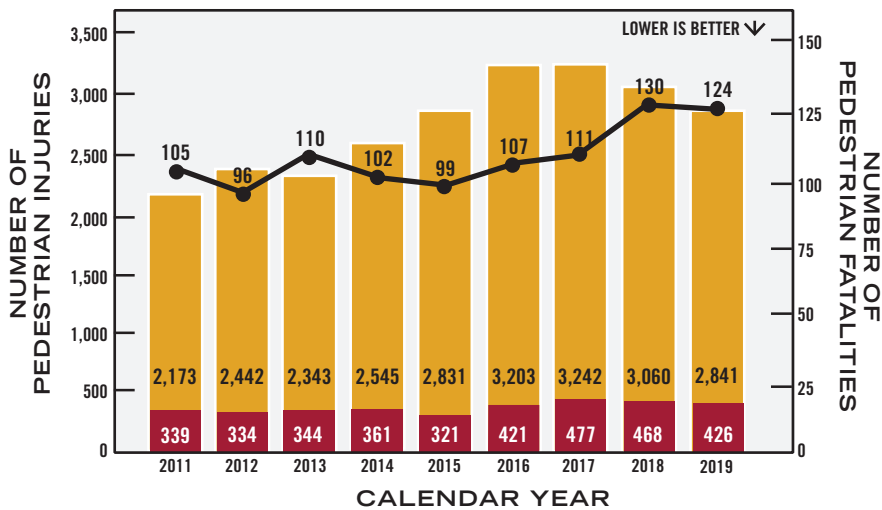


- Number of bicycle injuries on all roads in Maryland
- Number of bicycle fatalities on all roads in Maryland
- Number of serious bicycle injuries on all roads in Maryland

Target: ≤ 6 bicycle fatalities per year (based on a rolling five-year average) by 12/31/2022, ≤ 52.3 serious bicycle injuries per year by 12/31/2022 (2020-2024 mid-year average target)

\* 2015-2017 data has been revised from previous report.

## NUMBER OF PEDESTRIAN FATALITIES AND INJURIES\*



- Number of pedestrian injuries on all roads in Maryland
- Number of pedestrian fatalities on all roads in Maryland
- Number of pedestrian serious injuries on all roads in Maryland

Target: ≤ 84 pedestrian fatalities per year by 12/31/2022 (2020-2024 mid-year average target), ≤ 305.7 pedestrian serious injuries per year by 12/31/2022 (2020-2024 mid-year average target)

\* 2015-2018 data has been revised from previous report.

## Why Did Performance Change?

- MDOT SHA activated two High-Intensity Activated Crosswalk (HAWK) beacons; they flash yellow and then red lights indicating a pedestrian is in the crosswalk, a proven countermeasure that reduces pedestrian/vehicle crashes
- MDOT SHA is implementing the *Be Street Wise – Drive Safe. Walk Safe. Bike Safe.* campaign that targets all road users – drivers, walkers, and riders – and reminds them to follow the rules of the road and all traffic laws
- MDOT SHA continues to use a context-driven approach in the planning and engineering of roadways to make sure there is adequate access and mobility for all users, utilizing the Context Driven – Access and Mobility For All Users guide
- The MDOT MVA and the Baltimore Metropolitan Council (BMC) are implementing the *Look Alive* campaign, which brings together multiple agencies, communities, and law enforcement agencies to raise awareness of pedestrian and bicycle safety
- MDOT is targeting bus stop and transit station area improvements to enhance pedestrian and bicycle infrastructure access

## What Are Future Performance Strategies?

- MDOT will implement an updated Complete Streets policy in coordination with MDOT SHA's Context Driven Design guidance
- MDOT SHA is developing a Pedestrian Safety Action Plan that will identify strategies to improve pedestrian safety in the State through a process that includes research, analysis, public input, recommendations, and prioritization
- MDOT SHA is improving methods for identifying maintenance and safety concerns and ensuring appropriate pedestrian and bicycle safety treatments are integrated where appropriate
- MDOT MTA is expanding and improving facilities to accommodate bicycles on transit vehicles, including locally operated transit services, buses, Metro, Light Rail, and commuter rail (MARC) and evaluating the potential for secure bicycle parking at select MARC, Metro SubwayLink, and Light RailLink stations
- MDOT continues to support Transit-Oriented Development (TOD) and related opportunities that leverage multimodal access and attract businesses that prioritize bicycling and walking access
- MDOT is identifying and targeting pedestrian and bicycle safety issues, populations, and locations of concern through the collection, analysis, and evaluation of data and information





## OBJECTIVE:

*Provide for the secure movement of people, goods, and data*

Providing MDOT customers with a safe and secure means of transport has gotten more complex due to COVID-19. MDOT has focused on both protecting employees who are on the front lines and working behind the scenes by enhancing the cleaning and disinfecting of facilities, providing personal protective equipment, and re-engineering worksites to accommodate social distancing. MDOT has also stepped up cleaning and disinfecting all public facing facilities and high touchpoints throughout the system. MDOT remains committed to keeping people moving, working, and being safe, and keeping goods moving through updated and enhanced health and safety guidelines and practices.

Maryland continues to show its dedication to cybersecurity, privacy, and safeguarding data in the transportation network as technologies continue to change and evolve. The State has continued to demonstrate leadership by making swift progress in REAL ID compliance, with 72% of driver's and card holders obtaining new REAL ID cards. Maryland is advancing Information Technology (IT) through the Center for Internet Security Multistate Information Sharing and Analysis Center (MS-ISAC) and will continue to upgrade security infrastructure, such as closed-circuit television (CCTV), security cameras, and other technology on the multimodal transportation system.



## MDOT-WIDE OVERALL PERCEPTION OF SAFETY: CRIME AND SAFE MOVEMENT

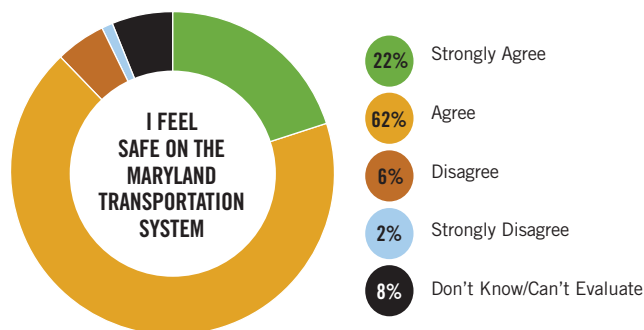
Safety also involves incidents of crime. MDOT agencies report Part I and Part II crimes against persons and property that are committed at MDOT facilities. Part I crimes are more serious, such as murder, aggravated assault, robbery, etc. Part I crimes have decreased from a high of 403 in 2018 to 329 in 2019, an 18% decrease. Less serious Part II crimes, however, increased from 618 incidents in 2018 to 691 in 2019. In order to effectively serve its customers, MDOT administers regular surveys to assess system users' perception of safety when using MDOT provided transportation systems. Users of roadways, bike paths, transit vehicles, and airports must feel safe using the service or, in the case of transit, to utilize transit rather than driving alone in a car when there is an option.

### Why Did Performance Change?

- MDOT MTA cleans and disinfects vehicles, ticket vending machines, and fare gate readers daily
- MDOT MVA modified the non-commercial driving skills test to promote customer and employee safety and opened Vehicle Emissions Inspection Program (VEIP) station locations for COVID-19 testing during the spring and summer
- MDOT MAA initiated new safety and sanitization protocols at BWI Marshall Airport and Martin State Airport from the parking shuttles and garages, through the terminals to the aircraft boarding gates
- To safeguard our highways, MDOT SHA's Coordinated Highways Action Response (CHART) team along with the MDTA's Courtesy Patrols and Vehicle Recovery Units respond to crashes and help stranded motorists; MDOT SHA maintains a twenty four hours a day, seven days a week (24/7) view of highways across the State at the comprehensive, state-of-the art Statewide Operations Center which is connected with the MDTA Emergency Operations Center which allows for a rapid response to incidents
- The MDOT MVA Driver Alcohol Detection System for Safety pilot program automatically analyzes the breath for alcohol and, if the driver is found to be above the legal limit, prevents the vehicle from moving; Maryland is the first state to pilot this system in fleet vehicles. Impaired driving accounts for over 6,500 crashes, 3,100 injuries, and 150 fatalities in Maryland each year
- BWI Marshall Airport, for the fourth year in a row, successfully completed the Federal Aviation Administration's (FAA) annual Airport Safety and Certification Inspection with zero repeat discrepancies highlighting MDOT MAA's focus on safety, security, system preservation, and improving customer amenities

### PERCEPTION OF SAFETY ON THE MARYLAND TRANSPORTATION SYSTEM (2020 DATA) (Including BWI Marshall Airport, Ports, Roads, Transit)

#### MDOT SURVEY QUESTION



### What Are Future Performance Strategies?

- MDOT is committed to ensuring all transportation assets (infrastructure, services, and vehicles) remain in a state of good repair by cataloging and assessing assets
- MDOT SHA will improve or treat State Highway lane miles in an overall acceptable pavement condition so they remain in acceptable or better condition
- MDOT MAA will administer funding to the public-use airports across the State to support infrastructure preservation, safety equipment acquisitions, and environmental compliance activities
- The reconfigured Statewide Operations Center will, when completed in Summer 2021, enhance MDOT's ability to serve its customers with advanced traffic management solutions, Transportation Systems Management and Operations (TSMO) strategies, and provide a safe, efficient, and reliable travel experience on our facilities



## PREVENTABLE INCIDENTS PER 100,000 VEHICLE MILES



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

LOWER IS BETTER ▼

CALENDAR YEAR	2013	2014	2015	2016	2017	2018	2019	2020	TARGET
<b>PREVENTABLE INCIDENTS PER 100,000 VEHICLE MILES</b>									
Local Bus	1.49	1.42	1.43	1.54	1.54	1.44	1.76	1.50	<b>1.50</b>
Light Rail	0.03	0.06	0.14	0.24	0.02	0.03	0.37	0.03	<b>0.25</b>
Baltimore Metro	0.00	0.00	0.00	0.06	0.06	0.02	0.01	0.01	<b>0.06</b>
Paratransit/Taxi Access	1.55	1.10	0.79	1.04	1.04	0.77	1.32	1.10	<b>1.00</b>

### Why Did Performance Change?

- MDOT MTA invests in fleet modernization across all modes to support safe and reliable operations and enhance passenger comfort and convenience
- MDOT trains employees to help them prevent incidents and crashes including bus simulator training and operator recertification programs; MDOT MTA continues to recognize operators and employees who have outstanding safety records
- MDOT ensures all necessary personnel receive emergency preparedness training through the National Incident Management System (NIMS) and the Incident Command System (ICS)

### What Are Future Performance Strategies?

- MDOT will implement the Rail Safety Oversight Program Plan to address Federal Transit Administration (FTA) regulations, which establish a minimum for rail safety and security programs

### OBJECTIVE:

*Provide a resilient multimodal system by anticipating and planning for changing conditions and hazards whether natural or man-made*

Maryland's economy has taken a hit due to the impact of the COVID-19 pandemic. That impact has also affected the State's transportation system, with declines in use of the system, which has further reduced revenue to the Transportation Trust Fund (TTF). When comparing figures from April 2019 to April 2020, traffic volumes at the lowest were down by 51%; truck volumes down by 26%; toll transactions down by 58%; BWI Marshall Airport passenger traffic down by 97%; and transit ridership down by 67%. There have been increases in volumes due to continued fluctuations in the pandemic's impacts. The Hogan Administration's Maryland Strong Roadmap to Recovery is designed to get the economy moving again, which means making sure the transportation system can move ahead quickly, efficiently, and safely.

Maryland's transportation system must respond to all threats whether environmental or man-made and MDOT remains prepared and ready to respond to all situations. Personnel at the State Operations and Emergency Operations Centers track all incidents and dispatch emergency responders to deal with the situation.

Despite the challenges of operating a system during a health crisis, MDOT and its employees have maintained all essential services and managed to prevent incidents and crashes before they happen. Appropriate MDOT personnel continue to be

trained under the NIMS and the ICS, which provide an integrated approach to incident, crisis, and consequence management. According to MDTA, the average response time for messaging on unplanned events or crashes, excluding anomalies, was 3.25 minutes. MDOT has also developed vulnerability assessment data and resiliency plans to address the impacts of climate change and how that will affect the transportation network.





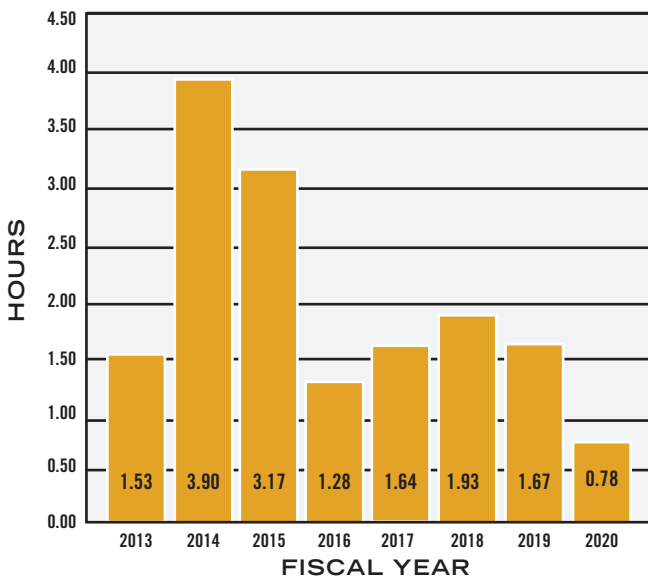
## OBJECTIVE:

Improve roadway clearance times and facilitate efficient and coordinated responses to emergency and disaster events throughout the transportation system

### RESTORING TRANSPORTATION SERVICES: AVERAGE TIME TO RESTORE NORMAL OPERATIONS AFTER A WEATHER EVENT



Regardless of the incident, whether it is caused by a traffic crash or weather, Maryland's transportation system must not only be safe, but also reliable. MDOT's customers rely on being able to get to their destinations as quickly and safely as possible. That is why MDOT tracks the number of hours it takes to restore operations to normal after a weather event. Throughout COVID-19, all MDOT SHA and MDTA operations, including maintenance, construction, and traffic incident monitoring and response, remained active and functioning.



Target: 4 hours or fewer to regain bare pavement

#### Why Did Performance Change?

- During winter events, MDOT SHA and MDTA were able to clear the roads on primary and interstate highways in fewer than four hours, on average, for the past ten winter seasons
- MDOT implemented the Statewide Salt Management Plan to ensure winter storms are handled in a cost effective, environmentally sound, and sustainable manner including reducing road salt usage and replacing it with more environmentally friendly practices
- MDOT SHA tracks salt usage to identify snowplow operators who ensure safe roadways with lower amounts of salt
- Deployed the Automatic Vehicle Location (AVL) system to improve communication with plow trucks and provide better coordination of resources

#### What Are Future Performance Strategies?

- MDOT SHA will continue to test and deploy new materials, equipment, and strategies that improve the effectiveness of the agency's winter operations and improves the reliability of the transportation system
- MDOT SHA will continue the expansion of the Mobile Road Weather Information System (MARWIS) sensors, which provide up-to-date weather and road information that allows managers to make timely and appropriate plowing and salting decisions







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

**INVEST IN AND PURSUE OPPORTUNITIES TO PROMOTE SYSTEM IMPROVEMENTS THAT SUPPORT ECONOMIC DEVELOPMENT, REDUCE CONGESTION, AND IMPROVE THE MOVEMENT OF PEOPLE AND GOODS**

## **OBJECTIVES:**

- Pursue capital improvements to the transportation system that will improve access to jobs and tourism and leverage economic growth opportunities
- Improve the movement of goods within and through Maryland by investing in intermodal connections, capital projects, congestion reduction operational strategies, and freight traveler information to reduce freight bottlenecks
- Strategically invest in expansion and operational improvements to reduce congestion along the multimodal transportation system

Maryland's extensive transportation system strengthens economic growth. Freight trains, cargo planes, trucks, and giant post-Panamax cargo ships transport goods throughout Maryland. Those who work in, live in, and visit Maryland use the passenger rail, buses, and highways to get to their destinations and back home. These same links in the transportation network convey billions of dollars of goods and talent within Maryland.

The FY 2021-FY 2026 CTP outlines \$3.0 billion in funds set aside to improve the movement of goods. MDOT is involved in several freight planning efforts, including a recently completed Statewide Truck Parking Study, and is working on updating the State Rail Plan and the State Freight Plan. Investing in freight related projects will help improve logistical transportation for over 82,000 freight industry businesses to continue to employ about 1.5 million people and contribute \$123.4 billion annually to the State's economy.

These initiatives, projects, and funds address the rapid growth in freight activities, such as the 51% increase in air and marine cargo volume because of the pandemic and increased e-commerce during stay-at-home orders. MDOT MPA continues to facilitate its record-breaking growth by investing in facility enhancements, channel maintenance, and berth rehabilitation. While passenger traffic at BWI Marshall Airport significantly declined during the pandemic, air cargo continued to grow exceeding the previous year's volume by more than 36%. Prior to the pandemic, in October 2019, the new 200,000-square-foot Midfield Cargo Building H began operations. This new facility is primarily operated by Amazon and has brought in the range of 2,000 new jobs to the region. Highway construction projects were accelerated in Spring 2020 to leverage the decreased road congestion in keeping the network in a state of good repair.



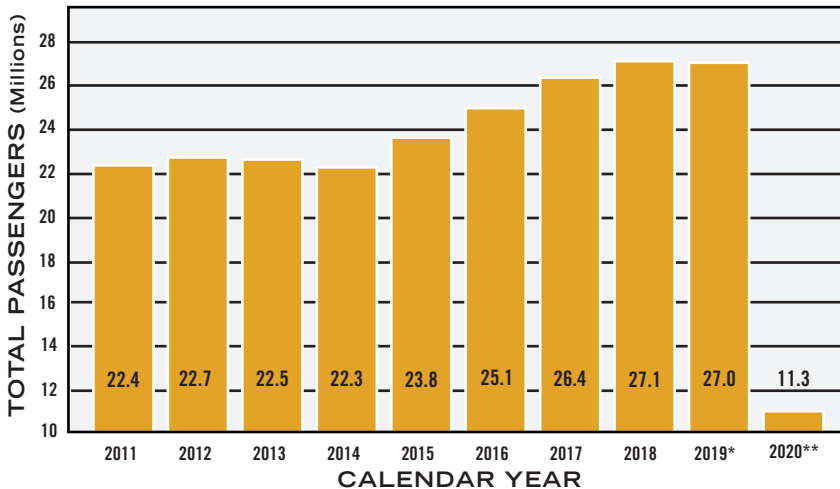
## OBJECTIVE:

Pursue capital improvements to the transportation system that will improve access to jobs and tourism and leverage economic growth opportunities



### BWI MARSHALL AIRPORT TOTAL ANNUAL PASSENGERS

BWI Marshall Airport is a crucial point of entry and export for cargo and people. This measure accounts for the number of annual passengers using the BWI Marshall Airport.



\* 2019 data has been revised from previous report.

\*\* 2020 data is preliminary and subject to change.

#### Why Did Performance Change?

- CY 2019 saw passenger counts at BWI Marshall Airport stay mainly flat; in March, the Boeing 737 MAX was grounded, and in early 2019, two carriers stopped flying to BWI Marshall Airport from Iceland
- Spirit Airlines increased its traffic 21% for the year to become the second-largest carrier at BWI Marshall Airport, and Frontier Airlines inaugurated service
- CY 2020 started well, and BWI Marshall Airport set a 12-month passenger record of 27.2 million in February 2020; however, March 2020 saw the onset of the COVID-19 pandemic; the low-point in April 2020 saw passenger traffic down 97% from April 2019, though leisure passenger travel steadily increased in the latter part of 2020

#### What Are Future Performance Strategies?

- General industry expectation is that it will be at least a two to three year recovery period to return to pre-COVID-19 airline activity levels
- MDOT MAA continues to work with regulators and airline partners on several initiatives aimed at restoring passenger confidence in travel safety, including expanded outreach and education, sanitization, technology, and touchless travel enhancements
- MDOT MAA continues to work with tenants and operators to provide customer service and amenities to the traveling public while promoting job retention and financial viability of our concessionaires



### INTERNATIONAL CRUISES USING THE PORT OF BALTIMORE

The Port of Baltimore is one of the busiest cruise ports on the eastern seaboard. This measure illustrates cruise-related business activity departing from the Port of Baltimore to foreign destinations.

FISCAL YEAR	2011	2012	2013	2014	2015	2016	2017	2018	2019*	2020**
Number of International Cruises using MDOT MPA's Terminal	111	100	93	99	75	94	86	94	94	69

Target: Maintain two year-round cruise line operations at the Port

\* 2019 data has been revised from previous report.

\*\* 2020 data is preliminary and subject to change.

#### What Are Future Performance Strategies?

- The recovery timeline of the cruise industry is an unknown, however when cruising resumes, both cruise lines have scheduled sailings from Baltimore through 2023

#### Why Did Performance Change?

- The entire cruise industry was shut down in March due to COVID-19 and as a result, the Port only welcomed 69 home port cruises compared to 94 in FY 2019 and FY 2018
- Port of Baltimore homeport cruise lines, Carnival and Royal Caribbean, both had their last debark-only cruise in March 2020, and a date for the resumption of cruising is unknown at this time
- Prior to COVID-19, both cruise lines reported their ships sailing from Baltimore exceeded "fun capacity," meaning total passengers equaled more than two people per cabin

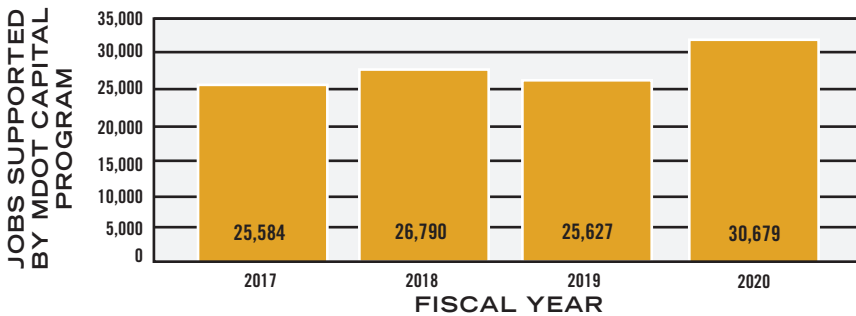


## JOBS SUPPORTED BY MDOT CAPITAL PROGRAM



Annually, the CTP lists MDOT's planned investments by Transportation Business Unit (TBU). These investments drive the creation of direct construction jobs, bolster manufacturing jobs, and support businesses directly affected by the patronage of construction staff. Construction and maintenance projects support economic activity beyond the project location.

Economic return from transportation investment is based on the estimated number of jobs created as a result of MDOT investments in capital projects.



### Why Did Performance Change?

- Number of jobs increased in 2020 due to a mild winter, allowing MDOT to expedite projects like the Bay Bridge
- Construction of the Purple Line and Nice/Middleton Bridge began, providing additional jobs



### OBJECTIVE:

*Improve the movement of goods within and through Maryland by investing in intermodal connections and improvements to reduce freight bottlenecks*

## IMPROVING GOODS MOVEMENT: FREIGHT ORIGINATING AND TERMINATING IN MARYLAND

### FREIGHT ORIGINATING AND TERMINATING IN MARYLAND\*

METHOD FOR MOVING FREIGHT	TOTAL VALUE (MILLIONS)	TOTAL TONNAGE (THOUSANDS) SATISFIED
Air	\$7,433	103
Other**	\$60,162	6,405
Pipeline	\$8,005	26,553
Rail	\$13,662	35,503
Truck	\$304,289	203,652
Water	\$1,580	7,019
All Freight	\$395,132	279,235

\* Source: U.S. Department of Transportation Freight Analysis Framework (FAF4) Version 4.5.1. that was refactored using 2019 data. To report 2019 data, a 3% annual growth rate was applied. FAF generates estimates based on a base year of data. Therefore, tonnage and values represented are estimates, not exact amounts. The water tonnage data based is for 2019, based on U.S. Army Corps of Engineers reporting.

\*\* Category "Other" includes multiple modes, mail, and other and unknown categories from data from the Freight Analysis Framework Version 4.5.1.

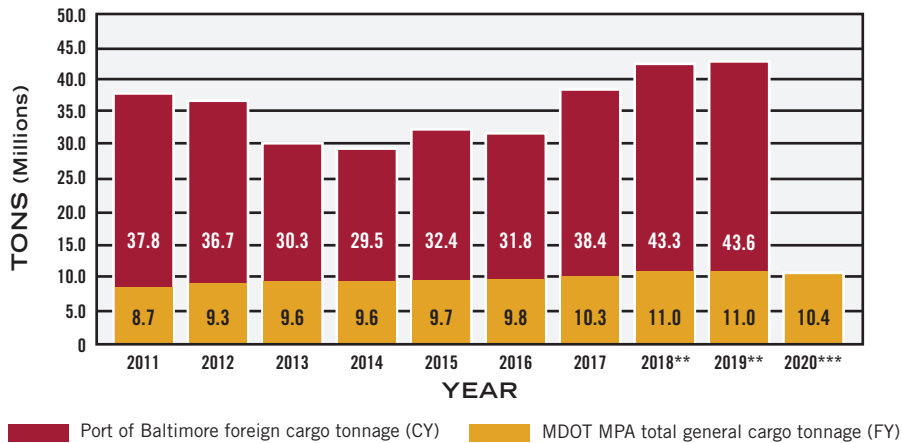
Maryland's location in the mid-Atlantic makes it a crucial node of goods, services, and people linking it to the rest of the nation. Maryland serves as a crossroad for key freight corridors with the I-95, I-81, and I-83 intermodal facilities. The BWI Marshall Airport is one of the nation's top cargo bearing airports with immediate access to major freight corridors, and the Port of Baltimore is one of the closest ports to mid-America markets. The State's main commodities are mining, agriculture, pharmaceuticals, manufacturing, retail trade, and health care, and Maryland's freight network supports their supply chains and those of many other commodities for the eastern seaboard and mid-western states. Facilitating efficient and safe freight movement is one of MDOT's priorities. This was important during the COVID-19 pandemic, when demand for personal protective equipment and health supplies outsized supply and e-commerce sales from quarantined consumers jumped 42% year-over-year in August, reaching \$63.0 billion. In order to maintain the supply chain network to meet demand, the State cooperates with select freight partners to inform its planning and strategic investment efforts. MDOT is in compliance with the requirements of the Fixing America's Surface Transportation (FAST) Act, enabling MDOT to use federal Freight Formula Funds and apply for funding derived from the FAST Act, including Infrastructure for Rebuilding America (INFRA) and Better Utilizing Investments to Leverage Development (BUILD) grants. MDOT has sought, and will continue to seek, opportunities to apply for funding from these sources. Recently, MDOT MPA was awarded a \$10.0 million BUILD Grant to provide critical flood mitigation improvements at the Dundalk Marine Terminal.



## PORT OF BALTIMORE FOREIGN CARGO AND MDOT MPA GENERAL CARGO TONNAGE\*



Measures the amount of foreign and general cargo moving through the Port of Baltimore.



\* MDOT MPA cargo data is provided by fiscal year, but The Port information is reported using the latest full calendar year because The Port statistics combine data for public and private marine terminals that use different fiscal year reporting timeframes. Therefore, 2020 data cannot be reported until early 2021.

\*\* 2018 and 2019 data has been revised from previous report.

\*\*\* MDOT MPA general cargo includes both foreign and domestic waterborne cargo, whereas, Port-wide data includes only foreign waterborne cargo. Port-wide data for calendar year 2020 is an estimate; fiscal year date for 2020 is not yet available.

### Why Did Performance Change?

- MDOT MPA terminals handled 10.4 million tons of general cargo in FY 2020, a decrease of 5.2% from the previous year; prior to the onset of the COVID-19 outbreak, MDOT MPA terminals were on pace to match or beat last year's general cargo numbers
- In 2019, MDOT applied for and secured an INFRA grant, and committed additional MDOT funds, to address the clearance issues associated with CSX's Howard Street Tunnel which currently cannot handle double stack trains
- The Port of Baltimore remains the largest auto and roll-on/roll-off port in the U.S.

### What Are Future Performance Strategies?

- Design and engineering for the Howard Street Tunnel expansion is currently underway to allow CSX and MDOT MPA to begin construction in FY 2022; the project will add double-stacked container shipping capability to and from the Port of Baltimore, which is expected to increase container volumes at the Port by 100,000 annually and create thousands of additional jobs
- Ports America Chesapeake (PAC) continues to make investments at the Seagirt Marine Terminal ensuring that the MDOT MPA can handle the large container ships; design and engineering are currently underway; the project will allow the Port to simultaneously handle two ultra large container vessels (ULCV) at Seagirt
- Design and engineering has begun on a second 50-foot berth at Seagirt Marine Terminal, and the MDOT MPA is working with the U.S. Army Corps of Engineers, Baltimore District on a feasibility study for the expansion of the Seagirt Loop Channel



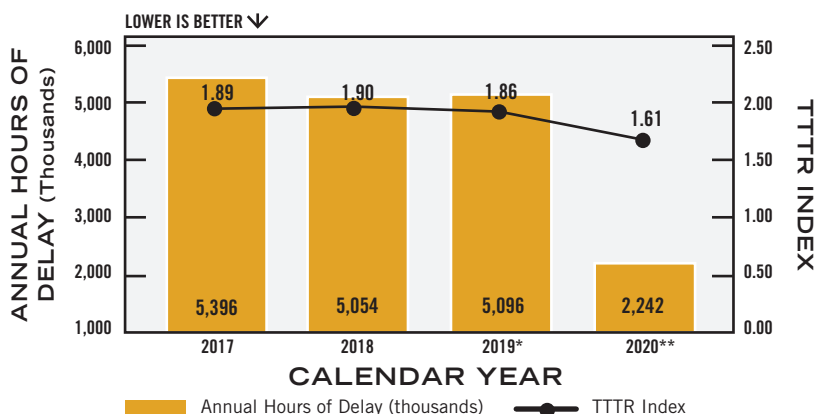
## ANNUAL HOURS OF DELAY FOR TRUCKS AND TRUCK TRAVEL TIME RELIABILITY INDEX



Delay and reliability can affect many things in a supply chain beyond just the truck transporting the goods. An efficient and reliable system translates to improved goods movement, which supports Maryland's businesses and economic growth positively. MDOT has been a leader in measuring freight mobility following industry tested and supported methods. Maryland's annual Mobility Report allows MDOT to see how well freight moves and to identify freight bottlenecks and track them over time. Additionally, MDOT continues to build new resources using truck probe data to understand freight mobility dynamics and the impact of delay on key Maryland supply chains.

In addition to MDOT's tracking of freight mobility, MDOT responds to the federal Moving Ahead for Progress in the 21st Century (MAP-21) and FAST Act performance measure requirements for the Truck Travel Time Reliability (TTTR) index.

The following graph shows the annual TTTR in relation to the annual hours of delay.



Target: 6,070 (\$6.1 million) Thousand Hours Of Truck Delay In 2021, TTTR of 1.88 in 2021

\* 2019 data has been revised from previous report.

\*\* 2020 data is preliminary and subject to change.

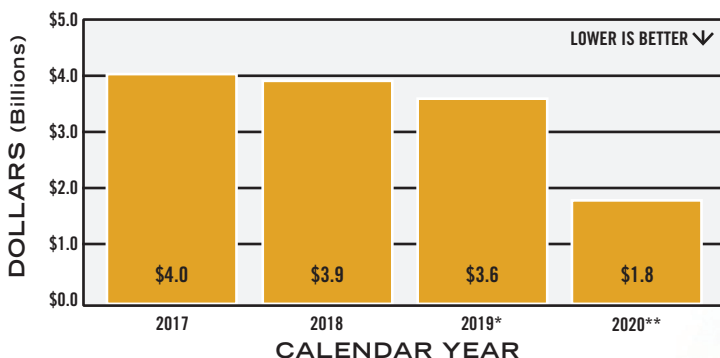
### OBJECTIVE:

*Strategically invest in expansion and operational improvements to reduce congestion along the multimodal transportation system*

## ANNUAL COST OF CONGESTION (BILLIONS) ON THE MDOT HIGHWAY NETWORK



A reliable and efficient multimodal transportation system goes beyond convenience. Efficiency and reliability are important parts of economic growth, development, and quality of life. Quantifying the cost of congestion helps MDOT measure the impact of congestion beyond the federal requirement.



Target: \$4.1 billion in 2023

\* 2019 data has been revised from previous report.

\*\* 2020 data is preliminary and subject to change.

### Why Did Performance Change?

- In 2020, the COVID-19 pandemic resulted in significant decrease in traffic volumes on Maryland highways; in Spring of 2020, traffic volumes were down by 50% and in Summer of 2020, traffic volumes were down by about 20%, compared to 2019 volumes
- In 2020, also due to COVID-19, the annual cost of congestion decreased 50% from 2019 to 2020
- Truck vehicle miles traveled (VMT) has been down by 20% compared to 2019 conditions, these huge reductions in travel demand have resulted in fewer vehicles and less congestion compared to prior years
- In June 2020, MDOT cut the ribbon on the new I-270/Watkins Mills Interchange in Montgomery County, MD 2/4 widening in Calvert County, and in August 2020 MDOT cut the ribbon on the MD 180 widening/bridge project in Frederick County

### What Are Future Performance Strategies?

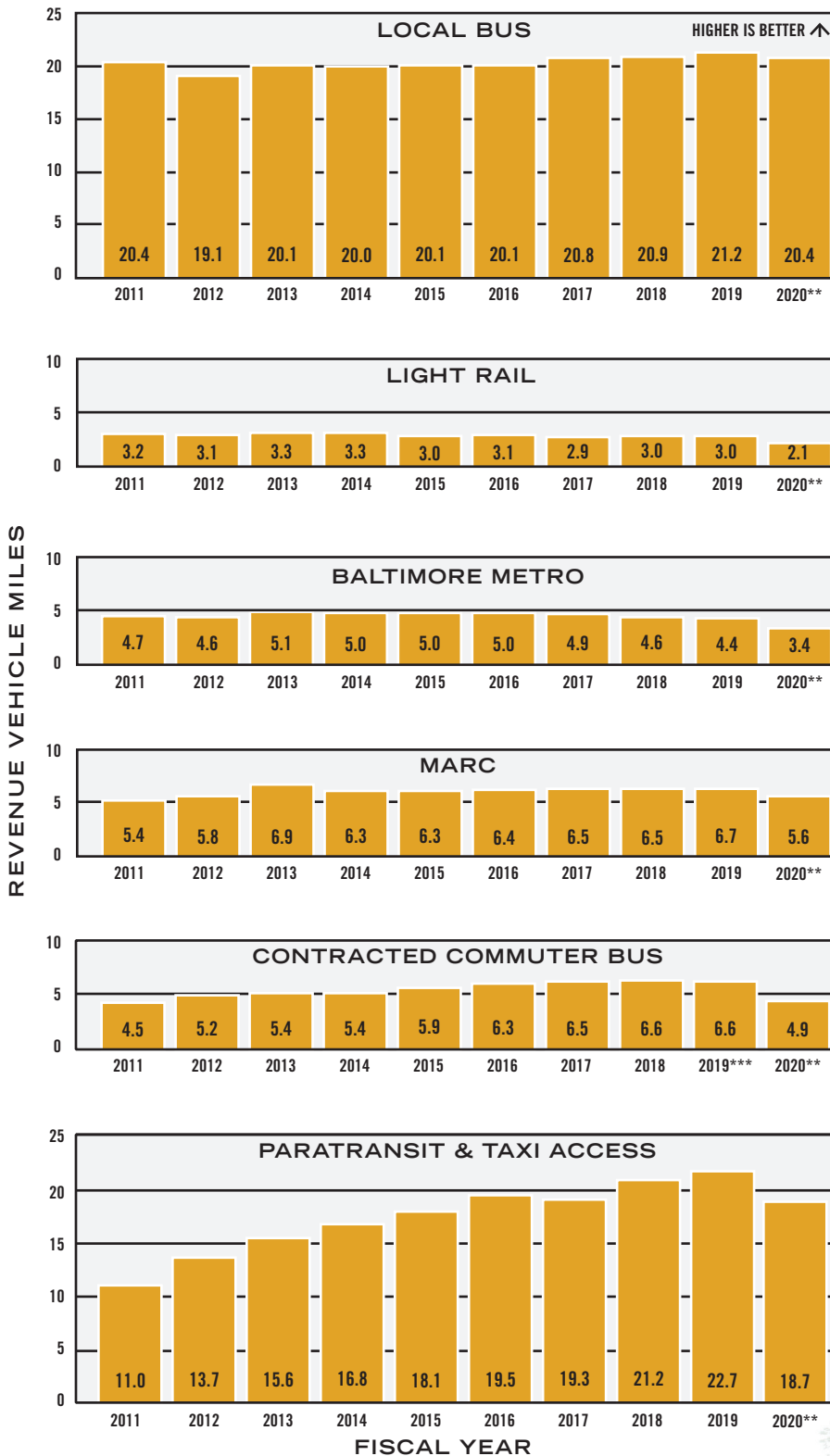
- Continue active monitoring of transportation system, incident detection, and clearance and deploy road weather management strategies to restore capacity on Maryland highways
- Modernize transportation infrastructure by incorporating Intelligent Transportation System (ITS) technology and Transportation Systems Management and Operations (TSMO) strategies, including in the I-695 from I-70 to MD 43 TSMO project which aims to reduce congestion along the west and north sides of the Baltimore Beltway



## ANNUAL REVENUE VEHICLE MILES OF TRANSIT SERVICE PROVIDED\*



Revenue vehicle miles measure each mile for which a transit vehicle is in service and accepting customers. This measure indicates transit's level of service.



\* All units are revenue miles (millions). Excludes Locally Operated Transit Systems (LOTS) and WMATA.

\*\* 2020 data is preliminary, subject to change.

\*\*\* 2019 data has been revised from previous report.

### Why Did Performance Change?

- In FY 2020, as a result of the COVID-19 pandemic, MDOT MTA experienced a reduction in revenue vehicle miles as service was reduced
- Supplemental bus service to select Baltimore City Public Schools was established in Fall 2019, increasing service and vehicle revenue miles
- Baltimore Metro SubwayLink continued to perform scheduled track repair and maintenance, having an impact on the revenue miles but little impact on the riding public
- The second week of April, during the peak of the stay-at-home order, travel was down at an all-time low while the first week of September shows the latest return trends: MARC - was down 97% vs. 91% down in September; Contracted Commuter Bus - was down 95% vs. 88% down in September; Local Bus - was down 61% vs. 51% down in September
- During the pandemic, MDOT MTA continued to operate Core Bus and MobilityLink service and to prioritize transit service for riders, especially transit dependent households and essential workers; Core Bus saw less decline than other transit modes

### What Are Future Performance Strategies?

- Throughout the COVID-19 pandemic, MDOT MTA focused on cleaning, awareness, and overall safety of employees and the public, and is repositioning services to focus on the core mission





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

**PRESERVE, MAINTAIN, AND MODERNIZE THE STATE'S EXISTING TRANSPORTATION INFRASTRUCTURE AND ASSETS**

### **OBJECTIVES:**

- Preserve and maintain State-owned or funded roadways, bridges, public transit, rail, bicycle and pedestrian facilities, ports, airports, and other facilities in a state of good repair
- Strategically modernize infrastructure through new and innovative technology, enhanced partnerships, design standards, and practices to facilitate the movement of people and goods
- Use asset management to optimize public investment and ensure the sustainability of transportation infrastructure

Keeping a safe and well-maintained transportation system remains critical for MDOT. Without proper maintenance and repair, poorly maintained roads and bridges can lead to more incidents and delays, impacting safety, as well as economic activity. In the FY 2021-FY 2026 CTP, \$5.1 billion is set aside for safety, congestion relief, and bridge and highway projects.

Since the beginning of the 2015 fiscal year, 65% of Maryland State Highway lane miles have been improved or treated. MDOT SHA has reported 88.7% of the roadway system to be in good or fair condition, far exceeding the national average of 78.6%. MDOT recorded 36 poor rated MDOT SHA bridges, one of the lowest percentages of poor rated bridges of any state transportation agency in the nation. MDOT is continuing its commitment towards safe roadways with \$1.07 billion dedicated towards roadway resurfacing and rehabilitation and \$1.09 billion dedicated towards bridge replacement and rehabilitation in the FY 2021-FY 2026 CTP.

MDOT also remains committed to making all of our transportation system safe and reliable, including the numerous investments in safety and fleet modernization, including \$374.0 million for Metro railcar and signal replacement, \$212.0 million to replace more than 50 light rail vehicles by 2022, \$54.0 million to overhaul 63 MARC II passenger coaches, and \$66.3 million towards rehabilitation and renewing Metro tunnel, track, systems, and stations. MDOT MTA is proud to continually be ranked as the safest transit system of the top 12 U.S. transit agencies.

COVID-19 has created challenges for transit. In response, MDOT has taken numerous measures to ensure the health and safety of its employees and riders, including twice daily disinfecting of vehicles and common touchpoints, and retrofitting buses with plastic seats and air ionizers to clean the air.





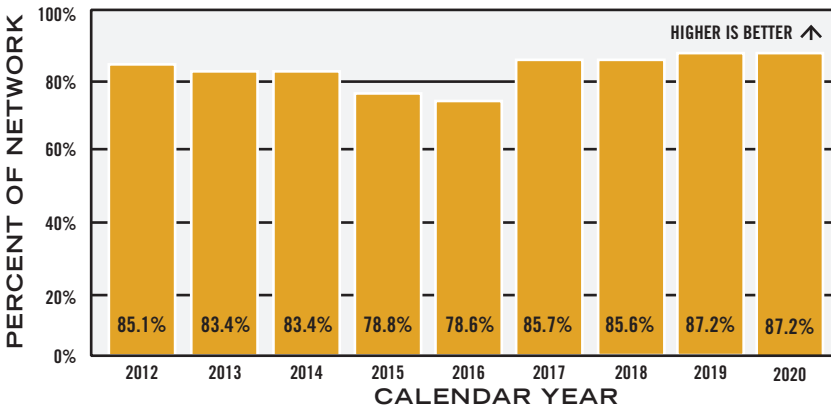
## OBJECTIVE:

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

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



The overall condition of the network is indicative of the positive effect that asset management strategies have on existing highways. Effective asset management strategies ensure continued usability, quality, and safety along Maryland's roadways.

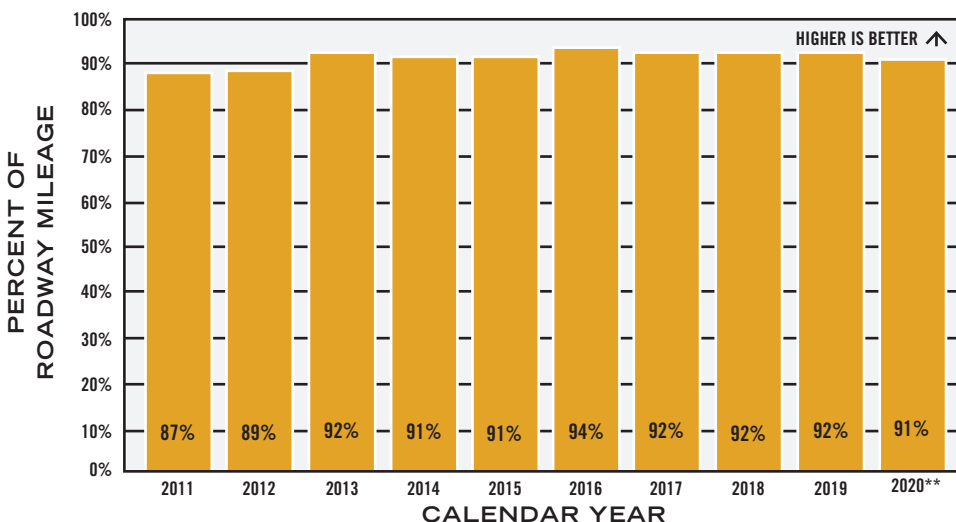


Target: 85% Annually

## OVERALL ACCEPTABLE PAVEMENT CONDITION\*



Overall pavement condition is based on remaining service life, which is a scale of 0 to 50 years to describe pavement condition. Ride quality, functional cracking, structural cracking, and rutting data are collected utilizing Automated Road Analyzer (ARAN) vehicles; friction data is collected using skid trucks. Pavement condition can affect safety, efficiency, mobility, and accessibility to services and goods throughout Maryland. MDOT conducts yearly roadway inspections in order to ensure safety, efficiency, mobility, and accessibility in the movement of people and goods.



Target: 90% Annually

\* 2012-2019 data is updated based on a new friction approach and has been revised from previous report.

\*\* 2020 data is preliminary and subject to change.

### Why Did Performance Change?

- MDOT SHA utilized the 50% drop in traffic volumes due to COVID-19 to extend work hours, while ensuring MDOT employees were safe, appropriately physically distanced, and using personal protective equipment

### What Are Future Performance Strategies?

- Due to a reduction in funds, MDOT SHA will see a reduction of 7% of its operating budget (\$900.0 million in capital), which may impact the percentage of the network in preferred maintenance condition in future years
- MDOT will continue to prioritize state of good repair and system preservation efforts, through the asset management program

### Why Did Performance Change?

- MDOT SHA continued focusing on improvements in roadways with deficient conditions and is preparing for future federal rulings on nationwide pavement performance measures introduced through the Fixing America's Surface Transportation (FAST) Act legislation
- MDOT SHA increased use of non-traditional pavement preservation treatments, where appropriate, to extend the service life of MDOT SHA roadways at the lowest possible cost; due to innovative pavement materials, maintenance, and repairs, cracking (a significant cost driver) has been reduced, decreasing maintenance costs and increasing surface quality

### What Are Future Performance Strategies?

- Increase the use of more durable materials and investigate alternative pavement treatments to extend the pavement life
- Continue to implement the Federal Highway Administration (FHWA) and MDOT SHA Pavement Preservation Program to strategically utilize system preservation activities
- Continue to focus on higher-priority prevention and maintenance and monitor high demand roadway degradation

## NUMBER OF BRIDGES AND PERCENT THAT ARE IN POOR CONDITION



The poor condition rating (also previously referred to as structurally deficient) is an indicator sign for engineers to initiate the rehabilitation or replacement process and is used when prioritizing and recommending system preservation funding. A bridge is not considered unsafe if it is poor rated; unsafe bridges are closed. The rating applies to the three structural components of the bridge (deck, superstructure, and substructure), and is scaled from 0 (closed to traffic) to 9 (relatively new). If any of these elements are rated as a four or less, the bridge is considered to be in poor condition (or structurally deficient) per federal standards. Bridge repair projects remain high priorities due to the inconvenience and traffic re-rerouting problems that can occur when bridges close.

CALENDAR YEAR	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Number of MDTA Bridges in Poor Condition	5	4	1	1	1	1	1	1	1	1
Number of MDOT SHA Bridges in Poor Condition	106	97	87	81	69	69	67	62	52	36
Total Number of Bridges in Poor Condition	111	101	88	82	70	70	68	63	53	37
Percent of Bridges in Poor Condition	3.9%	3.5%	3.0%	2.8%	2.4%	2.4%	2.4%	2.2%	1.8%	1.3%

### Why Did Performance Change?

- MDOT SHA continued its bridge rehabilitation and preservation program in order to minimize the number of bridges that would have deteriorated to a poor rating without rehabilitation
- MDOT SHA opened a \$13.0 million MD 355 bridge over CSX in the Monocacy National Battlefield in partnership with the National Park Service and a new \$19.0 million MD 180 bridge over US 15 and US 340, part of a collaboration between the County, City, State, and private sector, and a package of improvements to the Solarex Court intersection
- MDTA completed the Westbound Bay Bridge right lane deck rehabilitation ahead of schedule in April 2020, installing a new tolling gantry and implementing full-time all-electronic (cashless) tolling (AET)
- MDTA also advanced major bridge projects including the replacement of the I-895 Bridge in Baltimore and Nice/Middleton Bridge in Southern Maryland
- MDOT recorded 36 poor rated MDOT SHA bridges, the lowest level since tracking began and one of the lowest percentages of any state transportation agency in the nation

### What Are Future Performance Strategies?

- Budget constraints due to COVID-19 will impact future bridge work; however, MDOT remains dedicated to ensuring the safety of bridge assets, as well as the overall system state of good repair
- MDTA Nice/Middleton Bridge Replacement funding is reduced in the FY 2021-FY 2026 CTP; however, the project completed more work in FY 2020 than originally forecasted
- Despite funding cuts, select MDTA bridge projects are preserved including the Bay Crossing Tier I NEPA Study and ongoing Bay Bridge future work

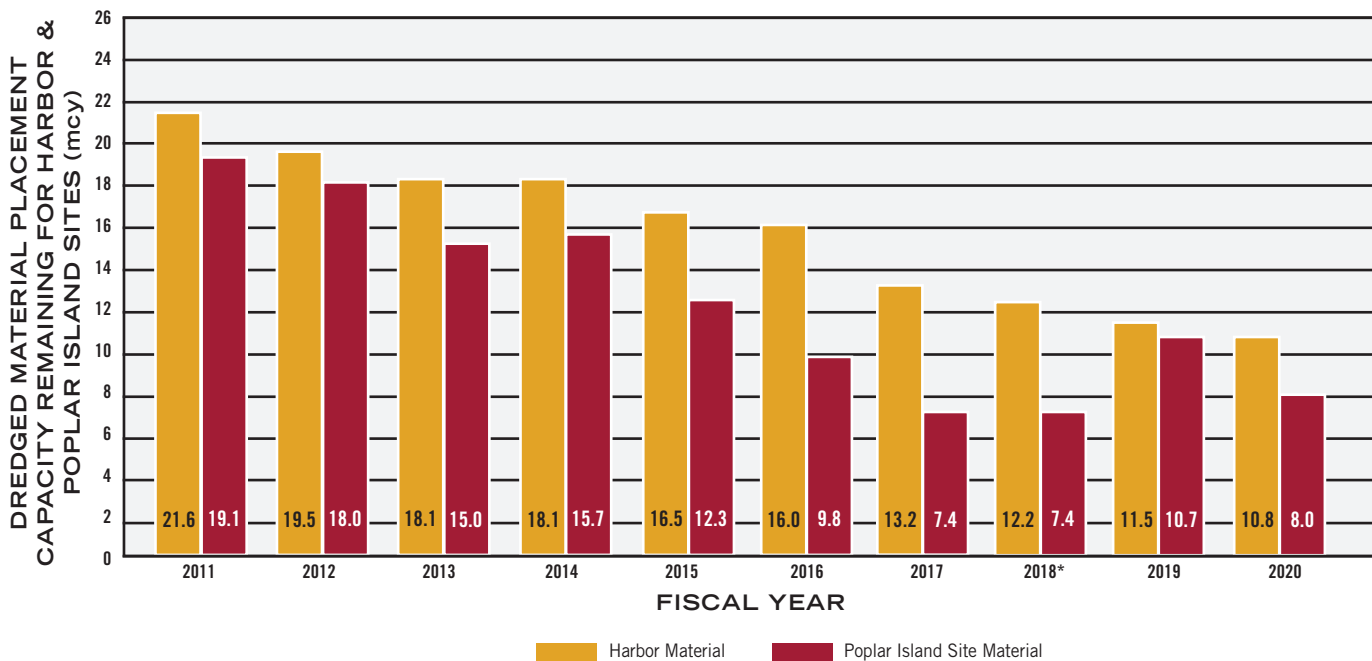




## DREDGED MATERIAL PLACEMENT CAPACITY REMAINING FOR HARBOR SITES AND POPLAR ISLAND



MDOT MPA is responsible for ensuring that the Port remains safe and accessible and maintains shipping channels by obtaining and managing dredged material placement sites.



**Harbor Target:** Maintain a rolling 20-year plan for adequate dredged material placement capacity

**Poplar Island Target:** Maintain a rolling 20-year plan for adequate dredged material placement capacity

\* 2018 data has been revised from previous report.

### Why Did Performance Change?

- The Port continued to refine Harbor dredged material placement capacity and dredging needs due to a reassessment of previous assumptions and current survey and engineering data (including numbers previously reported for FY 2017)
- On average, there are 1.15 million cubic yards (mcy)/year of maintenance and State/federal new work dredging in the Harbor to maintain the channel system, and the Chesapeake and Delaware (C&D) Canal approach channels require 0.7 mcy/yr of dredging annually
- Construction of the first lift of the base dike necessary for the Stage 1 expansion of the Cox Creek Dredged Material Containment Facility was initiated in FY 2019; construction of the Masonville dike raising to +18 feet completed in April 2020
- In partnership with the U.S. Army Corps of Engineers, construction of the Poplar Island expansion footprint is nearly complete; the Poplar Island expansion will provide an additional 28 mcy of dredged material capacity, and first inflow into the expansion cells is expected in FY 2021
- Safety and mobility efforts to ensure unimpeded shipping access to the Port have been effective; the Port of Baltimore compares extremely well with the other fully functioning U.S. East Coast ports with 50-foot deep channels

### What Are Future Performance Strategies?

- The State's Dredged Material Management Program (DMMP) will continue to support the U.S. Army Corps of Engineers Federal DMMP, which was updated and approved in FY 2018
- Permits were received and the second 50-foot deep berth at Seagirt Marine Terminal was advertised for bids, with construction expected to begin in FY 2021
- Expansion of the Cox Creek Dredged Material Containment Facility project was advertised for bids, with the next phase of construction expected to begin in FY 2021
- Innovative reuse and beneficial use of dredged material is actively being explored to preserve DMMP capacity over time
- The next Bay channel placement option is the aquatic ecosystem restoration at Mid-Chesapeake Bay Island (James Island and Barren Island), which received federal funding in the Federal Fiscal Year (FFY) 2018, FFY 2019, and FFY 2020 U.S. Army Corps of Engineers Work Plan to initiate final project design; it advanced into the Pre-Construction Engineering (PED) phase in early FY 2020 and when complete, the Mid-Chesapeake Bay Island project will provide an additional 90 to 95 mcy of dredged material capacity

## TRANSIT ROLLING STOCK WITHIN USEFUL LIFE BENCHMARK



Useful life is a metric that gauges the condition of transit vehicles. Each asset type has a unique useful life. An asset reaching its useful life will need to be replaced or repaired. This measurement tells agencies when to expect repairs and replacement.

TRANSIT VEHICLES	2020 PERCENT OF VEHICLE STOCK WITHIN USEFUL LIFE	TARGETS
Baltimore Metro	0%*	11%
MARC	100%	100%
Light Rail	100%	100%
Paratransit	71%	99%
Local Bus	100%	98%

\* 78 new rail cars will be delivered between January 2022 and January 2023.

### What Are Future Performance Strategies?

- MDOT MTA continues with replacement of 53-vehicle light rail vehicle fleet overhaul, replacement of all fleet vehicles is scheduled to be completed in 2022
- 83% of MobilityLink paratransit vehicles will be within useful life based on current procurements; MDOT MTA plans to retire and replace more cutaways and sedans in FY 2022 and sedans will be replaced with gas/electric hybrid SUVs
- Continue overhaul of 63 MARC III passenger coaches, set to be complete in 2021
- Continue complying with the new Federal Transit Administration (FTA) rule requiring asset management reporting via the National Transit Database (NTD)

### Why Did Performance Change?

- MDOT MTA purchased 140 clean diesel buses in 2019 and committed to continuing to replace vehicle stock with clean diesel buses through a five-year replacement contract
- 100 MobilityLink paratransit vehicles were replaced in 2019 and another 100 were replaced in 2020
- MDOT MTA invested in fleet modernization across all modes to provide safe and reliable operations, including \$54.0 million to overhaul 63 MARC III passenger coaches; seven overhauled coaches are currently in service
- MDOT MTA has a Transit Asset Management Plan, updated in 2019, and a group for locally operated transit systems
- MDOT MTA maintains an Asset Portfolio, condition data, and utilizes FTA's Transit Economic Requirements Model Lite (TERM Lite) analysis to better track asset needs and MDOT MTA's state of good repair backlog
- After monitoring the guideway performance for the past 18 months, MDOT MTA now has a dashboard that streamlines the data flow and has a user-friendly interface
- Began visually assessing the condition of MDOT MTA and Locally Operated Transit System (LOTS) facilities; tasks are underway to assess the condition of each MDOT MTA owned facility
- Completed an asset management pilot at the Eastern Bus Division, where MDOT MTA conducted field inventory verification, visual and functional condition analysis, asset hierarchy adjustments, and established a framework for criticality and risk management
- Completed an annual update on inventory and TERM Analysis, reflecting changes in the asset base over the past year, and improving the asset details
- Initiated a warranty management program at Eastern Bus Garage; improving warranty management was one of the key objectives highlighted in the MDOT MTA Transit Asset Management Plan

### OBJECTIVE:

*Strategically modernize infrastructure through new and innovative technology, enhanced partnerships, design standards, and practices to facilitate the movement of people and goods*

## AVERAGE TRUCK TURN TIME AT SEAGIRT MARINE TERMINAL



Truck turn times inform Port officials and logistics coordinators of Port efficiency and product availability. Turn times are a critical part of goods delivery not only within Maryland, but nationwide and globally as well. Shorter turn times translate to higher throughput capacity and environmental benefits in the long term.

Truck turn times are measured using a truck's radio-frequency identification (RFID) tag. When a truck enters Seagirt, the RFID is read by a scanner at the gate. Aside from providing additional security, this scanner measures the amount of time a truck spends in Seagirt and that final number is the turn time for the truck. In 2020, the average truck turn time was 75 minutes, improved from 86 minutes in 2019.

### Why Did Performance Change?

- The COVID-19 pandemic impacted cargo volumes in the 4th quarter of FY 2020, which may have contributed to annual declines in truck turn times; MDOT MPA's cargo facilities remained opened; however, Seagirt Marine Terminal did close its gates for a few scattered days in the 4th quarter when container traffic in and out of terminal did not warrant opening the terminal for truck traffic
- Overall Seagirt Marine Terminal container volumes fell 11% in the 4th quarter, compared to the 4th quarter of FY 2019, before starting to rebound in July; cargo volume declines were smaller in Baltimore compared to other East Coast ports due to the strength of the regional consumer market

### What Are Future Performance Strategies?

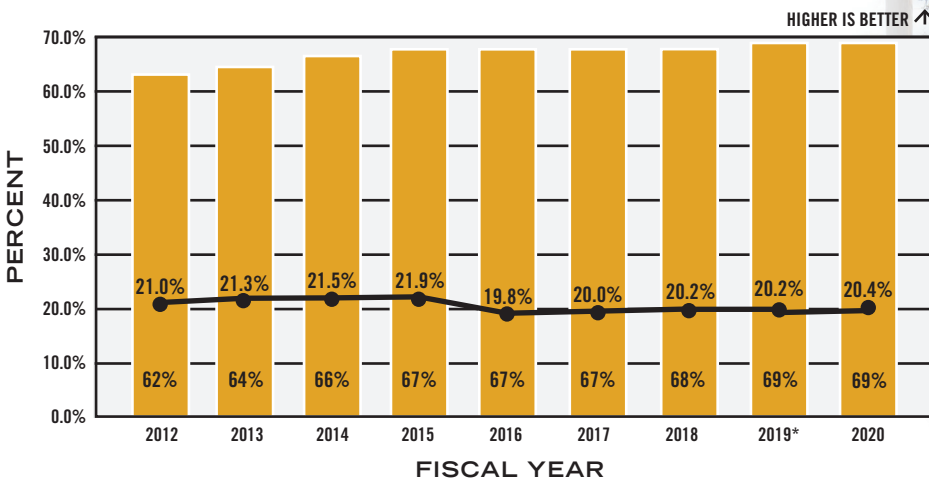
- MDOT MPA is adding an hourly queue and turn-time clock to the Port of Baltimore website and implementing a "pre-advise" system for truckers to notify the terminal of their arrival times to add predictability, improve efficiency, and allow for future data analytics on the terminal
- Installation of radiation monitors as the next phase of development for Seagirt's back gate will allow additional inbound and outbound access for trucks with loaded containers



## 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



Sidewalks facilitate pedestrian movement and general accessibility. ADA-compliant sidewalks expand accessibility to all and are federally required.



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

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

\* 2019 data has been revised from previous report.

### Why Did Performance Change?

- Invested \$3.9 million in FY 2020, up from \$3.6 million in FY 2019, to design and construct new sidewalks, including the construction of new directional miles of sidewalk along MD 267 in Cecil County
- Invested \$7.4 million in FY 2020 to design and construct sidewalk improvements to address ADA accessibility, including the reconstruction of sidewalk along MD 528 in Worcester County and MD 178 in Anne Arundel County
- MDOT created the Context Driven - Access and Mobility for all Users guide as a planning and design resource that will be utilized in all projects to create safe, accessible, and effective multimodal transportation systems in the State

### What Are Future Performance Strategies?

- Collaborate with urban counties and local governments to identify new sidewalk projects based on local requests, safety, and to utilize federal programs and funds where possible
- Continue to identify and prioritize critical ADA compliance projects to ensure ADA compliance across all sidewalks in the State with \$7.0 million allotted for ADA retrofit in the FY 2021-FY 2026 CTP
- Support safe pedestrian access along State Highways for the New Sidewalk Construction for Pedestrian Access Program and the Sidewalk Reconstruction for Pedestrian Access Program with \$5.0 million allocated for the sidewalk program in the FY 2021-FY 2026 CTP

## OBJECTIVE:

*Use asset management to optimize public investment and ensure the sustainability of transportation infrastructure*

MDOT continues to prioritize asset management in order to minimize lifecycle costs of its various infrastructure assets while delivering established levels of service. MDOT strategically manages its assets through a comprehensive approach, with the MDOT Strategic Asset Management Plan and Asset Management Policy providing direction across MDOT. The Asset Management Work Group works to achieve five key goals: define and record the assets we own, determine the condition of our assets, establish a plan for maintaining a state of good repair, commit to asset management practices, and develop framework and guidance for asset management software. The Department of Asset Management Policy has developed over a dozen strategies that are underway to implement asset management practices.



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

**INCREASE THE USE OF TECHNOLOGIES AND OPERATIONAL IMPROVEMENTS TO ENHANCE TRANSPORTATION SERVICES AND COMMUNICATION TO SATISFY OUR CUSTOMERS**

## OBJECTIVES:

- Increase the efficiency of transportation services through partnerships, advanced technologies, and operational enhancements to improve service delivery methods
- Enhance customer satisfaction with transportation services across all modes of transportation
- Minimize travel delays and improve predictability of travel times on Maryland's transportation system
- Apply enhanced technologies to improve communications with the transportation system users and to relay real-time travel information

Millions of people drive a vehicle, take public transit, walk, bike, and use every aspect of Maryland's transportation system. It is vital for MDOT to meet the needs of all of its customers and to provide efficient, quality service. Due to COVID-19, MDOT MVA expanded Alternative Service Delivery (ASD) services to improve customer service and customer wait times. In 2020, the average customer wait time statewide was 17.9 minutes, down from 25.1 minutes in 2019. This was achieved through the combination of increased appointments and the use of ASD systems that do not require face-to-face interactions. ASD began before the public health crisis but was more widely used since the pandemic spread in March 2020. Customers can conduct many MDOT MVA-related tasks online, such as appointment scheduling, registration renewal, or use any one of the more than 50 self-serve kiosks at MDOT MVA locations across the State.

To continue to improve customer experience and efficiency, MDOT looks to utilize new tools and technologies. Additionally, MDTA instituted all-electronic (cashless) tolling (AET), leading to the percentage of cashless toll collection to go up from 81% in 2019 to 91% in 2020. MDOT MVA also created a REAL ID Lookup Tool that allows residents to check online to see if they are REAL ID ready, or if an action is needed, then links them to the appropriate

information to schedule an appointment. The federal REAL ID deadline has been extended to October 2021 due to the pandemic, and at this writing, 72% of Marylanders are REAL ID-ready. MDOT SHA's Coordinated Highways Action Response Team (CHART) handled 129,282 events, including incident responses, assistance with disabled vehicles, and traffic management operations for special and weather-related events. MDOT MAA is slated to begin noise mitigation projects with new Airport Improvement Program (AIP) funding and continued forward with adding free public Wi-Fi service at BWI Marshall Airport with full implementation of the new system expected in 2021. Despite the disruption of the COVID-19 pandemic, MDOT Transportation Business Units (TBUs) are finding ways to meet the needs of all transportation network users.





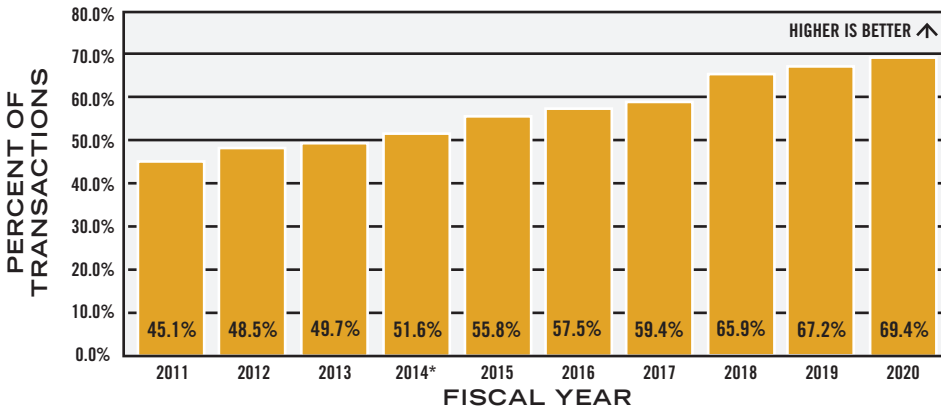
## OBJECTIVE:

Increase the efficiency of transportation services through partnerships, advanced technologies, and operational enhancements to improve service delivery methods

### MDOT MVA ALTERNATIVE SERVICE DELIVERY (ASD) TRANSACTIONS AS PERCENT OF TOTAL TRANSACTIONS



Alternative services allow MDOT MVA to operate more efficiently by providing reliable and convenient service delivery to customers without requiring a transaction in-person. These services include web transactions, self-serve kiosks, mail-in options, and others. To be successful, alternative services must be adopted in conjunction with the development of new information technology (IT) systems and customer behavior changes.



#### Why Did Performance Change?

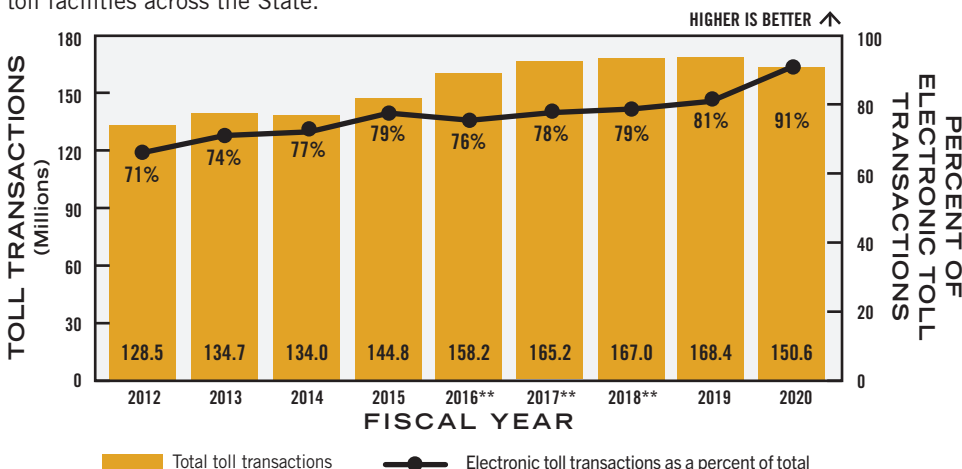
- MDOT MVA ASD has consistently increased, remaining above 65% in FY 2018, FY 2019, and FY 2020; vehicle service transactions, specifically, have increased steadily over the past three fiscal years
- Phase One of Customer Connect was recently launched and addresses vehicle service, motor carrier, and business licensing transactions; new online features have been added so the customer can process more transactions from the safety of their home
- COVID-19 increased the demand for online ASD, as MDOT MVA branches were temporarily shut down in the early months of CY 2020

#### What Are Future Performance Strategies?

- Driver service transactions have remained relatively flat from year to year, but will likely increase once Phase Two of Customer Connect launches in December 2021, which will offer more ASD features
- As more customers become REAL ID compliant, the percent of those eligible to use ASD for driver's license renewals will increase, thus decreasing the number of in-branch driver's license renewal transactions

### PERCENT OF TOLL TRANSACTIONS COLLECTED ELECTRONICALLY\*

Electronic toll collection (ETC) systems expedite the toll collection process, reduce delays at toll plazas, decrease congestion and emissions, and are available at all toll facilities across the State.



Target: Short-Term Target: 82%, Long-Term Target: 85%

\* Toll collections are paid as cash, ticket, or ETC. ETC includes Transponder, I-tolls, and Video Tolls.

\*\* 2016-2018 data has been revised from previous report.

#### Why Did Performance Change?

- The increase in electronically collected transactions from 81% in FY 2019 to 91% in FY 2020 is due to the move to all AET during COVID-19
- The 10.6% decrease in total toll transactions is due to travel restrictions and work-from-home policies in response to COVID-19
- As a part of the DriveEzMD program, MDOT reduced the civil penalty for toll violations from \$50 to \$25

#### What Are Future Performance Strategies?

- A new DriveEzMD program website will go live to provide information about Maryland toll programs and policies
- Additional toll features, including a new vehicle toll classification with a lower toll rate, will roll out in phases in the coming years

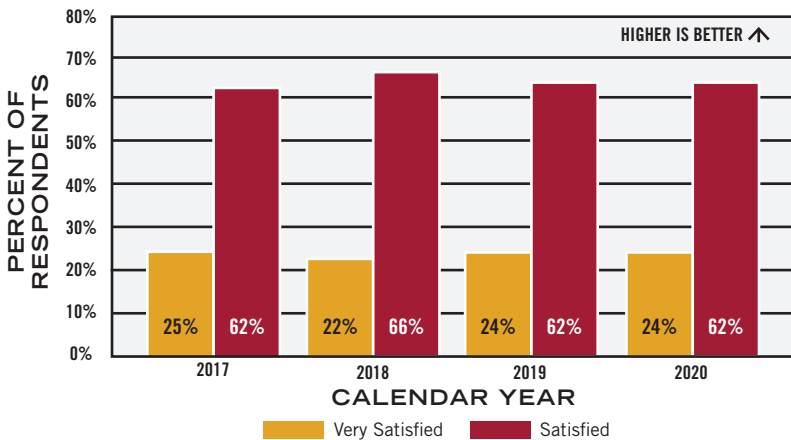
## OBJECTIVE:

Enhance customer satisfaction with transportation services across all modes of transportation



### OVERALL SATISFACTION WITH MDOT

Customer satisfaction surveys provide MDOT with direct feedback from customers to help MDOT measure its success in providing exceptional customer service. With these surveys, MDOT and its TBUs can identify their major successes and weaknesses and develop new investment prioritizations to maintain and grow their customer bases.



### Why Did Performance Change?

- MDOT SHA continued supporting active construction projects, with safety measures in place, during COVID-19 and delivered a new MD 180 bridge over US 15 and US 340, reopened the MD 355 bridge over CSX in the Monocacy National Battlefield, and opened a new I-270 bridge over MD 85
- MDTA implemented AET statewide, in advance of the initial projected date, to allow safe no-contact payment during COVID-19
- MDOT MVA focused service to online, mail-in, and kiosk services during COVID-19 to allow customers to access needed services safely and conducted emergency services, including a mobile bus to provide on-site testing to help Commercial Drivers License (CDL) holders and to support continued operation of the supply chain
- MDOT MVA deployed Phase One of Customer Connect, allowing businesses and individuals to complete more transactions online
- MDOT MAA saw reduced passenger and airline activity, increased cargo activity, and worked to ensure a safe and healthy airport for customers and employees by implementing enhanced cleaning and sanitization procedures and installing protective shields at document stations, ticket counters, and information desks

### What Are Future Performance Strategies?

- MDOT SHA will focus on three areas in the coming years with restricted financial funding, due to COVID-19: asset management, accessibility, and mobility, ensuring all MDOT customers can safely and efficiently get where they need to go
- MDTA will launch a new DriveEzMD program website and roll out additional features of the program, such as a new vehicle toll classification with lower toll rates, in the coming years
- MDOT MTA will coordinate with local transit operators to discuss local matching funds and to apply for Coronavirus Aid, Relief, and Economic Security (CARES) Act funds to meet critical needs in the midst of funding cuts and shortages
- MDOT MVA will deploy Phase Two of Customer Connect in December 2021, including driver services; future phases will also include consolidating existing IT systems at MDOT MVA into a single portal
- MDOT MAA will provide \$2.35 million in State support for regional airports across Maryland in FY 2021; a major reconstruction of Taxiway T at BWI Marshall Airport will be fully funded at \$11.0 million in CARES Act funds; and Frederick Municipal Airport received 100% federal grant assistance of \$3.6 million for a runway extension

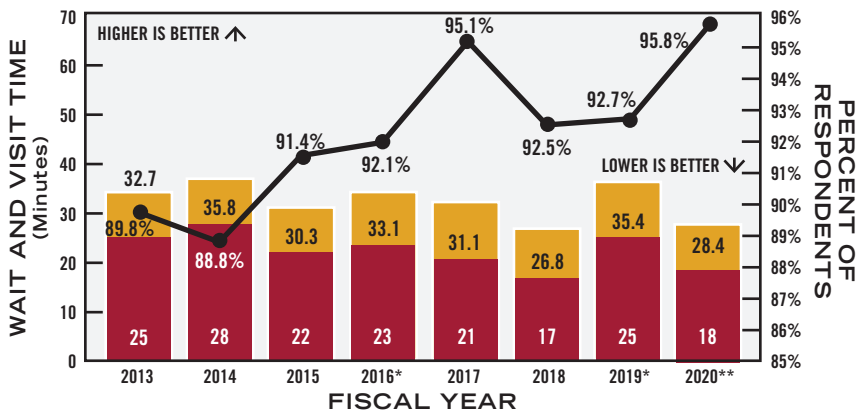




## MDOT MVA BRANCH OFFICE CUSTOMER WAIT AND VISIT TIME VERSUS CUSTOMER SATISFACTION RATING



Average customer wait and 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 wait and visit time decreases, customer satisfaction increases).



■ Average Branch Office Customer Wait Time In Minutes  
■ Average Branch Office Customer Visit Time In Minutes (includes Wait Time)  
● Percent of Branch Office Customers Rating Service as "Good" or "Very Good"

Target: 95% Satisfaction Rating as "Good" or "Very Good" by 2021, Visit Target: 25.3 Min., Wait Time Target: 14.8 Min.

\*\* 2016 and 2019 data has been revised from previous report.

\*\* 2020 data is preliminary and subject to change.

### Why Did Performance Change?

- To better serve its customers, MDOT MVA expanded appointment availability in FY 2020; customers who scheduled appointments typically experienced lower wait and visit times than customers who did not schedule in advance
- In response to COVID-19, MDOT MVA branches operated at limited capacity and with appointment-only services, which decreased customer wait and visit time
- Decrease in customer wait and visit time had a positive effect on ratings; MDOT MVA Customer Agents were rated as "friendly, helpful, and professional" over 98% throughout FY 2020

### What Are Future Performance Strategies?

- To protect the health and wellbeing of MDOT MVA employees and valued customers, the agency will continue to operate on an appointment-only basis
- MDOT MVA will explore expansion of appointment capacity to meet the volume of customer requests
- The agency will continue to encourage customers to conduct business on its website, self-serve kiosks, or other ASD methods to avoid unnecessary trips to MDOT MVA branches

## OBJECTIVE:

*Minimize travel delays and improve predictability of travel times in Maryland's transportation system*

## PERCENT OF TRANSIT 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.

MODE*	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	LONG-TERM TARGET
Local Bus	85%	83%	82%	81%	81%	85%	77%	68%	69%	72%	85%
Light Rail	98%	96%	97%	96%	97%	98%	96%	94%	95%	93%	95%
Baltimore Metro	97%	96%	97%	96%	95%	96%	96%	94%	94%	97%	95%
MARC	89%	93%	93%	92%	92%	94%	91%	91%	87%	92%	93%
Mobility Paratransit & Taxi Access	89%	90%	89%	91%	88%	92%	93%	93%	86%	91%	95%

\* Besides Local Bus, 2020 data is estimated and subject to change.

### Why Did Performance Change?

- Local Bus OTP was 79.4% in February 2020, up from 59.5% prior to launch of BaltimoreLink; every month between November 2019 and February 2020 was an agency record-breaker
- MDOT MTA is completing scheduled major track maintenance activities during periods of low ridership, minimizing the effect of this work on riders
- Light Rail experienced several incidents of downed trees from storms and several accidents involving Light Rail vehicles that affected OTP

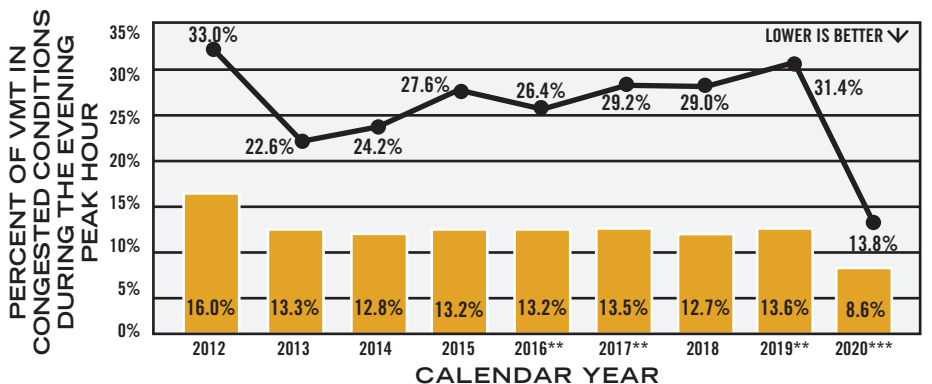
### What Are Future Performance Strategies?

- Replace vehicles and complete preventive maintenance on time to support reliable service
- Continue to improve the accuracy of the real-time passenger information on MDOT MTA's transit services to improve customer experience
- MDOT MTA will continue using new data to maximize schedule performance and reliability
- Implement transit priority infrastructure including dedicated bus lanes and transit signal priority that improve bus reliability

## PERCENT OF VEHICLE MILES TRAVELED (VMT) IN CONGESTED CONDITIONS ON FREEWAYS/EXPRESSWAYS AND ARTERIALS\* IN MARYLAND DURING EVENING PEAK HOUR (5-6 PM)



This measure tracks MDOT SHA and MDTA 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 on arterials in Maryland during the evening peak hours  
● Percent of VMT in congested conditions on freeways/expressways in Maryland during the evening peak hour

Target: Freeway Target: 30.0% by 2020, Arterial Target: 14% by 2020

\* In 2017, MDOT SHA moved to ESRI Roads and Highways System; this caused a system-wide shift in the numbers, which are now reported with one decimal to more clearly indicate system performance.

\*\* 2016, 2017, and 2019 data has been revised from previous report.

\*\*\* 2020 data is preliminary and subject to change.

### Why Did Performance Change?

- In 2019, a steadily growing economy and low unemployment rates resulted in an all time high annual VMT of 60.1 billion, increases in usage of major corridors at peak hours have been proportional to VMT increases
- In 2020, the COVID-19 pandemic resulted in significant decrease in traffic volumes on Maryland highways; these reductions in travel demand resulted in fewer vehicles in peak hours

### What Are Future Performance Strategies?

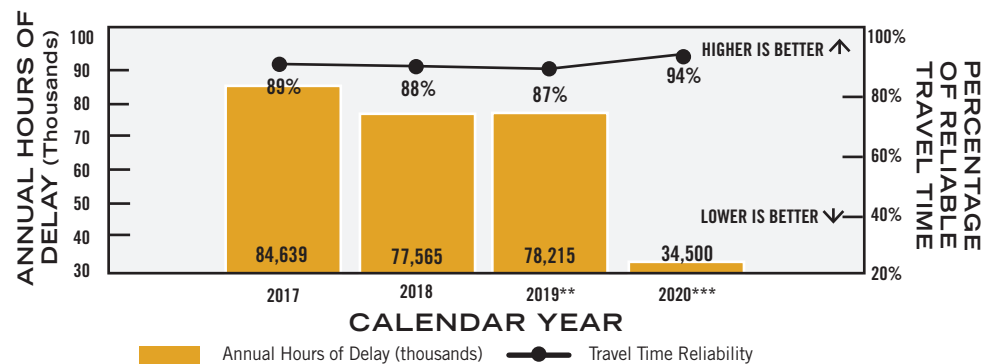
- Advance planning and design activities of Transportation Systems Management and Operations (TSMO) projects and strategies and develop and mainstream active traffic management and integrated corridor management capabilities
- Evaluate the CHART patrol program to determine continuing improvements in reduction in roadway delays and user cost savings



## ANNUAL HOURS (THOUSANDS) OF DELAY AND TRAVEL TIME RELIABILITY ON THE MDOT HIGHWAY NETWORK\*

As the Baltimore and Washington regions continue to grow in population and jobs, more users will continue to add demand and congestion on much of the transportation system that already operates at or over capacity at peak hours. This measure tracks MDOT SHA and MDTA performance in reducing congestion on the State Highway system. MDOT SHA and MDTA continue to prioritize congestion reduction and mobility growth, while many projects, programs, and policies prioritize delay reduction. This measure is an indicator of overall congestion and the number of people/vehicles affected by delay on the Maryland highway network.

As MDOT improves travel time reliability, customers are able to utilize more realistic expectations of their total trip time. MDOT uses a planning time index (PTI) to measure reliability. Any roadway segment that has a PTI less than 1.5 is defined as reliable, and MDOT uses the PTI threshold to determine the percentage of travel time reliability. This understanding allows MDOT to determine when system changes need to be made.



Target: 81,450 hours of delay in 2021; 87% travel time reliability in 2021

\* Beginning in 2016, the network definition changed to cover the entire MDOT Highway Network (freeways and major arterials). Performance data prior to 2016 pertains to a different network definition and is no longer presented with the MDOT Highway Network (freeways and major arterials) performance.

\*\* 2019 data has been revised from previous report.

\*\*\* 2020 data is preliminary and subject to change.

### Why Did Performance Change?

- The total number of crashes and incidents are down but reduced traffic volumes and free flow conditions due to COVID-19 have resulted in increased crash severity
- In 2020, the lower level of traffic and less congestion, due to the COVID-19 pandemic, led to a decrease in traffic volume and higher reliability of truck travel

### What Are Future Performance Strategies?

- As Maryland recovers from COVID-19, data and performance driven capital and operational technology investments will be required as reliability trends change
- MDOT will continue to advance the Traffic Relief Plan (TRP), including furthering design for the I-695 from I-70 to MD 43 TSMO project
- \$125.0 million in federal funds have been approved for the Howard Street Tunnel in Baltimore, which will ease truck traffic, boost the economy, and create jobs



## OBJECTIVE:

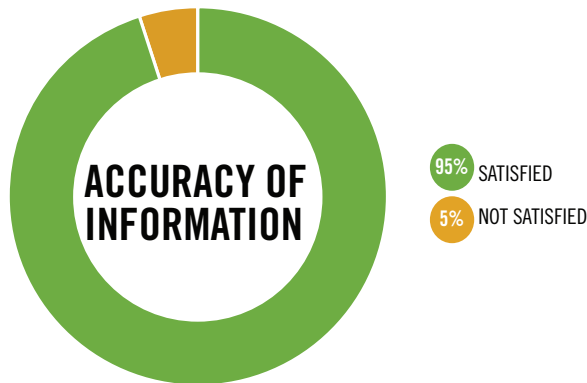
Apply enhanced technologies to improve communications with the transportation system users and to relay real-time travel information

### CUSTOMER SATISFACTION WITH THE ACCURACY OF REAL-TIME INFORMATION SYSTEMS PROVIDED



#### MDOT CUSTOMER SATISFACTION WITH ACCURACY OF INFORMATION (MDOT SHA)\*

##### REAL-TIME SURVEY RESULTS



\* CY 2019 data was not collected for the MDOT MAA Next Vehicle Arrival System, Core Bus Tracker System, Light Rail Next Train Arrival System, MARC Next Train Arrival System, MARC Next Train Arrival System, or Commuter Bus Tracker System. CY 2018 data is shown for these systems.

Real-time information systems, installed throughout the transportation network and available via web interfaces and mobile devices, provide the most accurate information for customer trip planning and time-management. By surveying customer satisfaction for each real-time information system, MDOT TBUs can observe which systems are utilized most successfully and which systems require improvements.

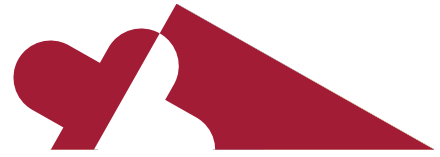
#### Why Did Performance Change?

- MDOT SHA and MDTA (CHART) have Dynamic Messaging Signs (DMS) throughout the State, which continues to recognize 95% or higher customer satisfaction with both accuracy of the system, since 2017
- MDOT MTA offers real-time information systems for most of its modes of transportation and, due to ongoing improvement efforts, surveys on helpfulness and accuracy indicate a significant increase in customer satisfaction over the previous year
- MDOT MTA launched a partnership with Transit app, allowing customers to receive accurate location and arrival information for CityLink, LocalLink, and ExpressBusLink in the BaltimoreLink fleet
- CHART, a joint effort of MDOT SHA, Maryland State Police (MSP), and MDTA, assists a motorist every 14 minutes, twenty four hours a day, seven days a week (24/7) and has responded to over one million requests for services since its inception, saving drivers \$1.5 billion in the cost of delays and 38.6 million hours of delay
- CHART provides real-time traffic conditions notifications to drivers along major routes through variable-message signs (VMS) and highway advisory radio (HAR) broadcasts; CHART also provides real-time traffic images on CHART's website through cameras located throughout the State
- FY 2020, MDOT MVA increased the frequency in which wait time information is updated on the website to help improve data accuracy; additionally, MDOT MVA developed requirements for a new customer traffic management system to improve real-time wait information

#### What Are Future Performance Strategies?

- MDOT MTA will begin implementation of a \$26.0 million Federal Transit Administration (FTA) grant for "Beyond the Bus Stop," a program that will include installing real-time signage at transfer hubs throughout Baltimore City and Anne Arundel County
- CHART will continue to expand DMS, websites, and telecommunication efforts to operate the existing transportation system more efficiently
- MDOT SHA will continue their partnership with Waze and their Connected Citizens Program, allowing MDOT SHA to send drivers traffic alerts





## **GOAL:** *Ensure Environmental Protection and Sensitivity*

**DELIVER SUSTAINABLE TRANSPORTATION INFRASTRUCTURE IMPROVEMENTS THAT PROTECT AND REDUCE IMPACTS TO MARYLAND'S NATURAL, HISTORIC, AND CULTURAL RESOURCES**

### **OBJECTIVES:**

- Protect and enhance the natural, historic, and cultural environment through avoidance, minimization, and mitigation of adverse impacts related to transportation infrastructure, including support for broader efforts to improve the health of the Chesapeake Bay
- Employ resource protection and conservation practices in project development, construction, operations, and maintenance of transportation assets
- Implement initiatives to reduce fossil fuel consumption, mitigate Greenhouse Gas (GHG), and improve air quality

MDOT continues to streamline its business processes, minimizing any adverse impacts on the environment, while conserving natural resources, and integrating sustainability into various aspects of transportation systems at the policy, program, and project levels of implementation. MDOT's comprehensive systems approach to environmental stewardship covers programs in air quality and climate change mitigation by reducing GHG and increasing climate adaptation and resiliency, land and water resources, energy management, and sustainable community enhancement in the agency's operations and practices. MDOT's Transportation Business Units (TBUs) continue to reduce effects of transportation and the built-environment by way of effective planning, an interdisciplinary approach to project development, sustainable operations, and maintenance procedures.

MDOT's commitment to environmental protection is manifested through its plans, projects, and initiatives integrated into the day-to-day operations of the TBUs. Examples of the far-reaching environmental initiatives of the department include, the MDOT MPA Innovative and Beneficial Reuse of Dredged Material Initiative, the Port of Baltimore Dry Truck Replacement Program, and MDOT SHA's tracking of Bay restoration projects toward the 20% goal for impervious surfaces during their five-year permit term. MDOT MPA was honored for its continued commitment and stewardship of wildlife habitat through outreach and educational programming. MDOT SHA's efforts to intensify environmentally friendly practices during winter operations won the MDOT TSO Environmental Hero Award. MDOT SHA, through its comprehensive Statewide Salt Management Plan determined that a reduction in overall salt usage on MDOT SHA-maintained roadways could help the TBU achieve its fiscal, environmental, and level of service goals. In July 2020, the World Resources Institute (WRI) recognized Maryland as the top GHG-reducing state in the U.S., successfully reducing emissions by 38% between 2005 and 2017 while consistently maintaining economic growth.

MDOT also has been recognized as a 2020 Electronic Product Environmental Assessment Tool (EPEAT) Purchaser Award winner, which celebrates leaders in sustainable electronics procurement.

The Maryland General Assembly has codified the Maryland Commission on Climate Change (MCCC) into law and is charging the Commission with advising the Governor and General Assembly on ways to mitigate the causes of, prepare for, and adapt to the consequences of climate change. The MCCC recently finalized the 2020 Annual Report, detailing the latest successes and recommendations related to mitigating and managing climate change in Maryland.

All MDOT TBUs incorporate environmental Best Management Practices (BMPs) as part of the Chesapeake Bay Restoration efforts. MDOT SHA partnered with Living Classrooms in launching a pilot education program that will encourage activities to reduce pollution and restore the Chesapeake Bay under the oversight of the Maryland Department of the Environment (MDE), which provides rigorous testing of the program and its results.

MDOT continues to lead by example in its solar program with the potential to install photovoltaic (PV) systems on more than 874 facilities it owns or controls. MDOT currently has five PV systems installed on its properties at MDTA, MDOT MAA, MDOT MTA, and MDOT MPA, with a total installed capacity of 1.8 megawatts. MDOT makes continued commitment to environmental compliance, enhances improvement of its environmental performance through established and innovative processes, and adherence to sustainable practices, while maintaining outreach and communication about its environmental activities with project stakeholders and the general public.





## MDOT ENVIRONMENTAL INITIATIVES

**MDOT MAA:** Continues its initiative to incorporate alternative fueled buses into its fleet of ground support vehicles at BWI Marshall Airport. The replacement of older vehicles with Clean Natural Gas (CNG) buses over the last couple of years has resulted in 33% of BWI Marshall Airport's entire fleet being alternative fuel. MDOT MAA acquired 22 new clean diesel buses in FY 2020 for passenger shuttle services between the terminals, airport parking facilities, and the BWI Marshall Airport Rail Station. Under the Volkswagen Clean Air Act Civil Settlement Program, MDOT MAA is also pursuing grant funds to obtain several fully electric buses and is starting to plan support infrastructure for implementation by 2023.

To meet the increasing traveler and employee demand for green infrastructure, MDOT MAA conducted a feasibility study to determine the number and type of electric vehicle (EV) charging stations needed at BWI Marshall Airport over the next 30 years. This study identified the extent of infrastructure upgrades needed to accommodate the different types of EV charging stations and provided key data and information that will guide the systematic addition of charging stations at MDOT MAA facilities.

**MDOT TSO:** MDOT issued Master Services Agreements (MSAs) to six qualified contractors to design, construct, commission, finance, operate, and maintain PV energy facilities at MDOT locations throughout Maryland, generating 1.8 megawatts. The MSAs provide MDOT with the flexibility of developing PV energy systems quickly and efficiently. The GHG benefit has increased by 10% over the last year and resulted in 15 metric tons of reductions.

MDOT's leadership of the Zero Emission Electric Vehicle Infrastructure Council (ZEEVIC) continues to build opportunities, financial incentives, and promotion of the purchase of EVs and the installation of EV supply equipment (EVSE) to support the State's EV goals. Total EVs registered in Maryland, as of August 2020, is 26,299 vehicles, of which 15,370 are Battery Electric Vehicles (BEVs) and 10,929 are Plug-in Hybrid Electric Vehicles (PHEVs). As it continues to enhance charging infrastructure, MDOT has worked with the U.S. Department of Transportation (U.S. DOT) to designate a total of 21 EV charging corridors. MDOT's ZEEVIC 2020 public outreach efforts have included direct outreach to over 3,500 Maryland citizens in four counties and Baltimore City and included a Maryland Local Government EV Survey effort, seeking to identify challenges related to EVs and EVSEs, planned locations for EVSE, and optimal sites for future infrastructure.

**MDOT MTA:** As part of the MDOT MTA bus replacement program, 140 clean diesel buses began delivery in FY 2018 and FY 2019, with 350 additional clean diesel buses expected for delivery in the FY 2019–FY 2024 period. MDOT MTA is also updating the climate change focused Vulnerability Plan developed in 2016 as more refined and up-to-date projections for sea level rise has become available. Improvements to MARC are helping to enhance connectivity, reliability, and access to intercity passenger rail for all trips.

**MDTA:** MDTA has completed the installation of EV stations at the Baltimore Harbor Tunnel and Fort McHenry Tunnel customer service centers. Waste diversion efforts at MDTA focus mainly on recycling. In May 2018, Governor Hogan announced a program to encourage *E-ZPass*® holders to trade-in (or swap) their existing transponders for new units. MDTA managed these units and facilitated their shipment to a recycling facility in the Midwest. More than 30,000 decommissioned transponders were sent for recycling, where MDTA efforts diverted potentially harmful heavy metals from entering our environment or being sent to an incinerator or landfill.

**MDOT MPA:** MDOT MPA has replaced more than 200 drayage trucks and 110 pieces of cargo handling equipment with more environmentally friendly models, repowered 10 marine engines, and retrofitted 16 locomotive engines over a period of 11 years. They continue to progressively pursue Diesel Emission Reduction Act (DERA) grants to replace or repower diesel engines, marine vessels, and cargo handling equipment, thereby, reducing emissions from transportation used at and around the Port.

Two islands in the Chesapeake Bay that have long suffered erosion will be restored with clean sediment removed from the Bay channel segments serving the Port of Baltimore through a joint effort between the MDOT MPA and the U.S. Army Corps of Engineers, Baltimore District. A total of 2,144 acres of remote island habitat will be restored as part of the Mid-Chesapeake Bay Island Ecosystem Restoration Project. A four-year, \$9 million engineering and design phase of the project is actively underway, which utilizes 65% federal funding and 35% State funding. Mid-Bay will provide an additional 90 to 95 million cubic yards of desperately needed long-term, sustainable dredged material placement capacity for Chesapeake Bay channel sediment in channels leading to the Port of Baltimore.

**MDOT MVA:** MDOT MVA continues its energy conservation efforts including management of its carbon footprint, mitigation of emissions, 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 conducts energy audits at branches throughout the State of Maryland to ensure that facilities continue to comply with Maryland's Energy Code.

**MDOT SHA:** As part of its climate adaptation and resilience planning efforts, MDOT SHA has updated the Climate Change Vulnerability Viewer data for nuisance flood depth grid data and modeling data for Hurricane Florence. A study on MD 450/US 50 was conducted to demonstrate a process for implementing quantitative risk assessment techniques to incorporate into a risk-based asset management program. The pilot supplied a methodology for assessing the criticality of the state-owned roadway network, statewide. MDOT SHA is implementing procedures to track and document repeat flooding events for Transit Asset Management Plan (TAMP) Part 667 analysis. A Climate Risk and Resiliency Strategic Plan is also in development.

MDOT SHA continued progress towards its FY 2020 goal of treating 20% of its impervious surface not previously treated by stormwater management controls, reporting 9% treated in its FY 2018 National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) annual report to the MDE. The amount of wetland or wildlife habitat acres created, restored, or improved annually by MDOT SHA mitigation projects is dependent on the amount of mitigation obligated by project permits in a given year, as well as the construction completion date for the mitigation projects. MDOT SHA reported, in its FY 2018 NPDES MS4 annual report to MDE, that maintenance crews, contractors, and other MDOT SHA trash removal initiatives collected 1.93 million pounds of litter, an increase from the 1.77 million pounds reported in the FY 2017 NPDES MS4 annual report.



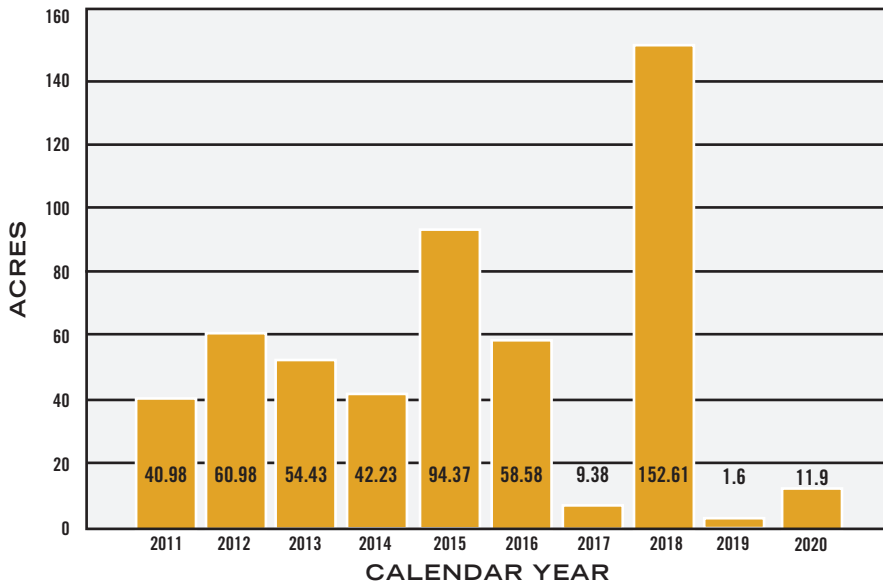
## OBJECTIVE:

Protect and enhance the natural, historic, and cultural environment through avoidance, minimization, and mitigation of adverse impacts related to transportation infrastructure, including support for broader efforts to improve the health of the Chesapeake Bay

### ACRES OF WETLANDS OR WILDLIFE HABITAT CREATED, RESTORED, OR IMPROVED<sup>\*,\*\*</sup>



MDOT agencies are in compliance with the various permits that are granted to construct projects needed to improve the transportation system on land and offshore.



\* Data for years 2011 - 2019 have changed from previous report to reflect annual data collection (data collection was previously reported cumulatively).

\*\* Data is a sum of acres of wetlands or wildlife habitat created, restored, or improved by MDTA, MDOT MPA, or MDOT SHA. Acres created, restored, or improved depend on the amount of mitigation obligated by project permits in a given year, as well as the construction completion date for the mitigation projects.

### Why Did Performance Change?

- Continued implementation of stormwater management and Total Maximum Daily Load (TMDL) improvements to reduce pollution entering local waterways and ultimately the Chesapeake Bay
- MDOT MPA partnered with the Maryland Department of Natural Resources (DNR) and the Maryland Zoo to restore a stream segment and install BMPs at the Zoo

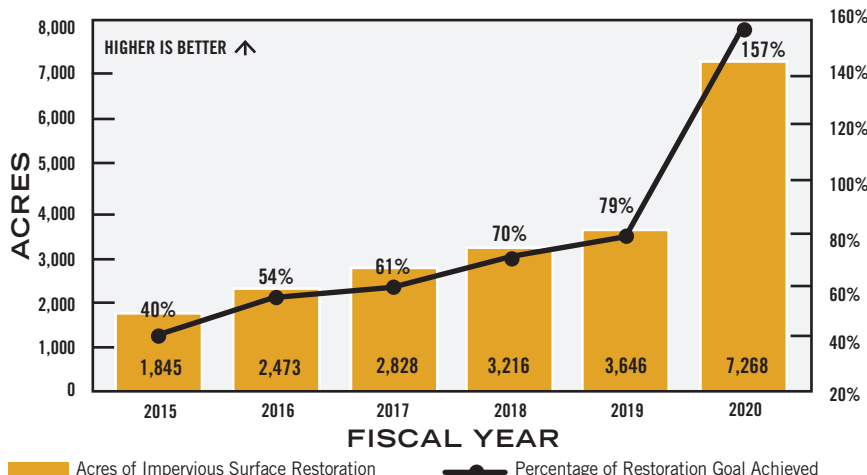
### What Are Future Performance Strategies?

- MDOT MPA will seek to create and improve wildlife habitat wherever appropriate and in conformance with permit requirements; long term efforts include Hart-Miller Island North Cell restoration, Masonville's eastern uplands, and Poplar Island Expansion
- MDTA will target sustainable sites within future capital projects for restoration, establishment, or preservation and MDOT SHA continues to maintain compliance with regulations that can require minimization and/or mitigation of impacts to regulated wetland areas

### WATER QUALITY TREATMENT TO PROTECT AND RESTORE THE CHESAPEAKE BAY<sup>\*,\*\*</sup>



This measure tracks MDOT compliance with achieving impervious surface restoration as required by the NPDES MS4 permit. This measure reports the acres of impervious surface treatment associated with Bay restoration projects to determine overall progress toward the 20% goal during their five-year permit term.



Target: 4,621 Acres by October 2020

\* Data is reported cumulatively.

\*\* Restoration BMPs have changed, resulting in additional credits for previous years, causing past data to change to reflect the updated BMPs.

### Why Did Performance Change?

- MDOT SHA continued progress towards its FY 2020 goal of treating 20% of its impervious surface not previously treated by stormwater management controls, reporting 9% treated in its FY 2018 NPDES MS4 annual report to the MDE
- MDOT SHA reported that maintenance crews, contractors, and other MDOT SHA trash-removal initiatives collected 1.93 million pounds of litter, an increase from the 1.77 million pounds reported in the FY 2017 NPDES MS4 annual report

### What Are Future Performance Strategies?

- MDOT anticipates an increase in FY 2020 and FY 2021 wetland or wildlife habitat acres created, restored, or improved because several projects are currently in various stages of construction
- Increase the reach of MDOT watershed restoration resources by developing approaches to empower local citizen stewardship groups pollutant removal

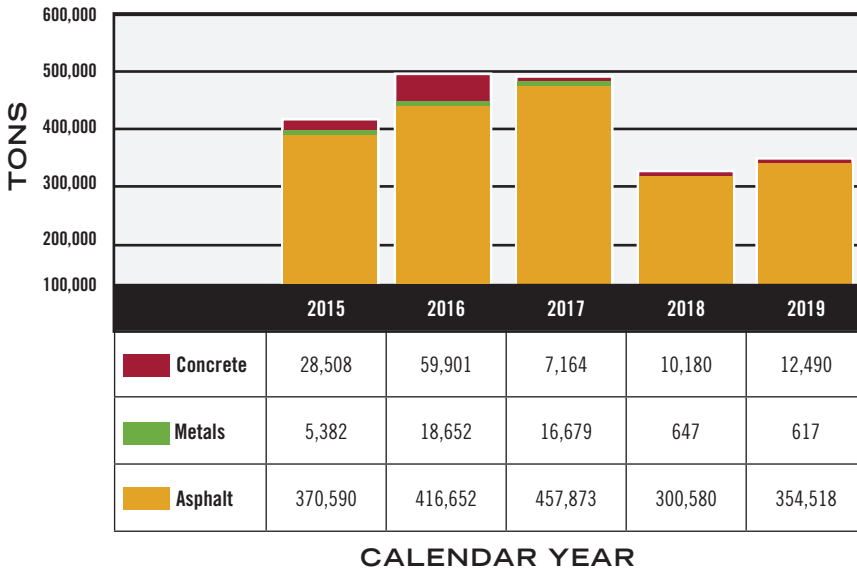
## OBJECTIVE:

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

### RECYCLED/REUSED MATERIALS FROM MAINTENANCE ACTIVITIES AND CONSTRUCTION/DEMOLITION PROJECTS



MDE has established a “Zero Waste” Action Plan. This measure tracks the reduction of the TBU’s impact on solid waste landfill through recycling/reuse of metal, asphalt, and concrete. Due to the number and type of construction/demolition activities and projects, we recognize that there may be variability among reporting periods and TBUs.



#### Why Did Performance Change?

- The use of recycled asphalt materials in Hot Mix Asphalt (HMA) in CY 2018 was 23%, which is consistent with usage in previous years (20%–22%); the variations in the tonnages per year reflect the changes in the yearly tonnage of asphalt mix placed
- The tonnage of recycled concrete-graded aggregate base (RC-GAB) used in CY 2018 (10,180 tons) was greater than the average for the period 2012–2018 (8,997 tons); this may be attributed to having two qualified plants producing RC-GAB (instead of only one in 2018)
- Contractors can choose RC-GAB instead of conventional GAB material provided the material specifications are met

#### What Are Future Performance Strategies?

- Continue to encourage the use of recycled concrete and asphalt in construction
- Continue industry partnerships to identify areas where improvements can be made to increase the use of recycled materials
- Collaborate with pavement and highway design group to recommend placing more recycling road projects where applicable and explore potential for increased use of RC-GAB in road maintenance projects

### UTILITY ELECTRICITY USE AND RENEWABLE ENERGY GENERATION



MDOT has prioritized improving air quality, increasing the usage of renewable energy sources, and improving water quality for all current infrastructure and future projects. With these initiatives, MDOT can reduce electricity consumption, supporting Maryland as it moves toward its clean energy and GHG reduction goals. Reducing energy consumption and generating renewable energy benefits all Maryland residents, saving taxpayers money, generating economic revenue, and decreasing air pollutants. MDOT measures the consumption of utility energy, as well as the amount of renewable energy generated by MDOT.

MEGAWATT HOURS IN THOUSANDS (FY)	2015	2016	2017	2018	2019
Electricity Use	383	384	364	379	367
Renewable Energy Generation	1.759	1.998	1.629	1.431	1.274

#### Why Did Performance Change?

- MDOT issued MSAs to six qualified contractors providing MDOT the flexibility of developing PV energy systems quickly and efficiently
- The GHG benefit produced by MDOT has increased by 10% over the last year and resulted in 15 metric tons of reductions
- MDOT MAA is replacing outdated HVAC units and converting airfield lighting to LED where appropriate and is in the process of incorporating energy saving and sustainability considerations into development and tenant design standards

#### What Are Future Performance Strategies?

- MDOT continues to expand its Renewable Energy Program and has installed solar, wind, and geothermal energy systems at a number of MDOT facilities
- MDOT’s Solar Program has recently established a Renewable Energy Development Contract, which will allow a number of PV systems to be installed on MDOT properties; MDOT has potential to install PV systems on more than 874 facilities under its purview



## OBJECTIVE:

Implement initiatives to reduce fossil fuel consumption, mitigate greenhouse gases, and improve air quality

## TRANSPORTATION-RELATED EMISSIONS BY REGION\*



MDOT plans, programs, and projects continue to meet federal and state requirements for air quality by reducing vehicle emissions and improving air quality for Maryland residents. MDOT programs encourage more participation in the shared mobility economy, more usage of transit and EVs, and more safety and support for people riding bikes and walking. These initiatives reduce GHG emissions and assist Maryland in meeting its GHG goals.

PERFORMANCE MEASURE	REGION	CALENDAR YEAR				% CHANGE 2008-2017
		2008	2011	2014	2017	
Volatile Organic Compound (VOC) Tons per Day	Baltimore	52.8	45.5	41.3	25.9	-51%
	Washington**	44.2	39.2	35.4	23.9	-46%
	Other	25.8	20.7	21.1	13.4	-48%
Nitrogen Oxide (NOx) Tons per Day	Baltimore	107.8	89.5	79.5	53.7	-50%
	Washington**	84.0	74.4	63.3	45.3	-46%
	Other	52.7	44.4	44.2	32.8	-38%
Carbon Monoxide (CO) Tons per Day	Baltimore	541.9	445.1	431.8	365.0	-33%
	Washington**	433.4	363.6	352.6	335.5	-23%
	Other	273.2	202.4	229.1	180.1	-34%
Particulate Matter (PM2.5) Tons per Day	Baltimore	4.6	3.5	3.4	2.2	-52%
	Washington**	3.6	2.9	2.7	1.9	-48%
	Other	1.9	1.4	1.5	1.1	-44%

\* All emission estimates developed as part of the USEPAs National Emissions Inventory (NEI). The NEI is published every three years, 2020 data will be available in 2021.

\*\* 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?

- MDOT has installed and operates 1.8 megawatts of PV energy at facilities at MDOT, increasing the GHG benefit by 10% over the last year and resulting in 15 metric tons of reductions
- Continued to promote and implement alternative transportation mode choices, including transit improvements, bicycle and pedestrian infrastructure, and Commuter Choice programs, to reduce emissions in non-attainment areas
- Begun implementing the MDTA toll modernization plan, which includes all-electronic (cashless) tolling (AET) and reduced emissions from idling and congestion
- Implemented emission-reduction strategies in non-attainment areas to foster transportation alternatives to single occupancy vehicles
- MDOT MAA acquired 40 clean diesel buses through the shuttle bus replacement project to be used at the BWI Marshall Airport in place of older shuttle buses

## What Are Future Performance Strategies?

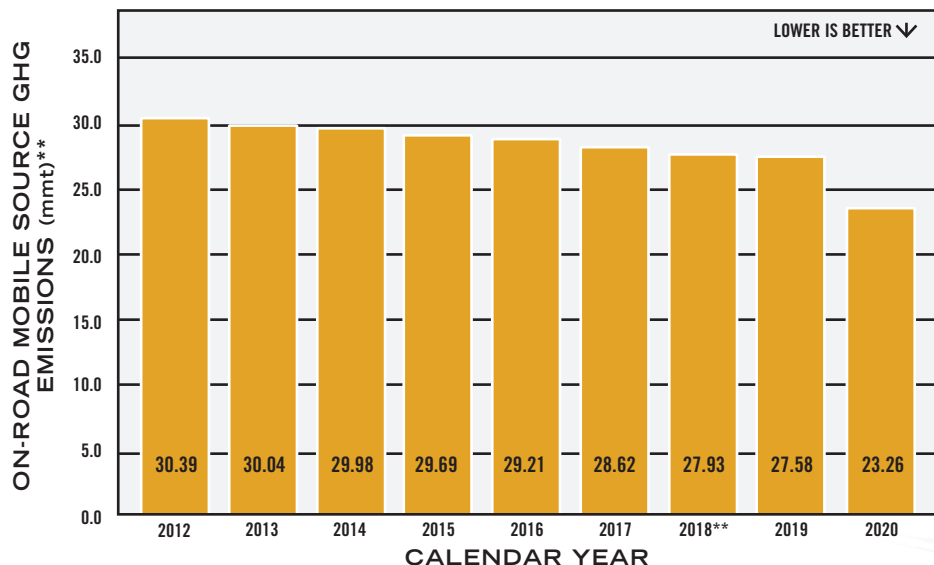
- Continue to make investments through the Congestion Mitigation and Air Quality (CMAQ) program, with \$224 million set aside in the FY 2021-FY 2026 CTP
- Continue implementation of the MDTA toll modernization plan, which will save Marylanders \$28 million over the next five years and continue to reduce emissions
- Invest money awarded from the Volkswagen funds in 2020 to replace 41 older vehicles with electric and clean diesel models; use 2020 Low No Grant award to pilot the introduction of Zero Emissions Vehicle (ZEV) buses into the MDOT MTA fleet
- MDOT MAA plans to continue its shuttle bus replacement program, including the acquisition of zero-emission electric buses through the Volkswagen Clean Air Civil Settlement Program



## TRANSPORTATION-RELATED GREENHOUSE GAS (GHG) EMISSIONS



Maryland continues to make progress in reducing its emissions footprint and working towards GHG reduction goals and MDOT remains an active participant in the Maryland Commission on Climate Change, working with stakeholders to mitigate carbon emissions and support long-term lower carbon air quality goals.



**Target:** 25% below 2006 emissions by 2020. For on-road transportation, the goal equals 23.5 mmt CO<sub>2</sub>e in 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<sub>2</sub>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 EPA's MOVES model available at time of analysis. MOVES2014a is used for analysis year 2016, 2017, 2018 and 2019. 2018 annual VMT revised to reflect actual MDOT SHA reported 2018 HPMS VMT.

### Why Did Performance Change?

- COVID-19 dramatically reduced Vehicle Miles Traveled (VMT) and travel generally, leading to widespread reductions in transportation-related emissions though VMT and travel are expected to increase in the future
- MDOT MTA continues to reduce emissions from transit, with the purchase of 140 clean diesel buses
- The North Avenue Rising project, a suite of transportation investments to improve corridor and regional mobility, began in Summer 2019 and is supported by a U.S. DOT Better Utilizing Investments to Leverage Deployment (BUILD) Grant (as of 2018) program with \$1.6 million coming from Federal Highway Administration (FHWA), \$1.0 million from Baltimore City, and \$14.7 million from MDOT

### What Are Future Performance Strategies?

- Continue to promote Commuter Choice Maryland, particularly as the COVID-19 pandemic has increased the usage of strategies such as telework and alternative schedules
- MDOT MTA will continue to regularly renew their bus fleets to maintain the average age of the fleet, yielding reliability benefits, and environmental benefits through reduced emissions, fuel consumption, and noise
- The Climate Change Commission released the 2020 Annual Report, this report detailed strategies for mitigating climate change in 2021



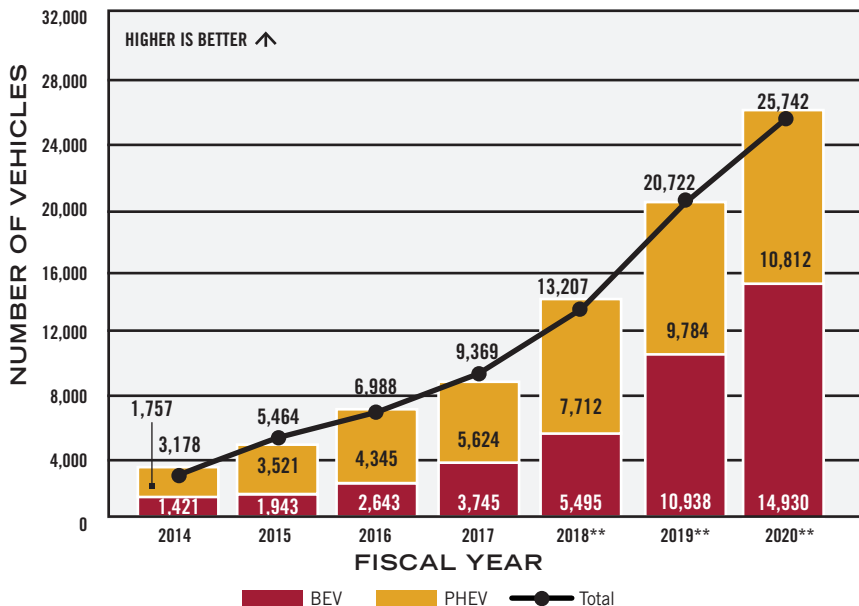


## TOTAL EVS REGISTERED IN MARYLAND AND TOTAL PUBLICLY AVAILABLE ELECTRIC VEHICLES (EVS) CHARGING INFRASTRUCTURE\*



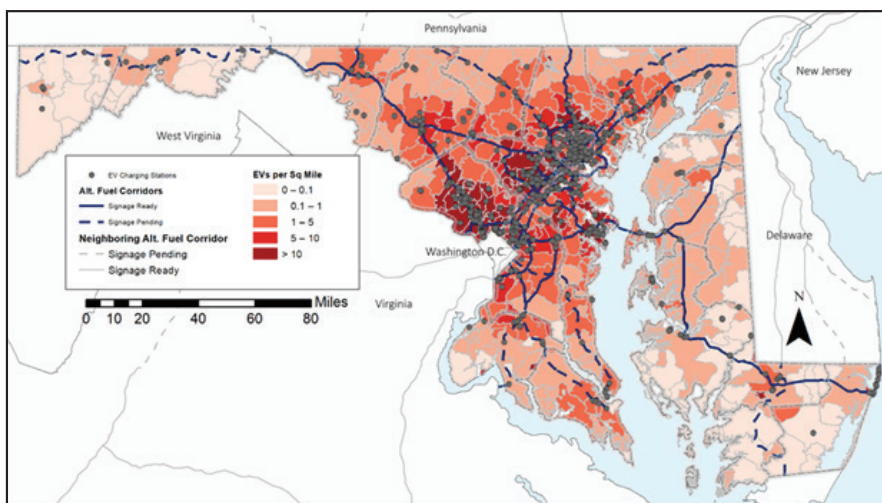
Maryland has a goal of 60,000 EV registrations in the State by 2020 and 300,000 by 2025. These goals represent a key component of ensuring that Maryland meets a GHG emission reduction goal of 40% from 2006 levels by 2030. Drivers in Maryland are encouraged to buy EVs through educational efforts, tax benefits, and rebates, leading to an increase in EVs registered across the State. The installation of EVSE will continue to be critical in addressing range anxiety and ensuring that adequate EV charging infrastructure is in place as EV adoption accelerates.

MDOT continues to lead the ZEEVIC to promote EV usage and the installation of EV infrastructure in Maryland.



\*2018, 2019, and 2020 data are through July 31st of their respective years.

\*\* 2018-2019 data has been revised from previous report.



### Why Did Performance Change?

- MDTA completed the installation of EV charging stations at the Baltimore Harbor Tunnel and Fort McHenry Tunnel customer service centers
- June 2020, MD 295 was designated an EV Charging Corridor and I-70's designation changed from "Corridor Pending" to "Corridor Ready"; Maryland now has 21 EV Charging Corridors with over 1,000 centerline miles under the designation approach within the Fixing America's Surface Transportation (FAST) Act
- MDOT launched the Maryland Local Government EV Survey targeting counties and local planning partners to identify EV- and EVSE-related challenges, planned locations for EVSE, and optimal sites for future infrastructure
- MDOT is working on an EV signage plan to install EV signage on Maryland's FHWA designated alternative fuel corridors

### What Are Future Performance Strategies?

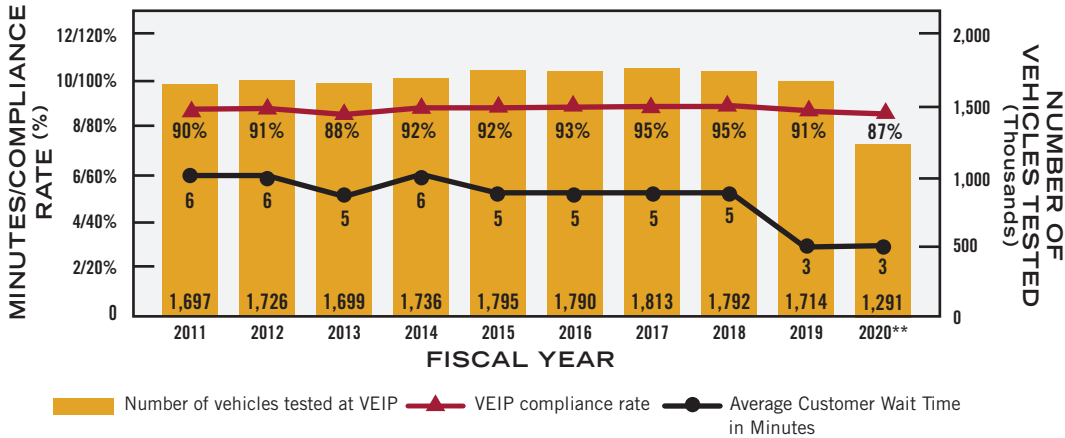
- Through the ZEEVIC, MDOT will continue to review State fleet procurement procedures and practices and will provide direction on procurement of EVs and other ZEVs and associated charging/filling station installation guidance and targets
- MDOT is working to complete the MDOT Fleet Innovation Plan to support the conversion of MDOT's light-duty and bus fleet to ZEVs; the plan will establish a timeline for fleet replacement and identify ZEV fleet and infrastructure opportunities
- The Maryland Public Service Commission (PSC) initiated PC44 to launch a targeted review of electric distribution systems in Maryland; utilities in Maryland have clearance to install over 5,000 EV chargers statewide as a result
- Maryland will continue to provide educational materials through the **MarylandEV.org** and **#MarylandEV** platforms, as well as outreach and educational webinars
- Maryland, with 15 other states signed an memorandum of understanding (MOU) in a commitment to phase out fossil fuel-burning medium and heavy-duty trucks and buses with a target for 30% of new sales to be zero-emission by 2030



## 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.



\* 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.

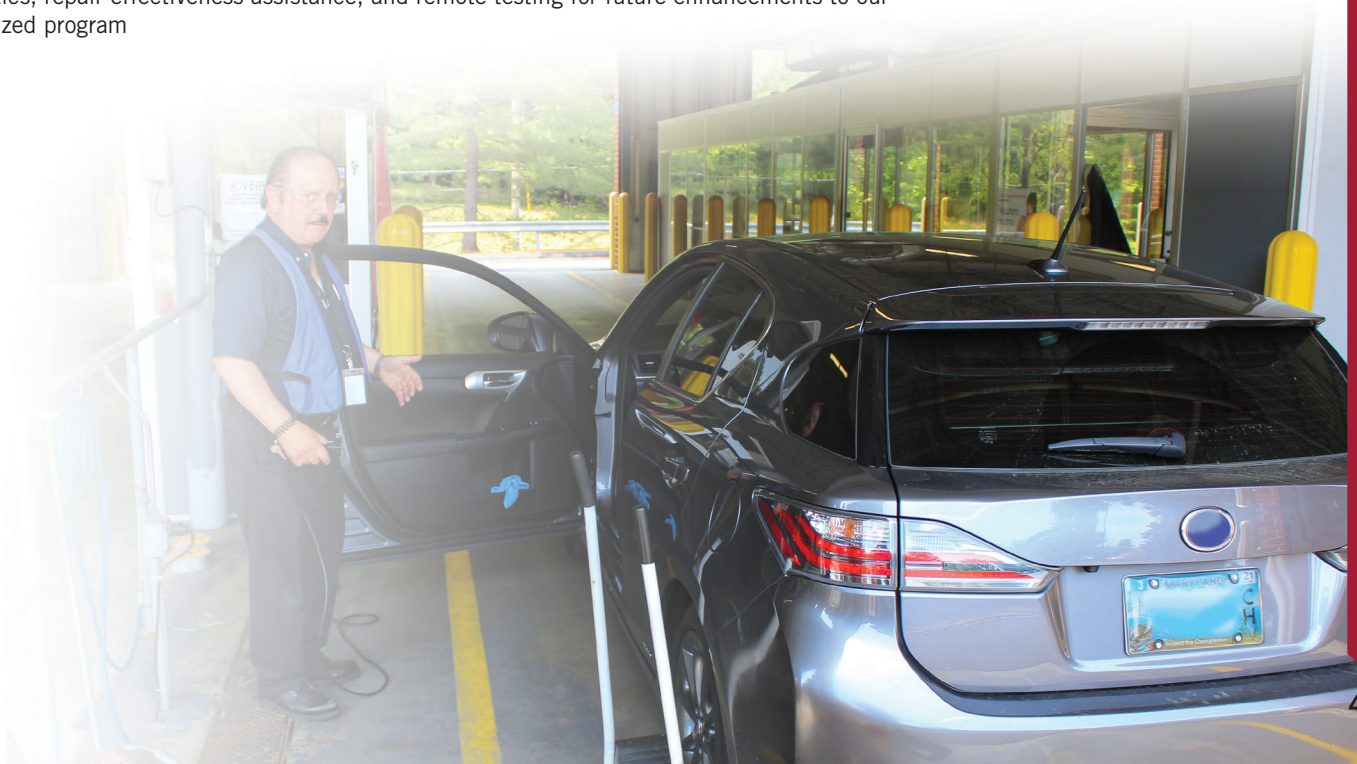
\*\* 2020 data is preliminary and subject to change.

### Why Did Performance Change?

- In response to COVID-19, MDOT MVA VEIP stations were shut down from March through October in order to convert many of the stations to COVID-19 testing centers
- VEIP testing compliance decreased slightly as extensions were given to customers in response to the Maryland State of Emergency; extensions are currently not calculated within the testing compliance rate

### What Are Future Performance Strategies?

- MDOT MVA will continue to make operational improvements to self-serve kiosks to ensure that the maximum number of eligible customers have reliable access to testing
- MDE and MDOT MVA continue to identify new technologies and services for testing, such as telematics, repair effectiveness assistance, and remote testing for future enhancements to our centralized program







## GOAL: *Promote Fiscal Responsibility*

**ENSURE RESPONSIBLE INVESTMENT AND MANAGEMENT OF TAXPAYER RESOURCES TO ADD VALUE AND DELIVER QUALITY TRANSPORTATION IMPROVEMENTS THROUGH PERFORMANCE-BASED DECISION-MAKING AND INNOVATIVE FUNDING MECHANISMS AND PARTNERSHIPS**

## OBJECTIVES:

- Accelerate project completion through improved and efficient use of alternative project delivery methods and strategic partnerships
- Provide transportation services and solutions that maximize value
- Ensure a consistent revenue stream and ample financing opportunities

As financial custodians of the revenues and user fees that fund Maryland's transportation system, MDOT must maximize the value of its transportation investments while addressing the needs of all users. Fiscal responsibility is realized through thoughtful project management, innovative project delivery, effective fund management and reallocation, and customer service. MDOT is unceasing in identifying ways to modernize project delivery and fund projects that are determined to be cost effective and of highest value. MDOT MVA is one example of this charge. The agency has been heavily marketing its Alternative Service Delivery (ASD) methods such as kiosks and online services. Allowing customers to conduct MDOT MVA business in myriad ways saves costs for MDOT in the long run and keeps users safe in the midst of a pandemic.

The Howard Street Tunnel project is continuing despite revenue challenges—as part of a partnership with CSX using a federal Infrastructure for Rebuilding America (INFRA) grant—to allow double-stacked rail cars to move cargo quicker and with more efficiency from the Port of Baltimore and take more trucks off our highways. Federal agencies also offer competitive discretionary grants to supplement its guaranteed funding. These grants require that applicants meet certain eligibility criteria and are generally open to State agencies at the highest level. Many grants are also open to regional and local agencies, thus MDOT often collaborates with these agencies to construct competitive grant application packages. In 2020, MDOT agencies have been awarded more than \$30.0 million in discretionary federal grants, including a major reconstruction of Taxiway T, which is a primary aircraft circulation route around the terminal at BWI Marshall Airport. This project will be fully funded by the federal government, with an additional \$11.0 million in Coronavirus Aid, Relief, and Economic Security (CARES) Act funds.

The State, to best utilize available resources to fund critical repairs, replacement, or expanding infrastructure, utilizes innovative alternative delivery methods. Public-Private Partnerships (P3s), Design-Build (DB), Construction Management at Risk Projects

(CMAR), and other delivery methods are evaluated for each major project. P3s require underlying revenue sources through state or federal agencies, such as tolls, fares, rents, user fees, or availability payments to the private sector partner. MDOT SHA continued development of the I-495 & I-270 P3 Program. Using a P3 will deliver improvements to Maryland's transportation system decades sooner than traditional funding sources. MDOT SHA successfully completed the \$124.2 million I-270 at Watkins Mill interchange project using A+B (or cost + time) bidding. The usage of A+B bidding reduced the construction duration by six months over original estimates. Multiple DB projects were advanced including completion of the \$73 million final phase of the US 113 corridor in Worcester County and significant work was completed on the MD 32 from Linden Church Road to I-70, including the completion and opening of the new Triadelphia Road bridge over MD 32. The I-695 Transportation Systems Management and Operations (TSMO) project completed procurement in 2020 and will begin construction in 2021. This project will reduce congestion on I-695 through the implementation of cost-efficient management options such as hard shoulder running and other TSMO related strategies.



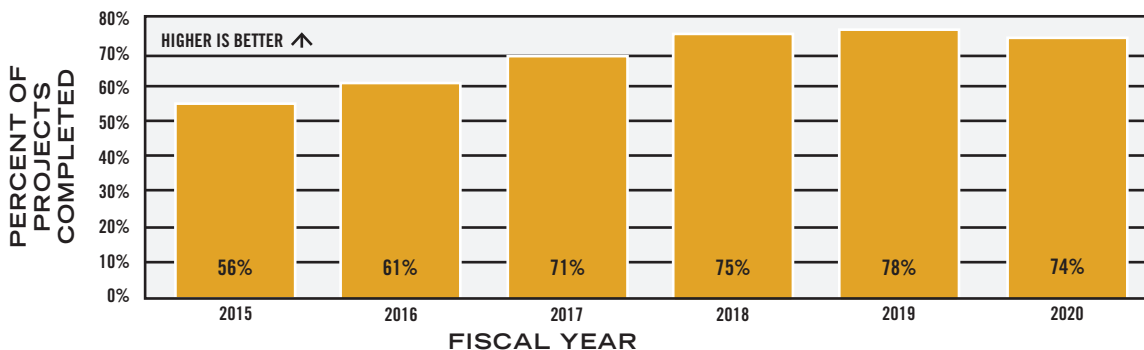
## OBJECTIVE:

*Accelerate project completion through improved and efficient use of alternative project delivery methods and strategic partnerships*



## PERCENT OF PROJECTS COMPLETED BY ORIGINAL CONTRACT DATE

This measure illustrates MDOT's efficiency in managing and delivering contracts and services. It is calculated by assessing contracts completed by their established commitment date or slated project completion date. Project completion is based on when stakeholders are able to receive benefit from the project, such as when a new pedestrian path is opened to the public.



Target: 87% of contracts MDOT-wide are completed on a timely basis

### Why Did Performance Change?

- MDOT's transportation needs are thoroughly assessed to identify the best delivery method; P3, Design-Build (DB), Construction Management at Risk Projects (CMAR), and other alternative delivery methods are evaluated for each major project
- The development of the I-495 and I-270 P3 Program advanced in 2020; using a P3 to deliver these improvements will provide \$9-11 billion in private investment in Maryland's transportation system resulting in economic development and job growth for Marylanders
- MDOT SHA successfully completed the \$124.2 million I-270 at Watkins Mill interchange project using A+B (or cost + time) bidding resulting in a six month reduced project duration

### What Are Future Performance Strategies?

- MDOT will continue to pursue innovative and alternative contracting and to pursue P3 opportunities as feasible and appropriate
- The I-695 TSMO project completed procurement in 2020 and will begin construction in 2021; this project will reduce congestion on I-695 through the implementation of cost-efficient management options such as hard shoulder running and other TSMO related strategies





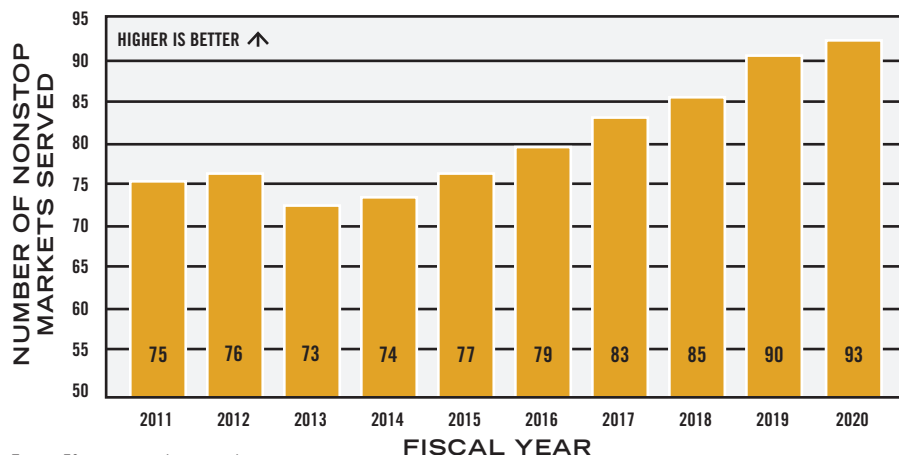
## OBJECTIVE:

Provide transportation services and solutions that maximize value



### NUMBER OF NONSTOP AIRLINE MARKETS SERVED

The number of nonstop airline markets served is an example of Maryland's reach regionally, nationwide, and globally. Growth in the number of nonstop destinations served opens up markets to the State's businesses and residents. As more airlines fly through BWI Marshall Airport, it becomes a more attractive option in the mid-Atlantic region and reflects the success of MDOT MAA's marketing efforts to make it a more competitive airport.



#### Why Did Performance Change?

- The number of nonstop markets served from BWI Marshall Airport increased in FY 2020 as airlines added routes to Greenville/Spartanburg, New York-LaGuardia, and Providenciales in the Turks and Caicos
- The COVID-19 pandemic hit BWI Marshall Airport in 4th quarter of FY 2020, severely reducing demand: at the low point in April 2020, BWI Marshall Airport service had nonstop service to 55 destinations

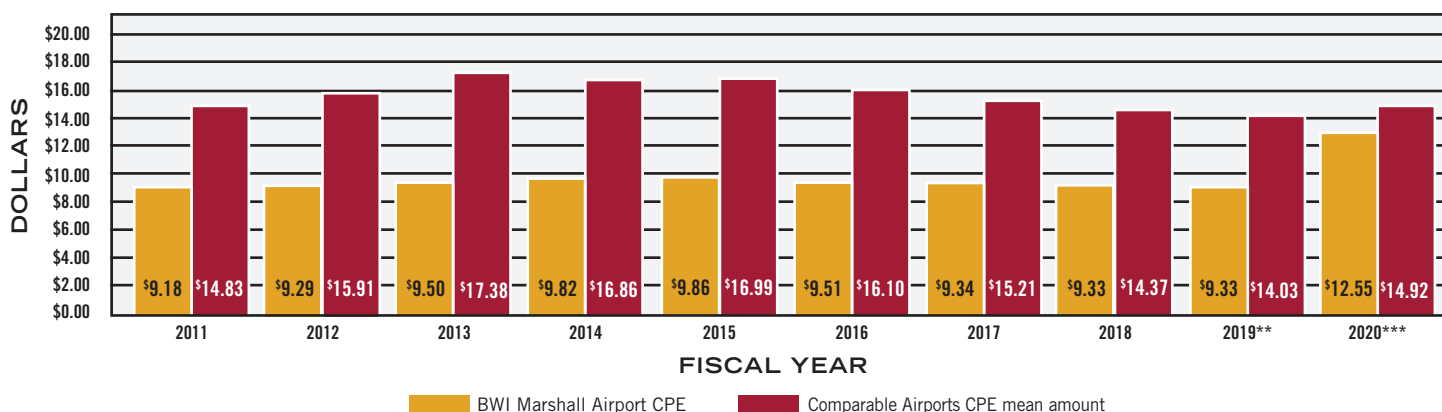
#### What Are Future Performance Strategies?

- Service to most destinations is expected to rebound when demand returns, and carriers are currently offering tickets to 84 destinations throughout FY 2021
- While the pandemic brings much uncertainty, the number of nonstops is expected to return to previous levels in the years following the pandemic



### AIRLINE COST PER ENPLANED PASSENGER (CPE)\*

Airline operation costs, such as landing fees, fuel flowage fees, and terminal rents, support BWI Marshall Airport's competitiveness in a highly competitive region. BWI Marshall Airport is in a region with three other proximate airports: Ronald Reagan National, Washington Dulles International, and Philadelphia International. The CPE at BWI Marshall Airport continues to be the lowest in the mid-Atlantic region and is below the mean of comparable airports.



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

\* Forecasts for Washington Reagan National (DCA) and Washington Dulles International (IAD) were prepared in January 2020, prior to COVID-19. Philadelphia International (PHL) forecasts were prepared in September 2020 and assume that passenger activity levels would resume in June 2022.

\*\* 2019 CPE mean amount has been revised from previous report.

\*\*\* Forecasts for DCA and IAD were prepared in January 2020, prior to COVID-19. PHL forecasts were prepared in September 2020 and assume that passenger activity levels would resume in June 2022.

\*\*\*\* Comparable airports are defined as Washington Reagan National, Washington Dulles International, and Philadelphia International.

#### Why Did Performance Change?

- In March 2020, CPE increased more than 34% from \$9.33 to \$12.55 due to a significant decline in enplanements as a result of the COVID-19 pandemic

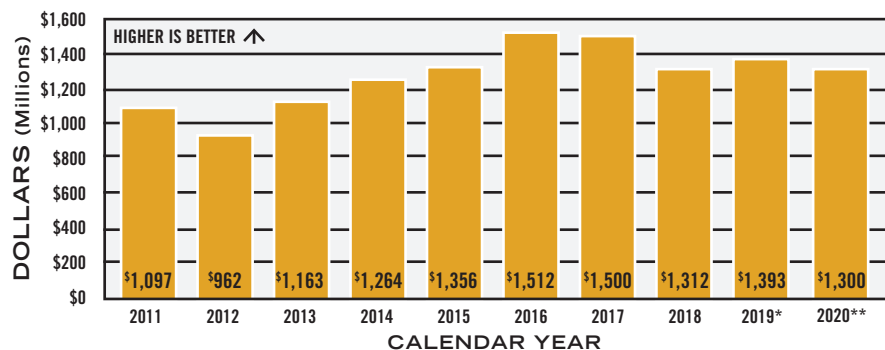
#### What Are Future Performance Strategies?

- In FY 2021-FY 2024, MDOT MAA uses the conservative L-Curve economic recovery model, which shows a reduction in enplanement in FY 2021 of 24% and increases in both FY 2022 (28%) and FY 2023 (14%)

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



Reduced delay on Maryland roadways reflects the tangible effects and benefits of the Coordinated Highways Action Response Team (CHART) incident management program. This in turn saves money for motorists and commercial carriers, such as passenger coach buses and freight trucks.



Target: \$1,300 (\$1.3 billion) million annually

\* 2019 data has been revised from previous report.

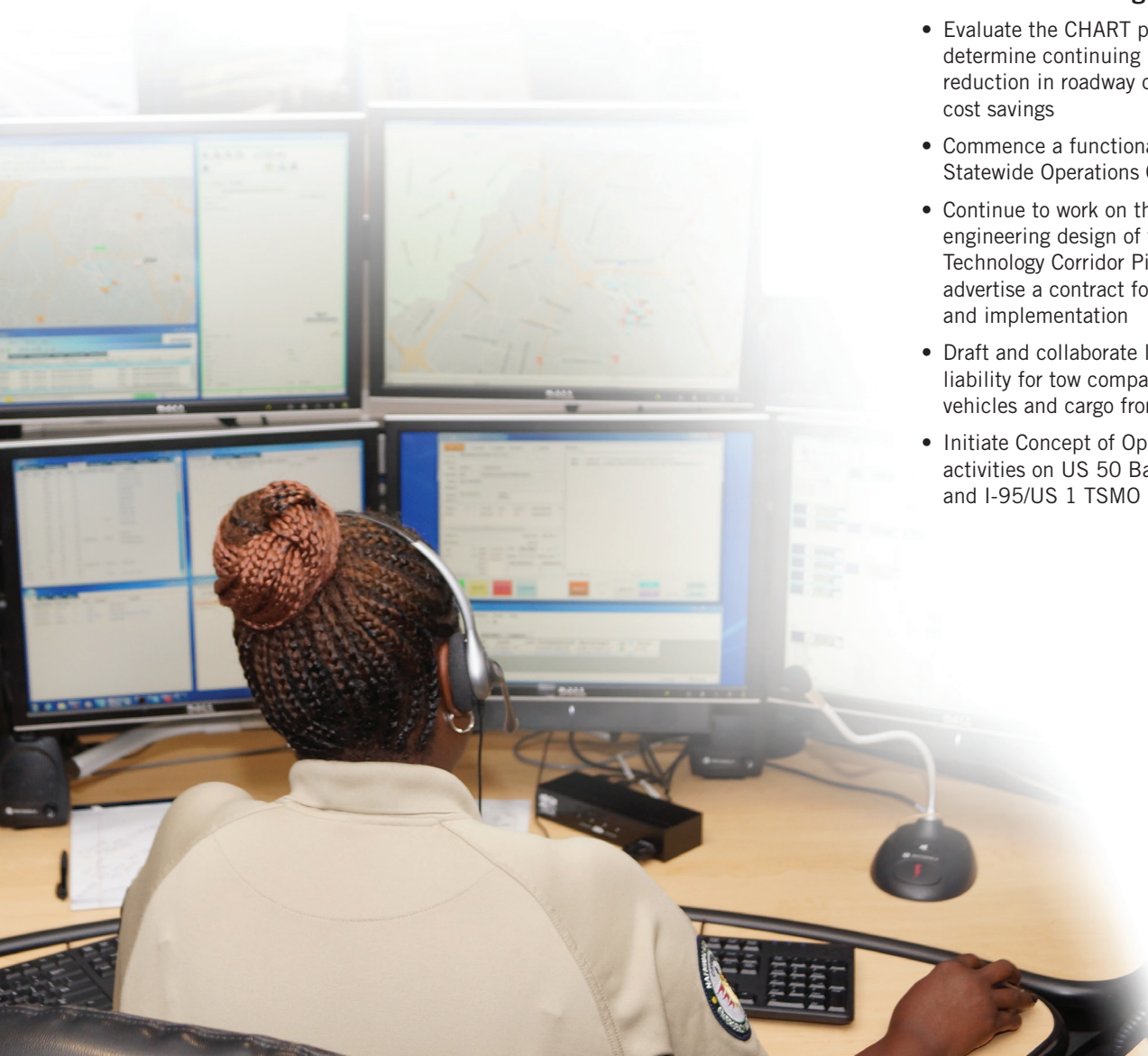
\*\* 2020 is preliminary and subject to change.

### Why Did Performance Change?

- Saved roadway users \$1.393 billion in CY 2019 an increase in savings from CY 2018 (\$1.312 billion) and handled 129,282 events, including incident responses, assistance with disabled vehicles, and traffic management operations for special and weather-related events
- Developed a common operating platform for MDOT operations as part of the One MDOT Multimodal Incident Management effort
- Collaborated and supported the Maryland State Police (MSP) and the MDTA Police to develop and implement an Unmanned Aerial System (UAS) Program for Crash Reconstruction
- Began deployment of a pilot consisting of 52 mobile road weather information sensors (MARWIS) on MDOT SHA's vehicle fleet

### What Are Future Performance Strategies?

- Evaluate the CHART patrol program to determine continuing improvements in reduction in roadway delays and user cost savings
- Commence a functional reconfiguration of the Statewide Operations Center
- Continue to work on the development and engineering design of the US 1 Innovative Technology Corridor Pilot Project and advertise a contract for its construction and implementation
- Draft and collaborate legislation to limit liability for tow companies to clear disabled vehicles and cargo from the travel lanes
- Initiate Concept of Operations and Design activities on US 50 Bay Bridge to Ocean City and I-95/US 1 TSMO Projects

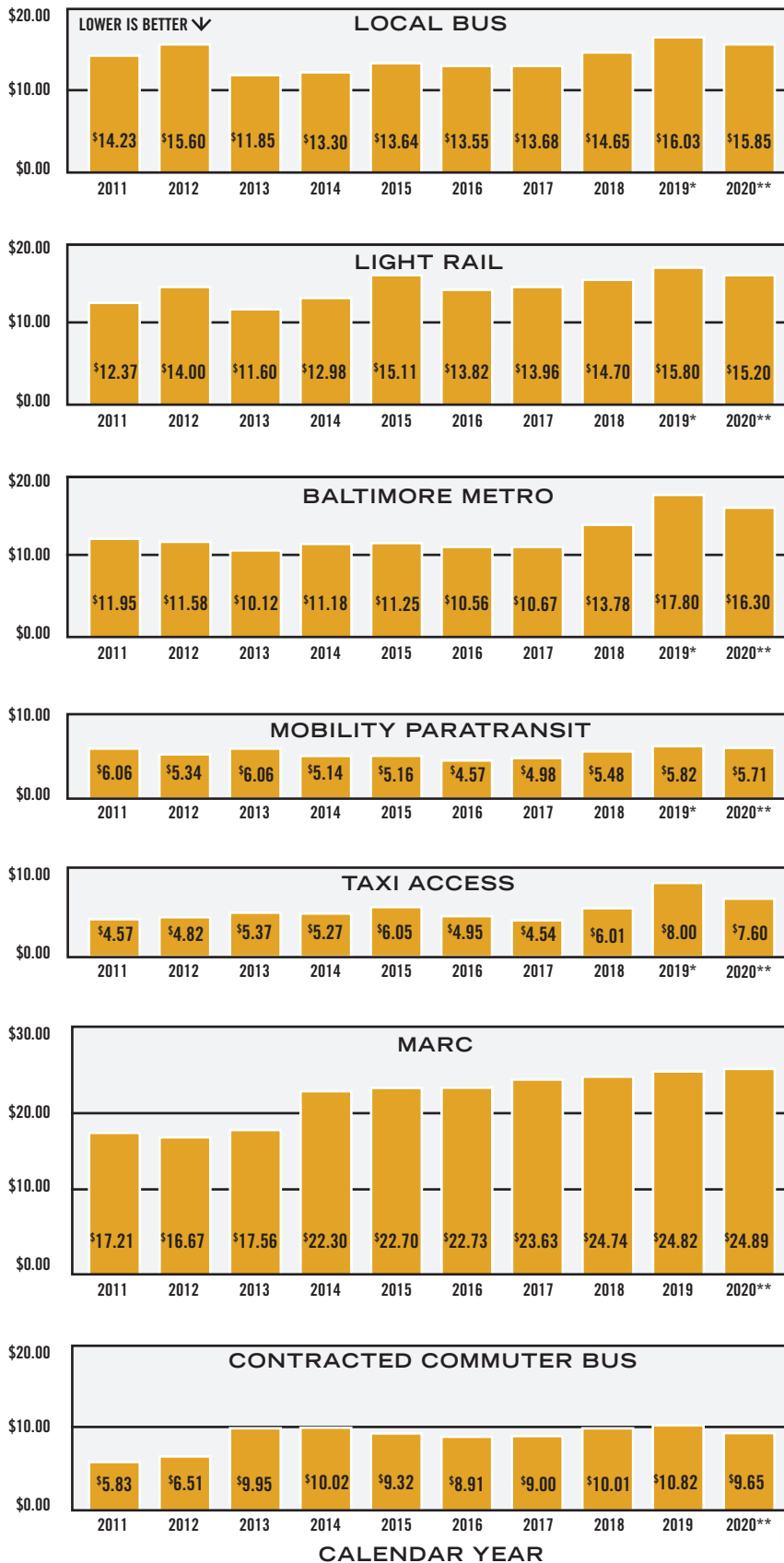




## OPERATING COST PER REVENUE VEHICLE MILE



OPERATING COST PER REVENUE VEHICLE MILE



### Why Did Performance Change?

- Reduced diesel fuel and overtime costs improved MDOT MTA's operating cost efficiency in 2020
- The COVID-19 pandemic resulted in an additional \$27.0 million in unanticipated operating expenses to provide additional cleaning, personal protective equipment, and other safety measures
- MDOT MTA worked with employers to improve transit access to jobs and align schedules to shift times, improving the cost efficiency of service

### What Are Future Performance Strategies?

- Strive to implement cost savings strategies while maximizing existing services and equipment
- Invest in increasing system reliability and implementing more efficient ticketing
- Manage annual overtime and contracted services expenses



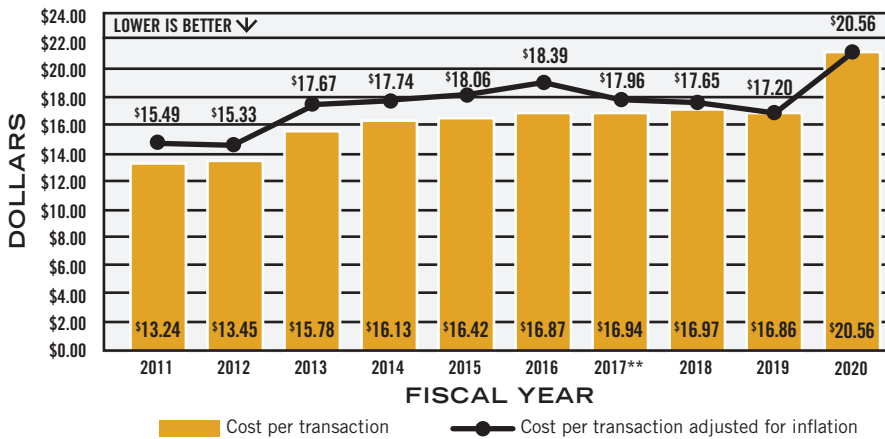
\* 2019 data has been revised from previous report.

\*\* 2020 is preliminary and subject to change.

## MDOT MVA COST PER TRANSACTION\*



This measure indicates whether MDOT MVA's business practices and programs are cost effective. Cost effectiveness is realized through improved technology and operational practices.



\* Includes all transactions (e.g. licensing, registration, titling).

\*\* 2017 data has been revised from previous report.

### Why Did Performance Change?

- Actual average cost per transaction increased due to a decrease in total transactions, this can be partially attributed to the unexpected shut down of MDOT MVA branches, in response to COVID-19 in CY 2020
- Various administrative reductions to supplies, training, and security to reflect the hiring freeze, modified operations, and limited cost containment

### What Are Future Performance Strategies?

- MDOT MVA will continue to implement and encourage utilization of virtual and online services as an alternative to in-branch transactions

## OBJECTIVE:

*Ensure a consistent revenue stream and ample financing opportunities*

In response to the COVID-19 pandemic, the federal CARES Act provided relief from decreased revenues across transportation types and modes. Maryland airports received \$107.7 million, with \$87.8 million for BWI Marshall Airport. MDOT MTA received \$392.0 million in funding to offset lost fare revenue due to the pandemic.

Part of MDOT's charge is to raise funds while also applying for funds from various sources. MDOT actively seeks out discretionary grants to bolster guaranteed funding. These grants are competitive and require applicants meet specific eligibility criteria, and are sometimes limited to State agencies. Other grants are open to local and regional agencies as well, so MDOT will often coordinate with these smaller agencies to make their applications as competitive as possible. MDOT MTA applied for and was awarded nearly \$19.0 million in total discretionary funds in CY 2020, with \$3.1 million from the Consolidated Rail Infrastructure and Safety Improvements (CRISI) Program Grant. MDOT MAA was awarded \$15.9 million from the Federal Aviation Administration's (FAA) Airport Improvement Grant (AIP),

which will go towards a variety of projects including a noise mitigation project at BWI Marshall Airport and reconstruction of Taxiway Z. MDOT MPA was awarded a 2020 Better Utilizing Investments to Leverage Development (BUILD) Discretionary Grant for \$10.0 million for flood mitigation improvements at the MDOT MPA's Dundalk Marine Terminal. The Port also received a \$1.16 million Port Security Grant from the Federal Emergency Management Agency (FEMA) to upgrade cybersecurity and closed-circuit television (CCTV). P3s are an innovative alternative delivery method MDOT actively pursues. MDOT collaborates with private developers for timely project delivery, risk sharing, utilization of private-sector technologies and innovations, as well as cost efficiencies through P3s. These partnerships allow more flexibility in private sector funding sources than the traditional methods allowing state resources to be put to other needs. For example, the development of the I-495 & I-270 P3 Program advanced in 2020. Using a P3 to deliver these improvements will provide \$9-11 billion in private investment in Maryland's transportation system resulting in economic development and job growth for Marylanders.





# GOAL: *Provide Better Transportation Choices and Connections*

## IMPROVE TRANSPORTATION CONNECTIONS TO SUPPORT ALTERNATIVE TRANSPORTATION OPTIONS FOR THE MOVEMENT OF PEOPLE AND GOODS

### OBJECTIVES:

- Enhance, through statewide, regional, and local coordination, transportation networks to improve mobility and accessibility
- Increase and enhance multimodal connections to improve movement of people and goods within and between activity centers
- Inform and educate customers on transportation options and benefits

Providing a suite of multimodal transportation options and connections remains an important goal for MDOT. Strategic investments in alternative travel modes can greatly enhance the safety and reliability of our network, while improving multimodal connectivity and improving overall access for Marylanders across the State. Supporting multimodal and active transportation projects and programs helps MDOT address multiple environmental, safety, and efficiency goals simultaneously, by helping reduce roadway congestion and improving air quality, and supporting the safety and well-being of all roadway users. The effectiveness of these efforts can also be enhanced by ensuring roadway design and treatments are appropriate to specific land use contexts, and by ensuring they support land use decision making such as Transit-Oriented Development (TOD), to ensure that relative densities of housing, jobs, and amenities are clustered to support active transportation.

MDOT MTA finalized the Central Maryland Regional Transit Plan, which seeks to provide a 25-year vision of mobility throughout a large portion of the State. In collaboration with local governments, transit providers, and public consultation, the plan sets out public transportation goals for several counties, and focuses on key issues such as funding, service quality, and customer experience to improve mobility. In conjunction with the finalization of the Regional Transit Plan, MDOT MTA published the Shared Mobility

Work Plan which identifies investments that will improve both the physical and digital integration of public and private mobility services. MDOT MTA has also begun drafting a Statewide Transit Plan to create a 50-year vision for connected regional and intercity transit statewide. MDOT has improved multimodal connectivity through partnership with the Transit app that provides real-time transit information for MDOT MTA bus routes, as well as MARC trains, allowing riders to better plan and schedule their travel.

MDOT has sustained and expanded its commitment to bicycle and pedestrian projects by sustaining its federal discretionary grant programs such as Transportation Alternatives and Recreational Trails, and moreover by expanding the state funding that will be available for Maryland Bikeways, as part of the recently renamed Kim Lamphier Bikeways Network Program. Additional support for this goal is supported through the inclusion of bike lanes on some of our State Highways, as well as through our sidewalk and bicycle retrofit programs. In the past year, MDOT has also targeted several key areas for pedestrian safety improvements, including new and enhanced crosswalks, signals, and other infrastructure treatments, to address safety hot-spots. The State also administers competitive grants and special fund programs for bicycling and pedestrian programs aimed at enhancing quality of life.



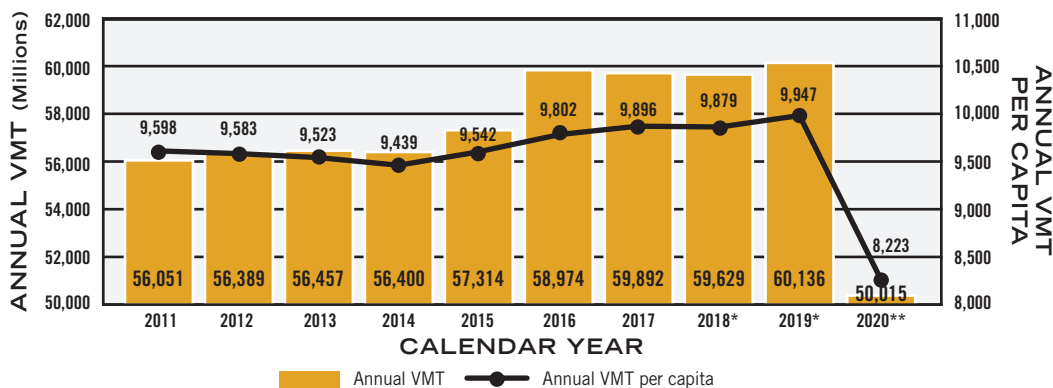


## OBJECTIVE:

Enhance, through statewide, regional, and local coordination, transportation networks to improve mobility and accessibility

### TOTAL VEHICLE MILES TRAVELED (VMT) AND VMT PER CAPITA

As Maryland's population grows, so does the demand for its transportation services and networks. Since growth in demand typically leads to growth in VMT, MDOT remains committed to providing alternatives to vehicle travel with investments in walking, bicycling, and transit to reduce strain on roadway capacity. The COVID-19 pandemic has resulted in dramatic decreases in travel demand; however, MDOT continues to prepare for an expected rebound in travel activity and anticipates VMT to increase in the coming years. In preparation of this expected rebound, MDOT continues to support programs that make it possible to telework, have flexible work hours to commute outside of peak hours, and that provide options to walk, bicycle, ride transit, or carpool when traveling to and from work or other destinations.



\* 2018 and 2019 has been revised from previous report.

\*\* 2020 data is preliminary and subject to change.

### Why Did Performance Change?

- MDOT MTA saw a sharp decline in ridership and transportation revenues due to COVID-19
- Between 2007 and 2019, driving alone fell nearly 9%, while the use of transit and telework continued to increase; teleworking has been steadily increasing from 2007 to 2019 with nearly 35% of regional workers teleworking in 2019

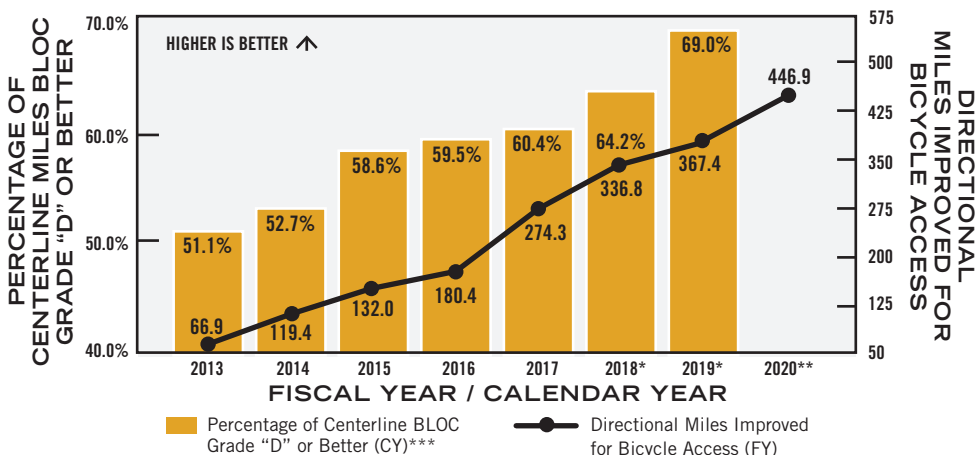
### What Are Future Performance Strategies?

- Continue promoting Travel Demand Management (TDM) programs, such as Commuter Choice Maryland, and provide outreach on Commuter Choice

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



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.



Target: 59% BLOC Grade "D" or Better, 2% Directional Mile Improved per Year

\* 2018 and 2019 BLOC data revised from previous report.

\*\* 2020 BLOC directional miles data is preliminary and subject to change.

\*\*\* This measure will be replaced by a new measure based on traffic Level of Traffic Stress (LTS) metrics, a new approach of assessing roadway conditions for bicycle and pedestrian access which will address current shortcomings of the BLOC formula.

### Why Did Performance Change?

- Invested \$6.1 million in FY 2020 to design and construct dedicated bicycle retrofit projects, including the construction of a "shared use" path along US 50 in Worcester County and MD 124 in Montgomery County
- Former railroad bridge over Tuckahoe Creek was transformed into a bicycle and pedestrian trail as part of the 40-mile Frederick Douglas Rail Trail through an MDOT Bikeways grant
- Worked together with bicycle and pedestrian groups, local governments, and agencies to review bicycle design and approaches

### What Are Future Performance Strategies?

- Identify and prioritize critical bicycle infrastructure projects
- Support bikeway projects along State Highways for the Bicycle Retrofit Program in the FY 2021-FY 2026 CTP

## MDOT MTA AND WMATA RIDERSHIP

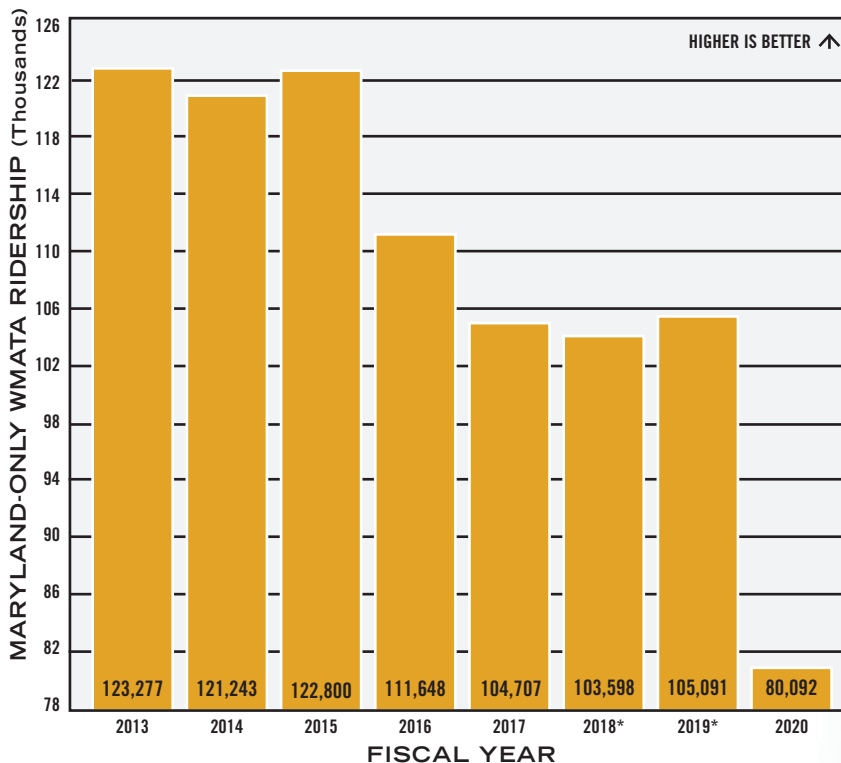
MDOT MTA and local transit partners provide transit options for residents and visitors throughout the State. MDOT also continues to strategically invest in its transportation infrastructure as shown in the FY 2021-FY 2026 CTP. MDOT MTA works to improve transit service and access with investments in fleet modernization, including a light rail fleet overhaul, as well as replacement of 63 MARC III passenger coaches. Continued construction of the 16-mile Purple Line light rail project also remains a high priority for MDOT.

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. More than 100 million passengers used the WMATA Metrorail, Metrobus, and MetroAccess system in Maryland in 2019.

FISCAL YEAR	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020*
<b>TRANSIT RIDERSHIP—MDOT MTA DIRECT-OPERATED SERVICES (THOUSANDS)</b>										
LOCAL BUS	78,390	79,535	80,071	75,780	78,697	75,619	69,587	63,730	63,989	55,342
BALTIMORE METRO	14,588	15,364	15,208	14,632	13,901	12,222	10,960	8,738	7,275	5,076
LIGHT RAIL	8,655	8,540	8,647	8,106	7,657	7,431	7,414	7,401	6,966	4,649
<b>TRANSIT RIDERSHIP—CONTRACTED SERVICES AND LOTS (THOUSANDS)</b>										
MARC	8,233	8,452	9,062	9,168	9,246	8,962	9,185	9,322	9,191	6,677
CONTRACTED COMMUTER BUS	4,097	4,290	4,187	4,017	4,034	3,928	3,866	3,841	3,623	2,619
MOBILITY PARATRANSIT & TAXI ACCESS	1,660	1,900	2,084	2,289	2,495	2,556	2,746	2,941	2,974	2,492
LOCAL OPERATING TRANSIT SYSTEM (LOTS)	40,243	40,908	40,281	42,500	39,441	38,476	39,818	41,096	32,866	27,543

\* 2020 data is preliminary and subject to change.

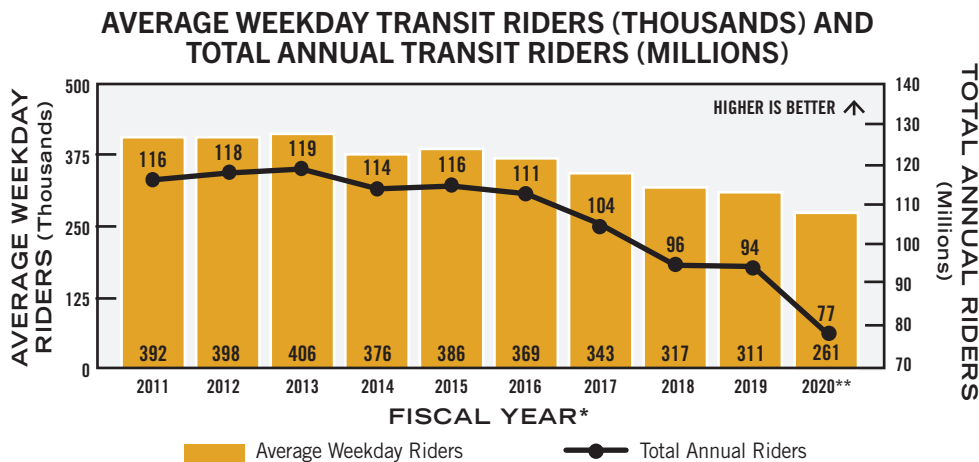
### MARYLAND-ONLY WMATA ANNUAL RIDERSHIP (THOUSANDS)



\* 2018 and 2019 data have been updated from the previous report.



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



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

\*\* 2020 data is preliminary and subject to change.

### What Are Future Performance Strategies?

- MDOT MTA continues replacement of 53-light rail vehicle fleet overhaul, set to be completed in 2022
- MDOT MTA continues overhaul of 63 MARC III passenger coaches, set to be completed in 2021
- MDOT MTA completed a Regional Transit Plan for Central Maryland, providing a 25-year vision of mobility and defining public transportation goals for Central Maryland and began working on a 50-year Statewide Transit Plan
- Coordinate with local transit operators to discuss the availability of local matching funds and to apply Coronavirus Aid, Relief, and Economic Security (CARES) Act funds and availability of local matching funds to support critical local transit needs

### Why Did Performance Change?

- COVID-19 dramatically reduced travel, with transit being particularly adversely affected; MDOT MTA continues to focus on providing safe, efficient, and reliable transit service
- MDOT MTA adapted to the COVID-19 pandemic by taking appropriate health measures, including disinfecting vehicles and retrofitting buses or train cars with plastic seats and air ionizers
- MDOT MTA promoted two mobile applications for smart phones: the CharmPass Mobile Ticketing application, which allows riders to pay for services from their phone, and the Transit app, which provides real-time tracking
- MDOT MTA modified service based on ridership declines from COVID-19, focusing those cuts on the lesser utilized routes so the frequently utilized routes maintain strong ridership and level of service





## OBJECTIVE:

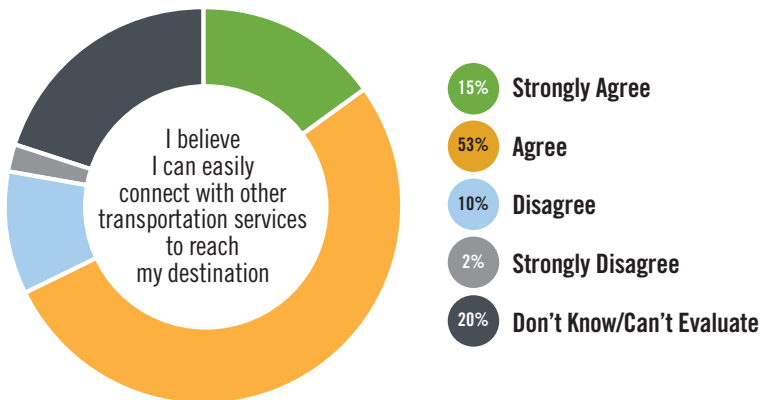
*Increase and enhance multimodal connections to improve movement of people and goods within and between activity centers*

## MDOT SURVEY – PERCEPTIONS OF MULTIMODAL CONNECTIVITY (2020 DATA)

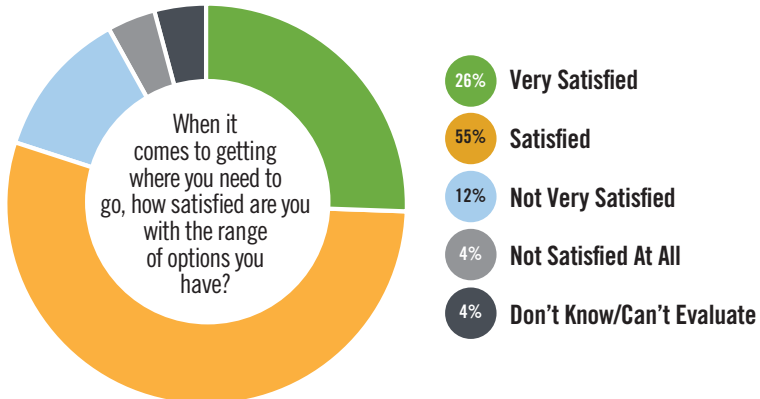


This MDOT survey measures the public's perception of connectivity, highlighting where MDOT and the Transportation Business Units (TBUs) have succeeded and where improvements are needed either in infrastructure or outreach. MDOT Customers are surveyed annually by the University of Baltimore, to rate their satisfaction with the range of options they have such as roads, buses, trains, and other facilities and services. 81% of respondents were either satisfied or very satisfied with the transportation options.

### MDOT SURVEY QUESTION:



### MDOT SURVEY QUESTION:



### Why Did Performance Change?

- MDOT MTA launched real-time tracking of MARC Train service through the Transit app, the MARC website was redeveloped to provide the same real-time arrival predictions
- Continued investment in bicycle and pedestrian projects as outlined in the 2020 Maryland Bicycle and Pedestrian Master Plan update
- MDOT maintained \$3.78 million in FY 2021 State grant funds to support bicycle safety and access improvements for projects across the State
- MDOT is utilizing new technologies like High-Intensity Activated Crosswalk (HAWK) Beacon, installed at key locations in Annapolis and Montgomery County, to improve pedestrian and bicycle accessibility and safety

### What Are Future Performance Strategies?

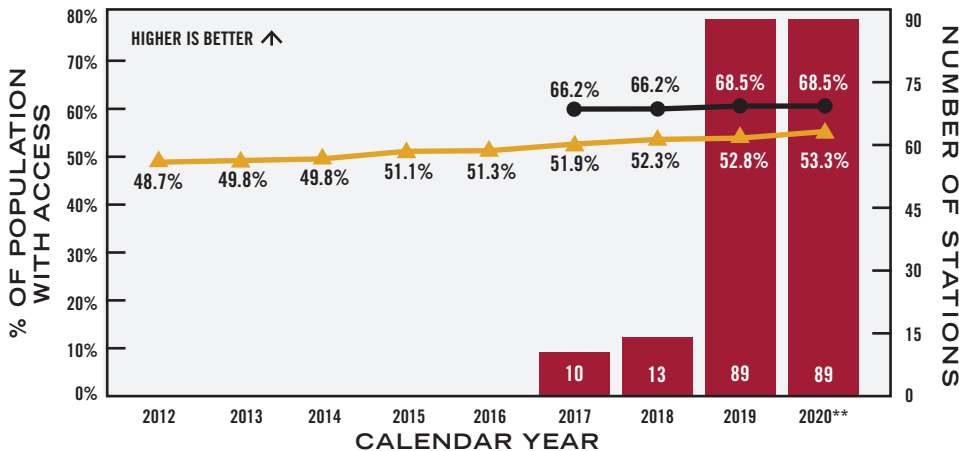
- Implement the Regional Transit Plan for Central Maryland, which will provide a 25-year vision of mobility
- A \$400,000 MDOT Kim Lamphier Bikeways Network Program grant was awarded for a 3.8-mile "shared use" path along the Carroll Creek North Branch of the Hagerstown and Frederick Trolley Trail from Waterford Park to Rocky Springs Road
- MDOT will solicit input from its customers to further improve projects that support improved access and safety of bicycling and walking throughout Maryland



## ACCESS TO TRANSIT AND BICYCLE ACCESS TO TRANSIT\*



Access to transit measures how many Maryland customers are within a quarter mile of a fixed-route transit station, which is an estimate of how many people can walk or bike to a fixed-route transit or multimodal transit center. Bicycle access to transit measures how many Maryland customers can bike to a fixed-route transit (such as Light Rail or MARC) or a multimodal transit center.



- Percent of population within walk/bike distance of fixed route transit or multimodal center
- Percentage of stations equipped with bike-share infrastructure and/or equipment
- Number of stations equipped with bike-share infrastructure and/or equipment

\* Methodology for this measure changed in 2019 to include any stations with bike racks, bike storage, and other bike sharing facilities.

\*\* 2020 data is preliminary and subject to change.

### Why Did Performance Change?

- MDOT SHA increased the number of miles with marked bicycle facilities, including bicycle lanes and shared lanes, by 79.5 miles in FY 2020
- Continued success of BaltimoreLink in connecting the Baltimore region by increasing transit connectivity and providing increased service to centers of employment throughout the region
- MDOT MTA expanded the bike racks in MARC cars, from 17 cars that are equipped currently to a total of 39 cars equipped with bike racks

### What Are Future Performance Strategies?

- MDOT is continuing to make progress on construction on the 16-mile Purple Line light rail corridor to connect Prince George's and Montgomery Counties
- Create safe and accessible bicycle facilities to support multimodal needs in coordination with MDOT SHA's Context Driven Guidelines

## OBJECTIVE:

Inform and educate customers on transportation options and benefits

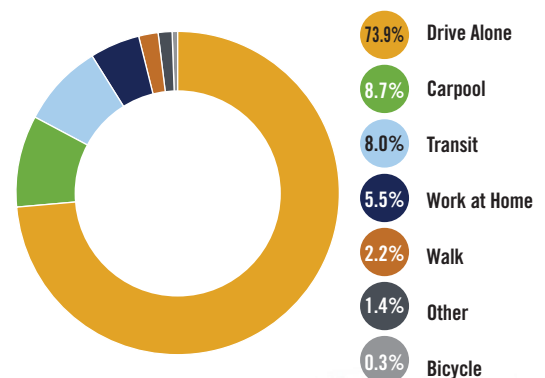
## TRANSPORTATION DEMAND MANAGEMENT (TDM) AND COMMUTE MODE SHARE\*



Commuter Choice Maryland is the MDOT Travel Demand Management (TDM) Program. TDM offsets vehicle congestion by promoting alternatives to driving alone such as taking transit, carpool, vanpool, walking, biking, teleworking, Maryland Commuter Tax Credit, and Guaranteed Ride Home. With the COVID-19 State of Emergency, Maryland saw many more people teleworking. Commuter Choice Maryland can provide options to maximize travel choices and deliver solutions that can reduce congestion, conserve energy, facilitate economic opportunity, and enhance the life of all Marylanders. Commuter Choice Maryland also continues to provide resources, tips, and tools to facilitate teleworking and other TDM strategies in 2020.

Visit: [www.commuterchoicemaryland.com](http://www.commuterchoicemaryland.com)

Also, in the Washington, D.C., Metropolitan Region, Commuter Connections is a regional network of transportation organizations that offer a host of free services and programs to assist employers and commuters with making smart choices about their commuting needs. Visit: [www.commuterconnections.org](http://www.commuterconnections.org)



	2011	2012	2013	2014	2015	2016	2017	2018	2019
DRIVE ALONE	73.3%	73.4%	73.9%	73.9%	73.8%	73.8%	73.7%	74.3%	73.9%
CARPPOOL	10.1%	9.8%	9.0%	9.3%	8.9%	9.0%	9.1%	8.8%	8.7%
TRANSIT	9.2%	8.9%	9.2%	9.0%	9.0%	8.5%	8.5%	7.9%	8.0%
WORK AT HOME	4.1%	4.2%	4.2%	4.1%	4.4%	4.7%	4.9%	5.2%	5.5%
WALK	2.3%	2.5%	2.4%	2.3%	2.6%	2.5%	2.1%	2.1%	2.2%
OTHER	0.9%	0.9%	0.9%	1.1%	0.3%	1.2%	1.3%	1.4%	1.4%
BICYCLE	0.3%	0.4%	0.4%	0.3%	1.0%	0.3%	0.4%	0.3%	0.3%

\* Commute mode share is based on data from the American Communities Survey (U.S. Census).



PROGRAM	PROGRAM DESCRIPTION	DAILY REDUCTION IN VEHICLE TRIPS*	DAILY REDUCTION IN VMT*
<b>COMMUTER CONNECTIONS TRANSPORTATION EMISSIONS REDUCTION MEASURES (TERMS)**</b>			
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	5,196	147,521
Employer Outreach	Supports marketing efforts to increase employee awareness and use of alternatives to driving alone to work every day	87,738	1,551,219
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	1,363	40,541
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	16,280	375,121
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	13,647	308,251
Mass Marketing	Promotes and communicates the benefits of alternative commute methods to single-occupant vehicle commuters through the media and other wide-reach communications	14,031	277,511
<b>MDOT MTA TRANSPORTATION EMISSION REDUCTION MEASURES (TERMS)</b>			
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
MDOT MTA and SHA Park-and-Ride***	Supports carpooling and transit ridership by providing commuter parking lots as alternatives to driving alone to daily destinations	51,845	874,629

\* 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 MTA data is collected every five years.

## Why Did Performance Change?

- COVID-19 has impacted the work environment, resulting in many more employees working from home than in previous years, though the number of teleworkers has been steadily increasing since 2007 with nearly 35% of regional workers teleworking full time or part time in 2019
- Increased usage of new modes such as ride-hail, scooters, and bikeshare are joining other traditional modes
- Commuter Choice Maryland expanded and enhanced the delivery of the Maryland Commuter Tax Credit through the Maryland OneStop Online Portal
- Updated marketing material was developed for the Maryland Commuter Tax Credit to help communicate the benefits and how to claim the tax credit
- Commute trips made by driving alone fell nearly 9% between 2007 and 2019 and use of transit and telework continued to increase

## What Are Future Performance Strategies?

- Commuter Choice Maryland will continue to promote the Maryland Commuter Tax Credit, providing incentive for employers to provide commuter benefits to their employees to support alternative commute modes
- Provide outreach on Commuter Choice Maryland travel options through targeted media campaigns, brochures, social media, and websites to promote Guaranteed Ride Home, bicycling, walking, carpooling, vanpooling, teleworking, and transit  
**[www.commuterchoicemaryland.com](http://www.commuterchoicemaryland.com)**





## GLOSSARY

GLOSSARY TERM	DEFINITION
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) and 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)	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.
Commuter Choice Maryland	An incentive program designed primarily to encourage Maryland employees to consider switching to alternative transportation choices, like transit, vanpool/carpool, telework or alternative work hours. <a href="http://www.commuterchoicemaryland.com">www.commuterchoicemaryland.com</a>
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 MDOT SHA, MDTA, and the Maryland State Police (MSP), in cooperation with other federal, state, and local agencies.
Cost Per Enplaned Passenger (CPE)	CPE is defined as all landing fees, airside usage charges, fuel flowage fees, terminal rents, and other airline payments to airports divided by enplaned passengers.
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.
Electric Vehicle (EV)	Cars that are capable of traveling only on electric power supplied by a battery. There are two main types of EV currently on the market: Battery Electric Vehicles (BEV), powered solely by electricity stored in a battery pack in the car, and Plug-in Hybrid Electric Vehicles (PHEV), vehicles where the battery pack lets them travel several miles on electricity before a range-extending gasoline engine takes over.
<i>E-ZPass</i> ®	An electronic toll collection system utilized to provide a more efficient flow of traffic through MDTA toll facilities. <i>E-ZPass</i> ® toll collection is available at all eight MDTA toll facilities. The benefits of <i>E-ZPass</i> ® membership allow travel from Virginia to Maine and as far west as Illinois, with tolls paid from an <i>E-ZPass</i> ® account.
Fiscal Year (FY)/ Federal Fiscal Year (FFY)	A yearly accounting period covering the period between July 1 and June 30 of each reporting year (FFY: October 1 to September 30).
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 \$305.0 billion over fiscal years 2016 through 2020 for highway, highway and motor vehicle safety, public transportation, motor carrier safety, hazardous materials safety, rail, and research, technology, and statistics programs.
Greenhouse Gas (GHG)	Any of various gaseous compounds (such as carbon dioxide or methane) that absorb infrared radiation, trap heat in the atmosphere, and contribute to the greenhouse effect. The transportation sector is one of the largest contributors to U.S. GHG emissions.
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.
Moving Ahead for Progress in the 21st Century Act (MAP-21)	On June 6, 2012, the President signed into law the MAP-21 (Pub. L. No. 112-141) - new legislation that will stabilize funding for highway and transit programs for two years and will set national, statewide, and metropolitan transportation planning and policy direction. The federal bill did not increase funding levels and also did not address the long-term solvency of the Federal Highway Trust Fund.
Public-Private Partnerships (P3s)	A method for delivering public infrastructure assets using a long-term, performance-based agreement between a Reporting Agency and Private Entity. Using P3, appropriate risks and benefits can be allocated in a cost-effective manner between the contractual partners; the private entity performs functions normally undertaken by the government though the State may retain ownership and ultimately remains accountable for the public infrastructure asset and its public function.
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 <a href="http://www.dhs.gov">www.dhs.gov</a> . General information about Maryland's involvement with the REAL ID Act is available on MDOT MVA's website at <a href="http://www.mva.maryland.gov">www.mva.maryland.gov</a> .
Shared Mobility	Shared mobility refers to a transportation strategy by which users can access various types of services or products, including bicycles, scooters, or ride-sharing on-demand. These offerings provide flexibility in transportation choice.
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 MTP and the CTP.
Strategic Highway Safety Plan (SHSP)	A SHSP is a federally required statewide-coordinated safety plan that provides a framework for reducing highway fatalities and serious injuries on roadways.
Traffic Relief Plan (TRP)	The TRP is a combination of P3 efforts on I-495, I-270, and other innovative projects such as Smart Signals, I-95 Express Toll Lanes <sup>SM</sup> (ETL) and the I-695 Transportation Systems Management and Operations (TSMO) projects. These major projects will reduce congestion on Maryland highways and provide roadway users with travel options.
Transit-Oriented Development (TOD)	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 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 Emissions Reduction Measures (TERMs)	MPOs and DOTs are required, from the Clean Air Act Amendments of 1990 (CAAA) and the Safe, Accountable, Efficient, Flexible, Transportation Efficiency Act (SAFETEA-LU), to identify TERMS that provide emission-reduction benefits. These measures are assessed in conformity documentation and include specific information on the costs and expected air-quality benefits.
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.
Zero Emissions Electric Vehicle Infrastructure Council (ZEEVIC)	The ZEEVIC was established by State legislation in 2011 (and expanded in 2019 to include zero emission vehicles). The ZEEVIC is charged with development of policies, recommendations, and incentives that increase awareness, support ownership, and promote investment by the private sector of and in ZEVs. ZEEVIC also develops recommendations for a statewide EV charging and hydrogen refueling infrastructure plan and other potential policies to promote and facilitate successful integration of ZEVs into Maryland's transportation network.
Zero Emissions Vehicle (ZEV)	A ZEV is a vehicle that does not emit harmful emissions from the engine. ZEVs include, but are not limited to; BEVs which are 100% zero emissions, PHEVs, and hydrogen fuel cell electric vehicles (FCEVs).

## APPENDIX: LIST OF PERFORMANCE MEASURES BY GOAL

PERFORMANCE MEASURE	DEFINITION	TBUS	PAGE NUMBER
<b>ENSURE A SAFE, SECURE, AND RESILIENT TRANSPORTATION SYSTEM</b>			
<b>OBJECTIVE: REDUCE THE NUMBER OF LIVES LOST AND INJURIES SUSTAINED ON MARYLAND'S TRANSPORTATION SYSTEM</b>			
Annual Number Of Traffic Fatalities & Injuries On All Roads In Maryland And On Transit Facilities	The annual number of traffic fatalities and personal injuries on all Maryland roads and transit facilities. The fatality and personal injury rate are calculated per 100 million vehicle miles of travel	MDOT SHA, MDOT MVA, MDOT MTA and MDTA	12
Number Of Bicycle & Pedestrian Fatalities & 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	MDOT SHA, MDOT MVA and MDTA	13
<b>OBJECTIVE: PROVIDE FOR THE SECURE MOVEMENT OF PEOPLE, GOODS, AND DATA</b>			
MDOT-Wide Overall Perception Of Safety: Crime And Safe Movement	Average score for: Feeling safe while riding, while waiting at stops and stations, and for vehicles left in an MDOT MTA parking lot	MDOT	14
Preventable Incidents Per 100,000 Vehicle Miles	Preventable incidents are crashes in which drivers did not do everything they could to avoid an accident	MDOT MTA	15
<b>OBJECTIVE: IMPROVE ROADWAY CLEARANCE TIMES AND FACILITATE EFFICIENT AND COORDINATED RESPONSES TO EMERGENCY AND DISASTER EVENTS THROUGHOUT THE TRANSPORTATION SYSTEM</b>			
Restoring Transportation Services: Average Time To Restore Normal Operations After A Weather Event	Illustrates the efficiency of MDOT SHA and MDTA in reducing the impact of winter weather events by quickly restoring normal operations on primary and interstate roadways	MDOT SHA and MDTA	16
<b>FACILITATE ECONOMIC OPPORTUNITY AND REDUCE CONGESTION IN MARYLAND THROUGH STRATEGIC SYSTEM EXPANSION</b>			
<b>OBJECTIVE: PURSUE CAPITAL IMPROVEMENTS TO THE TRANSPORTATION SYSTEM THAT WILL IMPROVE ACCESS TO JOBS AND TOURISM, AND LEVERAGE ECONOMIC GROWTH OPPORTUNITIES</b>			
BWI Marshall Airport Total Annual Passengers	Measures number of annual passengers using the BWI Marshall Airport	MDOT MAA	18
International Cruises Using The Port Of Baltimore	Number of international cruises using the Port of Baltimore as a home port	MDOT MPA	18
Jobs Supported by MDOT Capital Program	Economic return from transportation investment is based on the estimated number of jobs created as a result of MDOT investments in capital projects	MDOT	19
<b>OBJECTIVE: IMPROVE THE MOVEMENT OF GOODS WITHIN AND THROUGH MARYLAND BY INVESTING IN INTERMODAL CONNECTIONS AND IMPROVEMENTS TO REDUCE FREIGHT BOTTLENECKS</b>			
Improving Goods Movement: Freight Originating And Terminating In Maryland	Measures the weight and value of goods originating or terminating in Maryland	MDOT	19
Port Of Baltimore Foreign Cargo And MDOT MPA General Cargo Tonnage	Measures the amount of foreign and general cargo moving through the Port of Baltimore	MDOT MPA	20
Annual Hours Of Delay For Trucks, And Truck Travel Time Reliability Index	Measures the efficiency of truck movements on the MDOT highway network	MDOT SHA and MDTA	21
<b>OBJECTIVE: STRATEGICALLY INVEST IN EXPANSION AND OPERATIONAL IMPROVEMENTS TO REDUCE CONGESTION ALONG THE MULTIMODAL TRANSPORTATION SYSTEM</b>			
Annual Cost Of Congestion (Billions) On The MDOT Highway Network	The sum of the cost of delay, the cost of extra fuel consumed due to slow operating speeds and the cost of emissions	MDOT SHA and MDTA	21
Annual Revenue Vehicle Miles Of Transit Service Provided	Revenue vehicle miles indicates the level of transit service available to, and in use by, the general public	MDOT MTA	22
<b>MAINTAIN A HIGH STANDARD AND MODERNIZE MARYLAND'S MULTIMODAL TRANSPORTATION SYSTEM</b>			
<b>OBJECTIVE: PRESERVE AND MAINTAIN STATE-OWNED OR FUNDED ROADWAYS, BRIDGES, PUBLIC TRANSIT, RAIL, BICYCLE AND PEDESTRIAN FACILITIES, PORTS, AIRPORTS AND OTHER FACILITIES IN A STATE OF GOOD REPAIR</b>			
Percentage Of The MDOT SHA Network In Overall Preferred Maintenance Condition	The overall condition of the network reflects how well asset management strategies, operational improvements and technology have sustained the quality and safety of existing highways	MDOT SHA	24
Overall Acceptable Pavement Condition	Overall pavement condition is based on remaining service life, which is a scale of 0 to 50 years to describe pavement condition	MDOT SHA and MDTA	24
Number Of Bridges & Percent That Are In Poor Condition	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))	MDOT SHA, and MDTA	25
Dredged Material Placement Capacity Remaining For Harbor Sites And Poplar Island	Monitors existing capacity remaining at Harbor and Poplar Island dredged material placement sites	MDOT MPA	26
Transit Rolling Stock Within Useful Life Benchmark	Used to understand the condition of transit vehicles, the amount of stock within useful life informs the agency of the needs and expected repairs or replacements	MDOT MTA	27

## APPENDIX: LIST OF PERFORMANCE MEASURES BY GOAL

PERFORMANCE MEASURE	DEFINITION	TBUS	PAGE NUMBER
<b>OBJECTIVE: STRATEGICALLY MODERNIZE INFRASTRUCTURE THROUGH NEW AND INNOVATIVE TECHNOLOGY, ENHANCED PARTNERSHIPS, DESIGN STANDARDS, AND PRACTICES TO FACILITATE THE MOVEMENT OF PEOPLE AND GOODS</b>			
Average Truck Turn Time At Seagirt Marine Terminal	Truck turn times are a measure of the efficiency and operations of the Seagirt Marine Terminal	MDOT MPA	27
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	Tracking the percent of sidewalks that are ADA compliant helps ascertain whether Maryland's sidewalk program meets federal benchmarks	MDOT SHA	28
<b>OBJECTIVE: USE ASSET MANAGEMENT TO OPTIMIZE PUBLIC INVESTMENT AND ENSURE THE SUSTAINABILITY OF TRANSPORTATION INFRASTRUCTURE</b>			
<b>IMPROVE THE QUALITY AND EFFICIENCY OF THE TRANSPORTATION SYSTEM TO ENHANCE THE CUSTOMER EXPERIENCE</b>			
<b>OBJECTIVE: INCREASE THE EFFICIENCY OF TRANSPORTATION SERVICES THROUGH PARTNERSHIPS, ADVANCED TECHNOLOGIES, AND OPERATIONAL ENHANCEMENTS TO IMPROVE SERVICE DELIVERY METHODS</b>			
MDOT MVA Alternative Service Delivery Transactions As Percent Of Total Transactions	Transactions by alternative services (services without a visit to an MDOT MVA branch)	MDOT MVA	30
Percent Of Toll Transactions Collected Electronically	Toll collections by E-ZPass® and Automatic Vehicle Identification/Total number of toll collections, includes video tolls, I-tolls, and AVI	MDTA	30
<b>OBJECTIVE: ENHANCE CUSTOMER SATISFACTION WITH TRANSPORTATION SERVICES ACROSS ALL MODES OF TRANSPORTATION</b>			
Overall Satisfaction With MDOT	An annual survey question on this topic provides information as to if MDOT is succeeding in its efforts to provide exceptional customer service	MDOT	31
MDOT MVA Branch Office Customer Wait And Visit Time Versus Customer Satisfaction Rating	Average visit time plotted against percentage of customers rating their MDOT MVA experience as "good" or "very good"	MDOT MVA	32
<b>OBJECTIVE: MINIMIZE TRAVEL DELAYS AND IMPROVE PREDICTABILITY OF TRAVEL TIMES IN MARYLAND'S TRANSPORTATION SYSTEM</b>			
Percent Of Transit Service Provided On Time	Indicator of service quality and efficiency and correlates highly with system usage and customer satisfaction	MDOT MTA	32
Percent Of Vehicle Miles Traveled (VMT) In Congested Conditions On Freeways/Expressways And Arterials In Maryland During Evening Peak Hour	Annual average daily traffic / Number of through lanes	MDOT SHA and MDTA	33
Annual Hours (Thousands) Of Delay and Travel Time Reliability on the MDOT Highway Network	Tracks the delays caused by congestion on the State Highway system	MDOT SHA and MDTA	33
<b>OBJECTIVE: APPLY ENHANCED TECHNOLOGIES TO IMPROVE COMMUNICATIONS WITH THE TRANSPORTATION SYSTEM USERS AND TO RELAY REAL-TIME TRAVEL INFORMATION</b>			
Customer Satisfaction With The Accuracy Of Real-Time Information Systems Provided	An annual survey includes a question about customer satisfaction with real-time information to better understand where improvements can be made and where they have been successful in conveying accurate information	MDOT MTA, MDOT MAA, MDOT SHA, MDOT MVA and MDTA	34
<b>ENSURE ENVIRONMENTAL PROTECTION AND SENSITIVITY</b>			
<b>OBJECTIVE: PROTECT AND ENHANCE THE NATURAL, HISTORIC, AND CULTURAL ENVIRONMENT THROUGH AVOIDANCE, MINIMIZATION, AND MITIGATION OF ADVERSE IMPACTS RELATED TO TRANSPORTATION INFRASTRUCTURE, INCLUDING SUPPORT FOR BROADER EFFORTS TO IMPROVE THE HEALTH OF THE CHESAPEAKE BAY</b>			
Acres Of Wetlands Or Wildlife Habitat Created, Restored Or Improved	Cumulative tally of acreage created, restored or improved for wildlife habitat	MDOT MPA, MDOT SHA and MDTA	37
Water Quality Treatment To Protect And Restore The Chesapeake Bay	Reports how well MDOT is achieving compliance with impervious surface restoration as required by the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit	MDOT SHA	37
<b>OBJECTIVE: EMPLOY RESOURCE PROTECTION AND CONSERVATION PRACTICES IN PROJECT DEVELOPMENT, CONSTRUCTION, OPERATIONS, AND MAINTENANCE OF TRANSPORTATION ASSETS</b>			
Recycled/Reused Materials From Maintenance Activities And Construction/Demolition Projects	Tracks the reduction of the TBU's impact on solid waste landfill through recycling/reuse of metal, asphalt and concrete	MDOT	38
Utility Electricity Use & Renewable Energy Generation	Measures both the consumption of utility energy and the amount of renewable energy generated by MDOT	MDOT	38



## APPENDIX: LIST OF PERFORMANCE MEASURES BY GOAL

PERFORMANCE MEASURE	DEFINITION	TBUS	PAGE NUMBER
<b>OBJECTIVE: IMPLEMENT INITIATIVES TO REDUCE FOSSIL FUEL CONSUMPTION, MITIGATE GREENHOUSE GASES, AND IMPROVE AIR QUALITY</b>			
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	MDOT	39
Transportation-Related GHG Emissions	GHG emissions primarily include carbon dioxide, methane, nitrous oxide, carbon monoxide, oxides of nitrogen and non-methane volatile organic compounds	MDOT	40
Total Electric Vehicles (EVs) Registered In Maryland And Total Publicly Available EV Charging Infrastructure	Tracks the number of EVs purchased by Maryland drivers and the number of EV charging stations across the state	MDOT	41
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	MDOT MVA	42
<b>PROMOTE FISCAL RESPONSIBILITY</b>			
<b>OBJECTIVE: ACCELERATE PROJECT COMPLETION THROUGH IMPROVED AND EFFICIENT USE OF ALTERNATIVE PROJECT DELIVERY METHODS AND STRATEGIC PARTNERSHIPS</b>			
Percent Of Projects Completed By Original Contract Date	Reports on how efficiently MDOT is managing and delivering contracts and services by determining if contracts are completed by the established commitment date/project completion date	MDOT	44
<b>OBJECTIVE: PROVIDE TRANSPORTATION SERVICES AND SOLUTIONS THAT MAXIMIZE VALUE</b>			
Number Of Nonstop Airline Markets Served	Nonstop flights are direct to destination without connections	MDOT MAA	45
Airline Cost Per Enplaned Passenger (CPE)	Total airline-related fees / Total enplaned passengers at BWI Marshall Airport	MDOT MAA	45
User Cost Savings For The Traveling Public Due To Incident Management	Cost saving calculated using Coordinated Highways Action Response Team (CHART) incident response data	MDOT SHA and MDTA	46
Operating Cost Per Revenue Vehicle Mile	Operating cost for each mode / Total miles when vehicle is in service (not deadheading or down time)	MDOT MTA	47
MDOT MVA Cost Per Transaction	Operating costs and capitalized costs / Number of transactions	MDOT MVA	48
<b>OBJECTIVE: ENSURE A CONSISTENT REVENUE STREAM AND AMPLE FINANCING OPPORTUNITIES</b>			
<b>PROVIDE BETTER TRANSPORTATION CHOICES AND CONNECTIONS</b>			
<b>OBJECTIVE: ENHANCE, THROUGH STATEWIDE, REGIONAL, AND LOCAL COORDINATION, TRANSPORTATION NETWORKS TO IMPROVE MOBILITY AND ACCESSIBILITY</b>			
Total Vehicle Miles Traveled (VMT) And VMT Per Capita	Tracks the demand for VMT and VMT per person	MDOT SHA	50
Number Of Directional Miles Improved For Bicycle Access I Percentage Of State-Owned Roadway Centerline Miles With A Bicycle Level Of Comfort (BLOC) Grade "D" Or Better	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	MDOT SHA	50
MDOT MTA And WMATA Transit Ridership	Ridership for Core Bus, Light Rail, Baltimore Metro, MARC, Contracted Commuter Bus, and Paratransit & Taxi Access and WMATA	MDOT MTA and WMATA	51
MDOT MTA Transit Ridership	Weekday transit usage demonstrates progress toward better mobility	MDOT MTA	52
<b>OBJECTIVE: INCREASE AND ENHANCE MULTIMODAL CONNECTIONS TO IMPROVE MOVEMENT OF PEOPLE AND GOODS WITHIN AND BETWEEN ACTIVITY CENTERS</b>			
MDOT Survey – Perceptions Of Multimodal Connectivity	An annual survey question measures the public's perception of connectivity, highlighting where MDOT has succeeded and where improvements are needed either in infrastructure, services or outreach	MDOT	53
Access To Transit And Bicycle Access To Transit	Measures how many Maryland customers are within 1/4 mile of a fixed-route transit station and how many Maryland customers can walk or bike to a fixed-route transit (such as Light Rail or MARC) or a multimodal transit center	MDOT MTA	54
<b>OBJECTIVE: INFORM AND EDUCATE CUSTOMERS ON TRANSPORTATION OPTIONS AND BENEFITS</b>			
Transportation Demand Management (TDM) And Commute Mode Share	Commute mode share tracks how Marylanders travel to work and is based on data from the American Communities Survey (U.S. Census)	MDOT	54
Estimated Annual Regional VMT Reduction Through TERMS	Measures the reduction in VMT resulting from Commuter Choice Maryland programs	MDOT	55

**WALKTOBER**



Did you know  
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offers these Resources and Benefits?

Guaranteed Ride Home

The Maryland Commuter Tax Credit

Helps Save You Money

Gives You Options to Your Commute

Resources for Commuters and Businesses



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**MDOT** MARYLAND DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION  
[roads.maryland.gov/workzonesafety](http://roads.maryland.gov/workzonesafety)



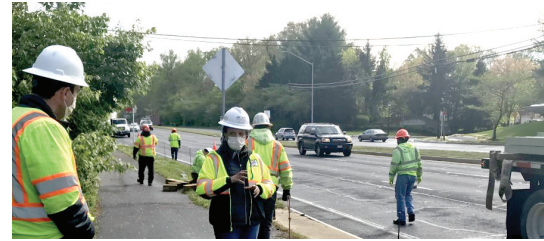
**STOP**

**BRAKING NEWS:**  
**STOP FOR PEDESTRIANS**

**LOOK ALIVE**

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## 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.”

7201 Corporate Center Drive  
Hanover, Maryland 21076

This document is prepared pursuant to Transportation Article Section 2-103.1 of the Annotated Code of Maryland.  
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