



2019

YEAR IN REVIEW

COMMUNICATION

INNOVATION

MODERNIZATION

CUSTOMER EXPERIENCE

MESSAGE FROM THE GOVERNOR

Maryland's world class transportation system is critical to the economy. The performance of our state's transportation system is increasingly important to the quality of life of our citizens. Facilitating the movement of people and the flow of goods through our State directly impacts our ability to connect our citizens to life's opportunities. This is critical, whether it is through the ships from around the world calling in at the Helen Bentley Port of Baltimore, travelers coming and going at the Baltimore Washington International (BWI) Thurgood Marshall Airport, riders on our transit system or drivers, riders, pedestrians, and bicyclists who travel on our roadways.

Our administration continues to deliver transportation projects and solutions, which are improving our roads, bridges, transit systems, airports, and the Port of Baltimore. The Maryland Department of Transportation (MDOT) is making the most of every dollar and is delivering once in a generation projects on an accelerated timeline. Our balanced program of transportation investments has included key projects and initiatives like the Traffic Relief Plan, toll modernization, the CHARM Pass app, the investments and improvements to the Howard Street Tunnel, Purple Line construction underway in Prince George's and Montgomery Counties.

As part of the Traffic Relief Plan, we have embarked on a historic effort to add capacity to I-270 and I-495 through a public-private partnership, which will deliver \$9-11 billion in improvements to our most critical arteries linking Maryland, Washington, D.C. and Virginia. With this effort, we will address the American Legion Bridge that spans Maryland and Virginia, a notorious bottleneck that contributes to the second-worst traffic congestion in the nation. Under a landmark agreement with Virginia, we are going to share the cost to rebuild and significantly increase capacity on the span. We are building a foundation for even greater economic growth, greater opportunity for our citizens, and advancing real, lasting, transformative improvements.

We recognize the valuable contribution transportation makes to our State. When people can get to where they need to go and receive the goods and services they need efficiently and effectively, their quality of life increases. By reporting and measuring our progress, we will continue to be a leader in transportation performance, and define ways to move forward in the future.



Larry Hogan
Governor



MESSAGE FROM THE SECRETARY

A healthy and efficient transportation network is critical to the quality of life for Maryland residents. Our State's infrastructure needs to connect and serve those who live and work in our State. That connection needs to provide the mobility our citizens deserve.

We are listening to our customers and working with communities and leadership at all levels of government to make travel across our State function more smoothly so that Marylanders can get where they need to go. That means making sound investments and thinking big with an eye toward the future.

We are making amazing progress. In 2015, Governor Hogan's Administration outlined a program of historic infrastructure investment. During the past four years, MDOT completed 1,069 projects worth nearly \$5.9 billion. We are continuing this investment today. We have 718 projects totaling \$7.2 billion underway, from the mountains of Western Maryland to farmlands on the Eastern Shore.

We are tackling major initiatives in the years ahead, including widening the Capital Beltway and American Legion Bridge, completing the Purple Line light-rail service in Montgomery and Prince George's Counties, continuing upgrades to I-695 and I-895, and completing a deck overlay on the William J. Preston Lane Jr. Memorial (Chesapeake Bay) Bridge.

As important as mobility is, safety is our top priority. There were more than 500 fatalities on Maryland roadways last year, and of those, 25 percent were pedestrians. This needs to change, and we are working diligently to do our part.

The MDOT SHA introduced a pedestrian safety-focused program tailored to business districts with dense populations and multi-modal transportation demands. The efforts include the installing traffic calming measures in central business districts, narrowing lanes, reducing speeds, and constructing continental crosswalks. Working with our local partners, we will transform our urban areas and enhance pedestrian and bicycle safety.

In 2020, we will work even harder to deliver for our customers and enhance safety and access for everyone - whether traveling by foot, bicycle, or vehicle.



Greg Slater
Acting Secretary

MESSAGE FROM THE ADMINISTRATOR

Connecting Marylanders to life's opportunities is a key part of MDOT's mission. At MDOT SHA, we just happen to do that through the highway system. Our focus is on people, Maryland citizens, our customers, and making our state accessible to everyone—whether by car, bus, train, tractor trailer, bicycle, or on foot.

These various methods of travel must fit together into an overall system that is safe, accessible, reliable and efficient. With this integrated system in mind, we delivered 163 projects in 2019, totaling more than \$492 million. In addition, work continued to progress on a total of 433 active construction projects valued at \$3.43 billion. This includes key upgrades to I-270, I-70 at MD 85, MD 210 at Kerby Hill Road, MD 4 at Suitland Parkway, and the I-81 Bridge Project across the Potomac River. We are also putting in the daily effort of maintaining our highway infrastructure using an asset management philosophy to keep good roads and bridges in good condition. Preserving our infrastructure and implementing data-driven solutions that improve the system performance of existing highways is critical to our mission.



Tim Smith, P.E.
Acting Administrator

We are committed to the Vision Zero concept to eliminate all traffic fatalities on our system. MDOT SHA recently released for public comment a new strategy marking a major change in how we address roadways and intersections throughout the state. "Context Driven – Access and Mobility for All Users" is a highway design resource that identifies six context zones, eliminating a one-size-fits-all-approach to transportation solutions. It provides a blueprint for improving safety catered to the characteristics of an area, whether it is urban, suburban, town center or rural. Using this context-driven guide, engineers are integrating traffic calming and pedestrian-friendly features. These high-benefit, low-cost enhancements include lower speed limits, protected bicycle lanes, right-on-red restrictions, raised crosswalks and curb extensions. Decreasing speed from 40-miles-per-hour to 30-miles-per-hour significantly reduces the possibility of severe injury or fatality.

We are also tackling three large projects with the purpose of reducing traffic on two vital arteries notorious for their gridlock: the Capital Beltway and I-270. Work is underway on the \$130 million Innovative Design project to add travel lanes, ramp meters, extended merge lanes along I-270 from Frederick to I-495. Meanwhile, the planning process, carefully following the National Environmental Policy Act (NEPA) guidelines, is underway to widen the Beltway using a public-private partnership. A historic agreement has been struck with the State of Virginia to widen the American Legion Bridge, a choke point that must be fixed for the entire system to work.

Finally, we are working diligently to improve customer service using technology. During the snow season, our web-based storm tracker application makes it easy to monitor progress clearing the interstates and arterial routes through neighborhoods. Our website has a fresh new look and a user-friendly interface that works great on a mobile device. Our customer service delivery system allows customers to report an issue and receive updates when the work is complete.

MDOT SHA is evolving to meet the modern needs of Maryland residents by seeking and incorporating feedback, developing new approaches to solving problems and building a transportation system for future generations.



YOUR MDOT SHA...BY THE NUMBERS

A safe, well-maintained highway system is crucial to a strong economy, enabling mobility and access for people and goods from and throughout the State of Maryland, keeping people safe as they travel, and improving the quality of life of Maryland's citizens.

MDOT SHA owns and maintains the Interstate, U.S., and Maryland numbered, non-toll routes in



Maryland Counties

MDOT SHA roads carry



66% of **state traffic**



17% of **road mileage**

that **translates to**

59,629,000,000

vehicle miles travelled¹ in Maryland in 2019

17,178 +

Lane Miles² of Roads and Ramps

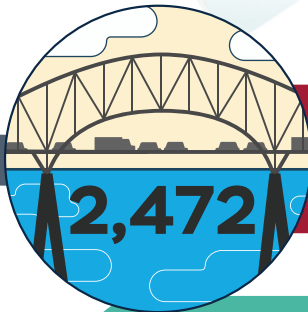


2,966
employees



7

Engineering Districts



2,472

State Maintained Bridges

28

Maintenance Shops



77%

total value of goods moved in MD are by truck



Estimated to carry

198.3
million tons of freight



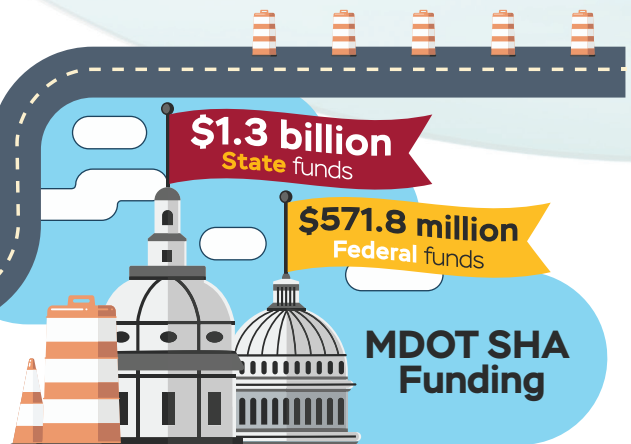
with over \$298.2 billion in value



\$1.3 billion
State funds

\$571.8 million
Federal funds

MDOT SHA Funding



*Source: U.S. Department of Transportation Freight Analysis Framework (FAF4) Version 4.5. that was refactored using 2017 data. To report 2018 and 2019 data, a 3% annual growth rate was applied. The water tonnage data is estimated for 2019, based on U.S. Army Corp of Engineers reporting.

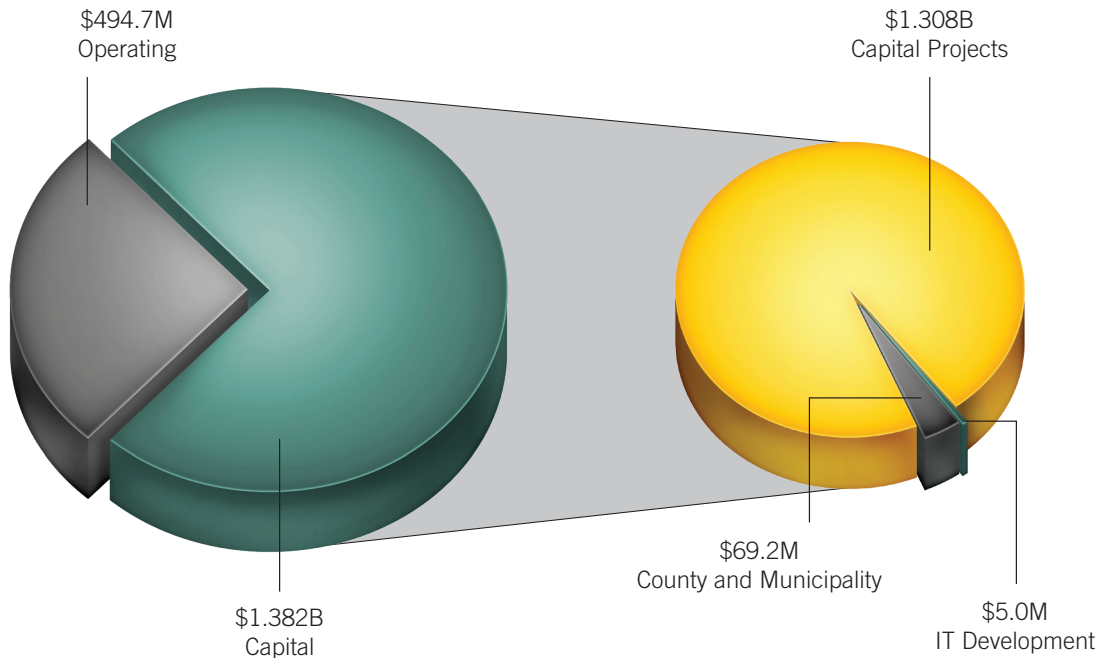
¹ Vehicle miles of travel (VMT) is the number of miles traveled by all vehicles on all roads.

² Lane-miles is the term used for the mileage down the center line, multiplied by the number of lanes.

FUNDING

FOR FY 2019

MDOT SHA USE OF FUNDING FOR CAPITAL FY 2019

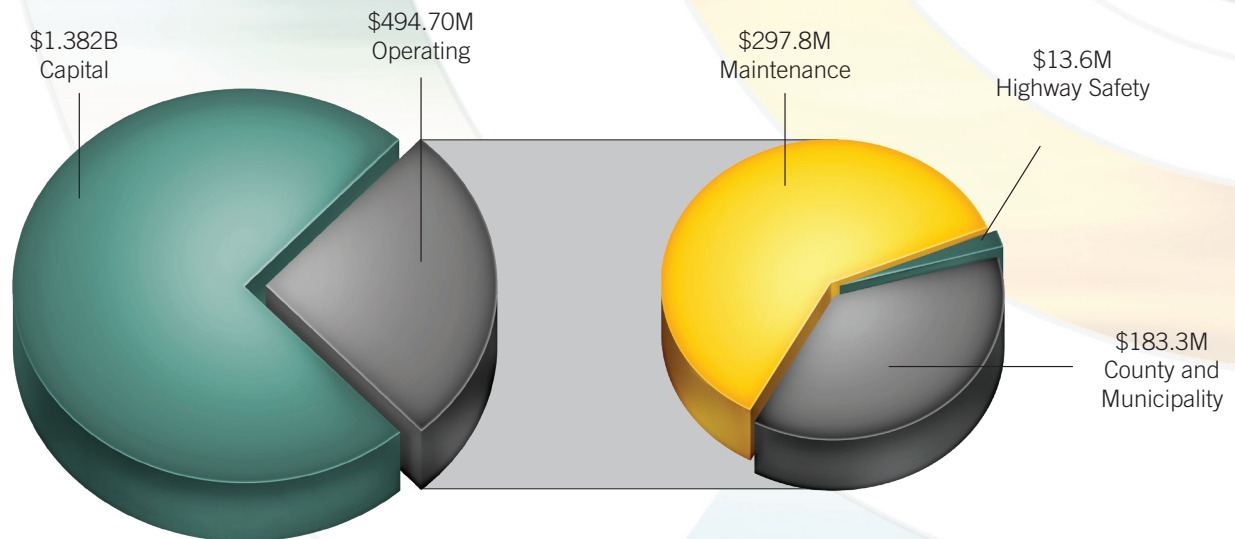


CAPITAL PROJECTS FUNDS SPENT	FY 2019
Major Projects (planning, design, right of way and construction phases)	\$382.5M
Bridge Rehabilitation Projects	\$220.1M
Pavement Resurfacing/Rehabilitation Projects	\$255.4M
Safety-Related Infrastructure Projects	\$89.9M
Multimodal Access Projects	\$33.3M
Traffic Management	\$70.7M
Environmental Projects	\$127.4M
Facilities, Equipment, Research	\$69.2M
Reimbursable Expenses, Other	\$59.6M
TOTAL	\$1.308B



Funding for MDOT SHA activities originates from State and federal transportation funds. MDOT SHA collaborates with citizens, communities, and elected officials to deliver hundreds of high-quality projects, from system preservation to major investments through planning, design and construction.

MDOT SHA USE OF FUNDING FOR OPERATING FY 2019



OPERATING MAINTENANCE FUNDS SPENT	FY 2019
Routine Maintenance	\$126.7M
Bridge Maintenance	\$4.2M
Environmental Design and Compliance	\$6.2M
Traffic/CHART Operations	\$27.6M
Winter Operations	\$95.5M
Electricity	\$8.8M
Maintenance Support	\$23.1M
Other	\$5.7M
TOTAL	\$297.8M

TOP TEN ACCOMPLISHMENTS OF 2019

1

More than 160 Completed Projects Across the State

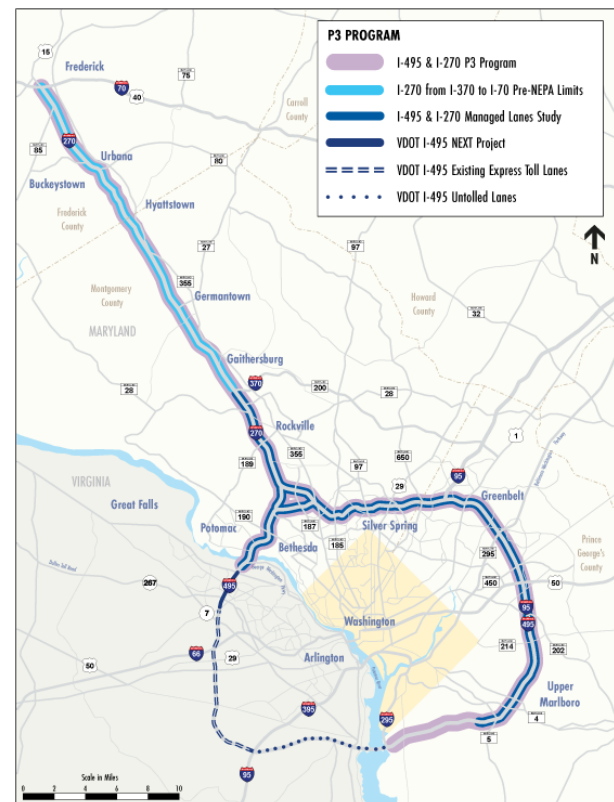
We continue to deliver innovation, modernization, communication and an outstanding customer experience to drive change for Marylanders. We are offering transformational, historic congestion relief to Marylanders. We are delivering meaningful projects throughout the State, including major capital projects such as new interchanges and smaller traffic calming projects in urban districts and communities. In 2019, MDOT SHA delivered another historic level of construction to improve congestion and safety across the state with 163 completed projects, totaling \$492,353,597. Work continued on 433 active construction projects valued at \$3.43 billion.

2

Continued Public-Private Partnership (P3) Program and the Managed Lane Study as Part of \$10 billion Traffic Relief Plan to Offer Transformational Congestion Relief Along I-495 and I-270 and Unlock Gridlock

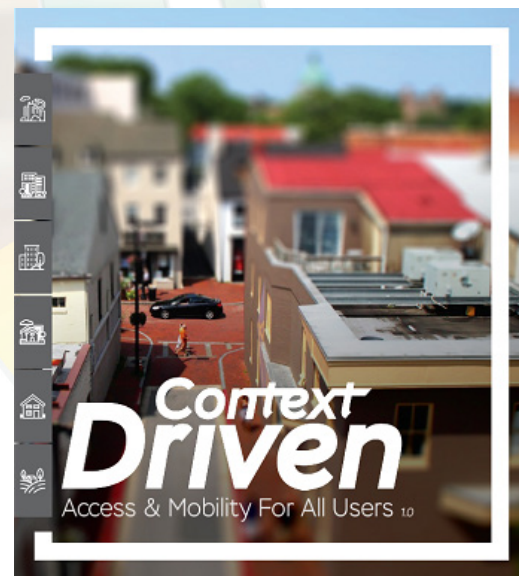
Milestones include:

- The Capital Beltway Accord, a partnership with Virginia to secure new American Legion Bridge;
- Industry forum in December 2018,
- BPW approval of P3 procurement in June 2019,
- Launch of Opportunity MDOT with workshops,
- Progress on the Managed Lane Study, including eight workshops, and
- Start of the Pre-NEPA planning process started along northern I-270 corridor.



3 Improved Pedestrian and Bicycle Safety with New Context Driven Access and Mobility Guide

MDOT SHA published the draft Context Driven Access and Mobility for All Users guide that enables flexibility in design solutions to address pedestrian and bicycle access and safety while also considering vehicle movement. Additionally, MDOT SHA introduced traffic calming measures, including narrowed lanes, reduced speeds, continental crosswalks and other measures to enhance pedestrian safety in Prince George's and Montgomery counties, including MD 190, MD 187 and MD 97 (Georgia Avenue).



4 Continued to Address Traffic Congestion With a System of Systems Approach

In addition to the P3, MDOT SHA supported the traffic relief plan through:

- Increasing smart signal corridors along 3 corridors and 19 intersections; in total, smart signals save nearly 700,000 drivers time with a total of 14 corridors across the State;
- Working on the design of a new interchange at I-695 and I-70 interchange, and
- Continuing project development of the I-695 Transportation Systems Management and Operations (TSMO) project, in which we will use existing inside shoulders to create a peak-hour travel lane on about 19 miles of both loops of the Baltimore Beltway (I-695) between I-70 and MD 43.



5

Continued Emphasis on Assets Management Approach

As exemplified by Structures and Pavement and expanding to other parts of the organization, MDOT SHA continues emphasis on an assets management approach for roadside features, including Manual for Assessing Safety Hardware (MASH)-compliant hardware such as guardrail, signs and signals.



6

Received America's Transportation Award recognizing Severn River and Dover Bridges

Winning in the Quality of Life/Community Development, Medium Project category, the \$65.4 million Dover Bridge Project along MD 331 on the Eastern Shore replaced an historic swing bridge that, when opened for river traffic, rerouted drivers up to 45 minutes out of their way. These openings impacted residents' mobility and could delay emergency responders. The new bridge, completed a full year ahead of schedule, has two 12-foot-wide lanes and two 8-foot-wide shoulders. The 50-foot-high, fixed-span bridge allows marine vessels to pass without impeding motorists. The old bridge has been retained as a community fishing pier.



Winning in the Operations Excellence, Small Project category, the \$22.8 million project on US 50 over the Severn River Bridge was initiated to reduce traffic congestion in the eastbound direction, often exacerbated by beach-bound traffic during the peak summer season. Using the existing bridge footprint, MDOT SHA increased capacity from three 12-foot eastbound lanes, three 12-foot westbound lanes and a 3-foot median to four 11-foot eastbound lanes, three 11-foot westbound lanes and a 2-foot median.



7 Identified and Funded Poorly Rated Bridges

MDOT SHA has an exemplary bridge program with the lowest number of bridges (52) reported in poor condition (previously structurally deficient) since this tracking began. All of these bridges are being addressed with several just completed and open to traffic.

8 Lane Miles Treated

MDOT SHA has reached a major milestone, treating more than HALF of all lane miles on MDOT SHA maintained roads – a total of 10,943 miles. We treated 65 percent of all state highway lane miles in FY 2015-19, investing \$215 million in 2019 alone.

9 Expanded Maryland's Transportation and Civil Engineering Program (TRAC)

MDOT SHA's reach extends beyond roadways, and the success of Maryland's Transportation and Civil Engineering Program (TRAC) provides high school students with the opportunity to explore the dynamic, problem-solving world of Science, Technology, Engineering and Mathematics (STEM). In 2019, the MDOT TRAC and Roadways Into Developing Elementary Students (RIDES) programs continued to grow in Baltimore City and in Central Maryland, with expansion into seven new TRAC and RIDES schools. This growth has directly reflected in more than a 50 percent increase in TRAC Bridge Challenge applications during the past year.



10 Employee Input Vital to Our Success

Internally within MDOT SHA, we seek input from our employees to continually usher in a spirit of innovation and modernization.

- MDOT SHA hosted its first innovation showcase, an opportunity for employees from various areas within operations to share modernized practices and new approaches.
- On November 20, 2019, we hosted the fifth installment of our Project Green Light events. Project Green Light challenges MDOT SHA team members to brainstorm improvements and pitch these projects to members of the senior management team. This year, nine Project Green Light projects moved on for further study, embracing process improvements and modernizations.

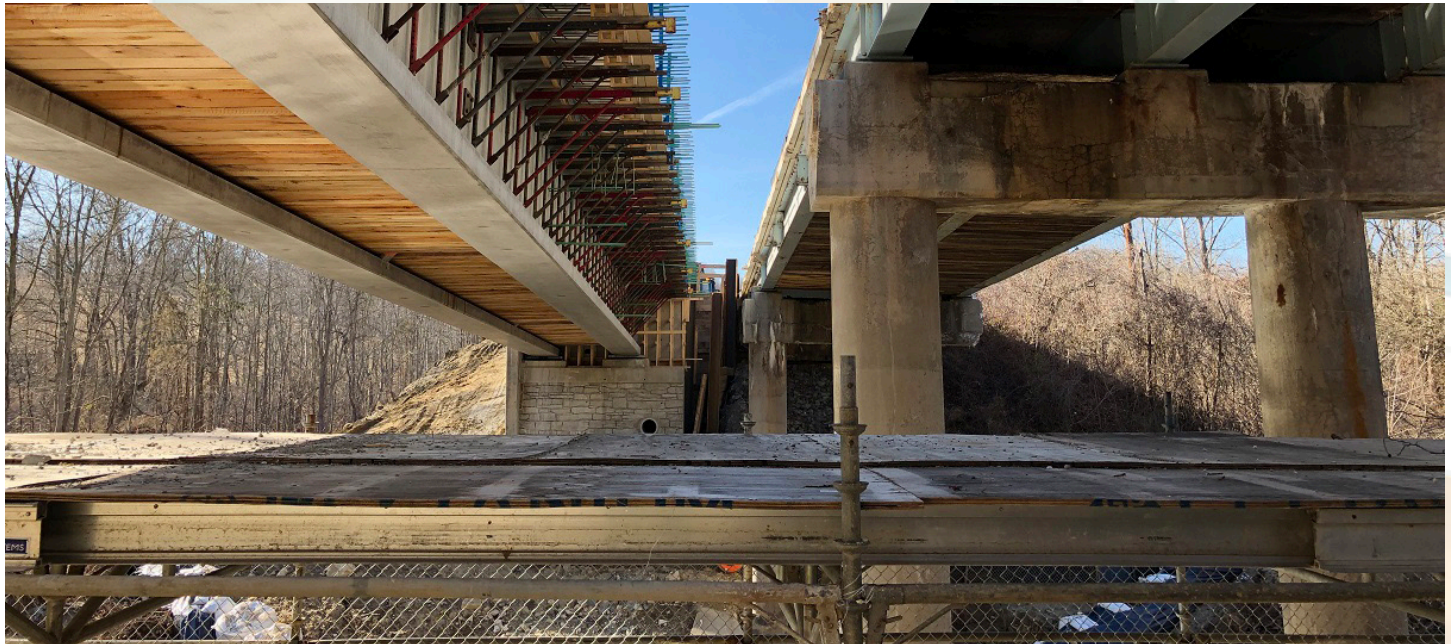
GOVERNOR PRIORITY PROJECTS

TACKLING THE CHALLENGE OF BEACH TRAFFIC ON MD 261

In August 2019, then-MDOT SHA Administrator Gregory Slater was joined by Town of Chesapeake Beach Mayor Patrick Mahoney in Calvert County for a ribbon cutting to commemorate the completion of the new MD 261 (Bayside Road) bridge over Fishing Creek.

The new bridge offers a wider, safer bridge for travelers. The original bridge, constructed in 1940, was one of 69 previously identified by the Hogan Administration's Investment in Highways and Bridges in 2015. MD 261 serves as the main route into Chesapeake Beach and serves motorists, pedestrians and cyclists across the bridge as well as marine vessels traveling below.





MD 273 Over Big Elk Creek – Cecil County: This is a complete bridge replacement as part of Governor Hogan’s promise to address all poorly rated bridges on the state system. This bridge spans heavily used trails in the Fair Hill Natural Resources Management Area and the project includes reconstruction of the popular carriage trail under the bridge. MDOT SHA is working closely with the Department of Natural Resources to coordinate work phases and communicate trail impacts with park users. This \$8.9 million bridge replacement project is on schedule for completion by summer 2020.

MD 213 Over Gravel Run and Old Mill Stream – Queen Anne’s County: This \$5.3 million project is complete and replaced two poorly rated bridges in the town of Centreville. The Gravel Run bridge consisted of a deck replacement and was completed in June 2019. The Old Mill Stream bridge was a more complex process in which the bridge was constructed adjacent to the existing structure and moved into place in

one weekend using a unique “bridge slide” process. Following completion of the town’s water and sewer project, MDOT SHA will resurface MD 213 through Centreville in spring 2020.

MD 364 over Dividing Creek – Somerset County: Completed in fall 2019, this \$2.6 million project completely replaced this poorly rated bridge in 10 weeks. The expedited construction schedule was necessary to minimize impacts to local agriculture and schools.

US 13 Business over Wicomico River – Wicomico County: In July 2019, MDOT SHA completed phase 1 of the US 13 Business over Wicomico River bridge replacement. Phase 1 consisted of the utility relocation phase, in which a grade beam across the river was constructed to clear utilities in advance of the major bridge work. Phase 2 will comprise the bulk of the bridge replacement and currently is in design.

US 1 - College Park Corridor Improvement Project – Prince George’s County: In July, MDOT SHA advertised the US 1 project for construction. This \$38 million project will reconstruct the existing five-lane, undivided US 1 between College Avenue and MD 193 to include four travel lanes, buffered bicycle lanes, sidewalks and a raised median. We worked with utility partners to accelerate utility relocations and constructions, cutting a full year off the original schedule. Completion is anticipated in 2023.

I-95/I-495 (Capital Beltway) Bridges over Suitland Parkway – Prince George’s County: The bridges are part of Governor Hogan’s 2015 commitment to address 69 poorly rated bridges. The \$36 million bridge rehabilitation project began in fall 2018 and is expected to be complete by spring 2022.

I-95/I-495 (Capital Beltway) Bridges over Suitland Road – Prince George’s County: Work is underway on a \$36 million project to replace the I-95 bridges over Suitland Road. This project is expected to be complete by late fall 2020.

I-95/I-495 (Capital Beltway) Bridges over MD 214 (Central Avenue) – Prince George’s County: This \$32 million project is part of Governor Hogan’s 2015 commitment to address 69 poorly rated bridges. The project began in fall 2018 and is expected to be complete by year end 2021. This project involves two long-term ramp closures within the I-95/I-495 and MD 214 interchange.

I-83 (Baltimore-Harrisburg Expressway) Bridges over Padonia Road – Baltimore County: This \$25.6 million project will replace the twin bridges over Padonia Road, improve two ramp movements at the interchange and widen the culvert carrying a branch of Beaver Run under the interchange. One of the bridges was part of Governor Hogan’s 2015 commitment to address 69 poorly rated bridges. The project began in summer 2018 and is expected to be complete in summer 2021.

US 40 (Pulaski Highway) Bridges over Big and Little Gunpowder Falls – Baltimore/Harford County line: This project rehabilitates four bridges along US 40. One of the bridges was part of Governor Hogan’s 2015 commitment to address 69 poorly rated bridges. The \$30.5 million rehabilitation project began in summer 2018 and is expected to be complete in spring 2022.

US 1 (Washington Boulevard) Bridge over CSX Transportation – Baltimore County: This \$34.2 million project replaces the bridge over the rail tracks, and the new structure will be 120 feet longer and 4 feet higher to enable CSX Transportation to add future rail lines, a rail service road and added height to allow for double stacked freight cars. The widened bridge structure will provide wider shoulders on the bridge, as well as a new left-turn lane from northbound US 1 to Clarke Boulevard. The bridge project also includes new retaining walls along US 1 and reconstruction of the Clarke Boulevard intersection to accommodate the new left-turn traffic movement. One of the bridges was part of Governor Hogan’s 2015 commitment to address 69 poorly rated bridges. The project began in summer 2018 and is expected to be complete in fall 2020.

MD 5 (Point Lookout Road) between Camp Brown Road and the Lake Conoy Causeway – St. Mary’s County: This \$27 million project will upgrade and widen MD 5 between south of Camp Brown Road and the Lake Conoy Causeway (2.2 miles). The project will add bicycle and pedestrian accommodations. Construction is expected to be complete in fall 2021.

MD 5 at Abell/Moakley Streets Intersection Improvements – St. Mary’s County: MDOT SHA is making great progress on the \$13 million intersection safety improvement project along MD 5 at Abell and Moakley streets in Leonardtown. Governor Hogan broke ground on this project during an event in March 2019. The project is expected to be complete in fall 2020.



MD 254 Bridge Replacement over Neale Sound connecting Cobb Island with mainland – Charles County: MDOT SHA is continuing construction on the \$18 million MD 254 Bridge replacement over Neale Sound, connecting Cobb Island with mainland Charles County. MDOT SHA is maintaining traffic flow and reducing construction-related impacts to our customers during construction, as crews are building the new bridge next to the existing bridge. The project is expected to be complete by late summer 2020.

MD 2/4 Widening between Fox Run Boulevard and north of Commerce Lane – Calvert County: MDOT SHA is continuing construction on the \$47 million widening project on MD 2/4 from Fox Run Boulevard to Commerce Lane in Prince Frederick. These improvements will reduce congestion and provide capacity for planned development.

I-81 Widening & Replacement of Dual Bridges over the Potomac River – Washington County: This \$103 million investment on the Interstate 81 bridges over the Potomac River has been hampered by weather conditions; however, completion is expected in fall 2020. This project includes a unique temporary working bridge that extends over the Potomac River to complete work below the structure. This project is a partnership with West Virginia Department of Highways and includes paving widening and improvements from North of MD 63 in Maryland to just north of Falling Waters in WV.

US 219 North – I-68 to Old Salisbury Road – Garrett County: This \$61 million upgrade and relocation of US 219 from I-68 to Old Salisbury Road is scheduled to be complete in fall 2020. This design-build project realigns US 219 between I-68/US 40 and Old Salisbury Road as a four-lane divided highway. This re-alignment will enhance accessibility and promote economic development for the community through the replacement of existing intersections at the I-68 exit and entrance ramps with roundabouts.

MD 32 Phase 2 Widening between Linden Church Road and I-70 – Howard County: MDOT SHA continues Phase 2 of MD 32 improvements between Linden Church Road and I-70. The \$127 million project began in June 2019. The new Triadelphia Road Bridge is expected to fully reopen in summer 2020. The dualization project is scheduled to be complete in summer 2022.

I-270/MD 85 Interchange – Frederick County: Construction continues on the \$87 million I-270 interchange reconstruction at MD 85. In spring 2019, MDOT SHA opened the new I-270 southbound bridge over MD 85 so that widening could begin for the new MD 85 diverging diamond interchange. This project includes widening MD 85 between Spectrum Drive and Crestwood Boulevard and a new interchange that replaces the obsolete 1954 configuration. The project is expected to be complete in fall 2022.



COMPLETED PROJECTS

DISTRICT 1	AMOUNT
Dorchester County	
MDOT SHA completed several short but critical paving projects including MD 343 near US 50 in Cambridge and MD 16 in East New Market.	\$976,000
Somerset County	
US 13 southbound from Wicomico County Line to MD 675.	\$1.4 million
Wicomico County	
US 50 at Sixty Foot Road in Pittsville - signalization and intersection reconstruction to reduce angle crashes.	\$2.8 million
US 50 at White Lowe Road - Partial signalization (westbound only) and Modified-T to reduce angle crashes and improve access to eastbound US 50.	\$2.4 million
Worcester County	
US 50 West Ocean City shared-use path - Project to construct a 10-foot wide shared-use path to improve safety by separating bicycles and pedestrians from busy US 50.	\$1.8 million



DISTRICT 2	AMOUNT
Caroline County	
US 40 at Maloney Road - Safety and pedestrian-access project in Elkton.	\$1.8 million
Kent County	
MD 298 pipe culvert - A critical crossroad pipe culvert carrying Fairlee Creek under MD 298 was replaced with minimal traffic impacts.	\$225,000
Queen Anne's County	
MD 309 drainage improvements for branches of Norwich Creek.	\$900,000
Talbot County	
MD 328 at Black Dog Alley – MDOT SHA converted the existing Intersection Control Beacon to a full-color signal to reduce angle collisions and improve traffic flow across MD 328.	\$30,000



DISTRICT 3	AMOUNT
Prince George's County	
MD 4 (Pennsylvania Avenue) from MD 458 to DC line and Forestville Road to I-495 Bridge.	\$3.7 million
MD 202 from Campus Way to MD 214.	\$890,000
US 1 from Oak Street to Howard County line.	\$3.1 million
MD 210 NB from Farmington Road to Old Fort Road.	\$3.5 million
MD 500 from MD 208 (Hamilton Street) to MD 410 (East-West Highway/Adelphi Road).	\$7.2 million
Bridge 1616600 over I-95/495.	\$4.7 million
Montgomery County	
MD 124 from Spur to Christopher Avenue to Midcounty Highway, safety and resurface.	\$2.05 million
MD 355 from MD 28 to Mannakee Street, safety and resurface.	\$2.09 million
US 29 from MD 97 to St. Andrews Way, safety and resurface.	\$1.65 million
MD 117 at Firstfield Road, In-stream stormwater management structure construction, drainage improvement.	\$2.01 million
MD 190, safety and resurfacing from MD 614 to Washington D.C. line.	\$3.12 million
MD 355, safety and resurfacing from MD 28 to Mannakee Street.	\$2.29 million
MD 187 intersection reconstruction on MD 187 from south of Center Drive to north of Cedar Lane.	\$3.4 million
MD 320 at Sligo Creek, pedestrian bridge and trail alignment.	\$1.8 million



DISTRICT 4	AMOUNT
Baltimore County	
Bridge replacement on Crosby Road over I-695.	\$8.7 million
MD 45 (York Road) resurfacing from north of the Towson Roundabout to Cavan Drive.	\$3.2 million
Timber noise barrier on I-695 (Baltimore Beltway) Inner Loop near Dogwood Road.	\$3.2 million
Harford County	
US 40 (Pulaski Highway) at MD 7/MD 159, intersection widening, Phase 2.	\$24.6 million
MD 22 (Churchville Road) from Prospect Mill Road to MD 136, resurfacing, Phase 1 of 2.	\$5.6 million
MD 623 (Castleton Road) from Franklin Church Road to Glen Cove Road, drainage and slope improvements.	\$2.7 million



DISTRICT 5	AMOUNT
Anne Arundel County	
MD 295 Resurfacing between MD 175 and MD 100.	\$6 million
MD 171 (Church Street), Americans with Disabilities Act (ADA) sidewalk reconstruction and safety improvements between MD 2 and the Baltimore City line.	\$859,000
MD 178, ADA sidewalk reconstruction project between MD 450 and Bestgate Road.	\$324,000
Calvert County	
MD 261 (Bayside Road) Bridge Replacement over Fishing Creek.	\$31 million
Charles County	
MD 224 Bridge Replacement over a branch of the Potomac River.	\$1.9 million
St. Mary's County	
MD 235 at Woodland Acres, two-lane road extension.	\$1.8 million

DISTRICT 6	AMOUNT
Garrett County	
MD 39 – Resurfacing and safety improvements from MD 135 to Crabtree Creek, MD 135 to Crabtree Creek. An innovative, environmentally friendly and cost-effective method of “Cold in Place” paving was used.	\$2.8 million
Allegany County	
I-68 over MD 639 at Willowbrook Road, upperstructure replacement and rehabilitation of substructure bridge.	\$6.27 million



DISTRICT 7	AMOUNT
Carroll County	
MD 26 widening between Emerald Lane and Calvert Way.	\$6 million
MD 26 intersection improvements at Oakland Mills Road.	\$2.5 million
MD 97 capacity improvements between Pleasant Valley Road and Airport Drive/Magna Way.	\$3.8 million
17 miles resurfaced. Locations includes MD 27 from the Frederick County line to Watersville Road and MD 496 between Old Bachman's Valley Road and MD 30.	\$4.8 million
Frederick County	
US 15 at Monocacy Blvd, including new Park & Ride.	\$73 million
US 15 bridge over MD 26.	\$7.5 million
MD 180 roundabout at Mt. Zion Road, expected to be substantially complete in 2020.	\$6 million
US 40 Alt, emergency slope repairs between Fern Lane and Ridge Road.	\$2.3 million
MD 478 bridge opened to traffic in November 2019.	\$5.1 million
Howard County	
MD 32 widening between MD 108 and Linden Church Road, Phase 1.	\$37.5 million
US 40 bridge over I-70.	\$4 million
Westbound I-70 between Marriottsville Road and the Baltimore County line, resurfacing.	\$3.6 million



P3 PROGRAM UPDATE

I-495 & I-270 PUBLIC-PRIVATE PARTNERSHIP (P3) PROGRAM UPDATE

The I-495 & I-270 P3 Program is the largest component of Governor Larry Hogan's bold vision to address Maryland's severe congestion through a balanced transportation system – the Traffic Relief Plan.

In the National Capital Region alone, commuting times continue to be the second highest in the nation. On average, every day there is severe congestion on I-270 for 7 hours and on I-495 for 10 hours, hurting Marylanders' travel, economic development, and quality of life. By 2040, the region will add an additional 1.2 million residents and 1 million new jobs, which will further strain the existing system.



During the next decade, MDOT will need to invest at least \$1.7 billion in maintenance and rehabilitation simply to maintain the existing roadways and bridges on I-495 and I-270 in a state of good repair.

However, with an estimated \$9-11 billion infrastructure investment on more than 70 miles of these two critical interstate highways, the P3 Program will be a game changer for Marylanders. The P3 Program will provide solutions not otherwise possible to relieve congestion, replace critical infrastructure, use innovation to limit impacts, enhance economic development and overcome funding gaps.

To these ends, the P3 Program logged numerous significant achievements in 2019.

- In June 2019, Maryland's Board of Public Works (BPW) designated the P3 Program as a public-private partnership. The designation allows the program to solicit teams to design, build, finance, operate and maintain improvements on both I-495 and I-270.
- In November 2019, Governor Hogan announced with Virginia Governor Northam the Capital Beltway Accord. This long-sought historic cooperation will rebuild the American Legion Bridge – one of the most notorious chokepoints linking the two states' northern portions of the I-495 – and create a unified Capital Beltway.
- Concurrent to, but separate from the solicitation process, the P3 Program continued advancing the I-495 & I-270 Managed Lanes Study and initiated I-270 pre-National Environmental Policy Act (NEPA) activities.
- The Managed Lanes Study (MLS), which includes 48 miles of the program area on I-495 from south of the George Washington Memorial Parkway in Virginia to west of MD 5 and I-270 from I-495 and north of I-370, is more than half complete. Eight public workshops—four in Montgomery County and four in Prince George's County—were held as part of the study in Spring 2019. More than 1,100 people attended the workshops and 1,035 comments were received.



- The MLS includes detailed analysis of six Alternatives Retained for Detailed Study (ARDS) in anticipation of publishing a Draft Environmental Impact Statement in 2020 in accordance with NEPA.
- In late Spring 2019, MDOT SHA began preliminary planning or “Pre-NEPA” activities for potential congestion-relief improvements to the northern 23-mile section of I-270 from I-370 in Gaithersburg to I-70 in Frederick. In November 2019, more than 200 people attended four public workshops – two in Frederick County and two in Montgomery County – held to share information and gather public input on ways to address congestion within this part of the I-270 corridor. The Pre-NEPA activities will be completed in summer 2020 and lead to initiation of a full NEPA study.
- To help maximize the P3 Program’s benefits to transit, MDOT SHA established a Managed Lanes Transit Work Group in May 2019, which continues to meet monthly with regional and local transit providers to consider ways that transit programs could take advantage of managed lanes on I-495 and I-270.
- In addition, P3 Program outreach to the public and other important stakeholders continues to be extensive. As of December 2019 and including work done both as part of and separate from the two environmental processes, program staff have

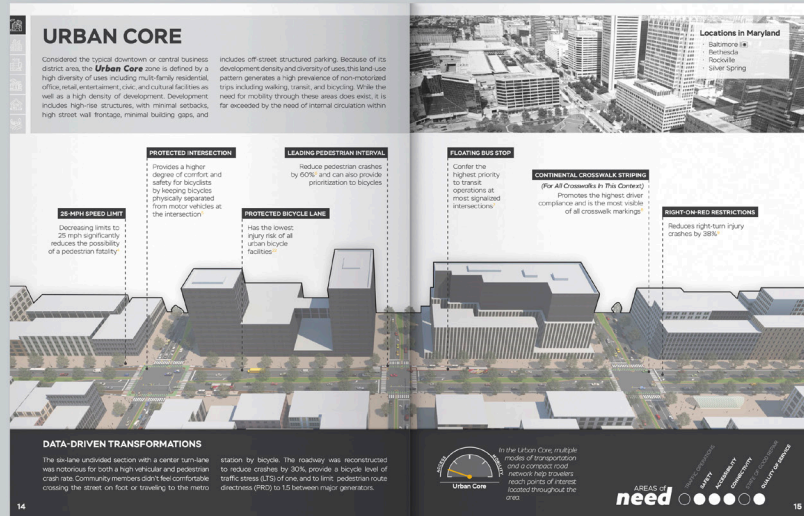
hosted 20 public workshops, held 33 legislator briefings, had booths at 14 pop-up/community events, presented at 57 civic/community organization meetings, met with 22 large landowners and mailed thousands of right-of-entry letters to property owners along I-495 and I-270. The P3 Program regularly updates its own website, 495-270-P3.com, and corresponds with stakeholders and industry via email at 495-270-p3@mdot.maryland.gov.



OPPORTUNITY MDOT

In addition to working to provide travelers with congestion relief, MDOT launched Opportunity MDOT on August 1 to maximize small, minority, women and veteran-owned and disadvantaged business and local workforce participation in the P3 Program. The goal of Opportunity MDOT is to help strengthen and grow Maryland’s businesses, workforce and economy for generations – one opportunity at a time. By treating inclusion as a strategic initiative, Opportunity MDOT will position Maryland to be known nationally for its innovative approach to empowering citizens for economic growth. Beyond hosting two large industry events in August and December 2019, Opportunity MDOT had established direct on-going relationships with 224 firms through its virtual Center of Excellence.

MDOT SHA CONTEXT GUIDE



The MDOT SHA Context Guide is a planning and design resource offering practitioners guidelines focused on creating safe, accessible, and effective systems for all modes of transportation, including pedestrians, bicyclists and mass transit users. MDOT SHA developed a unique set of six context zones based on the distinctive land use characteristics of Maryland communities. Making use of these zones, this context guide will enable flexibility and encourage innovation in developing design solutions that address the major issues of safety and accessibility while still considering the transportation needs of the motoring public.

The transportation challenges facing communities throughout Maryland today have changed significantly throughout the years, creating a need for new tools and processes for implementing effective solutions. Although the challenges are substantial, there is a growing opportunity to deliver safer and more efficient transportation alternatives to Maryland residents. This Context Driven guide

brings awareness to MDOT SHA's approach to these challenges through the incorporation of context into the project development process.

In lieu of the historical focus on auto-mobility, MDOT SHA is balancing two priorities: access and mobility for everyone. In the densest urban areas with the highest concentration of trip origins and destinations, access is the primary consideration. As density and local activity decrease, the priority shifts towards mobility as the primary transportation objective. Along with best practices and design tools, this context guide provides a process for balancing the needs of Maryland's transportation system as a whole with the access, mobility, and safety needs of individual communities.

Access: **HOW MANY PLACES** you can get to in a given amount of time

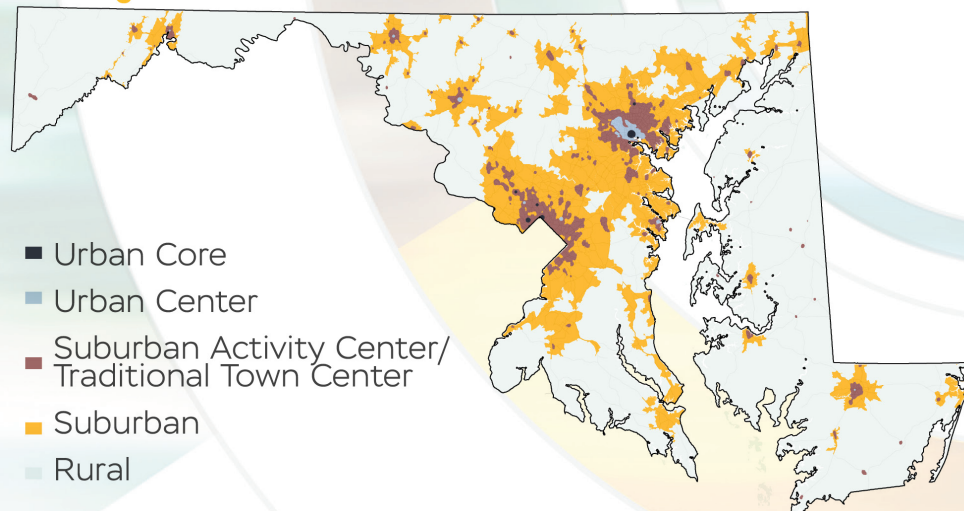
Mobility: **HOW FAR** you can go in a given amount of time

Each project can be approached through the newly defined context lens with an understanding that innovation and creative thinking may lead to combinations of design treatments not previously implemented in Maryland. The solution to the transportation needs will address the specific challenges for the communities of Maryland. Providing the right solution to the right context starts with establishing the context itself. While many alternative transportation

context classifications already exist, MDOT SHA understands the distinctive characteristics of Maryland communities and has developed a unique set of six context zones that capture these characteristics.

The innovation and flexibility that develop from the implementation of this guide require time, experimentation, and collaboration across multiple stakeholder groups. Based on this new Context Guide, the transportation solutions will be guided by context and developed with the surrounding community in mind. By providing this Guide and working with communities, MDOT SHA demonstrates a dedication to prioritizing the accessibility and safety needs of communities while balancing the needs of the broader regional transportation system.

Defining Context Zones



MDOT SHA Context Zones



How much can you get to?



How far can you go?

MDOT SHA CARES

As an agency dedicated to public service, MDOT SHA cares about the communities we serve. We demonstrate that commitment through special initiatives including student mentorships, enthusiastic support of the Maryland Charity Campaign, participation in Governor Hogan's Day to Serve, as well as many localized efforts led by our district offices and maintenance shops throughout the State.

2019 MARYLAND CHARITY CAMPAIGN

MDOT SHA is made up of a wonderful team of caring people. Every year, employees and retirees make payroll donations to help thousands of people in our communities. Together with all MDOT Transportation Business Units (TBUs), MDOT SHA received the Governor's Cup in March 2019 for our achievements in 2018. We are once again striving to be the best at what we do, not only by taking care of highways, bridges, structures, and traffic flows, but truly caring about our citizens. With events such as an International Luncheon, Holiday Craft Bazaar, Pie Toss, and even a Baby Shark Video Challenge, we raised more than \$62,100 for the 2019 Maryland Charity Campaign, exceeding our goal!



OPERATION ORANGE FOOD DRIVE

MDOT SHA led the Maryland Department of Transportation (MDOT)'s fight against hunger with the Operation Orange Food Drive! During September's Hunger Action Month, MDOT SHA collected food at each of its locations throughout the State and hosted an online virtual food drive campaign.

MDOT SHA collected a total of \$678 and 5,192 pounds of food. In total, MDOT raised \$3,323 and 8,295 pounds of food, the equivalent of 16,853 meals for our Marylanders in need. District 6 alone collected more than 2,700 pounds of food for Garrett, Allegany and Washington County food banks.





Collections were sent to the Maryland Food Bank, which supplies hundreds of food pantries, soup kitchens, shelters and faith-based organizations that serve food-insecure Marylanders like Davonnya, a 37-year-old mother of five:

“Getting this food is an awesome opportunity, so I don’t have to make tough choices. I can’t always afford three meals and bills on my own.”

ADOPT A FAMILY

Every year, the Office of Information Technology (OIT) sponsors a family from the Sexual Assault/Spouse Abuse Resource Center (SARC sarc-maryland.org/) in Harford County. Team members of the Office of Planning and Preliminary Engineering (OPPE) joined in the efforts to provide support to a family in need during the holiday season. Rather than requesting toys, some younger family members only asked for items needed, such as clothing, pillows and linens. Together the offices worked together to provide everything on the family’s wish list and then some.

DISTRICT COMMUNITY EVENTS

District 3

District 3 team members attended the CASA (Court Appointed Special Advocate) World of Wheels, where they displayed a Gradall and flusher truck. Team Leaders Donald Thomas and Troy Lefeged operated the equipment along with team members Mike Hall and Marcelle Williams.



District 4

In late summer, D4 - District Office Quality Circle bought and donated school supplies to a school in the City of Baltimore.



District 6

Each year District 6 hosts an open house - a great opportunity to be a good neighbor and make personal connections with nearby communities. Attendees enjoy learning about the equipment and trucks, projects and initiatives, and each year attendance grows. Return guests tell us that they enjoy our open houses so much that they watch for the annual announcements. The program benefits the community as well as MDOT SHA staff - we learn community concerns and get to know our neighbors.



District 6 hosts approximately 200 preschoolers from our county Head Start classes. We provide a short presentation in our lunchroom about safety and snowplows and then head outside to see the “big trucks” and the salt dome. Many of the teachers tell us this is their favorite field trip.



District 7

District 7 is a hub of community activity, participating in a number of joint programs that provide traffic safety education and up-close equipment demonstrations. Local partners include Bet Yeladim Preschool, La Petite Academy, Children’s Center of Monrovia, Chick-fil-A, the Hampstead Volunteer Fire Department, and the Myersville Elementary School PTA. The district also participates in National Night Out, the Homeschooler Field Trip, and the Westminster Fall Fest.





TRAC

MDOT SHA's Transportation and Civil Engineering Program (TRAC) continued to grow and experienced continued success in 2019. TRAC began to expand further into additional school jurisdictions including those in Anne Arundel, Baltimore and Montgomery counties and the City of Baltimore. In total, the program supplied four Bridge Builder Modules, three Magnetic Levitation Modules, and four RIDES Modules to participating schools. MDOT SHA's TRAC program participated in engineering-related events including MdQI Career Day and Engineers Week, as well as the Baltimore City Maryland Science Olympiad. In 2019, MDOT TRAC had 24 Teams submit applications to participate in the American Association of State Highway Administration (AASHTO) National Bridge Challenge,

of which nine teams were able to complete the rigorous challenge and became finalists to compete with other teams from across the country in Park City, UT.

MDOT SHA ASSISTS ASSATEAGUE PONIES

If you've ever heard of the famed ponies on Assateague Island in Worcester County, you know that the beloved animals inspired a 1947 novel *Misty of Chincoteague* and the 1960 motion picture *Misty*. The ponies run wild along the marshes, bay and Atlantic Ocean. These horses often amble along MD 611 (Stephen Decatur Highway), which traverses Assateague Island. MDOT SHA installed several measures to heighten motorists' awareness of the ponies. Traffic calming devices, such as speed humps, were installed prior to key pony crossing areas, as well as LED blinking signs that have the wild pony logo. Please drive carefully and look out for the ponies when traveling on MD 611.



MDOT SHA PRIORITIES: COMMUNICATION

Good communication is the root of any organization's success. Marylanders expect and deserve clear, transparent information. Informed customers can make sound decisions regarding the State's transportation network when they receive communication frequently, accurately and effectively.

PARTNERING WITH WAZE

Waze has become a popular app that people use as a navigational and traffic management tool. MDOT SHA has negotiated an agreement with Waze, joining forces to provide users with information about Maryland road closures.

Under this partnership with Waze's Connected Citizens Program (CCP), MDOT SHA now provides our information directly and immediately, arming our customers with the information they need when planning a trip on our roadways.



The new Waze partnership creates the following capabilities:

- Identifiable authoritative MDOT SHA incident notifications,
- Direct in-app messaging to drivers to address anticipated traffic congestion and detours, potential congestion due to upcoming construction, and even public meetings about future projects,
- Push notifications with information about a user's favorite routes.

MDOT SHA is now among the more than 70 North American Waze partners to join CCP since 2016.

ENCOURAGING YOUNG PEOPLE TO BECOME TRANSPORTATION ENGINEERS

Tomorrow's MDOT SHA begins today when we communicate with young people from kindergarten through high school about the exciting ways they can pursue an education in transportation.

We start young, illustrated by a Bring Your Child to Work Day event hosted at MDOT SHA. That day, grade school children watched demonstrations of urban planning and engineering, constructed bridges and learned about field operations and safety.

In May, we launched a new Maryland program for grade schoolers: Roadways in Developing Elementary Students (RIDES). RIDES, which was developed by AASHTO, shows Maryland students as young as five years old that Science Technology Engineering and Math (STEM) is fun and engaging. It's a hands-on program, the kind that lets kids do more than just learn from books and screens. Students apply their creativity to solving real-world problems in transportation and civil engineering.





For years, MDOT SHA has worked with Maryland middle and high schools on programs and competitions in the Transportation and Civil Engineering (TRAC) program. We're proud that more and more schools across the State are introducing TRAC to their students. We congratulate TRAC teams from Chesapeake Math and IT North Middle School, Chesapeake Math and IT North High School, and Chesapeake Science Point who took the National TRAC Bridge Challenge, became finalists and brought their leading projects to the finals in Utah.

MDOT SHA also partnered in a career day for Baltimore area high schoolers, to inspire students to join the various transportation and engineering fields we embrace here at MDOT SHA.

At MDOT SHA we invest in our roads and bridges, but just as importantly, in our future road and bridge builders, engineers, professionals and leaders. The work we do every day matters to the success of our great State. Our people and our diversity are our greatest asset.

COMMUNICATING WITH SUMMER TRAVELERS

Providing an efficient trip for motorists heading home from work or play is a priority for us at MDOT SHA. Sometimes, though, trying to "get there fast" conflicts with courtesy.

MDOT SHA communicated with drivers returning home from the beach on US 50 about balancing their wish to return from vacation with local residents' desire to preserve their area's special ambiance. The permanent residents of the Eastern Shore want to enjoy their streets and neighborhoods, but when late Sunday rolls around, many cars returning west take short cuts, using these roads and clogging streets needed for emergency response and local travel. They risk safety, and they leave residents unhappily watching lines of cars that continue late into the night.

MDOT SHA contributed an op/ed piece to *The Capital Gazette* before Memorial Day entitled, "Shore Bound or Homebound, Please Stay on Route 50." We asked for drivers' help as we balance mobility and safety on our highways. In print and through social media, we asked drivers to:

- Avoid departing for home on Sunday afternoons, when traffic is heaviest,
- Decline the alternate routes offered by their mobile traffic apps,
- Patronize local businesses when they do branch off US 50,
- Remember that these alternate routes take them through neighborhoods like their own.

MDOT SHA PRIORITIES: INNOVATION

MDOT SHA sets an example by exploring new technologies and seeking creative ways to improve how we do business. The customer experience is at the heart of what we do. By setting the bar high, we are building a culture of innovation and excellence in the quest to offer new, transformative solutions that move Maryland.

INNOVATION SHOWCASE

Last June, MDOT SHA introduced its first Operations Innovation Showcase at the Maryland State Fair Grounds, bringing together teams from across the State who encounter problems and solve them creatively. More than three dozen front-line team members displayed ideas they brought to fruition. The ideas varied from the mechanical to the electronic, from small, helpful fixes to systemwide restructuring of the way MDOT SHA coordinates major efforts. There was a new Geographic Information System (GIS) tool that better tracks inventory and saves money for MDOT SHA and taxpayers. Keyser's Ridge team members shared a pavement marking tape caddy that eliminates the burden of carrying heavy rolls of tape by placing wheels under them. And from the Owings Mills team came a skid loader attachment to clean debris from the waters that flooded Ellicott City. By sharing and collaborating new approaches, MDOT SHA is embracing innovation and delivering for our customers more effectively than ever before.

UAV DRONE PROGRAM

In 2019, we built on our success introducing Unmanned Aerial Vehicles (UAVs) as a new tool-in-the-toolbox for use in the field to rapidly generate high accuracy, detailed maps and 3D terrain models while keeping MDOT SHA employees out of



harms way. In addition to responding to geohazard events such as landslides, UAVs are being used to continuously map the condition of roadside slopes over time so that potential geohazards can be identified and mitigated before they occur. In addition, MDOT SHA is now using UAVs for visual inspection of radio tower assets and stormwater management features, as well as for environmental surveys of wetland and stream restoration sites. Contractual UAVs have also been used to support construction projects along I-495 and I-270.

CREATIVE BRIDGE REPLACEMENT

A common question in planning a bridge replacement project is how to minimize the duration of construction and impact to drivers while expediting a project to completion. MDOT SHA bridge engineers and project managers are among the best in the nation at devising such methods.

When addressing two bridges less than a mile from each other on MD 213 (Centreville Road/Church Hill Road) in Queen Anne's County, MDOT SHA engineers and project managers created a sensible solution featuring a temporary "jump bridge." This temporary structure was placed over the existing 87-year-old MD 213 Bridge over Gravel Run to keep traffic flowing while crews worked underneath. The temporary bridge provided one 11-foot lane in each direction, as well as a pedestrian path. MDOT SHA replaced the bridge deck (driving surface), sidewalk, railing and lighting to extend bridge service life.

A stone's throw south, MDOT SHA planned replacement of the 107-year-old MD 213 Bridge over Old Mill Stream Branch. In keeping with tradition of building with minimal impact to drivers, MDOT SHA constructed a replacement bridge next to the existing bridge, then, in one weekend, demolished the old bridge and slid the new one into place.

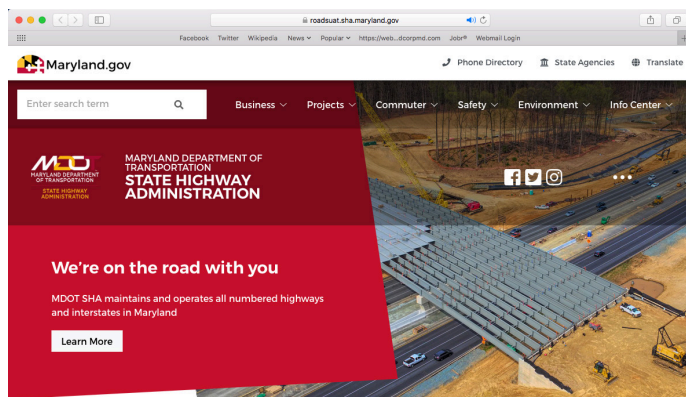


MDOT SHA PRIORITIES: MODERNIZATION

MDOT SHA is building upon what is already great! From using special materials such as thin bonded coatings to preparing for future Connected and Automated Vehicles to launching an improved website that lets the public easily find planned construction projects, we are ready now to face the challenges of tomorrow's transportation needs.

PROJECT PORTAL AND NEWLY UPDATED WEBSITE

Our goal at MDOT SHA is to make it easy for our website visitors to find what they want. MDOT SHA introduced a new version of our website that makes it much easier to find information about projects, traffic conditions, and doing business with MDOT SHA.



Construction Project-Specific Information in Simple, Everyday Language

Use our Improved Map Technology

MDOT SHA Weekend Lane Closures

Jan 31, 2020

Major Water Main Break Close Frederick Rd in Balt County

Jan 22, 2020

Fact Sheets About Snow and Ice

Jan 6, 2020

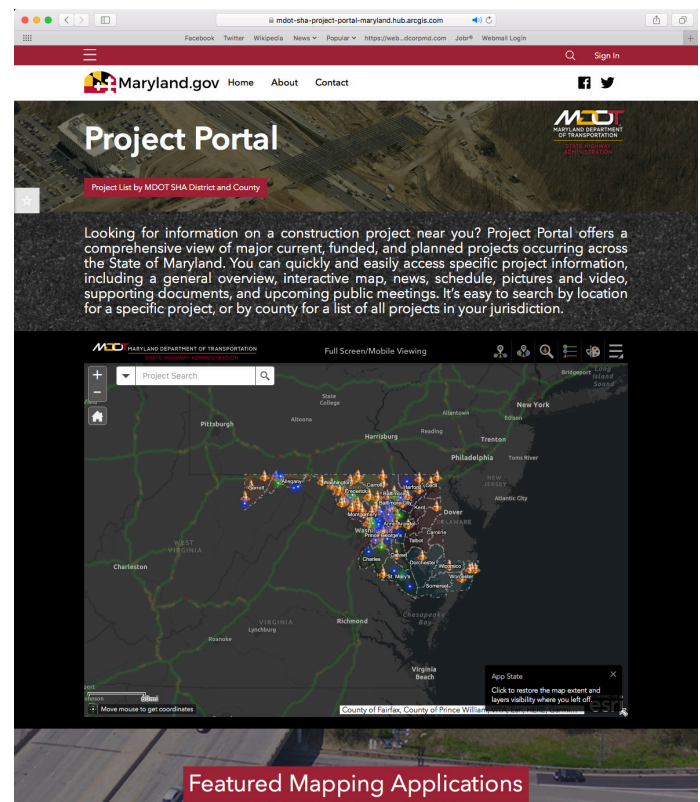
[More News](#)

MORE FROM MDOT SHA

The new home page is clean and well designed, featuring a “megamenu,” which lets viewers hover over one of six main categories and view major items in a drop-down menu.

The navigation – the way the website guides a person from one page to a related page – has been reorganized to make it easier to follow and find a particular topic.

The new website also features Project Portal. The new portal modernizes the MDOT SHA website and provides a plethora of information about MDOT SHA projects in well-organized and freshly designed pages.





CONNECTED AND AUTOMATED VEHICLES (CAV)

Whether you're reading about major companies testing automated vehicles or hearing that connected cars approaching an intersection can detect one another even before they're in sight, we know that Connected and Automated Vehicles (CAV) are on the horizon.

The MDOT SHA CAV Program team has a top group of employees ready to move Maryland highways forward with CAV as auto makers, the federal government, and other states make incremental advances. Last year, Bloomberg News cited Maryland as only one of 14 states that have testing grounds for self-driving cars.

MDOT SHA created its first CAV Strategic Plan, which will allow the agency to achieve safety, mobility and environmental goals while working within the uncertain developmental environment of the evolving technology. CAV is now a key target for sophisticated Transportation Systems Management & Operations (TSMO) planning.

MDOT SHA is already working with the precursors to CAV. During the last snow season, MDOT SHA used connected technology to collect details about wintery road conditions, making it possible to dispatch needed

equipment via the Mobile Advanced Road Weather Information System (MARWIS). Along US 1 in Howard County, MDOT SHA is testing smart signaling as part of what AASHTO calls the SPaT (Signal Phasing and Timing) Challenge.

REDUCING HIGHWAY DETERIORATION

Maintenance teams in five MDOT SHA districts have introduced to Maryland an ultra-thin bonded wearing course. The news is in the delivery system. Crews now place this very thin – 5/8 to 3/4 inches – material onto a specialized tack coat, before any trucks can disturb it. This thinner layer replaces what was previously a 2-inch lift.

A bonded wearing course is an asphalt mixture applied over a thick polymer modified asphalt emulsion membrane. The high binder content seals the underlying road, protecting it from water and reducing wear and tear.

This method has one additional benefit: it helps MDOT SHA realize important cost savings. We can now treat more lane miles per year and increase the overall effectiveness of our system preservation operations.

MDOT SHA PRIORITIES: ENHANCING THE CUSTOMER EXPERIENCE



Outstanding customer service is crucial to serving Maryland's travelers. We work each and every day to deliver the projects that matter to our customers. Reducing travel times and making daily trips smoother and safer, we are embarking on a bold mission to deliver an exemplary overall customer experience. Our customer service approach is exemplified from our attention to rapidly spotting and repairing potholes to our application of specialized skills that uncover Maryland's past.

PATROLLING FOR POTHOLES

The freezing and thawing cycle that occurs in winter and during the transition to spring takes its toll on the State's highways. In early spring, MDOT SHA sends extra patrols to scout for potholes. Every day during that busy early 2019 spring season, MDOT SHA crews deployed mobile work zones and used cold patch asphalt to address the potholes on MDOT SHA highways and bridges.

A pothole is formed when moisture seeps into a pavement crack and freezes, then thaws during the warmer temperatures. This stresses the pavement and when traffic is introduced, potholes form. Cold patch asphalt is a temporary repair. When temperatures consistently hold at

50 degrees and greater, crews switch to more permanent hot-mix asphalt, which is applied at a higher temperature and seals the potholes.

In fiscal year 2019, MDOT SHA patched approximately 32,000 square yards of potholes at a cost of approximately \$4 million. An average cost to repair a pothole is \$125. This includes the material, labor and traffic control during pothole patrols.

RESPONDING TO EMERGENCIES

Our motorist assists are a key element of MDOT SHA delivering an exceptional customer experience every day. MDOT SHA's Coordinated Highway Action Response Team (CHART) is a multijurisdictional, multidisciplinary, statewide program. A comprehensive and advanced traffic management system with a Statewide Operations Center "hub," CHART functions 24-hours-a-day, seven-days-a-week. With satellite Traffic Operations Centers and emergency traffic patrols spread across the state to handle peak-period traffic incidents, CHART has more than one million traffic assists since the program began in the mid-1980s.

MDOT SHA's CHART incident management program saved motorists \$1.312 billion in user costs and helped reduce delays by 38.6 million vehicle hours in CY 2018.

THE ARCHAEOLOGY OF HIGHWAYS

If your business is digging, you might find buried treasure.

MDOT SHA employs a full-time archaeologist to respond when our construction crews find historical treasures. Our archaeological staff also assists State agencies, counties, and other organizations when artifacts reveal an insight into Maryland's past.

In one discovery, DNA was found on tobacco pipe stems uncovered by archaeologists from MDOT SHA and Anne Arundel County from a 200-year-old stone slave quarter at Belvoir along Generals Highway. They determined that the DNA is most closely related to the Mende people of Sierra Leone.



The slave quarter was discovered as part of an MDOT SHA Transportation Enhancement Program project to learn more about the history of MD 178 in Anne Arundel County. The program is partially funded by the Federal Highway Administration.

Knowing that DNA can survive on archaeological artifacts, MDOT SHA's Dr. Julie Schablitsky sent four tobacco pipe stems from the slave quarter for DNA analysis to better understand the story of these Marylanders.



Researchers successfully located a Maryland woman believed to be most closely related to Mende living in present day Sierra Leone in West Africa. This was an important genetic breakthrough for archaeologists and, more importantly, for descendant communities.

On another occasion, a team of archaeologists using high-tech equipment pinpointed Union army troop movements through Frederick County to unearth artifacts buried beneath the ground for more than 150 years. MDOT SHA archaeologists joined the Burkittsville Preservation Association and Preservation Maryland in a study of the South Mountain Battlefield. South Mountain was the site of a critical battle that preceded the Battle of Antietam, one of the bloodiest clashes fought during the Civil War.

As part of a public outreach initiative to explore historic sites along the Harriet Tubman Underground Railroad Scenic Byway, MDOT SHA partnered with Dorchester County to determine the age of a cabin and learn more about the people who once called this place home. Dorchester County, known as "Harriet Tubman Country," actively promotes and shares the history of African Americans and their heroic stories of survival.

DELIVERING EVERY DAY *FOR OUR CUSTOMERS*

ENVIRONMENTAL STEWARDSHIP

MDOT SHA is committed to protecting, restoring and enhancing our environment. A variety of restoration activities have been implemented for its Chesapeake Bay Restoration program to meet pollution reduction goals by October 2020. Efforts during Fiscal Year 2019 included projects to reduce nitrogen, phosphorus and sediment from entering the Chesapeake Bay by:

- Restoring more than 3,000 linear feet of streams,
- Planting more than 19,000 trees on approximately 184 acres, and
- Constructing or upgrading 49 stormwater treatment facilities to improve the quality of water running off our highway system.

MDOT SHA has developed a Pollinator Habitat Plan in response to the 2016 Pollinator Protection Act of the Maryland General Assembly, § 2-1801 Pollinator Habitat Plan. The Pollinator Habitat Plan includes best practices to designate, maintain, create, enhance, and restore pollinator habitats. During Fiscal Year 2019, MDOT SHA installed five pollinator habitat gardens in District 7 to serve as model sites and provide educational resources to our Maryland residents and out of state visitors alike. You can see the first five new designated pollinator habitat gardens at the following locations:

- Mason Dixon Welcome Center along US 15 in Frederick County,
- South Mountain Welcome Centers (eastbound and westbound) along I-70 in Frederick County,
- I-95 Welcome Centers (northbound and southbound) in Howard County.



MDOT SHA continued efforts to restore and enhance sensitive wetland sites. More than 12,000 trees were planted to restore 41 acres of wetlands. Through a partnership with the University of Maryland, MDOT SHA initiated a study of various soil amendments and their potential beneficial impacts to hydric soil formation in wetland creation sites.

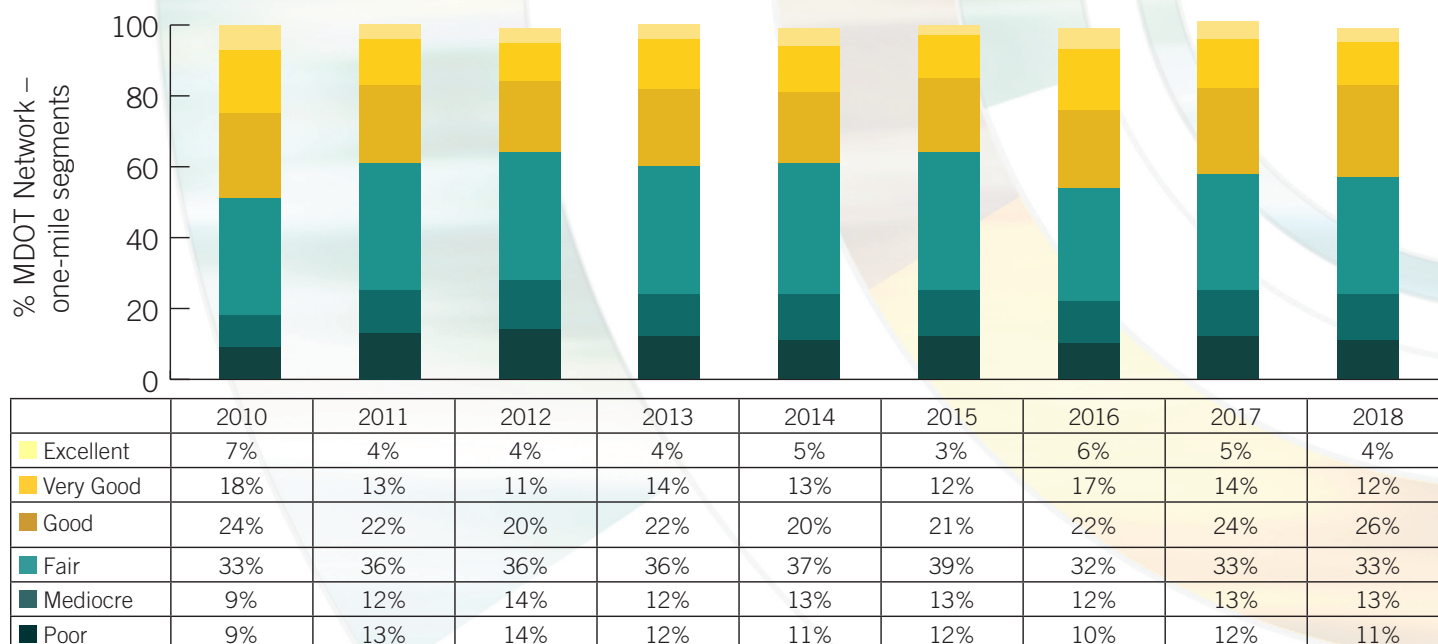
MDOT SHA ASSET MANAGEMENT

Asset management (AM) is a strategic method to manage MDOT SHA assets such as roads, bridges, pavement, guardrails, signals, and fleets of repair trucks. The key point about asset management is that making regular repairs allows MDOT SHA to extend the life of these assets and reduce overall cost. For example, by regularly painting a bridge, it suffers less corrosion. The bridge lasts longer and MDOT SHA saves the far greater cost of replacing it. Using a business term, MDOT SHA gets a better return on investment using asset management.

Another example: MDOT SHA, along with other MDOT TBUs, aggressively repairs vehicles in its fleet. In 2019, the Fleet Vehicle On-Time Preventive Maintenance percentage was at least 91%.

MDOT SHA responds to immediate needs and at the same time, applies asset management systemwide.





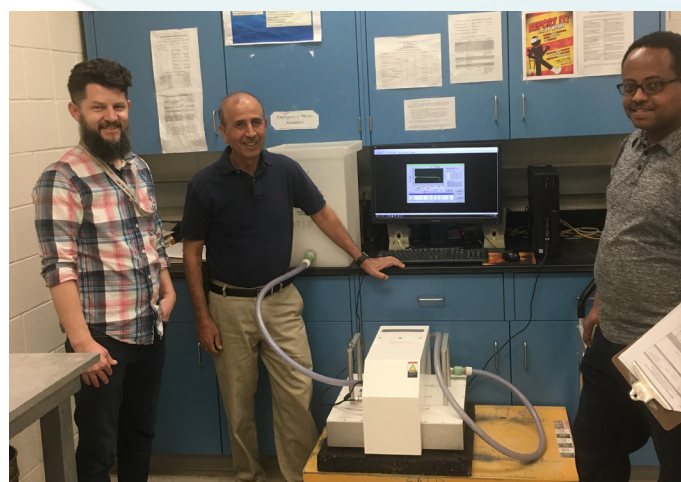
We look at individual projects and at the system. We repair potholes as they're reported, but we also focus on maintaining pavement systemwide. We address congested locations with projects and the most congested roadways in the State with larger efforts, but we examine intersecting roads and the system to address broader issues. That means that when we consider a project on I-270, we also look at MD 355; we look at I-70 leading to Western Maryland and also US 29, which branches from it. We plan not only for the major Interstate I-95, but also MD 100 and US 1.

Further, we work with MDOT TBUs to plan highways and transit – air, rail and truck freight – together. Using reliable data, MDOT SHA takes an active approach and invests wisely – from pothole repairs to fleet maintenance.

Sharing and Leading

The Office of Maintenance and Traffic (OMT) shared its decades of friction testing experience nationwide by leading the American Association of State Highway

and Transportation Officials (AASHTO) Committee of Materials and Pavement's (COMP) Task Force (TF). OMT worked with TF members and developed specifications for sample preparation, polishing, and friction testing of aggregate and compacted asphalt pavement mixtures. Many State DOTs, AASHTO, FHWA, and the National Center for Asphalt Technology (NCAT) are members of the task force. This effort has resulted in the standards being submitted for AASHTO balloting.



Structure Replacement Using Prestressed Concrete Beam – MD 273

Although other states have used prestressed concrete beam with longer lengths, Maryland used this type of beam for the first time in replacing the MD 273 bridge over Big Elk Creek, Cecil County. It is the tallest and longest prestressed concrete girder produced for MDOT SHA to date. The precast concrete girders measure 33 inches wide and 79 inches tall.



Proactive Landslide Assessment

With public safety as our top priority, MDOT SHA monitored several highway side slopes for proactive landslide assessment. Cost-effective 3D photogrammetric models were developed from surveys conducted with Unmanned Aerial Systems to support engineering analysis.



SAFETY EDUCATION CAMPAIGNS AND OUTREACH

Pedestrian Safety

MDOT SHA designs roads with the safety of all users in mind – including pedestrians. *Look Up, Look Out* is MDOT SHA's statewide campaign that urges drivers and pedestrians to stay alert and follow the rules of the road. To effectively deliver our messages and to make *Look Up, Look Out* a household name in Maryland, the campaign runs year-round. MDOT SHA engages the public through grassroots outreach, public relations, and marketing efforts. The goal is for Marylanders of all ages to *Walk Smart* and for all drivers to *Drive Smart*.

In 2019, our safety ambassadors distributed educational items and promoted pedestrian safety, reaching thousands of attendees at events such as Brilliant Baltimore, the Motortrend Auto Show, and the Hispanic Festival in Prince George's County. To educate Maryland's youngest commuters, we partnered with the Baltimore Ravens and Washington Redskins, hosted Walk Smart assemblies across the State and initiated a new program in October to encourage youngsters to "Light Up for Safety" by distributing light-up bracelets at area Giant Food stores, MDOT Motor Vehicle Administration branches and MDOT SHA shops.



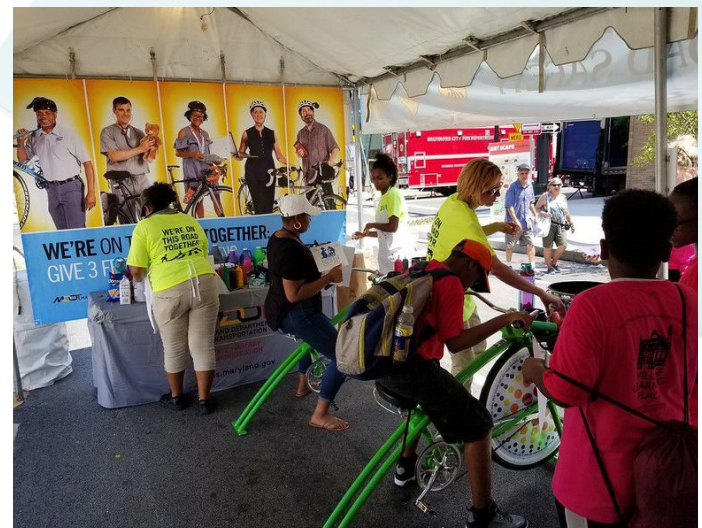


This year, MDOT SHA's bicycle safety campaign was prominently featured at Artscape in Baltimore, a three-day event that placed safety ambassadors in front of a crowd in excess of 20,000 people. In the height of the summer and peak bicycle season, the one-of-kind event drew Marylanders from all over the region who lined up to create spin art with our stationary bicycles. We also attended College Park Day in Prince George's County, an event that not only attracted college students, but families with children. Our new marketing materials distributed at this event and others featured Maize, a 14-year-old amateur bicycle racer who rides with a bicycle group based in the county.



Bicycle Safety

The MDOT SHA bicycle safety education effort includes messaging to both bicyclists and drivers who are sharing Maryland's roads. The campaign issues the plea: follow the rules and laws of the road and look out for each other. This effort reinforces the need to see and be seen and to expect and respect each other. Featuring actual Maryland bicyclists, the campaign reminds drivers that the next cyclist they encounter could be someone they know—their doctor, a coworker or a friend's child.



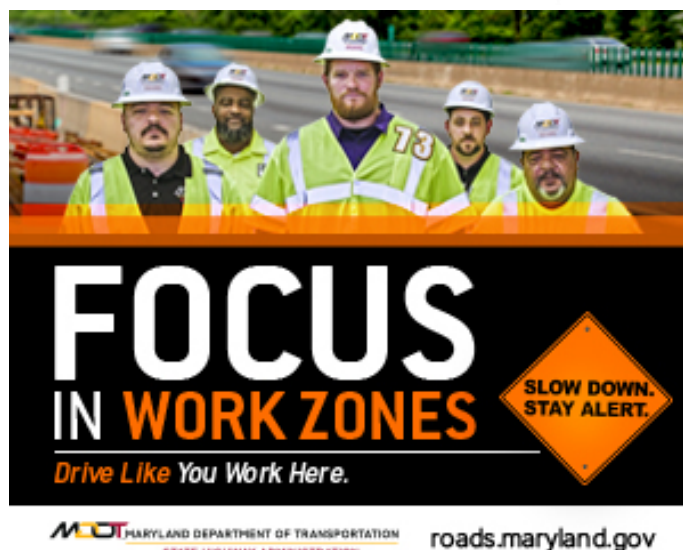
Work Zone Safety

MDOT SHA continuously strives to improve safety and mobility in work zones. In recent years, we've had a record number of active projects, which equate to more work zones that can be dangerous for our roadway workers and the traveling public. The people who make up our MDOT SHA family are our most valuable resource. MDOT SHA is committed to keeping our workers and our customers safe as we help connect Marylanders to life's opportunities.

Because four out of five people killed or injured in work zones are motorists, the work zone safety campaign reminds drivers to focus, slow down, and "drive like you work here" to keep EVERYONE safe.

In April, MDOT SHA was proud to partner with our fellow MDOT TBU, the Maryland Transportation Authority, and hosted a press event during National Work Zone Awareness Week at the I-895 construction project to stress the importance of work zone safety. We received a proclamation from Governor Larry Hogan, and Marylanders were encouraged to Go Orange on April 10 by wearing orange to raise awareness about work zone safety.

In social media posts, radio public service announcements, and education materials,



Baltimore Ravens offensive lineman Marshal Yanda encouraged Marylanders to "be on guard" as they drive through work zones.

Targeted Ocean City Pedestrian Safety Efforts

Through the three E's of safety – engineering, education, and enforcement – MDOT SHA and partner organizations are working together to keep Ocean City streets safe. The Town of Ocean City (OC) swells to one of Maryland's largest cities during the summer months with a population that changes each and every weekend. OC Walk Smart, Drive Smart, Bike Smart





is MDOT SHA's safety campaign that encourages residents and visitors to slow down and stay alert on Coastal Highway (MD 528) and other local roadways. Coastal Highway, a multi-lane highway, requires full attention while navigating whether on foot, bicycle or in a vehicle. It is imperative to be free from distractions like mobile devices and ear buds.

Cheswick the Lifeguard Crab is the official pedestrian and bicycle safety ambassador for Ocean City, and he was very busy in 2019! Cheswick and the OC Walk Smart, Drive Smart, Bike Smart campaign focused on helping residents and visitors reach the beach and stay safe while in Ocean City. In 2019, Cheswick helped break ground for the new pedestrian/biker path in West Ocean City and distributed safety educational items on the boardwalk to beachgoers and to international summer work travel program students.

Targeted University of Maryland Pedestrian Safety Efforts

In 2014, MDOT SHA began partnering with the University of Maryland (UMD), University of Maryland Police Department and the City of College Park to launch Walk Smart College Park. The goal of this safety education campaign was to complement the engineering safety enhancements on and around

US 1 (Baltimore Avenue). The campaign has grown and flourished to include both driver and bicyclist safety messaging.

Overall, 2019 was a big year for the campaign! We partnered with UMD Athletics to have a major presence on campus during the football and basketball seasons. Safety Ambassadors were deployed to distribute safety education items and there was on-site signage in both the stadium and arena. This was in addition to our grassroots efforts that we coordinated with the police department to discuss safety with students on and around campus.



PURSUIT OF EXCELLENCE



AMERICA'S TRANSPORTATION AWARDS

Two MDOT SHA projects were honored last summer with regional awards in the 2019 America's Transportation Awards competition, which is conducted by the American Association of State Highway Officials (AASHTO). The agency's project replacing the Dover Bridge won in the Quality of Life/Community Development, Medium Project category, while a project to increase capacity on the Severn River Bridge won in the Operations Excellence, Small Project category. The awards were presented at the Northeast Association of State Transportation Officials' annual meeting in Wilmington, Delaware.

The \$65.4 million Dover Bridge Project along MD 331 on the Eastern Shore replaced an historic swing bridge that, when opened for river traffic, rerouted drivers up to 45 minutes out of their way. These openings impacted residents' mobility and could delay emergency responders. The new bridge, completed a full year ahead of schedule, has two 12-foot-wide lanes and two 8-foot-wide shoulders. The 50-foot-high, fixed-span bridge allows marine vessels to pass without impeding motorists. The old bridge has been retained as a community fishing pier.

The \$22.8 million project on US 50 over the Severn River Bridge was initiated to reduce traffic congestion in the eastbound direction, often exacerbated by beach-bound traffic during the peak summer season. Using the existing bridge footprint, MDOT SHA increased capacity from three 12-foot eastbound lanes, three 12-foot westbound lanes and a 3-foot median to four 11-foot eastbound lanes, three 11-foot westbound lanes and a 2-foot median.

PUBLIC RELATIONS SOCIETY OF AMERICA "BEST IN MARYLAND" AWARD

MDOT SHA won in the category of Social Media - Association/Nonprofit/Government for "MDOT SHA Explains Winter Weather Safety," the agency's campaign to prevent crashes during snowfall and ice.





NATIONAL OPERATIONS CENTER OF EXCELLENCE

The Annual National Operations Center of Excellence (NOCoE) Transportation Systems Management and Operations (TSMO) Awards celebrate the expanding discipline of TSMO, which aims to get the most out of our existing transportation system by managing and operating networks in an efficient manner that emphasizes safety and mobility while empowering the workforce to operate the system. MDOT SHA was named runner up in the TSMO Workforce Development category for its “SHA Organizational Modernization to Advance TSMO.” The award highlights an agency or organization that has developed a key practice to advance workforce development within its organization or advanced workforce for the TSMO community overall.

AMERICAN CONCRETE INSTITUTE AWARD

MDOT SHA received American Concrete Institute's 2019 Excellence in Concrete Award for our tremendous material quality assurance role in ensuring the completion of the Steel and Prestressed Concrete Girder Bridge on MD 331 (Dover Road) over Choptank River in Talbot County.



MARYLAND QUALITY INITIATIVE

2019 was a year of transportation excellence and industry expertise. The Maryland Quality Initiative (MdQI) is a cooperative industry effort dedicated to the continuous quality improvement of the planning, design and maintenance of Maryland's transportation system. MDOT SHA won six major MdQI awards!

Project of the Year (Over \$5 Million)

MD 404 Road Widening – US 50 to East Holly Road

Bid Cost: \$110,760,000

Firms: Wallace Montgomery – Cockeysville, MD;
JMT – Hunt Valley, MD; RK&K – Baltimore,
MD; Wagman Heavy Civil – York, PA; KCI
Technologies – Sparks, MD; McCormick Taylor
– Baltimore, MD; David A. Bramble, Inc. –
Chestertown, MD; Allan Myers – Fallston, MD;
Century Engineering – Hunt Valley, MD

Location: Talbot, Queen Anne's and Caroline counties

Project of the Year (Under \$5 Million)

MD 355 Bridge over the Monocacy River
Emergency Repairs

Bid Cost: \$691,000

Firms: GPI – Columbia, MD; PDI Sheetz –
Linthicum Heights, MD

Location: Frederick County



Partnering Award – Gold Award

Opened four lanes eastbound and three lanes westbound on US 50 from MD 70 to MD 2 / 450 including Median Barrier Replacement and Lane Reconfiguration on US 50 over the Severn River

Bid Cost: \$18,335,000

Firms: Wilson T. Ballard Co., Inc. - Owings Mills, MD;
Fay, an i+icon USA Company - Glen Burnie, MD

Location: Anne Arundel County

Partnering Award – Bronze Award

MD 404 Road Widening – US 50 to East Holly Road

Bid Cost: \$110,760,000

Firms: Wallace Montgomery – Cockeysville, MD;
JMT – Hunt Valley, MD; RK&K – Baltimore, MD; Wagman Heavy Civil – York, PA; KCI Technologies – Sparks, MD; McCormick Taylor – Baltimore, MD; David A. Bramble, Inc. – Chestertown, MD; Allan Myers – Fallston, MD; Century Engineering – Hunt Valley, MD

Location: Talbot, Queen Anne's and Caroline counties

Modal Awards (Over \$5 Million)

MD 404 Roadway Widening – US 50 to East Holly Road

Bid Cost: \$110,760,000

Firms: Wallace Montgomery – Cockeysville, MD;
JMT – Hunt Valley, MD; RK&K – Baltimore, MD; Wagman Heavy Civil – York, PA; KCI Technologies – Sparks, MD; McCormick Taylor – Baltimore, MD; David A. Bramble, Inc. – Chestertown, MD; Allan Myers – Fallston, MD; Century Engineering – Hunt Valley, MD

Location: Talbot, Queen Anne's and Caroline counties

Modal Awards (Under \$5 Million)

MD 355 Bridge over the Monocacy River
Emergency Repairs

Bid Cost: \$691,000

Firms: GPI – Columbia, MD; PDI Sheetz – Linthicum Heights, MD

Location: Frederick County



Larry Hogan
Governor

Boyd K. Rutherford
Lieutenant Governor

Greg Slater
MDOT Acting Secretary

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