MDOT MARYLAND DEPARTMENT OF TRANSPORTATION

Larry Hogan
Governor

Boyd K. Rutherford
Lt. Governor

James F. Ports, Jr.
Secretary

A Welcome Message from Governor Larry Hogan

Eight years ago, I pledged to bring fiscal responsibility and common sense to our state, improve the efficiency of our state government, provide tax relief for families, small businesses, and retirees, and focus on rebuilding Maryland's crumbling infrastructure. On all of these things and more—we have taken care of business.

I'm proud to say that—with your help—our administration has turned our economy around, added new jobs, cleaned up the Chesapeake Bay, and repaired roads and bridges in every corner of the state. A key part of Maryland's economic turnaround in the past eight years was the balanced transportation investments in infrastructure—including roads, bridges, transit systems, airports, and the Port of Baltimore and Port of Salisbury.

The Maryland Department of Transportation implemented major transportation infrastructure projects to meet the current and anticipated future needs of mobility in our state, including the recent announcement of $28 million for the Chesapeake Bay Crossing Tier 2 Study and continued progress on the Purple Line in Prince George's and Montgomery counties.

I want to sincerely thank all Marylanders for your friendship and support on this amazing journey. Thanks to you, we are changing Maryland for the better!

Larry Hogan

Larry Hogan
Governor

A Message from Transportation Secretary James F. Ports, Jr.

It has been my honor to work for Governor Hogan during the past eight years, serving as Deputy Secretary of Operations, Executive Director of the Maryland Transportation Authority (MDTA) and Transportation Secretary. With Governor Hogan's commitment and support, MDOT has transformed our state's transportation system implementing major improvements such as the new Governor Harry W. Nice/Senator Mac Middleton Bridge, an additional 50-foot berth and Panamax cranes at the Port of Baltimore, the dualization of MD 404, Customer Connect, BaltimoreLink, and BWI Marshall's A/B Connector, among many others. These efforts not only spurred economic development for the state, but they also led to significant savings for Marylanders, increased accessibility to job opportunities and destinations, reduced congestion and emissions, and increased safety.

We will continue to provide the best possible customer experience by also looking to the future, where we are committed to being at the forefront of technological changes that we know will have major impacts on Maryland's transportation system. We strive towards our goal of providing a transportation system that exceeds the expectations of the traveling public, and we can do this because of the hard work and dedication of MDOT employees.

The Consolidated Transportation Program (CTP) outlines how we hope to meet the demands on the transportation system and make traveling a positive experience for our customers. We hope you take the time to review the CTP and provide your input.

*James F. Ports, Jr.*

James F. Ports, Jr.
Secretary

Who is the Maryland Department of Transportation?

The Maryland Department of Transportation (MDOT) has six multimodal Transportation Business Units (TBUs). MDOT's Secretary is the Chairperson of the Maryland Transportation Authority (MDTA), and MDOT financially supports the Washington Metropolitan Area Transit Authority (WMATA).

MDOT is responsible for statewide transportation planning across all modes including:

- · the state's roadways,
- · transit,
- · rail,
- · freight movement
- · pedestrian and bicycle networks,
- · aviation,
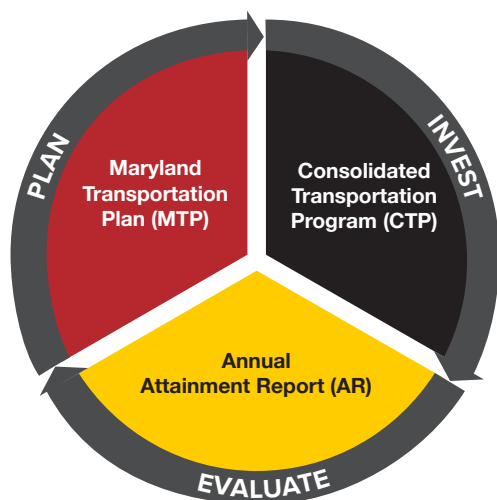- · the Port of Baltimore, and
- · driver and vehicle services.

The organization works together as ONE MDOT toward one shared mission.

MARYLAND DEPARTMENT OF TRANSPORTATION
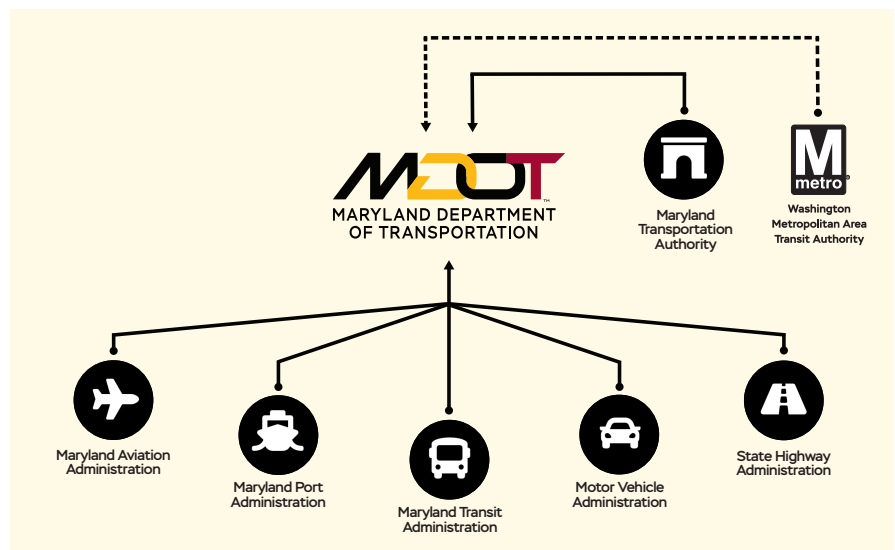
MISSION STATEMENT

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

MTP GOALS

Ensure a **Safe, Secure, and Resilient** Transportation System

Facilitate **Economic Opportunity and Reduce Congestion** in Maryland Through Strategic System Expansion

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

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

Ensure **Environmental Protection and Sensitivity**

Promote **Fiscal Responsibility**

Provide Better Transportation **Choices and Connections**

Maryland Transportation Plan (MTP)

Consolidated Transportation Program (CTP)

Annual Attainment Report (AR)

PLAN — INVEST — EVALUATE

PLAN

The MTP is MDOT's long-range vision for transportation.

INVEST

The CTP presents detailed listings and descriptions for the capital projects proposed for construction or development and evaluation.

EVALUATE

The annual **Attainment Report on Transportation System Performance** evaluates and reports on the performance of Maryland's transportation system, focusing on the goals adopted in the MTP.

MDOT Accomplishments

Toll Relief for Marylanders

Governor Hogan provided $344 million in toll relief for Marylanders, cutting tolls at every single toll facility, eliminating the $1.50 *E-ZPass* monthly account fee, making *E-ZPass* transponders free, and delivering three rounds of toll relief in less than five years. Toll reductions included delivering a $2.50 *E-ZPass* Maryland toll at the Bay Bridge, which is a less expensive round trip toll price than when the bridge opened in 1952. The initial toll rollback saved Marylanders $270 million, the free transponder initiative saved customers $46 million, and new billing options saved $28 million all putting much-needed dollars back in Marylanders' pockets.

All-Electronic (Cashless) Tolling

Maryland roadways are 100% cashless! All-electronic (cashless) tolling saves Maryland drivers time by eliminating congestion at toll plazas with overhead gantries collecting tolls electronically by *E-ZPass*, Pay-By-Plate, or video tolling. The benefits include less idling, better fuel efficiency, reduced emissions, decreased congestion, and increased driver and employee safety.

New Governor Harry W. Nice/Senator Mac Middleton Bridge

The Hogan administration has been a strong advocate for replacing the 81-year-old Nice/Middleton Bridge with a new, wider and safer Potomac River crossing. The existing two-lane narrow bridge causes near daily congestion and any routine maintenance and large-scale preservation efforts cause significant traffic impacts. The MDTA was able to reduce the initial $1 billion price tag by more than $300 million by taking a practical design approach to the new bridge, which is expected to open in late 2022.

Chesapeake Bay Crossing Study Tier 1 and Tier 2 NEPA

Under the Hogan administration, the MDTA initiated and completed the Chesapeake Bay Crossing Study Tier 1 NEPA, and the Federal Highway Administration approved the Bay Crossing Study Tier 1 combined Final Environmental Impact Statement and Record of Decision (FEIS/ROD) that identifies Corridor 7 — the corridor containing the existing Bay Bridge — as the Selected Corridor Alternative. The Tier 1 study was the critical first step needed to move forward with addressing the long-range issue of future traffic congestion on the Chesapeake Bay Bridge. The Governor continued this historical commitment by announcing the start of the $28 million Bay Crossing Study: Tier 2 NEPA study in June 2022.

Port Projects Boost Economic Development

Two 50-foot-deep berths at Seagirt Marine Terminal now allow the Port to accommodate two supersized ships simultaneously. The additional berth and Neo-Panamax cranes are part of a $176 million investment by Ports America Chesapeake and the state to provide greater capacity and efficiency in handling increases in container volumes. Complementing the new Seagirt berth is the expansion of Baltimore's Howard Street Tunnel, which will allow for double-stacked container rail cars to travel to and from the Port into the Midwest, clearing a longtime hurdle and giving the East Coast seamless double-stack capacity from Maine to Florida.

Eastern Shore Projects Improve Motorist Safety

The 11.3-mile dualization of MD 404 improved safety by upgrading the roadway from two lanes with opposing traffic to a four-lane divided highway with reduced entry and exit points from US 50 to the Denton Bypass. Through an innovative partnership with the construction industry, the project was completed on time and within budget in only 18 months. Along with the Dover Bridge replacement, the Salisbury Bypass replacement, and US 113 widening, this project is a critical link connecting customers safely to opportunities on the Eastern Shore.

Purple Line

An important economic driver for Maryland, the Purple Line's 16-mile rail line with 21 stations will extend from New Carrollton in Prince George's County to Bethesda in Montgomery County. It will provide a direct connection to the Metrorail Red, Green, and Orange lines as well as connections to MARC, Amtrak, and local bus services. This Public-Private Partnership will deliver critical transportation infrastructure that will spur economic growth and expand access for residents throughout the National Capital Region, connect people to jobs, support community revitalization and transit-oriented development, and provide an environmentally friendly transportation option to help reduce auto-dependent travel. The Purple Line is expected to open in 2026.

Baltimore Traffic Relief Plan

Delivering on his commitment to provide innovative transportation solutions for all of Maryland, in December 2017, Governor Hogan announced new traffic relief initiatives for the Baltimore region, including the I-95 Express Toll Lanes (ETL) Northbound Extension project, the Transportation Systems Management and Operations (TSMO) project for I-695 (Baltimore Beltway) between I-70 and MD 43 (White Marsh Boulevard), and the I-695 Interchange at I-70 (Triple Bridges) Project. These projects are instrumental in relieving congestion to some of Baltimore's biggest traffic bottlenecks.

Customer Connect

MDOT MVA's Customer Connect replaced a mainframe environment with a digital system that gives residents one-stop digital access to a range of transactions, including online renewals of driver's licenses and vehicle registrations, locating auto dealers, and uploading medical records for commercial drivers. Customer Connect has won numerous awards for its innovative technologies and improved customer service.

Maryland's Consolidated Transportation Program (CTP)

The CTP is Maryland's six-year capital budget for transportation projects. The CTP includes major and minor transportation projects for The Secretary's Office and MDOT's TBUs. MDOT works together with residents; businesses; local jurisdictions; local and state elected officials; and regional agencies to include projects in the CTP that preserve investments, enhance transportation services, and improve accessibility throughout the state.

CTP Coordination and Input

CTP Coordination and Input takes nearly a full year to create through the collaboration and work of MDOT staff with state, regional, and local elected officials. Each year, local jurisdictions are encouraged to submit priority

> *Both the state Freight and Rail Plans will be completed in fall 2022.*

projects to the Department by April. It is important for MDOT to hear from local jurisdictions to facilitate collaboration on state and local needs. To ensure that every dollar available for transportation in Maryland is spent efficiently, MDOT employs a strategic decision-making process, using established priorities and criteria to prioritize programs and projects under consideration for inclusion in the CTP. The full CTP is located at ctp.maryland.gov.
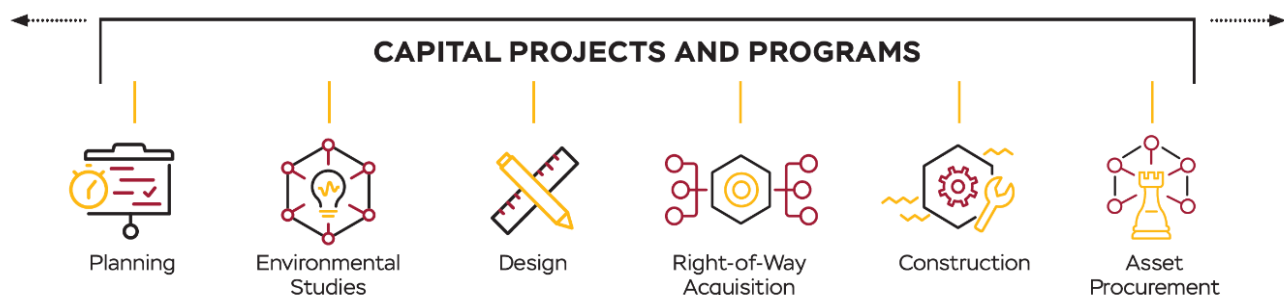
CTP Criteria Evaluation

MDOT uses the following criteria to identify projects and programs that align with the state's transportation priorities. These criteria include:

- Meets all federal and other legal mandates (e.g. Total Maximum Daily Load (TMDL) compliance, Positive Train Control (PTC), Federal Aviation Administration (FAA) regulations to maintain airport permits);
- Supports the Department's mission, program priorities and Maryland Transportation Plan (MTP) goals (safety, system preservation, economic development, etc.);
- Meets all federal match requirements to maximize federal revenue sources;
- Supports state plans and objectives;
- Supports existing project commitments and upholds intergovernmental agreements;
- Is the single top priority within a local priority letter;
- Is consistent with local plans; and
- Is included in the regional Metropolitan Planning Organization (MPO) long-range plan (if the project is located within an MPO boundary).

Maryland's Transportation Plan and Performance Measurement

The Maryland Transportation Plan (MTP) is updated every five years and establishes a 20-year vision for transportation in the state. It provides a framework for statewide multimodal goals and objectives. It identifies programs to achieve goals and objectives and aligns goals and strategies with performance measures. It is a performance-based plan that uses performance measures to gauge progress toward meeting the MTP's goals, objectives, and customer needs. The MTP was finalized in January 2019 and can be found at mdot.maryland.gov/mtp. The next update will begin in 2023.

CAPITAL PROJECTS AND PROGRAMS

Planning | Environmental Studies | Design | Right-of-Way Acquisition | Construction | Asset Procurement

Where the Money Comes From

Maryland's transportation system is funded through several dedicated taxes and fees, federal aid, operating revenues, and bond sales, which are assigned to the state's Transportation Trust Fund. MDOT's customers pay user fees for transportation infrastructure and services through motor fuel taxes, vehicle titling taxes, rental vehicle sales tax, and operating revenues. The motor fuel tax and vehicle titling tax are two of the largest sources of MDOT revenue. Operating revenues include transit fares and usage fees generated at the Port of Baltimore and Baltimore/Washington International Thurgood Marshall (BWI) Airport.

WHERE THE MONEY COMES FROM

- 8% Operating
- 5% Bonds
- 7% Other Capital Funding Sources
- 23% Federal Aid
- 6% Corporate Income Tax
- 2% Other
- 11% Registrations & MDOT MVA Fees
- 17% Vehicle Titling Taxes
- 21% Motor Fuel Taxes

Federal Aid

In addition to collecting revenue within the state, Maryland also receives federal aid for its transportation program. These federal funds are authorized by a congressional act. In November 2021, the United States (U.S.) Congress enacted federal surface transportation authorizing legislation, Infrastructure Investment and Jobs Act (IIJA) which provides investment in transportation infrastructure through Federal Fiscal Year (FFY) 2027.
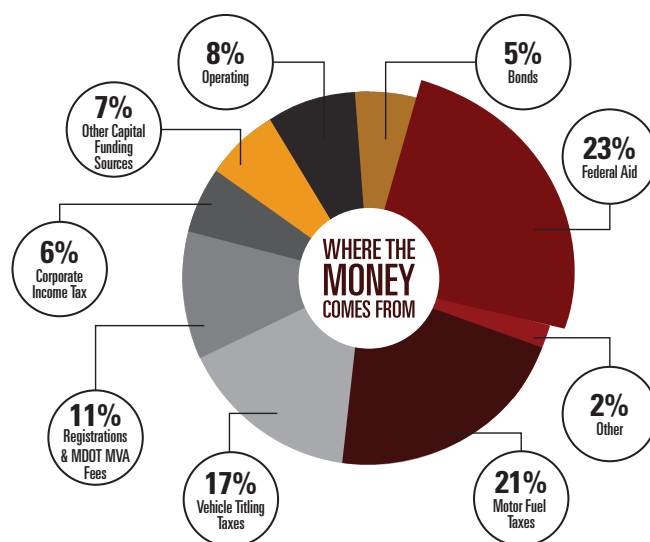
Total projected Trust Fund revenues for operating and capital amount to $38.4 billion for the six-year period covered by this CTP. These amounts are based on the assumptions that the economy will return to a moderate growth scenario during the next six years. MDOT maximizes its finances by leveraging them with bonds, discretionary grants, and public-private Partnerships.

Infrastructure Investment and Jobs Act

The IIJA sets policy and budget authority for the USDOT during the next five years, totaling approximately $567 billion nationally for surface transportation. IIJA is not all new money. It includes all of our federal formula funding, including projects that were already in last year's final CTP. Further, IIJA has increased opportunities for discretionary competitive grants. MDOT continues to seek these opportunities to maximize our transportation funding.

Where It Goes

The MDOT program is fiscally constrained, meaning that the list of projects is tied to estimates of future revenue. The Transportation Trust Fund supports operation and maintenance of state transportation systems, administration, debt service, grants, and capital projects, as well as Maryland's portion of operating and capital subsidies for WMATA. A portion of these funds is directed to General Fund purposes, including environmental, fuel tax collection, and state police programs. Funding also is provided as capital grants to Maryland's counties and Baltimore City for local transportation needs. During the past legislative session, we worked to increase the amount of Highway User Revenues (HUR) are provided to localities by 33%. After operating costs, debt service, and local transportation grants; the remaining money goes toward funding capital projects. Maryland's Draft CTP is the six-year capital budget for all state transportation projects. This

WHERE THE MONEY GOES

- 1% General Fund*
- 7% Debt Service
- 32% MDOT Operating Expenditures*
- 6% Local Capital Transportation Grants
- 39% MDOT Capital Expenditures*
- 15% WMATA Subsidy

*Excluding WMATA

Draft FY 2023 - FY 2028 CTP totals $19.87 billion, $17.13 billion of which comes through the Transportation Trust Fund and $2.74 billion from "other" fund sources, including local contributions, airport Passenger Facility Charges (PFC) fees, airport revenue bonds, and airport rental car Customer Facility Charges (CFC), etc.
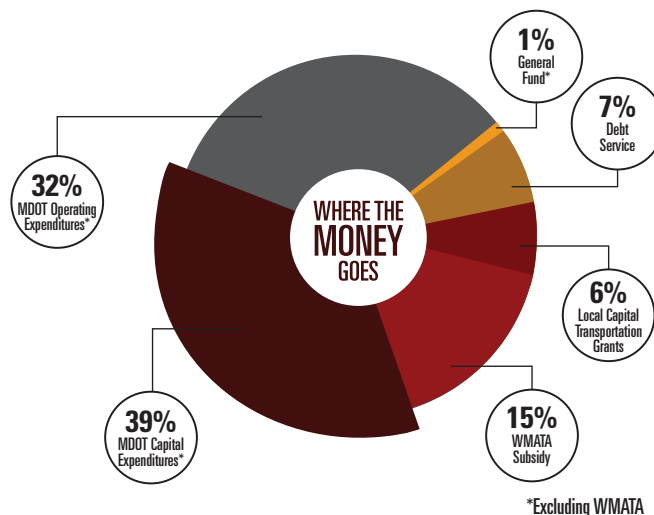
Safety is our Number One Priority

MDOT will not compromise on our commitment to improve the safety and security of our customers and partners in everything we do. It is critical we commit to safety and security in our designs and construction, as well as in our operations and maintenance of the state's transportation system. We promote a culture of safety in our business practices and educate the traveling public on good safety behavior and practices.

Traffic fatalities in Maryland decreased from 573 in 2020 to 562 in 2021; however increased speeding accounts for more than 9,400 crashes and 4,200 injuries each year in Maryland. As no life lost is acceptable, MDOT strives to do what it can to eliminate traffic fatalities, working with our federal, state, and local law enforcement partners daily to evaluate and implement measures to reduce the vulnerability of our customers. With federal and state investments, progress is being made on a variety of fronts.

Be the Driver Campaign

In 2020, the MDOT MVA's Maryland Highway Safety Office expanded the Be the Driver campaign to include additional topics such as Move Over and What to Do in a Roadside Emergency. In response to the growing number of roadside fatalities, these campaigns focus on educating motorists on how to stay safe when they encounter an emergency while driving, as well as providing information on the expansion of the Move Over law. The campaigns were developed in coordination with several state agency partners.
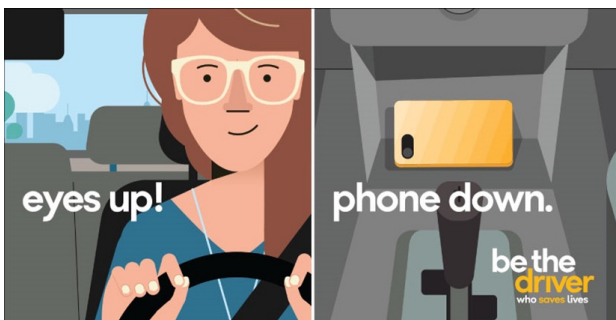
Zero Deaths

During the last year, MDOT MVA's Maryland Highway Safety Office launched the redesigned ZeroDeathsMD.gov website with enhancements that included more current and comprehensive crash data. This allows for greater access to Crash Summary Reports, summaries of major crash causes, and additional data broken down by each jurisdiction in the state. The website is updated each month with the year-to-date fatal crash numbers.

Strategic Highway Safety Plan (SHSP)

MDOT promotes traffic safety through numerous infrastructure and behavioral programs and projects implemented by MDOT SHA and MDOT MVA's Maryland Highway Safety Office. The federally required 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 federal, state, local, and private sector safety stakeholders involvement, the SHSP establishes statewide goals and critical emphasis areas.

Safeguarding Motorists and Monitoring Roadways Across the State

MDOT SHA's Coordinated Highways Action Response Team (CHART) and the MDTA's Courtesy Patrols and Vehicle Recovery Units are vital to safeguarding our highways, responding to crashes, and helping stranded motorists. Employees also monitor roadways 24/7 at the Statewide Operations Center (SOC), our comprehensive, command, and control facility in Hanover. The MDTA has a similar Emergency Operations Center.

CHART drivers patrol 2.4 million miles a year, respond to approximately 23,000 incidents, and assist another 27,000 motorists by removing disabled vehicles from the roadway or changing flat tires. This means they are helping a driver or responding to an incident every 10 minutes. With traffic patrols spread across the state to handle peak-period traffic incidents, the CHART incident management program saved motorists $1.08 billion in user costs due to reduced delay, fuel savings, and crash reductions, and helped reduce delays by 23.52 million vehicle hours in 2020.
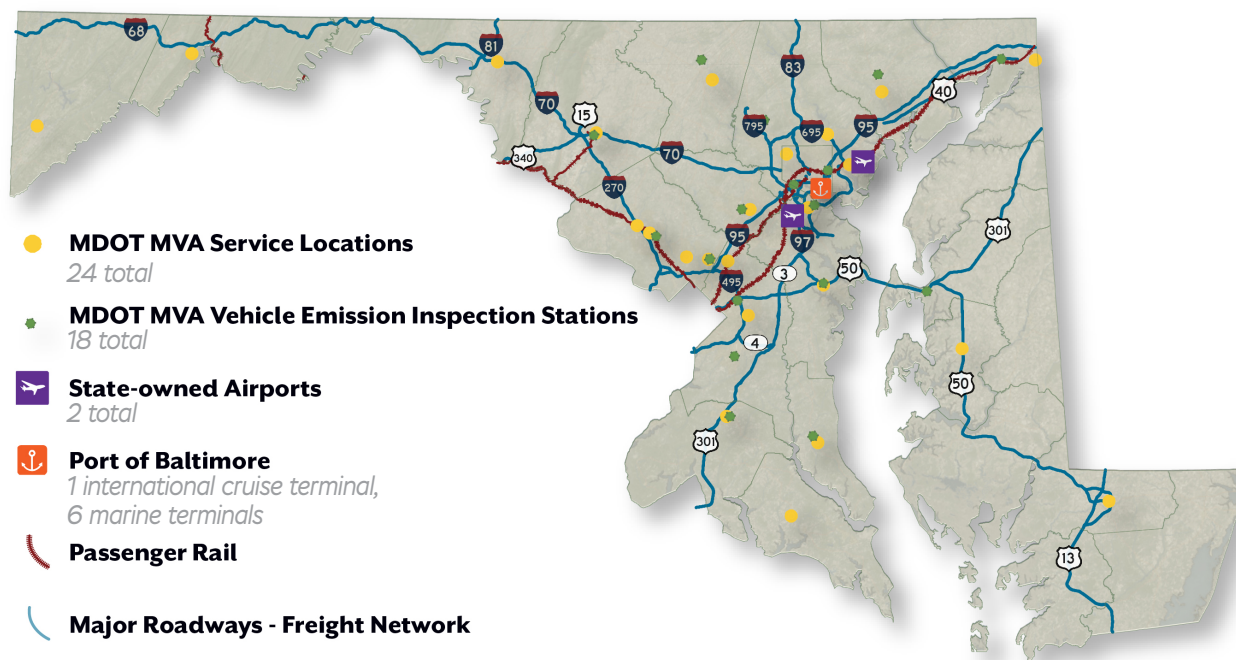
Asset Management

State of Good Repair is the condition in which a transportation asset, such as transportation infrastructure, services, or vehicles are able to operate at a full level of performance. MDOT is committed to ensuring all transportation assets remain in a State of Good Repair. To accomplish this, we catalog and evaluate our assets continuously, which helps us maximize our limited resources by directing them to those most in need of improvements. Asset management is a holistic approach of balancing costs, opportunities, and risks against the desired performance of assets and focusing on the transportation infrastructure that is most in need of repair. MDOT will continue to allocate funds in the CTP toward system preservation and safety needs.

A key focus area is the condition of bridges across Maryland. MDOT SHA continues to prioritize reducing the number of poor-rated bridges (e.g., the bridges are safe but need repairs/replacement) on the state's highway system to ensure safe travel for our customers. Bridges that are identified as poor-rated are evaluated through our asset management plan for inclusion in a rehabilitation or replacement program. MDOT recorded 26 poor-rated MDOT SHA bridges in March 2022 - the lowest level since tracking began and one of the lowest percentages of any state transportation agency in the nation. Of the 26 poor-rated bridges, eight are currently in the construction phase, and the remaining are in the design phase with construction funding either in place or pending to address their condition.

MARYLAND DEPARTMENT OF TRANSPORTATION'S SYSTEM

MDOT MVA Service Locations
24 total

MDOT MVA Vehicle Emission Inspection Stations
18 total

State-owned Airports
2 total

Port of Baltimore
1 international cruise terminal, 6 marine terminals

Passenger Rail

Major Roadways - Freight Network

182	1,284	6,189
Million square yards of roadway, airfield, and parking pavement	Customer, operations and maintenance, and administrative buildings	Revenue and non-revenue producing vehicles and equipment

10,311	647	196	19.6
Structures	Miles of passenger and freight rail	Major IT Systems	Miles of road and rail tunnels

Leading the Way with Technology, Data, and Innovation

Vehicle and fuel technologies are key to MDOT's efforts to reduce congestion, improve air quality, and decrease greenhouse gas (GHG) emissions. Technologies MDOT is integrating into its plans and operations are included below.

Electric Vehicles

In response to IIJA, MDOT prepared the Maryland State Plan for National Electric Vehicle Infrastructure (NEVI) Formula Funding Deployment (shown on the left), describing how $57 million in federal funds will be allocated to EV charging infrastructure in Maryland.

MDOT continues to transition portions of its vehicle fleet to EVs. Responding to legislation passed in 2021 and 2022, MDOT TBUs are replacing light duty fleet vehicles with electric vehicle models. MDOT MTA is planning facility upgrades and installation of charging infrastructure, in preparation for introducing zero emission buses (ZEBs) into the MDOT MTA transit bus fleet. MDOT MAA is planning to replace parking lot shuttle buses at BWI Airport with electric models.

Between July 2021 and July 2022, EV ownership in Maryland increased by more than 46% from 30,080 to 52,966 registrations. Under MDOT's leadership, Maryland has successfully nominated 23 EV alternative fuel corridors (AFCs), three hydrogen AFCs, two liquified petroleum gas AFCs, one compressed natural gas AFC, and one liquified natural gas AFC under the Federal Highway Administration's (FHWA) AFC solicitation. These corridor designations are key to utilizing new federal EV charging infrastructure funding in the IIJA.

MDOT has worked to facilitate and support the deployment of EVs and Electric Vehicle Supply Equipment (EVSE) to mitigate climate change and improve air quality. To support this growing demand, Maryland is working to deploy a robust EVSE infrastructure of more than 1,200 charging stations and 3,300 charging outlets. Of these, 24 EV charging stations are available at light rail, metro, bus, and MARC train stations, providing an EV-to-transit connection by allowing EV drivers to charge their vehicle at the transit station while completing their trip using transit. Maryland is consistently ranked among the top states for ZEV policy accomplishments.
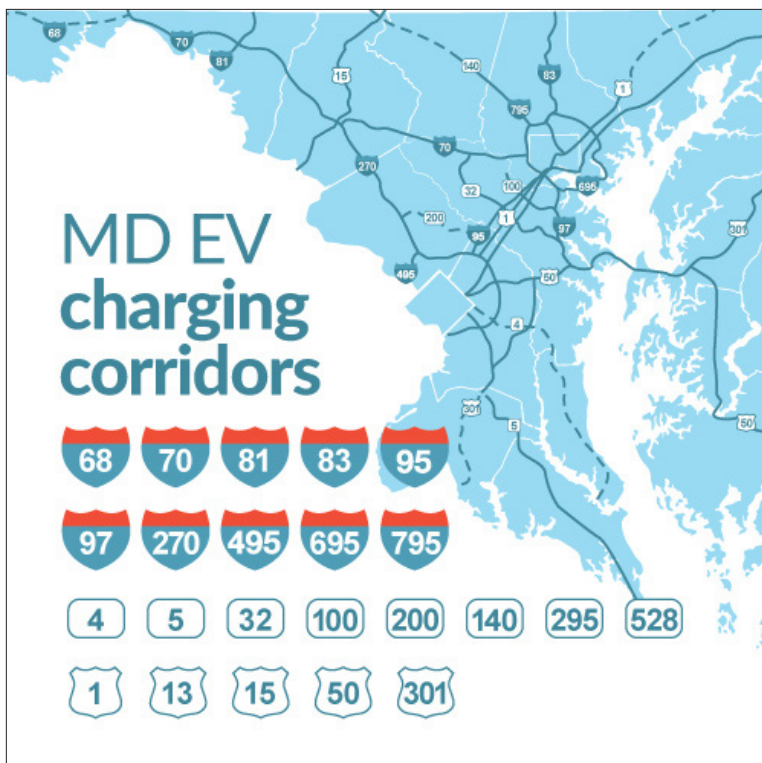
Incident Management Technology

MDOT uses innovative technologies to proactively manage and inform the public when incidents occur on our roadways. The increased use of crowdsourced information, publicly available data feeds, and sensors allow MDOT SHA and the MDTA to accelerate the adoption of both lifesaving and information-sharing tools.

Systems Management Technologies

Transportation System Management and Operations (TSMO) is a framework used by transportation agencies to maximize the service potential and manage roadways as part of a "system," focusing on operational improvements that do not require traditional capacity improvements (e.g., additional lanes, interchanges, routes, etc.).

Systems management requires deployment of sensors, such as cameras, traffic sensors (e.g., volume, speed, and density), communication infrastructure (e.g., fiber or 5G), to monitor, in real-time, how traffic is moving. That data is then used to actively manage technologies such as ramp meters, dynamic speed advisories, part-time dynamic shoulder use, reversible lanes, and much more to improve both the flow of traffic and the safety of those on the roadway.

MD EV charging corridors

68 70 81 83 95
97 270 495 695 795
4 5 32 100 200 140 295 528
1 13 15 50 301

## Connected and Automated Vehicle Technology

CAV are an important foundation for the future of mobility in Maryland as we strive to increase access to all transportation options and improve the reliability of our transportation system. Maryland is embracing CAV technology and innovation through collaboration with a wide variety of stakeholders. Maryland's CAV Working Group provides a central point of coordination for all entities seeking to test and develop CAV.

CAV technology can help save lives and is consistent with Maryland's goal of zero fatalities on our roadways. It leverages connected capabilities with automated features to provide the highest benefit of safety redundancies on the roadway. Connected vehicles "talk and listen" to infrastructure, other vehicles, and mobile devices. The Maryland CAV Strategic Framework and subsequent progress report demonstrate the state's continued leadership in this area and focus on identifying the many life-saving and economic benefits of CAV technology, while continuing to prioritize collaboration across the state.

Commuter Choice Maryland

Commuter Choice Maryland encourages commuters to explore and use alternate means of transportation to and from work, giving them travel choices convenient to them, such as transit, ridesharing (carpool/vanpool), biking, walking, teleworking, and alternative work schedules. These options help reduce commuter stress, reduce congestion, and conserve energy.

CommuterChoice **Maryland**

Commuter Choice Maryland promotes the Maryland Commuter Tax Credit, through which Maryland employers who offer qualified commuter programs can claim a tax credit. Qualified commuter benefits include Guaranteed Ride Home, vanpool, transit and cash in lieu of parking. As of July 1, 2022, commuter benefit offerings expanded to include telework, carpool, active transportation, and multimodal commuter last mile connections. All Maryland employers are encouraged to participate in this program, which helps businesses to retain and attract talent and improve their overall bottom line. To learn more, please visit CommuterChoiceMaryland.com or email: commuterchoice@mdot.maryland.gov or call: 410-865-1100 between 8:00 a.m. and 4:30 p.m. Monday – Friday.
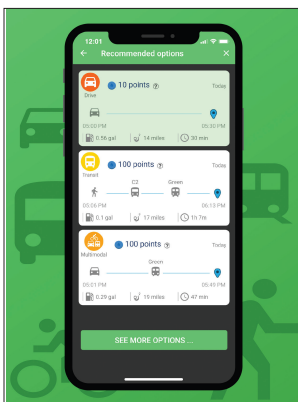
IncenTrip

In November 2021, MDOT launched the expansion of the incenTrip application statewide as a congestion mitigation effort. The purpose of incenTrip is to reduce traffic congestion in the weekday peak periods by encouraging Maryland commuters and employers to increase the use of public transportation, ridesharing (carpool and vanpool), walking, biking, teleworking, and alternative work schedules. Maryland commuters who register and use the application during their commute earn points that can be redeemed for cash rewards. For more information, visit https://mdot.maryland.gov/incentrip.

Advancing Environmental Stewardship and Resiliency through Sustainable Action

MDOT is a national environmental innovation leader through our programs and initiatives, that focus on an integrated and multimodal approach, leveraging Public-Private Partnerships and ensuring equity to accomplish goals.

Climate Change Resilience and Adaptation

MDOT is focusing on establishing a cohesive, proactive, and coordinated response to the impacts of climate change across transportation systems. MDOT is developing a Climate Action Plan to document steps to reduce GHG emissions, increase resilience, and adapt to a changing climate.

Through partnerships, MDOT is reducing emissions of criteria pollutants, such as particulate matter, as well as the ozone precursors, volatile organic compounds, and nitrogen oxides. In addition to addressing the National Ambient Air Quality Standards for criteria pollutants, set by the US Environmental Protection Agency, MDOT also is working to reduce GHG emissions from the transportation sector.

PROJECT HIGHLIGHTS

- *Maryland has goals to reduce GHG emissions statewide by 60% by 2030, from 2006 emissions levels.*

- *In July 2020, the World Resources Institute (WRI) recognized Maryland as the top GHG-reducing state in the nation. The WRI study on "America's New Climate Economy" found that Maryland successfully has reduced emissions by 38% between 2005 and 2017 all while growing our economy.*

- *MDOT continues to produce annual reports illustrating the progress made toward reducing transportation sector GHGs and submits those state agency reports to the Maryland Commission on Climate Change and the Maryland General Assembly.*

By coordinating land use, transportation, and resource planning with our partners, MDOT helps to ensure that the investments made will meet multiple needs for the citizens of Maryland. MDOT TBUs are minimizing negative impacts and using project mitigation to support conservation goals through the Green Infrastructure Plan and the Chesapeake Bay Restoration priorities. To help decrease pollution from entering our waterways, the CTP supports a three-pronged approach: retrofitting older parts of the transportation network with the latest stormwater management technology; restoring natural filters through stream restoration, forest establishment, and wetland creation; and adopting protective operational practices. Further, MDOT works with our partners to promote flood awareness and encourage Maryland residents to be prepared and stay safe during flood events.

MDOT Urban Tree Program

In 2021, MDOT established the Urban Tree Program, providing grant funding to replace trees in communities where transportation construction projects impacted tree cover. Expanding tree cover in areas affected by urban heat island or environmental justice issues is a primary focus of the new program. In addition to the Urban Tree Program, MDOT signed a Memorandum of Understanding with the Maryland Environmental Trust to preserve scenic byways and tree plantings across the state.

Preserving Maryland's Cultural Resources

MDOT preserves cultural resources by identifying important historic site locations along our transportation system. MDOT also supports the preservation and study of significant historic sites along scenic byways including Harriet Tubman's Birthplace in Dorchester County. MDOT's recent discoveries on the Tubman family are incorporated into public interpretive signage and exhibits located along the Harriet Tubman Underground Railroad Byway.

Environmental Awards

- The MDOT Secretary's Office received a 2022 Maryland Quality Initiative (MdQI) Innovation Award for its $3.1 million Smart Ponds project, which installed monitoring and adaptive control features at stormwater ponds in Aberdeen, Hagerstown, and Fruitland to increase retention time and water quality

- MDOT was honored with the 2022 Electronic Product Environmental Assessment Tool (EPEAT) Purchaser Award in four product categories, highlighting the commitment to sustainable electronics purchasing. MDOT is the only state DOT in the world to be recognized for this accomplishment.

- MDOT received Silver-Level recognition from the State Electronics Challenge for environmentally responsible purchasing and end-of-life management of office electronics.

MDOT Maryland Transit Administration (MDOT MTA)

Reliable, Accessible, On-Time Service

Adapting to Recovering Ridership and Changing Travel Patterns

As transit ridership in the Baltimore region continues to recover from the COVID-19 pandemic, MDOT MTA continues to adapt service to support changing travel patterns while reflecting MDOT MTA's commitment to prioritizing equity, improving reliability, and expanding access. Ridership is increasing steadily after falling sharply during the height of the pandemic, with local bus ridership reaching 70% of 2019 levels in March 2022.

A new, limited-stop pilot bus service that provides improved travel times from East to West Baltimore was introduced in Fall 2022. The route provides passengers with more options for a one-seat ride, reducing transfers between the CityLink Blue and Orange, two of MDOT MTA's highest-ridership routes. Additionally, a new Express BusLink route between West Baltimore and Tradepoint Atlantic and elimination of a surcharge for express bus riders were introduced in Fall 2021.

Making it Easier to Ride and Pay

MDOT MTA has taken several steps to provide customers with more useful and timely information to help them choose transit for their trips, as well as to improve fare structure and payment by providing more flexible and faster options.

Leveraging "Beyond the Bus Stop" federal grant funds, MDOT MTA has launched a real-time digital signage pilot at three major transit hubs: Mondawmin Metro, Rogers Avenue Metro, and Patapsco Light Rail.

PROJECT HIGHLIGHTS

- *$27 million North Avenue Rising Project completed in Summer 2022, 5.5 miles of dedicated bus lanes, bus stop improvements, intersection improvements, and bicycle and pedestrian safety projects*
- *Fast Forward: Customer Experience Enhancement Program, a $43 million initiative improving transit reliability, travel times, and customer safety and access, completed by end of 2023*
- *Amtrak B&P Frederick Douglass Tunnel and West Baltimore MARC Station Redesign*
- *Planning for the future of MARC*
- *Zero-Emission Bus Transition*
- *Rebuilding Better: Committed to an Equitable Transit Future, MDOT MTA's strategic plan published in September 2021*
- *The 16-mile Purple Line light rail from New Carrollton to Bethesda opening in 2026*

Metro SubwayLink real-time data now allows riders to view live train locations and arrival predictions on Transit App and Google Maps. This sets the stage for the planned addition of arrival predictions on digital signage inside Metro stations in 2023. Additionally, real-time bus crowding information has been added to Transit App for all LocalLink, CityLink and Express BusLink services to give riders transparency and choice in the trip-planning process.

Recognizing changing travel patterns, MDOT MTA launched the Charm*Flex* pass in August 2021 to better accommodate workers and other travelers who want to use continue to use transit, but whose schedules may have changed. Charm*Flex* passes are 3- and 10-day passes within the Charm*Pass* app that can be used on non-consecutive days, on Local Bus, Light Rail, Metro Subway, Commuter Bus, and MARC Train. Charm*Flex* provides a savings of 15% over purchasing the equivalent number of single fares.

The ongoing Future Fare System project will make paying for transit easier and more convenient for customers in Baltimore and the surrounding areas. This project will implement a next-generation, multimodal fare collection system that reduces fare collection costs and fare evasion, increases revenue, and improves existing fare collection operations. Components of the new fare system will be phased in beginning in 2023, and the system is anticipated to be fully operational by 2025.

Advancing Plans for the Future

Statewide Transit Plan

The Maryland Statewide Transit Plan provides a vision for improving public transportation during the next 50 years, with attention to regional context and mobility needs across all of Maryland. This Plan defines a vision for improved transit across the state and lays out the goals and strategies to achieve it, in rural, suburban, and urban contexts. This effort was informed by more than 2,500 public and stakeholder interactions and engagements across the state, which included regional roundtables, public presentations, and pop-up events.

Regional Transit Plan Implementation

MDOT MTA continues to advance the 5-Year Implementation Plan for the Central Maryland Regional Transit Plan (RTP) in coordination with the relevant regional jurisdictions, Baltimore Metropolitan Council, business organizations, and advocacy groups. The Implementation Team has developed a Year 2 Action Plan to guide their efforts and meets regularly to strengthen partnerships and advance adopted action steps. The first two corridors from the RTP that were identified for study and investment were the East-West Corridor from Bayview to Ellicott City, and the North-South Corridor from Towson to Downtown Baltimore. Both corridors have undergone feasibility studies in 2022 and will advance to the Alternatives Analysis phase in the next year, an important step towards securing Federal funding. More information is available at https://rtpcorridors.com/

RAISE Grant Award

In 2021, MDOT MTA secured a $22 million dollar RAISE grant to advance improvements to the area currently served by the CityLink Blue and Orange lines to provide faster, more reliable transit and improve pedestrian safety. These investments include dedicated bus lanes and transit signal priority.

In 2022, MDOT MTA secured a $6 million RAISE grant for multi-modal transit station access improvements at Baltimore Penn Station including dedicated bus lanes on Charles Street, curb extensions on Charles and St. Paul Streets, and bicycle and pedestrian improvements. Both of these projects are possible through funding and coordination with our federal, regional, state and local partners. More information is available at https://raisebaltimore.com/.

MDOT MTA Awards

- *MDOT MTA won a MdQI Award for its $63.7 million project to modernize the Kirk Bus Division in Baltimore with new bus storage, fueling, washing and radio facilities, as well as new support offices.*

- *The $2.5 million North Avenue Rising Penn North Metro Station Improvements project in Baltimore earned MDOT MTA a MdQI Modal Award for Projects Under $5 Million.*

MDOT State Highway Administration (MDOT SHA)

MDOT SHA Delivers a World-Class Highway Network

MDOT SHA's vision is to deliver a safe, well-maintained, reliable highway system that enables mobility choices and supports Maryland's communities, economy, and environment. Maintaining our highway system in a state of good repair is our highest priority. MDOT SHA delivers projects that preserve Maryland's existing system while building a shelf of projects that will benefit residents and businesses for future generations. We are focused on three main areas: asset management, accessibility, and mobility.

In calendar year 2022, there are 108 active construction projects valued at $1.4 billion and another 26 that were advertised totaling $106.6 million. In calendar year 2021, MDOT SHA completed 155 projects totaling $642.4 million. MDOT SHA is driving change and delivering results.

> ### PROJECT HIGHLIGHTS
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> - *I-270 at Watkins Mill Road (Montgomery Co), $124 million interchange fosters economic growth.*
> - *I-495 and I-270 P3 Program – Op Lanes Maryland brand launched (Montgomery Co), will provide congestion relief to some of the country's worst bottlenecks of traffic.*

MDOT SHA Addresses Pedestrian Safety

MDOT uses a context driven approach to assess pedestrian and bicycle safety ranging from rural to urban core landscapes. This uses best practices to guide the development of infrastructure to enhance access and mobility, using treatments that will reduce crashes when applied appropriately. Since 2019, MDOT SHA implemented almost 300 safety improvements using this methodology. Further, MDOT SHA has been developing Maryland's first statewide Pedestrian Safety Action Plan (PSAP), which applies a data-driven approach to identify, prioritize, and recommend strategies to address pedestrian and bicycle safety needs. MDOT SHA's Context Driven framework also includes case studies, education and outreach, and a web portal. During the next several years, MDOT SHA will focus on advancing these components.

Statewide Operations Center

In 2021, MDOT SHA completed the $5.6 million renovation and reimagination of its SOC. The original SOC, one of the first such centers in the nation, opened and served the State of Maryland for 25 years. The new layout nearly doubles the original footprint, with stations for eight operator positions and two supervisors. It features an innovative concept called the "operations football," with operators sitting closer together and not directly facing a central video wall.

This concept improves communication and collaboration among team members during traffic incidents, emergencies, and storms. Technological advances include an operator's ability to highlight dashboards, weather maps, and web pages on wall monitors, enabling operators to focus on the day's most essential emergencies, such as severe weather and major traffic incidents. The new consoles also provide each workstation with an additional monitor to manage critical situations.

> ### MDOT SHA Awards
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> - *MDOT SHA's $89.3 million I-81 improvement project, which included widening and super-structure replacement of the I-81 dual bridges over the Potomac River in Washington County, MD and Berkeley County, WV, reaped two MdQI awards — a Modal Award for Projects Over $5 Million and a Partnering Award for Projects Over $10 Million.*
> - *A $1.1 million project to replace three drainage structures along Dulaney Valley Road near Loch Raven Reservoir in Baltimore County netted MDOT SHA a MdQI Partnering Award Under $5 Million.*
> - *MDOT SHA's $8 million replacement of bridge along MD 355 over Little Bennett Creek in Montgomery County won a MdQI Partnering Award in the $5 Million to $10 Million category.*
> - *The $789,000 project to replace a culvert over Wilson Run in Oakland, Garrett County, won MDOT SHA and its partners a MdQI Modal Award for Projects Under $5 Million.*

Maryland Transportation Authority (MDTA)

Nice/Middleton Bridge Replacement Project

In November 2016, Governor Hogan announced the nearly $463 million replacement of the 81-year-old Governor Harry W. Nice Memorial/ Senator Thomas "Mac" Middleton Bridge (US 301), which crosses the Potomac River between Charles County in Maryland and King George County in Virginia. Construction began in July 2020, with the new, wider, and safer bridge expected to open in late 2022.

The project will replace the existing two-lane bridge with a new four-lane span aligned with the existing roadway approaches in Maryland and Virginia. Full demolition of the old bridge is anticipated to begin after the new bridge opens. Materials from the demolished older span will be used to create an artificial fish reef. In addition, the MDTA and Skanska-Corman-McLean are partnering with the Potomac River Fisheries Commission and Maryland Department of Natural Resources to fund oyster seeding in the lower Potomac River basin. The new bridge is also designed and constructed with features to support cycling crossings.

All-Electronic Tolling

All-electronic (cashless) tolling was made permanent statewide in August 2020, allowing drivers to pay tolls via *E-ZPass*, Pay-By-Plate, or Video Tolling. MDTA has converted toll plazas at the Hatem, Key, and Bay bridges to highway-speed all-electronic tolling. Construction activities continue at the remaining facilities to remove the former toll plazas and convert to highway-speed all-electronic tolling.

Chesapeake Bay Crossing NEPA Studies

In April 2022, the combined Final Environmental Impact Statement and Record of Decision for the Chesapeake Bay Crossing Study: Tier 1 National Environmental Policy Act (NEPA) was approved by the Federal Highway Administration (FHWA), marking the completion of the Tier 1 NEPA Study.

In June 2022, Governor Hogan announced the launch of the Bay Crossing Study Tier 2 NEPA Study, which continues the Governor's unprecedented efforts to provide congestion relief for generations to come at the Bay Bridge and along its 22 miles of approach highways.

PROJECT HIGHLIGHTS

- *I-95/Belvidere Road Interchange Project awarded a $20 million Better Utilizing Investments to Leverage Development Transportation Discretionary Grant by USDOT will begin construction in Fall 2022.*

- *Bay Bridge westbound deck rehabilitation, completed more than a year ahead of schedule.*

- *Bay Bridge automated lane closure system, began in February 2020 and will be operational in Fall 2022. This project will improve safety during periods when opening and closing lanes for two-way traffic operations on the bridge.*

- *I-95 Express Toll Lane (ETL) Northbound Extension is a $1.1 billion program that will extend the existing two-lane ETL facility an additional 10 miles from Baltimore County into Harford County. The projects will be completed in segments, and the Northbound ETL is expected to open to traffic through MD 152 by the end of 2024 and through MD 24 by the end of 2027.*

- *I-895 bridge north of the Baltimore Harbor Tunnel (I-895) was reopened with two lanes of traffic in both the northbound and southbound directions.*

MDTA Awards

The MDTA's $188.6 million replacement of the steel bridge on I-895 near the Baltimore Harbor Tunnel captured two awards – a Modal Award for Projects Over $5 Million, and MdQI Project of the Year Over $5 Million. The new I-895 bridge structure replaced the MDTA's only poor-rated bridge in its inventory. This challenging project, crossing over 23 railroad tracks, 3 city streets, and 3 interstate ramps and under I-95, finished under budget and ahead of schedule.

MDOT Maryland Aviation Administration (MDOT MAA)

MDOT MAA owns and operates BWI Marshall and Martin State airports, which are major transportation resources and economic drivers for the State of Maryland and the entire Baltimore-Washington region.

PROJECT HIGHLIGHTS

- *Statewide Promotion of General Aviation and Flight Safety*
- *BWI Marshall Restroom Improvements*
- *BWI Marshall A/B Connector and Baggage Handling System Improvements*
- *BWI Marshall Airline Maintenance Facility & Taxiway F Reconfiguration*
- *BWI Marshall Wi-Fi Improvements*
- *Martin State Airport Environmental Assessment*
- *BWI Marshall Community Enhancement Grants*
- *Maryland Statewide Aviation Grant Program*
- *BWI Marshall Forest Conservation Easement*
- *BWI Marshall Kitten Branch Stream Restoration*
- *BWI Marshall Residential Sound Insulation Program*
- *BWI Marshall Hourly Garage Pedestrian Access Improvements*
- *BWI Marshall Taxiway T Reconstruction*
- *First Call Medical Center at BWI Marshall*
- *BWI Marshall Welcomes Five New Small, Local, Minority Owned Retailers to the Launch Pad Program*

BWI Marshall Passenger Activity

In the first three quarters of FY22, 15.5 million passengers flew through BWI Marshall Airport. This is an 89% increase over the same period of FY21, indicating a strong rebound in travel demand. Total passenger levels are still below pre-COVID FY19 levels, however peak period activity during holiday travel is within a few percentage points of FY18 and FY19 levels. BWI Marshall remained the busiest airport in the Baltimore-Washington region with a 36% market share, ahead of both Dulles and Reagan National airports. In FY22 BWI added airline service from new carriers, including Air Senegal, Play, Icelandair, and Avelo and expanded service from existing carriers including Frontier, Spirit, and Southwest. As of June 2022, BWI Marshall has, on average, 259 daily departures to 86 nonstop destinations by 18 airlines.

Martin State Airport Activity

After a 70% decline in aircraft operations in the months following the outbreak of the COVID-19 virus, Martin State has seen a resurgence of flight activity and monthly aircraft operations have surpassed pre-COVID-19 pandemic numbers. Martin welcomed two new flight schools to the airport, bringing the total to four flight schools offering both fixed wing and rotary wing training options.

MDOT MAA Awards

- *A $1.2 million project to replace two culverts between the main parking lot and overflow lot at BWI Marshall Airport received a MdQI Modal Award for Projects Under $5 Million for MDOT MAA.*

- *In June 2022, the construction and engineering team at MDOT MAA was honored with the 2022 MdQI Partnered Project of the Year Award for work to reconstruct Taxiway T at BWI Marshall Airport.*

- *MDOT MAA was recognized by the American Society of Civil Engineering (ASCE) Maryland Section for Outstanding Civil Engineering Achievement in the under $20M category for the construction of Taxiway T2.*

MDOT Maryland Port Administration (MDOT MPA)

The Port of Baltimore is one of the nation's top ports for total cargo tonnage and overall dollar value of cargo, the Port of Baltimore is also one of the most diverse ports in the US. The key commodities handled at Baltimore's six public marine terminals include autos, roll on/roll off, containers, forest products, and project cargo.

The Port is Open for Business

The Helen Delich Bentley Port of Baltimore ensures Maryland is "Open for Business" as one of Maryland's top economic generators. In 2021, the Port's public and private marine terminals handled 43.7 million tons of foreign cargo as volumes returned to pre-pandemic levels. The Port is 11th in the nation for international cargo tonnage and ninth in cargo value, at $61.3 billion, a record for MDOT MPA. The Port of Baltimore also continues to be a leader in automobiles and roll-on/roll-off cargo. In 2021, for the 11th consecutive year, the Port handled more cars and light trucks than any other U.S. port.

Port Responds to Supply Chain Needs

While other U.S. ports were experiencing significant supply chain delays, the Port of Baltimore handled more than 60 "ad hoc" vessels diverted to Baltimore that were not on a regularly scheduled service call.

Port of Baltimore Growing Container Business

Four additional ultra-large ship-to-shore electric cranes became operational in 2022 and, with the original ultra-large cranes, allow the Port to handle two massive ships simultaneously. A key ingredient in the Port's container plans is the Howard Street Tunnel Project, which is now underway. The tunnel expansion project will allow for double-stacked container rail cars, to/from Baltimore to the Midwest, clearing a longtime hurdle for the Port.

PROJECT HIGHLIGHTS

- *The Port's award-winning and nationally-recognized dredging program has rebuilt eroded islands in Maryland using sediment removed from channels leading to the Port of Baltimore.*
- *The U.S. Army Corps of Engineers' Mid-Chesapeake Bay Islands Restoration Project will use dredged sediment from Port shipping channels to restore James and Barren Islands off Dorchester County.*
- *Under the Dray Truck Replacement Program, more than 275 older dray trucks have been replaced with newer, cleaner-running engines that reduce emissions.*
- *The Diesel Equipment Upgrade Program has replaced or retrofitted diesel cargo-handling equipment such as forklifts, top loaders, locomotives, and tugs with cleaner engines.*

Cruising from the Port of Baltimore

The Port of Baltimore's cruise business continues to be a popular choice with Mid-Atlantic cruisers. After the cruise industry paused operations during the pandemic, cruises resumed from Baltimore in September 2021 with year-round sailings on Carnival and Royal Caribbean to the Bahamas, Bermuda, and Caribbean. Despite the pandemic, cruising continues to be very popular. Since the return of cruises, ships leaving Baltimore have sailed at full capacity.

MDOT MPA Awards

- *MDOT MPA won a MdQI award for its development of a digital database to track conditions of its terminal lots to predict and plan rehabilitation and repair efforts.*
- *MDOT MPA also captured a MdQI Modal Award for Projects Under $5 Million for the demolition and replacement of the vehicle entrance/exit gate at the Dundalk Marine Terminal.*

MDOT Motor Vehicle Administration (MDOT MVA)

The MDOT MVA continues to provide premier customer service through innovation and technology. This transformation has made services more accessible.

Customer Connect

In December 2021, MDOT MVA completed its IT modernization project known as Customer Connect, which enhanced the customer's experience by providing greater access to information, security, and the ability to conduct more online transactions than ever before. Customer Connect provides customers and employees with a complete view of the customer's status and history with the MDOT MVA by linking their driver and vehicle accounts.

By Appointment Only

MDOT MVA has launched a new queuing and appointment-only operation to better serve customers within its branch offices. The MDOT MVA Appointment Scheduler offers a more detailed and defined list of available services to help customers determine and schedule the exact type of appointment they need and allows MDOT MVA staff to prepare for the customer before arrival. The MDOT MVA saw nearly a 10-minute reduction in wait time in fourth quarter of FY22 at an average of 11 minutes, compared to FY21 at 20 minutes.

myMVA Account

The MDOT MVA improved online and kiosk services. Approximately 74% of customers complete their transaction using an alternative service delivery method. Through a myMVA account, a customer can complete most transactions with the MDOT MVA without setting foot into a branch office. Customers can look up notices, letters, and receipts related to their vehicle, check their REAL ID status, and view any MDOT MVA correspondence related to their vehicle since July 2020. As of May 2022, more than 400,000 customers have created a myMVA account.

MDOT MVA Awards

- MDOT MVA's Customer Connect program received the American Association of State Highway and Transportation Officials (AASHTO) Regional Award for Best Use of Technology & Innovation.
- MDOT MVA received several American Association of Motor Vehicle Administrators (AAMVA) awards, including for:
  - Maryland MVA Provides Certified Birth Certificates at Branch Offices
  - Maryland MVA and Baltimore City Partner to Help the Homeless
  - Disability Products Go Online
  - Maryland's Connected and Automated Vehicle Strategic Framework
  - Child Passenger Safety Week 2021 Press Release
  - Zero Deaths Maryland Website

Maryland Mobile ID

In May 2022, MDOT MVA launched Maryland Mobile ID in Apple Wallet, allowing Maryland residents to add their Driver's License and Identification Card to their iPhone or Apple Watch. MDOT MVA is currently working on expanding Maryland Mobile ID across all mobile operating systems.

MDOT MVA One-stop-shop

MDOT MVA is becoming a "one-stop-shop" by partnering with other Maryland agencies. The Department of Natural Resources, MDTA, and Department of Veteran Affairs have all opened customer service centers within multiple MDOT MVA branches across the state and offer their products on MDOT MVA's eStore and kiosks. Most recently, the MDOT MVA partnered with the Maryland Department of Health to issue birth certificates of Maryland-born customers at select MDOT MVA branch offices to assist with the federal REAL ID document requirements. This service has helped Maryland reach a REAL ID compliance rate of nearly 87% - well above the national average of 49%. TSA Pre-Check and Transportation Worker Identification Credential services are also available at select branch offices.