

GOAL: Environmental Stewardship

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



Objectives

- Limit the impacts of transportation on Maryland's natural environment through impact avoidance, minimization and mitigation
- Employ resource protection and conservation practices in project development, construction, operations and maintenance of transportation assets
- Implement transportation initiatives to mitigate the impacts of climate change and improve air quality
- Support broader efforts to improve the health of the Chesapeake Bay, protect wildlife, conserve energy and address the impacts of climate change

Transportation infrastructure is a significant portion of Maryland's built environment and, as such, plays a critical role in sustaining the quality of our natural resources. Utilizing the State's *Smart, Green, & Growing Initiative* as a guide, MDOT and its modal agencies use project mitigation to support broader conservation goals and employ a number of best management practices to minimize adverse environmental impacts to the land, air and water. This approach will play an increasing role in ensuring a transportation system resilient to the potential impacts of climate change while creating opportunities to consider adaptive management strategies for protecting the State's natural resources in a changing climate. By coordinating land-use, transportation and resource planning with partners in other agencies and local governments, MDOT helps to ensure that the investments made will meet Maryland's environmental quality goals.

A current example of multi-agency coordinated environmental planning is the Maryland Scenic Byways Program Advisory Committee. The committee, along with its six agency partners and 11 byway sponsoring organizations, published a strategic plan to integrate Maryland's Scenic Byways more directly to the surrounding landscape. The Plan guides and supports sustaining the system of scenic byways as an integral part of Maryland's transportation network. As a practical resource for local agencies and advocates, the Maryland Department of Planning (MDP) and SHA developed the Scenic Byways Resource Protection Application, a Geographic Information Systems (GIS)-based mapping tool to inventory protected, vulnerable and threatened resources along Maryland's Scenic Byways. Local and State agencies use the tool to prioritize preservation and conservation actions in a targeted and strategic manner.

The FY 2015–FY 2020 CTP includes more than \$730 million in projects to improve air and water quality, which includes projects that support the U.S. Environmental Protection Agency (EPA) Total Maximum Daily Loads (TMDLs) to lower nutrients and sediment from entering the Chesapeake Bay and its tributaries. This includes \$598.9 million to plan, design and construct stormwater controls and alternative water quality improvement strategies adjacent to Maryland roadways to help meet the TMDL requirements. All MDOT modal agencies continue to implement initiatives to reduce transportation emissions, and promote and utilize efficient and alternative energy sources.

Key Initiatives

MDOT: MDOT addresses climate change through incentive programs and technology investment to reduce vehicle emissions and manage transportation energy consumption. MDOT chairs the Maryland Electric Vehicle Infrastructure Council (EVIC), which spearheads Maryland's effort to promote the adoption of electric vehicles (EVs) through outreach, infrastructure planning and legislation.

MDOT funds multiple Travel Demand Management (TDM) strategies in the Baltimore and Washington regions to support commute alternatives to driving alone and limit emissions from the transportation sector. TDM efforts help reduce congestion, lower commuting costs and improve air quality. Some of these efforts include expanding park-and-ride lots, guaranteed ride home, transit passes, teleworking and variable pricing infrastructure.

MAR: MAA promotes stewardship of Maryland's environment through recycling programs, stormwater management and wetland remediation, energy efficiency improvements for airport facilities and vehicle fleets, and identifying alternative energy sources. MAA recycles at least 20% of solid waste at BWI Marshall, has implemented an Energy Efficiency Program for BWI Marshall and Martin State Airport, and recently installed a solar photovoltaic (PV) energy system on top of the BWI Marshall daily parking garage.

MTA: MTA is going beyond its environmental policy commitments by actively engaging in ongoing sustainability initiatives in energy conservation, materials and waste management, fuel management and alternative fuels, stormwater management, and award winning green infrastructure projects.

MTA offers 18 total EV charging stations at White Marsh Park-and-Ride, BWI Marshall MARC Station, Odenton MARC, Dorsey MARC, Falls Road and Mt. Washington Light Rail stations. EV charging is also available at Baltimore's Penn Station. This initiative is part of the MTA's commitment to the environment along with the conversion of Local Buses to hybrids and clean diesel as they move closer to the creation of a Green Mobility system that provides commuters with an integrated and sustainable way to get from place to place.

Key Initiatives (continued)

MDTA: MDTA is addressing the EPA Chesapeake Bay Restoration goals by completing and refining an inventory of impervious areas, investigating innovative approaches to implement stormwater retrofits, and designing and constructing bio-swale and bio-filter stormwater retrofits along MDTA highways, to achieve the goal of treating 20% of untreated impervious surfaces by 2020. MDTA performed 1,198 combined erosion and sediment control inspections, independent environmental monitor inspections and quality assurance inspections with one non-compliance finding in FY 2014 for a compliance rate of 99.9%.

Regarding renewable energy, MDTA began coordinating for the temporary placement of wind anemometers at the Point Breeze and Francis Scott Key facilities to evaluate the potential for installation of wind turbines.

MDTA commenced with evaluating the usage of E-85 Ethanol among its fleet vehicles for the purpose of developing strategies for improving E-85 consumption.

MPA: The GreenPort initiative is reducing waterborne litter by improving recycling and waste management, improving water quality through installation of stormwater treatment technologies, restoring shorelines and wetlands, improving air quality through the Mid-Atlantic Dray Truck Replacement Program and the Clean Diesel Program, and reducing energy consumption through facility heating and cooling improvements, lighting system upgrades, water conservation measures and solar energy system installations.

MVA: The MVA believes that the protection of the environment and sustainability of natural resources are essential elements of its mission. MVA management is committed to making the environment a priority by providing adequate leadership, systems and resources to support State energy and waste reduction program efforts. In 2013, MVA recycled 27% of its solid waste.

SHA: SHA is increasing the use of recycled materials in highway construction in an effort to reduce greenhouse gas (GHG) emissions and landfill waste. In CY 2013, 153,481 tons of recycled asphalt pavement was used on SHA highway construction projects. Both Warm Mix and Foamed Asphalt applications are in use to reduce project costs and environmental impacts.

Planning, design and construction activities to meet the EPA Chesapeake Bay Restoration goals are ongoing. To improve water quality and provide greater ecological habitat functions, SHA is pursuing new stormwater control facilities, retrofitting existing stormwater controls, pavement removal, tree planting, stream restoration and outfall stabilization for Bay restoration and local TMDL compliance. SHA is also pursuing wetland, stream and forest banking sites for project mitigation. SHA successfully restored original functionality to 121 stormwater facilities in FY 2014. In spite of an increase of 8% in SHA's stormwater management facility inventory, approximately 90% of Best Management Practices (BMPs) are functioning as designed.

SHA continues to far exceed the 20% facility recycling rate mandated under the Maryland Recycling Act, and achieved a recycling rate of 59% in CY 2013.

SHA competed against the 16 largest energy-using State agencies in the Maryland Department of General Services (DGS)-sponsored Maryland Energy Cup Competition to win first place in electricity reduction by cutting electricity usage by 28% since 2008.

Maryland Aviation Administration

MAA promotes stewardship of Maryland's environment while keeping its people and economy moving. Approaches include recycling, energy efficiency, natural resource protection, community enhancement and alternative energy initiatives.

Recycle: Continue to recycle at least 20% of BWI Marshall's solid waste, including refuse, building materials and pavement.

Energy Efficiency: Implement an Energy Efficiency Program for BWI Marshall and Martin State Airport, including comprehensive lighting improvements and energy infrastructure replacement projects. The Energy Efficiency Program includes water efficiency projects such as installing ultra-low flow toilets, faucets and shower heads to reduce water consumption, and electric car charging stations to promote the use of battery-powered vehicles.

Environmental Protection: As the landlord for the more than 3,200 acres that comprise BWI Marshall, MAA is also the steward of the many natural resources on its property. MAA must determine the potential effects of development on these resources and fulfill all applicable laws that protect the environment.

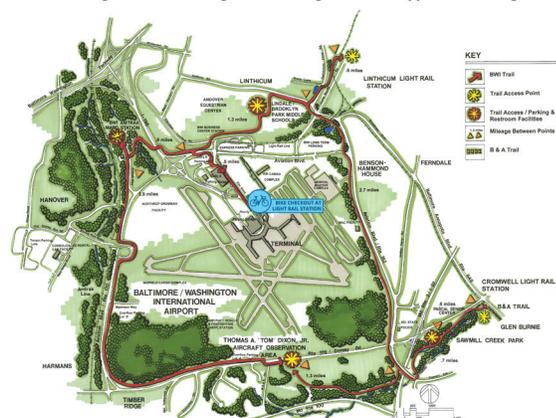
Community Protection: Through the Homeowner Assistance Program, MAA enhances the environment of neighboring communities by providing noise mitigation for homeowners residing within the BWI Marshall Noise Zone. The MAA also implements a DOT Secretary Community Enhancement Program that provides improvement grants for community-sponsored projects.

Alternative Energy: To reduce the amount and cost of energy used, the MAA installed a 505 kW solar PV system on top of the BWI Marshall daily parking garage.

Outdoor Recreation: BWI Marshall partnered with Zagster, a company that provides turnkey bike sharing services, to provide bicycles to travelers, employees and members of the public for use on the BWI Trail.

Ride the BWI Trail with Zagster

Borrow a bike at the Light Rail station outside the terminal by Concourse E
Go to Zagster.com/BWI or get the free Zagster mobile app to start riding



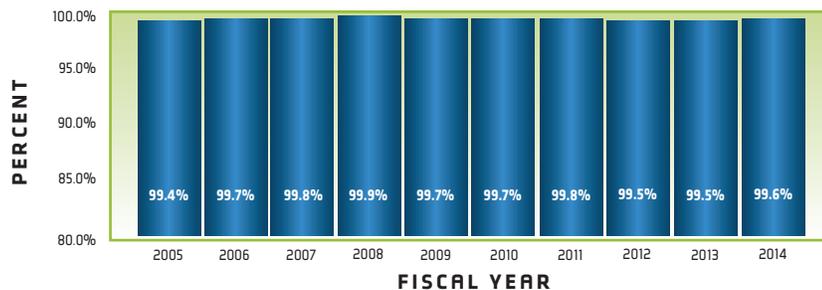
Bike rentals are open to the public. You must be 18 years or older to ride.

bike sharing powered by **Zagster**



SHA: Percent of Compliance on Erosion & Sediment Control Ratings

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



TARGET: 100% Annually

Why Did Performance Change?

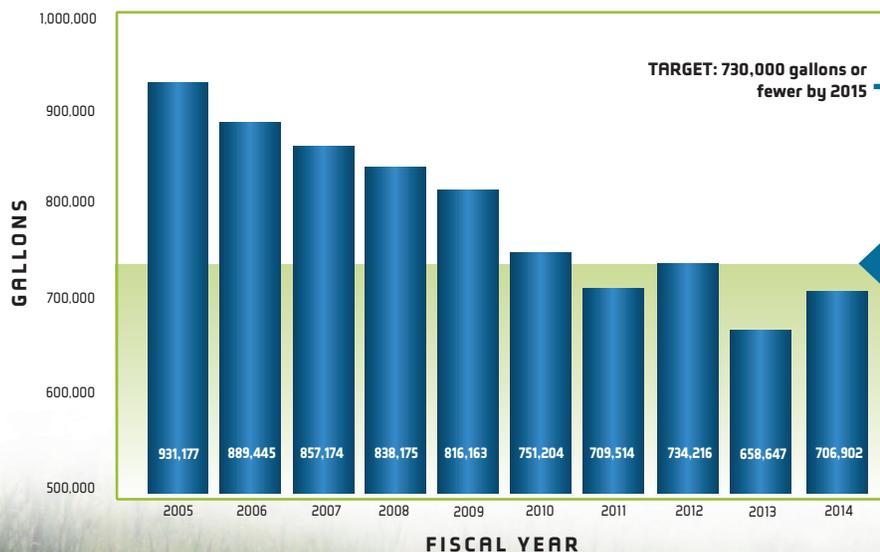
- SHA performed over 4,000 ESC inspections with only 17 non-compliance findings documented by SHA's Quality Assurance Team in FY 2014
- SHA's overall annual ESC percentage of compliance in FY 2014 was 99.6%
- SHA offers the basic ESC course (Yellow Card) for contractor superintendents and ESC managers, and at the end of FY 2014, 4,945 SHA employees, consultants and contractors have been certified

What Are Future Performance Strategies?

- The quality assurance (QA) rating system includes incentives/liquidated damages to ensure compliance statewide
- SHA is working towards the formal approval and implementation of delegated authority to allow SHA to approve ESC field changes during construction. A nine-month pilot to test this new procedure was completed in FY 2014. SHA will complete the process of collecting and analyzing data for MDE review in early FY 2015
- Continue to deliver ESC training and certification programs for contractors and inspectors, and a certification training program for designers
- Plan, design and construct storm water controls and alternative water quality improvement strategies in Maryland Phase I and Phase II Counties in order to meet the EPA Chesapeake Bay Restoration Goals by the year 2025 (\$598.9 million in the FY 2015–FY 2020 CTP for TMDL)

SHA: Total Fuel Usage of the Light Fleet

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



Why Did Performance Change?

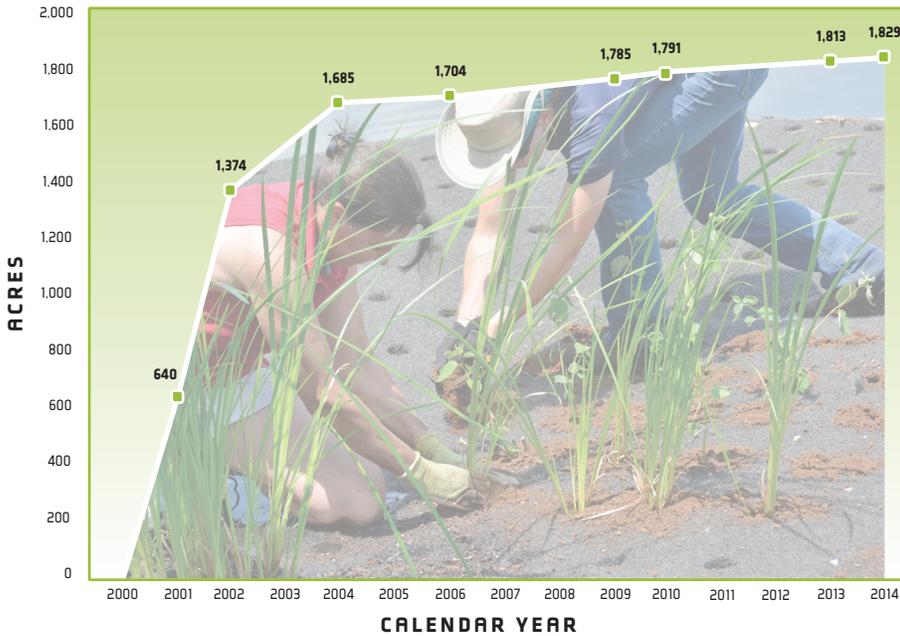
- Continued to enforce the automobile engine-idling policy for all employees and consultants, and encouraged employees to save fuel through carpooling and videoconferencing for state business trips
- Conducted employee outreach to encourage use of the newly constructed E-85 distribution facility at the Hanover Complex and at other existing and planned E-85 fueling stations at Maryland State Police facilities
- Continued purchases of more flex-fueled vehicles in FY 2014 and continued outreach efforts to use E-85 fueling facilities resulted in an 80% increase in E-85 usage
- Evolved the SHA fleet to maximize efficiencies as allowable; consequently, SHA has reached a plateau in use reduction and fuel efficiency. Fuel efficiency of sedans continues to increase, but the same cannot be said of SHA trucks and construction equipment, both of which are essential to SHA's core mission

What Are Future Performance Strategies?

- Investigate opportunities to expand fueling locations for E-85 fuel and encourage drivers of flex-fueled SHA vehicles to fuel up with E-85 gas when practical
- Continue to look for opportunities to institute fleet reductions to cut overall fuel consumption
- Continue to replace older diesel pickup trucks with flex-fueled pickup trucks of similar hauling and towing capacity

MPA: Acres of Wetlands or Wildlife Habitat Created, Restored, or Improved Since 2000*

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



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

* Represents cumulative mitigation efforts by MPA since 2000.

Why Did Performance Change?

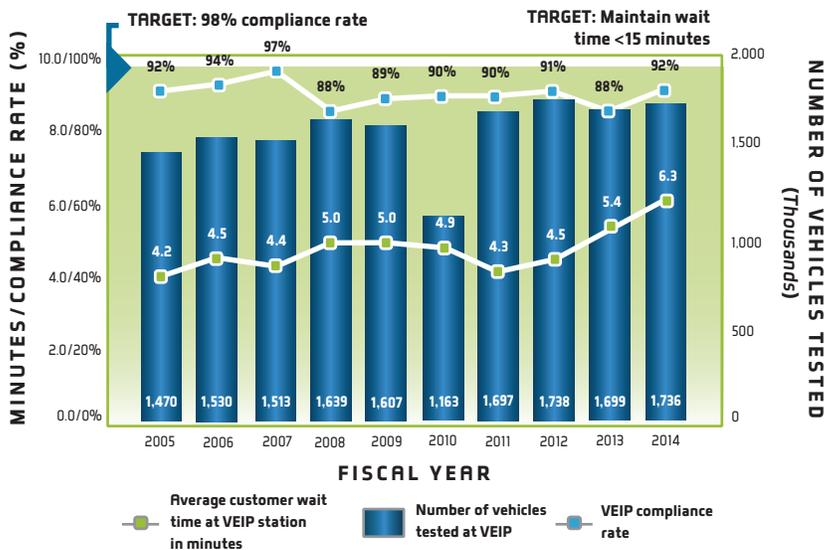
- MPA conducted tree plantings/meadow habitat mitigation project at the Hawkins Point Dredged Material Containment Facility (DMCF) to stabilize the site and improve habitat
- The MPA was recognized twice for its environmental initiatives, receiving a successful recertification audit of its Environmental Management System (EMS) from the International Organization for Standardization (ISO) 14001, and the Innovative Best Management Practice (IBMP) Award for its Algal Turf Scrubber® (ATS) from the Chesapeake Stormwater Network

What Are Future Performance Strategies?

- When required to mitigate for a construction project, the MPA will continue to seek to create and improve wildlife habitat wherever appropriate and in conformance with permit requirements
- Continue Masonville eastern and peninsula uplands environmental improvement projects, which are noteworthy examples of coordinating with neighboring communities' needs, which allows MPA to maintain its social license to operate
- Implement enhanced isolation and containment of the Chrome Ore Processing Residue Remediation (COPR) at Dundalk Marine Terminal (DMT), to remediate for past environmental contamination (\$46.9 million for COPR in the FY 2015–FY 2020 CTP)

MVA: Compliance Rate and Number of Vehicles Tested for Vehicle Emissions Inspection Program (VEIP) Versus Customer Wait Time*

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



Why Did Performance Change?

- The VEIP compliance rate for FY 2014 increased to 92% when compared to the FY 2013 rate of 88%; the methodology established for this metric reflects vehicles with an actual final test outcome and increases as time goes by; it does not reflect the actual tracking and flagging
- In partnership with the MDE, continues to develop strategies, policies and regulations to ensure compliance with State emissions testing mandates and federal clean air standards
- Continued to monitor wait times and implement process/procedure changes where necessary to maintain current wait time levels

What Are Future Performance Strategies?

- Actively research new technologies and services to facilitate a more efficient vehicle emissions testing process and progressively monitor registered vehicles in eligible (non-attainment) counties to ensure VEIP testing compliance with State emissions regulations
- Continue to monitor wait times and implement process/procedure changes where necessary to maintain current wait time levels
- Plan, design and implement an enhanced technical platform that will allow for the full integration of core business services and processes
- Continue partnership with the MDE to develop strategies, policies and regulations to ensure compliance with State emissions testing mandates and federal clean air standards

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

Travel Demand Management (TDM)

Maryland's transportation agencies promote TDM strategies as a way to combat congestion by offering incentives for Marylanders to choose to use public transit, carpool, ride a bike or walk instead of driving alone. Other strategies to reduce demand for roadways include promotion of telecommuting and flexible work hours as a way to reduce or shift trips to times when roadway capacity is less constrained. By cutting down on single-occupant vehicle trips and reducing peak period congestion, TDM initiatives also contribute to reduced emissions and improved air quality.



MTA/SHA: Reduction in Vehicle Miles Traveled (VMT) Through Park-and-Ride Usage

By offering park-and-ride facilities, SHA and MTA provide commuters with an alternative to driving to their destinations and supports increased carpooling and public transit ridership.

AGENCY	TOTAL SPACES	AVERAGE WEEKDAY UTILIZATION*
SHA (2014) (Estimated)	13,100	7,700
MTA (2014)	33,195	13,082***
Transit Multipurpose**	19,209	10,682***
Total	65,504	31,464

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

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

*** MTA is currently reviewing parking space utilization data for 2014, an update is anticipated in 2015.



* MTA park-and-ride lot VMT reductions are estimated based on the same assumptions used to calculate VMT reductions associated with MTA Transportation Emission Reduction Measures. These assumptions differ from SHA's VMT reduction calculation methodology.

** MTA is currently reviewing parking space utilization data for 2014, which affect VMT reduction; an update is anticipated in 2015.

Why Did Performance Change?

- In CY 2014, construction began on 490 additional spaces funded the previous year, with an estimated completion date in CY 2015
- Statewide park-and-ride lots were at 59% capacity in CY 2013, which is in line with the historic average

What Are Future Performance Strategies?

- As part of master development agreements associated with joint-development at Transit-Oriented Developments (TODs), negotiate increased park-and-ride facility capacity
- Continue to install EV charging stations at park-and-ride locations
- MTA will investigate how to bolster capacity by utilizing single deck parking structures at over-capacity park-and-ride facilities, without increasing stormwater runoff
- Continue to explore the adaptation of park-and-ride lots along freight corridors to allow long-haul trucks to park overnight where appropriate
- MTA is in the process of procurement for a Bus Communications System Upgrades which includes a unified, integrated, state-of-the-art on-board bus equipment and fixed end systems to enhance the delivery of safe and reliable customer service
- Real-Time Passenger Information Systems will be implemented in 2014 on Local Bus, Light Rail and Baltimore Metro services, which will allow customers to check next bus or train arrival times through their phone or other device, on-line, as well as shown on LED signs at the rail station platforms
- SHA will construct 613 spaces and advertise 100 spaces in FY 2015
- SHA has installed overnight parking spaces for long-haul trucks with auxiliary power units, to reduce emissions from extended idling, as a pilot test

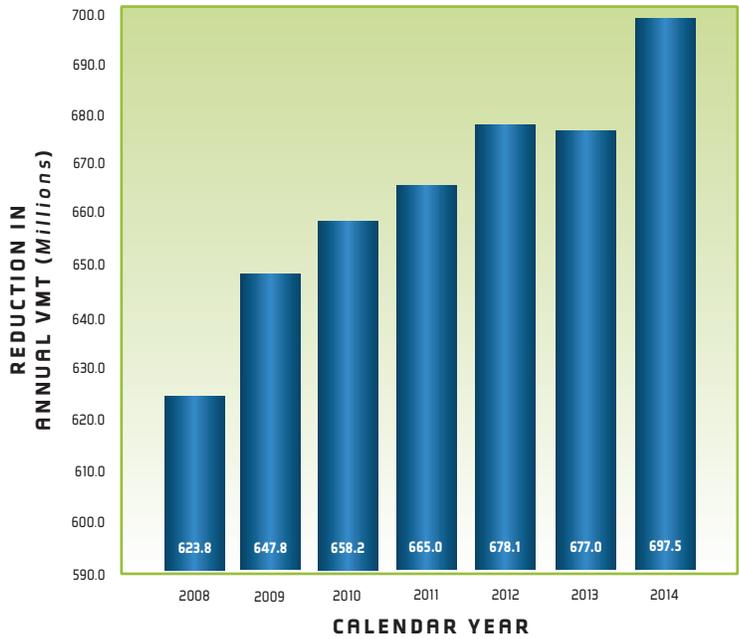


MDOT: Reduction in Vehicle Miles Traveled Through Transportation Emission Reduction Measures (TERMS)

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



Estimated Annual Regional VMT Reduction through TERMS



2014 MDOT and MTA TRANSPORTATION EMISSION REDUCTION MEASURES

PROGRAM	PROGRAM DESCRIPTION	DAILY REDUCTION IN VEHICLE TRIPS*	DAILY REDUCTION IN VEHICLE MILES OF TRAVEL*
Commuter Connections Transportation Emission Reduction Measures**			
Guaranteed Ride Home	Provides transit users or carpoolers up to four rides home per year in a taxi or rental car in the event of an unexpected personal or family emergency	7,711	212,834
Employer Outreach	Supports marketing efforts to increase employee awareness and use of alternatives to driving alone to work every day	78,553	1,327,044
Integrated Rideshare	Promotes other alternative transportation services to employers and to the general public. Commuter information system documentation is provided with comprehensive commute information, to include regional TDM software updates, transit, telework, park-and-ride and interactive mapping	2,379	66,442
Commuter Operations and Ridesharing Center	Updates and maintains the Commuter Connections database for ride-matching services and provides information on carpooling, vanpooling, telecommuting, bicycling and walking for the Washington-Baltimore metropolitan region	23,662	488,226
Telework Assistance	Provides information to employers in Maryland on the benefits of telecommuting and assists in setting up new or expanded telework programs for employers	9,651	205,511
Mass Marketing	Promotes and communicates the benefits of alternative commute methods to single-occupant vehicle commuters through the media and other wide-reach communications	10,294	173,269
MTA Transportation Emission Reduction Measures			
MTA College Pass	Offers a subsidized monthly transit pass to full- or part-time students enrolled in greater Baltimore metropolitan area colleges or universities	3,352	26,478
MTA Commuter Choice Maryland Pass	Baltimore region program that allows employers to purchase transit passes and vouchers for their employees. Employers can subsidize these for their employees or allow employees to purchase passes or vouchers with pre-tax income	14,411	243,115
Transit Store in Baltimore	Provides customer access to transit information and for purchases of transit passes. Some 15-20% of total transit pass sales occur through this outlet	2,790	47,063

* The impacts shown reflect the current definitions and most recent data available for each of the measures.

** The Commuter Connections program is run through the Metropolitan Washington Council of Governments. The reduction in trips and VMT for Commuter Connections reflect reductions for all of the Metro Washington region, including Maryland, District of Columbia and Virginia.

MDOT: Transportation-Related Emissions by Region*

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

PERFORMANCE MEASURE	REGION	CALENDAR YEAR			% CHANGE 2002-2011
		2002	2008	2011	
Volatile Organic Compound (VOC) Tons per Day	Baltimore	78.2	50.1	45.3	-42%
	Washington**	73.4	42.8	40.0	-46%
Nitrogen Oxide (NOx) Tons per Day	Baltimore	209.4	125.7	116.7	-44%
	Washington**	175.1	102.2	103.0	-41%
Carbon Monoxide (CO) Tons per Day	Baltimore	1,243.5	844.3	699.9	-44%
	Washington**	1,085.4	666.0	575.1	-47%
Particulate Matter (PM2.5) Tons per Day	Baltimore	8.1	5.8	5.6	-31%
	Washington**	6.3	4.4	4.7	-25%



* Emissions calculated using EPA MOVES2010b model.

** All Washington data represents Maryland's share of emissions in the Washington region non-attainment areas, including Charles, Frederick, Montgomery and Prince George's counties.

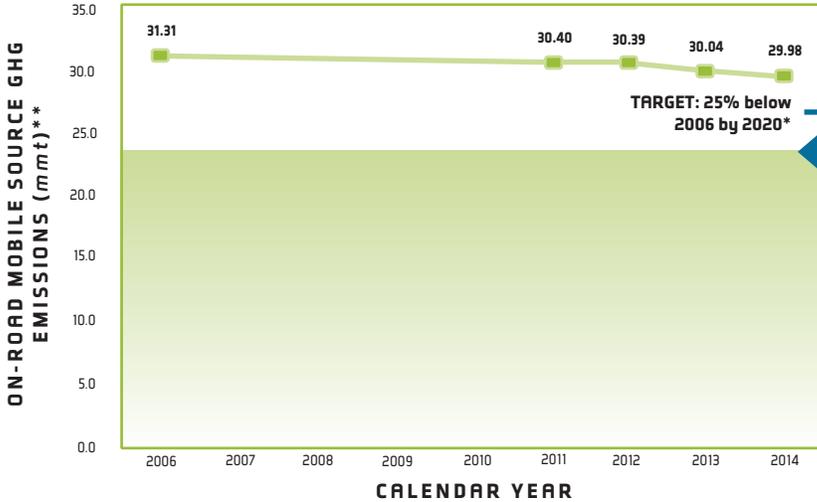


What Are Future Performance Strategies?

- Promote mobile source emission reduction efforts including support of TERMIs. MDOT supports the reduction of emissions through congestion mitigation, ridesharing and commuter incentive programs (\$26.2 million in dedicated funding in the FY 2015–FY 2020 CTP)
- Implement the Baltimore Regional Transportation Board (BRTB) and the Metropolitan Washington Council of Governments' (MWCOC) Transportation Planning Board (TPB) 25-year long-range transportation plans, which meet Clean Air Act requirements confirming that the plan does not worsen the region's air quality or delay the attainment of federal air quality standards
- MTA is procuring eight new diesel locomotives and repowering six locomotives to support continued safe and reliable MARC operation and comply with EPA air quality emissions standards
- The EPA awarded a grant of \$750,000 for the Port of Baltimore's Dray Truck Replacement Program, extending the program through March 2016. The program allows for owners and operators of short-haul dray trucks to purchase newer, cleaner trucks that meet or exceed 2010 EPA emission certified engine standards. The \$750,000 grant is funded through the Diesel Emission Reduction Act and will help Baltimore replace at least 22 older dray trucks
- FHWA approved the use of \$200,000 in Congestion Mitigation and Air Quality (CMAQ) funds to help fund a \$440,000 Dray Truck Replacement Program at the Port of Baltimore

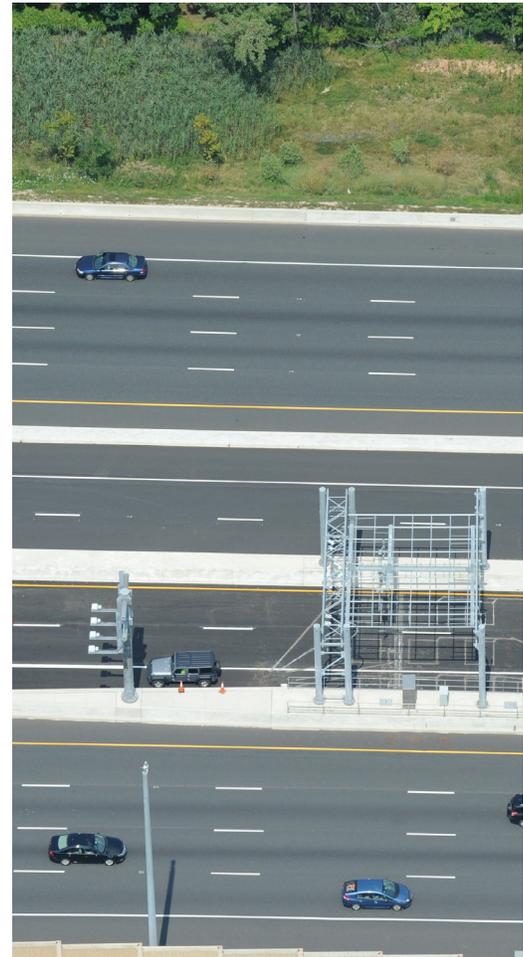
MDOT: Transportation-Related Greenhouse Gas Emissions

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



* The MDOT selected GHG emission reduction goal (25% below 2006 emissions by 2020) is consistent with the statewide target set in the 2009 Greenhouse Gas Reduction Act. For on-road transportation, the goal equals 23.5 mmt CO₂e in 2020.

** MMT stands for million metric tons, the standard unit of measurement for GHG emissions. Emissions calculated using EPA's MOVES2010b model.



Why Did Performance Change?

- MDOT responded to the 2009 Greenhouse Gas Reduction Act by setting a GHG reduction goal for the transportation sector of 25% below 2006 emissions by 2020. MDOT developed the MDOT Climate Action Plan in 2011, and contributed to the Maryland 2012 Greenhouse Gas Emissions Reduction Act Plan
- Additional funding made available through the Transportation Act is continuing to support progress in planning for and implementing programs and projects to improve accessibility and performance of alternative modes of transportation in both urban and non-urban locations throughout Maryland
- MDOT implemented emission-reduction strategies in nonattainment areas to foster alternative modes, including carpooling and transit, for commute trips
- In FY 2014, 50 40-foot hybrid diesel-electric buses were delivered to MTA and are now in revenue service
- Vehicle GHG emissions are continuing to decrease nationwide due to improved vehicle technologies, and growing consumer preference and improved price competitiveness for more fuel efficient vehicles including hybrid and electric vehicles. This decrease is occurring despite evidence that VMT growth is beginning to rebound from recent years of decreasing or stagnant VMT trends
- GHG emissions from cargo handling equipment at the Port of Baltimore has decreased 26% from 2006 to 2012

What Are Future Performance Strategies?

- MDOT is currently undertaking an update of the MDOT Climate Action Plan. The plan will estimate emission reductions associated with implementation of the FY 2015–FY 2020 CTP
- MDOT modal agencies have implemented strategies to reduce on-road and off-road energy usage, as well as ozone and GHG-related emissions, and are continuing to do so
- Continue to develop processes to include climate change mitigation and adaptation considerations into project selection, design, maintenance, operations, construction and emergency response
- SHA is using the FHWA Infrastructure Carbon Estimator Tool to estimate life cycle energy and GHG emissions; use of this tool will make data comparable among other state DOTs
- SHA completed the Climate Change Adaption Plan with Detailed Vulnerability Assessment (Pilot Study) in Anne Arundel and Somerset counties. Study aid in assessing the vulnerability of SHA's transportation infrastructure and identify adaptation measures for asset management
- Encourage growth in transit ridership through ongoing system enhancements, service expansion and outreach combined with continued support and implementation of TOD projects
- Continue MTA's green bus fleet service expansion with purchases of hybrid diesel-electric buses to replace buses in service for 12 or more years
- MDOT will continue to work with multiple State agencies and private partners to implement recommendations of the EVIC. Many of EVICs recommendations will be pursued within the context of an overarching goal of widespread EV adoption and are intended to provide sufficient support to reach an ambitious goal of 60,000 plug-in electric vehicles (PEVs) on the road in Maryland by 2020, or 2.3% of the State's passenger vehicle fleet
- MDTA is evaluating converting parking lot and other High Intensity Discharge (HID) light fixtures with LED fixtures, and is investing in solar panel light fixtures for warning signs located at ramp entrances
- MDTA is planning to convert two toll plazas, the Hatem Bridge (US 40) and the Francis Scott Key Bridge (I-695), to All Electronic Tolling (AET) to enhance the free flow of traffic through the toll plaza areas within the next six years
- MVA has taken an aggressive approach to reducing energy, fuel and water consumption while simultaneously reducing MVA's carbon footprint by utilizing various new technologies at MVA's full-service and express branch locations