

## TANGIBLE RESULT #9

# Be a Good Steward of Our Environment



MDOT will be accountable to our customers for the wise use of limited resources and our impacts on the environment when designing, building, operating and maintaining a transportation system.

### RESULT DRIVER:

Dorothy Morrison

*The Secretary's Office (TSO)*

# Be a Good Steward of Our Environment

## TANGIBLE RESULT DRIVER:

Dorothy Morrison  
*The Secretary's Office (TSO)*

## PERFORMANCE MEASURE DRIVER:

Sonal Sanghavi  
*State Highway Administration (SHA)*

## PURPOSE OF MEASURE:

To evaluate how well MDOT is achieving compliance with impervious surface restoration as required by the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer system (MS4) permit

## FREQUENCY:

Annually (FY)

## DATA COLLECTION METHODOLOGY:

MDOT is tracking all Bay Restoration projects and impervious surface treatment associated with those projects to determine overall progress toward the 20% goal during their five-year permit term

## NATIONAL BENCHMARK:

N/A

## PERFORMANCE MEASURE 9.1

### Water Quality Treatment to Protect & Restore the Chesapeake Bay

The health of Chesapeake Bay is tied to Maryland's environmental and economic interests. The fastest growing source of Bay pollution is stormwater runoff, intensified by impervious surfaces like pavement, roads, rooftops and parking lots. Prior to the 1980s, the majority of infrastructure development in Maryland was built without stormwater controls. Under the federal and state mandated stormwater permit, acreage equivalent to 20% of MDOT's impervious surface that has not been previously treated by stormwater management controls will be treated through a variety of restoration efforts. MDOT will track incremental progress towards the 20% goal to be achieved within the five-year permit term.

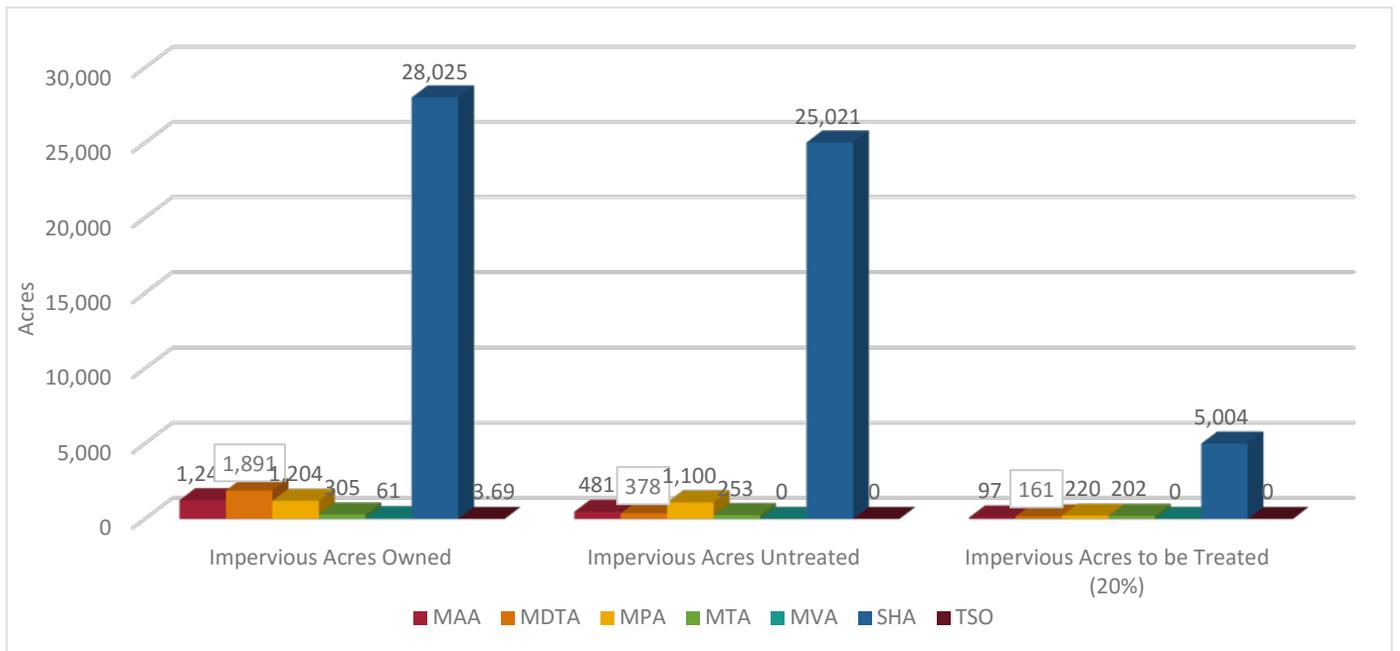


# Be a Good Steward of Our Environment

## PERFORMANCE MEASURE 9.1

### Water Quality Treatment to Protect & Restore the Chesapeake Bay

Impervious Surfaces Owned and to Be Restored



# Be a Good Steward of Our Environment

## TANGIBLE RESULT DRIVER:

Dorothy Morrison  
*The Secretary's Office (TSO)*

## PERFORMANCE MEASURE DRIVER:

Paul Truntich Jr.  
*Maryland Transportation Authority (MDTA)*

## PURPOSE OF MEASURE:

To track overall fuel economy of fleet vehicles. Fuel economy data will be used to evaluate driving patterns as well as when the procurement of new fleet vehicles is considered.

## FREQUENCY:

Semi-Annually

## DATA COLLECTION METHODOLOGY:

Fleet MPG data will be obtained from the State of Maryland's fuel service vendor.

## NATIONAL BENCHMARK:

N/A

## PERFORMANCE MEASURE 9.2A

### Fuel Efficiency: Miles Per Gallon

Currently, there is no uniform approach to evaluating miles per gallon (MPG) of MDOT fleet vehicles. Mansfield Oil Company (statewide fueling vendor) has been contacted regarding developing a means of tracking this data. While reducing fuel consumption through improved fleet fuel economy is a benefit to tracking this data (cost savings and resource conservation), it does not come without limitations. Incorrect vehicle mileage entry at the time of vehicle refueling will skew all resulting MPG data for the vehicle in question. Additionally, police vehicles, snow fighting equipment, courtesy patrol vehicles and maintenance of traffic equipment, depending on their situation, can spend significant amounts of time idling which also taints MPG data. Finally, traditional heavy equipment does not always refuel at a dispenser, but are refueled by intermediate methods, so in these instances Mansfield Oil would have no means of tracking and recording MPG.



# Be a Good Steward of Our Environment

**TANGIBLE RESULT DRIVER:**

Dorothy Morrison  
The Secretary's Office (TSO)

**PERFORMANCE MEASURE DRIVER:**

Paul Truntich Jr.  
Maryland Transportation Authority (MDTA)

**PURPOSE OF MEASURE:**

To track overall fuel consumption of fleet vehicles as well as fixed-equipment. Consumption patterns will be evaluated for improving fuel efficiency and shifting towards use of renewable fuels.

**FREQUENCY:**

Semi-Annually

**DATA COLLECTION METHODOLOGY:**

Fleet vehicle data will be obtained from the State of Maryland's fuel service vendor. Fixed-equipment data will be supplied from Fleet and Facility Managers at the TBUs.

**NATIONAL BENCHMARK:**

N/A

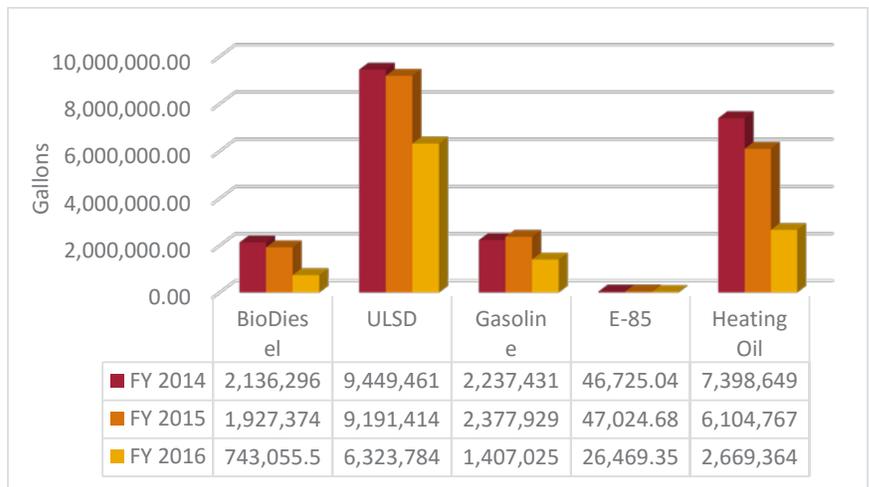
**PERFORMANCE MEASURE 9.2B**

**Fuel Efficiency: Total Gallons Consumed**

Fuel consumption within MDOT occurs through a variety of differing entities. The light-duty and heavy-duty fleet vehicles are the more traditional fuel consumers. However, significant quantities of fuel are also being consumed via transit buses and commuter trains, service boats, cargo cranes, emergency generators and facility boilers. Analyzing fuel consumption patterns enables Fleet and Facility Managers to budget more effectively. Additionally, identifying opportunities for reducing fuel consumption not only benefits the environment via resource conservation and reduced emissions, but also results in true cost-savings through reduced fuel costs.

*Note: FY 2016 data includes only first 6 months of fiscal year*

**MDOT Fuel Usage**



# Be a Good Steward of Our Environment

## TANGIBLE RESULT DRIVER:

Dorothy Morrison  
*The Secretary's Office (TSO)*

## PERFORMANCE MEASURE DRIVER:

Hargurpreet Singh, P.E.  
*Motor Vehicle Administration (MVA)*

## PURPOSE OF MEASURE:

To track the percentage of waste diverted from the landfill or incineration through recycling

## FREQUENCY:

Annual (CY)

## DATA COLLECTION METHODOLOGY:

Maryland Department of the Environment All State Agency Recycling (All StAR) reporting

## NATIONAL BENCHMARK:

Virginia – 35% by 2010  
Washington DC – 45%  
Florida – 75%  
California – 75%

## PERFORMANCE MEASURE 9.3

### Percent of Maryland Recycling Act Materials Recycled

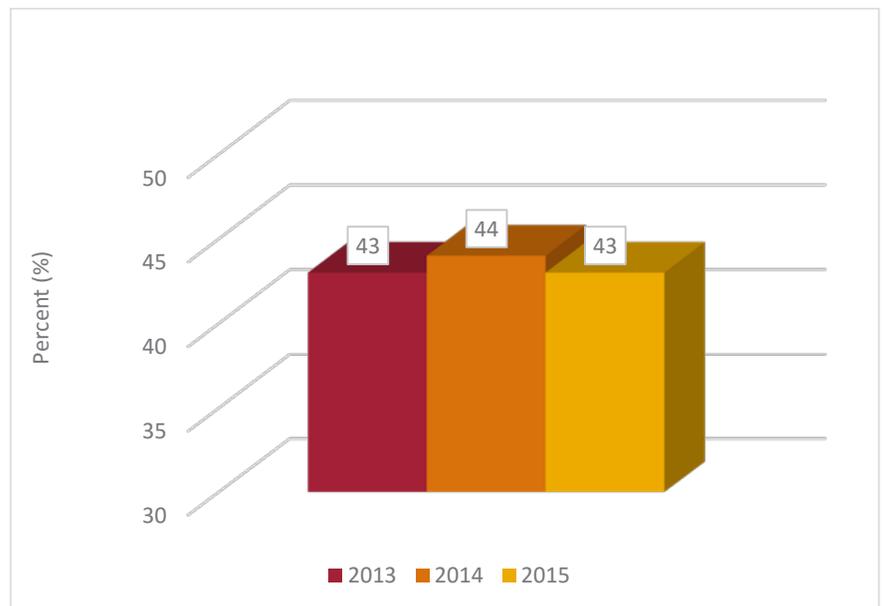
Effective 1988, Environment Article § 9-1706 (a) of the Annotated Code of Maryland states that “The Office of Recycling, in cooperation with the Department of General Services and other State agencies, shall develop a recycling plan that reduces by recycling the amount of the solid waste stream generated for disposal by the State government by at-least 20% but no less than 10%.”

Amended in 2009, Environment Article § 9-1706 (b) and (c) of the Annotated Code of Maryland state that “By July 1, 2010, the recycling plan shall include aluminum, glass, paper, and plastic generated for disposal by the State government.”

In 2012, House Bill 929: Environment Recycling Rates and Waste Diversion – Statewide Goals:

- 30% in 2014
- 40% in 2015

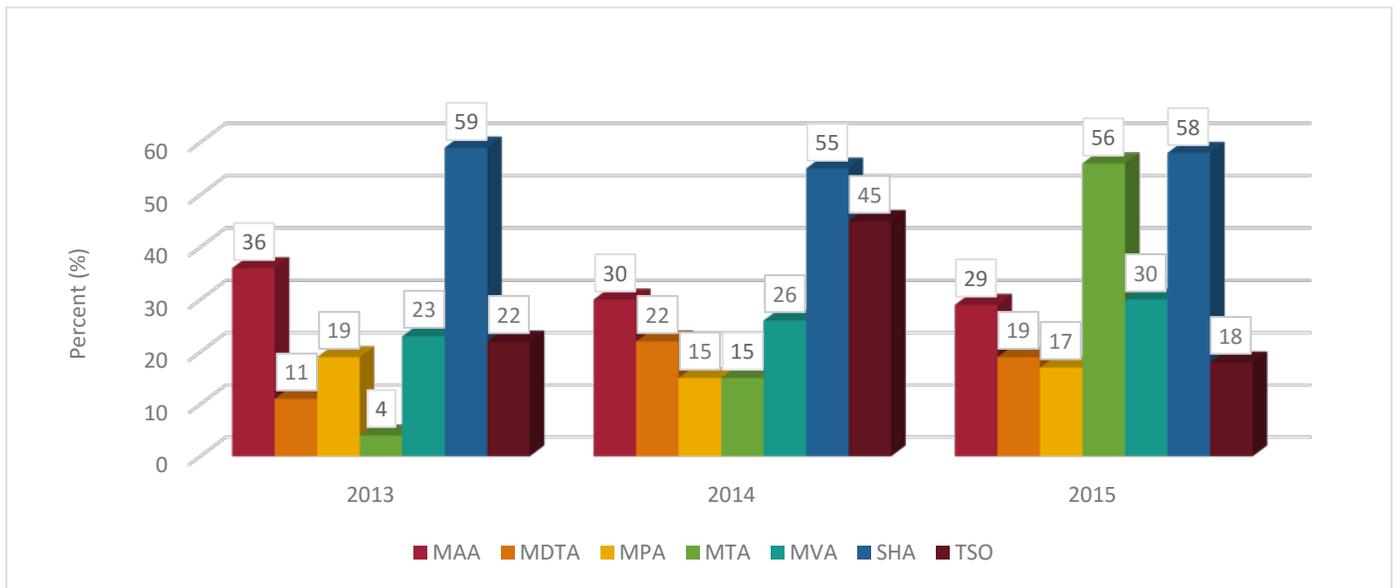
Percent of MDOT Waste Recycled



## PERFORMANCE MEASURE 9.3

### Percent of Maryland Recycling Act Materials Recycled

Percent Waste Recycled by Business Unit



# Be a Good Steward of Our Environment

## TANGIBLE RESULT DRIVER:

Dorothy Morrison  
*The Secretary's Office (TSO)*

## PERFORMANCE MEASURE DRIVER:

Barbara McMahon  
*Maryland Port Administration (MPA)*

## PURPOSE OF MEASURE:

To reduce the Business Units' impact on solid waste landfill through recycling/reuse of steel, asphalt and concrete

## FREQUENCY:

Annually

## DATA COLLECTION METHODOLOGY:

The data collection methodology will include disposal weights (via bill of lading) by Business Unit's Facility Maintenance and Engineering Departments. The data are and/or should be reported on the annual Non-Maryland Recycling Act Report.

## NATIONAL BENCHMARK:

N/A

## PERFORMANCE MEASURE 9.4

### Recycled/Reused Materials from Maintenance Activities and Construction/Demolition Projects

MDOT is committed to reducing its impact on solid waste, non-hazardous landfills, potentially resulting in reduction of the number of waste disposal facilities in Maryland as stated in the Maryland Department of the Environment's "Zero Waste" Action Plan. If not already in place, the TBUs will establish policy and procedures to recycle and/or reuse their solid waste: steel, asphalt and concrete. These materials are generated during maintenance/repair activities and capital construction/demolition projects. In both instances of generation of these materials, the policy/procedure should require the TBUs to collect, weigh and recycle; this will generally result in a payment by a recycler to the TBU, in particular steel. The benefits of recycling/reusing these materials include saving energy and natural resources, preserving the capacity of landfills, reducing waste disposal costs, generating revenue for materials and reducing pollutants generated by landfill process.

There are several possible barriers to success, including the following:

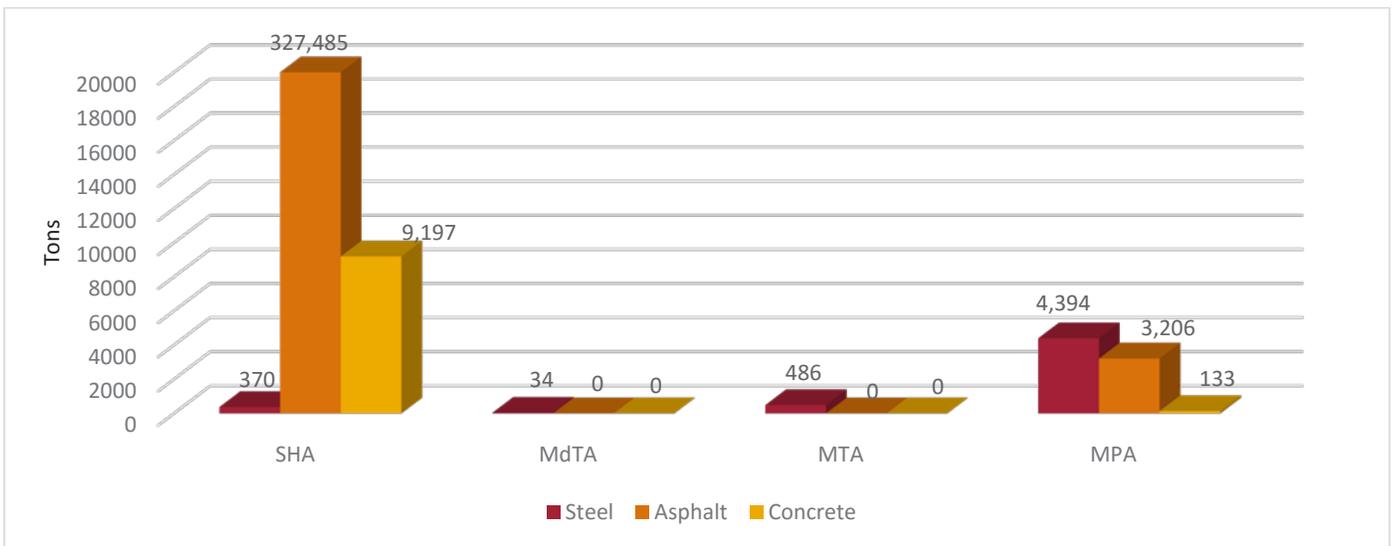
- Recognizing that there will be variability among reporting periods and TBUs. Some may have more maintenance and construction/demolition activities than others.
- Establish data collection mechanisms in each TBU.
- Developing contractual language that requires contractors to segregate, collect, weigh and recycle these materials.
- Ensuring commitment to this goal and its positive impact on the environment, including training employees and contractors.

## PERFORMANCE MEASURE 9.4

### Recycled/Reused Materials from Maintenance Activities and Construction/Demolition Projects

#### 2015 Recycling Data (Steel, Asphalt & Concrete)

Data Reported as of March 16, 2016



# Be a Good Steward of Our Environment

## TANGIBLE RESULT DRIVER:

Dorothy Morrison  
*The Secretary's Office (TSO)*

## PERFORMANCE MEASURE DRIVER:

Robin Bowie  
*Maryland Aviation Administration (MAA)*

## PURPOSE OF MEASURE:

To provide consistent monitoring of TBU compliance with environmental requirements

## FREQUENCY:

Annually

## DATA COLLECTION METHODOLOGY:

Enterprise Environmental Information Management System

## NATIONAL BENCHMARK:

International Organization for Standardization (ISO) 14001

## PERFORMANCE MEASURE 9.5

### Compliance with Environmental Requirements

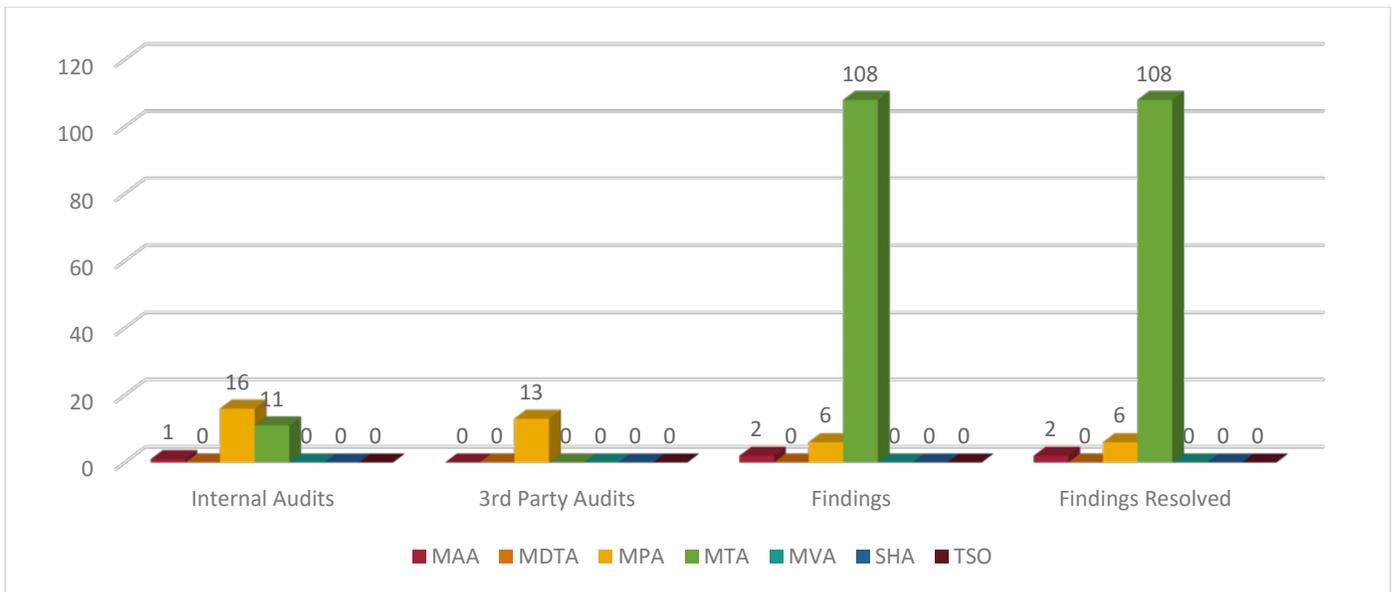
MDOT activities and operations are subject to various federal, state and local environmental regulations. Adherence to the environmental requirements minimizes the potential for activities and operations of transportation facilities to adversely impact the environment and the surrounding communities. Tracking audits and audit results is an effective mechanism for monitoring compliance with environmental requirements. Compliance with the environmental requirements that govern MDOT activities and operations is key to being a good steward of the environment.

MDOT participated in third party audits as part of an agreement with EPA Region 3. As noted in the data below, the frequency of audits conducted since the EPA third party audits has varied for each TBU. This initial round of information collection and review also revealed a difference in the type (internal vs. external) of audits that have been conducted by each TBU. Several TBUs are in the process of formalizing audit processes and/or procuring audit contracts. On an annual basis, MDOT will share audit results.

## PERFORMANCE MEASURE 9.5

### Compliance with Environmental Requirements

Completed Compliance Audits & Results



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## TANGIBLE RESULT DRIVER:

Dorothy Morrison  
*The Secretary's Office (TSO)*

## PERFORMANCE MEASURE DRIVER:

Robert Frazier  
*Maryland Transit Administration (MTA)*

## PURPOSE OF MEASURE:

Meeting environmental permit requirements (air quality and stormwater Industrial Discharge permits 12-SW) enhances the positive environmental impacts on land and water acreages of MDOT's communities and neighborhoods

## FREQUENCY:

Quarterly

## DATA COLLECTION METHODOLOGY:

Quarterly Visual Monitoring

## NATIONAL BENCHMARK:

N/A

## PERFORMANCE MEASURE 9.6

### Environmental Impacts and Community Enhancements

The presence of MDOT facilities in communities throughout Maryland has an impact on the environment. MDOT industrial facilities operating under a 12-SW stormwater discharge permit perform quarterly visual monitoring of stormwater quality leaving those properties. Eight parameters are viewed and recorded per quarter per facility outfall. Excursions from the parameters can impact the watersheds in which the permit is located. Data from the monitoring indicates facilities requiring improvements to best management practices such as increased lot sweeping and installation of bio-swales improving water quality. MDOT permitted air sources are operating in communities within permit parameters.

Air sources included paint booths, boilers, large generators and petroleum storage tanks. Data that is being gathered will be a baseline which will assist in determining the equipment age and operating efficiencies leading to potential improvements. These improvements will have a positive effect on the community.

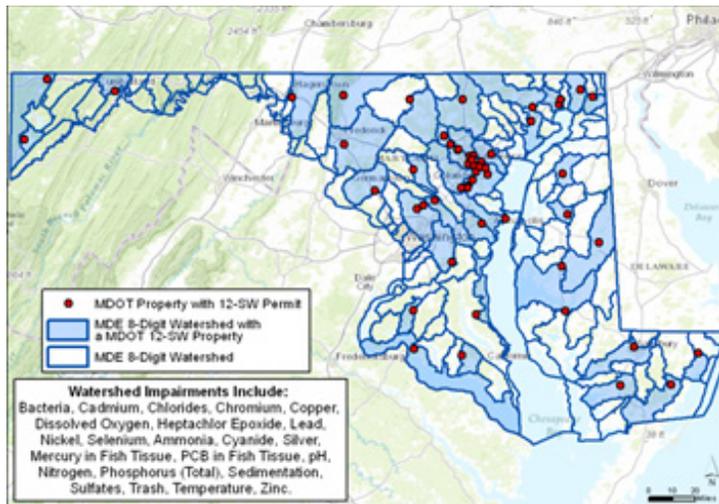


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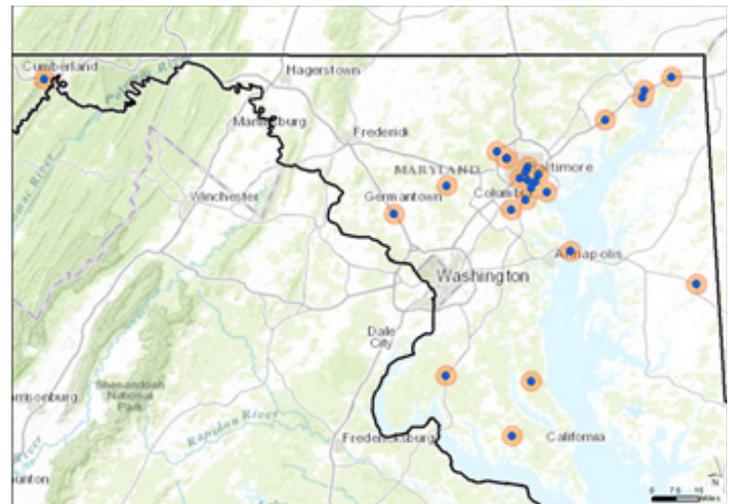
## PERFORMANCE MEASURE 9.6

### Environmental Impacts and Community Enhancements

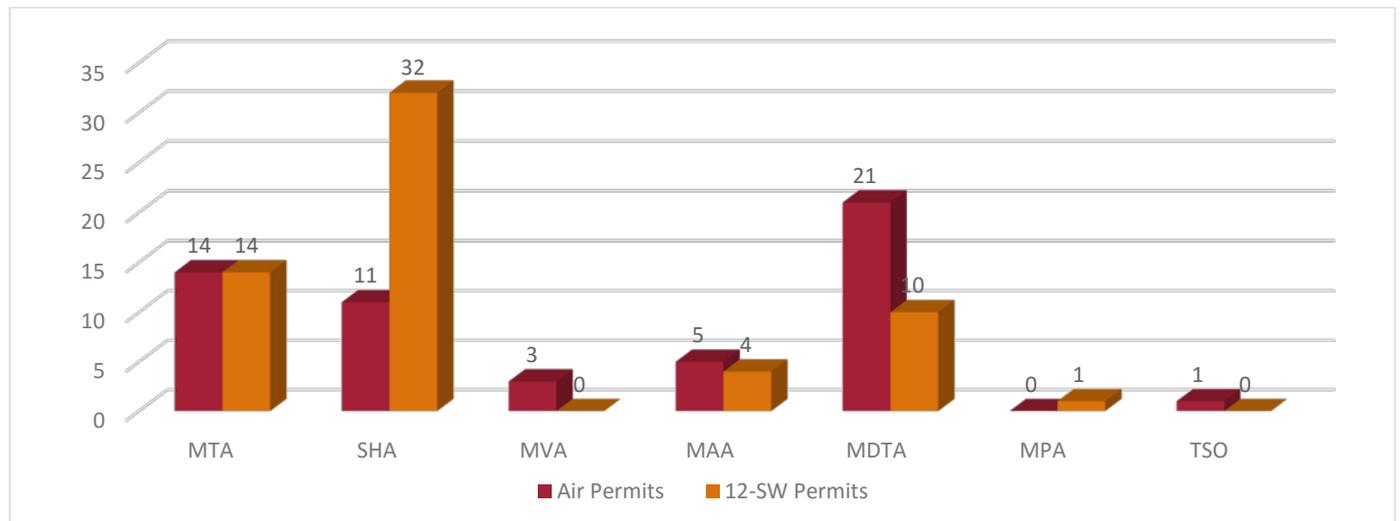
**MDOT 12-SW Stormwater Permits Impacting Watersheds**



**MDOT Air Permits with Potential Community Impact**



**SW Permits by Business Unit**



# Be a Good Steward of Our Environment

## PERFORMANCE MEASURE 9.6

### Environmental Impacts and Community Enhancements

Total Visual Monitoring Parameters Sampled vs. Visual Indicators of Pollution

