MDOT

MARYLAND DEPARTMENT OF TRANSPORTATION

eXCELLERATOR

Performance Management System

Quarterly Report
January 2018

MARYLAND DEPARTMENT OF TRANSPORTATION

"Our administration is committed to developing innovative solutions that deliver what Marylanders want – an affordable and reliable transportation system. By implementing a comprehensive program of accountability and continual improvements, we will deliver a better transportation system for the citizens of Maryland."

"This is another step our administration is taking to Change Maryland for the Better!"

– **Larry Hogan**, *Governor*

The Maryland Department of Transportation and its
Transportation Business Units proudly present the official mission statement.

MARYLAND DEPARTMENT OF TRANSPORTATION

MISSION STATEMENT

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

My Fellow Marylanders,

I am proud that the Maryland Department of Transportation Excellerator Performance Management System is in its third year. We have made great strides in developing and implementing performance measures, refining strategies and focusing on delivering results for our customers.

We have created more than 150 individual performance measures that touch every aspect of our business throughout the organization. Whether we are building and maintaining our roads and bridges, running safe and efficient bus and rail systems, operating an international port and airport or improving the vehicle and driver registration process for Marylanders, we stand strong in our commitment and responsibility to deliver the best transportation products and services for our customers.

Pete K. Rahn
Secretary

Every quarter we review our progress and share our results online for public inspection and within the organization through a live stream of our quarterly review meeting. This allows all 10,271 MDOT employees the opportunity to see the impact of the work they do each day and how they contribute to running a safe and secure transportation system.

Most importantly, we are delivering results. As we respond faster to customer inquiries, become increasingly efficient in using our resources wisely and provide a stronger foundation for economic development for the State, we will continue to deliver exceptional customer service and create more value for those who live and travel throughout Maryland.

I invite you to continue to review our MDOT Excellerator program as we continue down the path of constant progress towards outstanding results.

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Provide Exceptional Customer Service

Every MDOT employee is responsible for delivering exceptional customer service by providing customers with respectful, timely and knowledgeable responses to all inquiries and interactions.

RESULT DRIVER:

Leslie Dews
Motor Vehicle Administration (MVA)

MARYLAND DEPARTMENT OF TRANSPORTATION

TANGIBLE RESULT DRIVER:
Leslie Dews
Motor Vehicle Administration (MVA)

PERFORMANCE MEASURE DRIVER:
Sean Adgerson
Maryland Transit Administration (MTA)

PURPOSE OF MEASURE:
To track MDOT's progress towards its mission of providing exceptional customer service.

FREQUENCY:
Annually (in October)

DATA COLLECTION METHODOLOGY:
Data is collected through a standardized survey of randomly selected Marylanders.

NATIONAL BENCHMARK:
American Customer Service Index.

PERFORMANCE MEASURE 1.1
Percent of Overall Customer Satisfaction
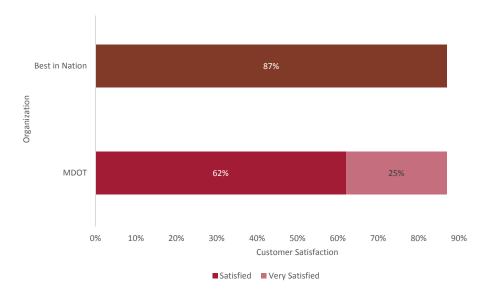
Marylanders expect that MDOT delivers exceptional services and products. Measuring our percent of overall customer satisfaction is the best way to determine how we are doing in our effort to deliver exceptional customer service. It also identifies areas of strength and areas of opportunities or weaknesses that we need to address.

From June 10-July 31, 2017, a survey was conducted by the Schaefer Center for Public Policy at the University of Baltimore for the purpose of gauging the satisfaction with and opinions of MDOT services across the State. Almost 900 Marylanders over the age of 18 participated in the telephone survey.

The results of the survey revealed that 87 percent of Marylanders are satisfied with the services received from MDOT. As compared to the American Customer Service Index (ACSI), MDOT's rating is equal to the highest ranked company of Chick-fil-a. This reflects MDOT's commitment to improving the products and services it offers.

In addition to the overall customer satisfaction results, we were able obtain more information on the MDOT services that matter the most to Marylanders. Services such as providing a safe highway system and clearing of roadways during snow storms are key to MDOT's customer satisfaction rating.

Chart 1.1.1: Overall MDOT Customer Satisfaction Rating CY2017

TANGIBLE RESULT DRIVER:
Leslie Dews
Motor Vehicle Administration (MVA)

PERFORMANCE MEASURE DRIVER:
Trey Hanna
Maryland Aviation Administration (MAA)

PURPOSE OF MEASURE:
To track responsiveness to customer inquiries.

FREQUENCY:
Quarterly (Data is Monthly)

DATA COLLECTION METHODOLOGY:
MDOT IQ system.

NATIONAL BENCHMARK:
30 days (MDOT established benchmark).

PERFORMANCE MEASURE 1.2A

Responsiveness to MDOT Customer Correspondence: Average Number of Days for Correspondence in the MDOT IQ System

Timely response to customer correspondence communicates the importance MDOT places on addressing customer needs and demonstrates the organization's commitment to exceptional customer service. Inquiries, service requests, ideas, and concerns conveyed in customer correspondence often identify opportunities to improve the overall customer experience and satisfaction with MDOT.

For the period of July 1, 2017 through September 30, 2017, MDOT crafted 740 responses to customer correspondence assigned by the Governor's Office. The average number of days for MDOT response was 28 days. The total volume of responses increased from the previous quarter by 173 letters and the average number of days for MDOT response increased by 14 days.

Several variables have a role in determining MDOT response time to customer correspondence. Factors such as legislative initiatives and other complexities can affect MDOT's ability to respond in a timely manner. These variables tend to lengthen response times.

MDOT continues to explore ways to improve responsiveness to customer correspondence. In June 2017, MDOT held its second mandatory training workshop with the Secretary and Governor's representative where updated guidelines and processes were presented. Additionally, MDOT continues to enhance management standards as well as improve coordination with the Governor's Office.

PERFORMANCE MEASURE 1.2A

Responsiveness to MDOT Customer Correspondence: Average Number of Days for Correspondence in the MDOT IQ System

Chart 1.2A.1: Average Number of Days to Respond to Correspondence in MDOT IQ System by TBU FY2017 - Q1 FY2018
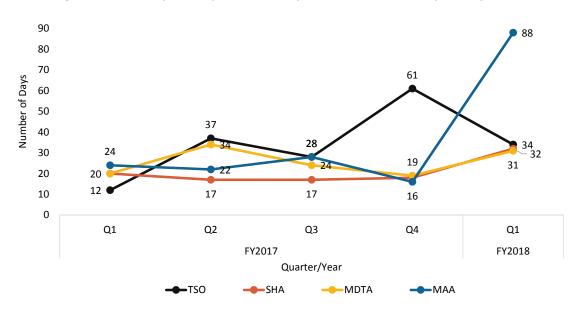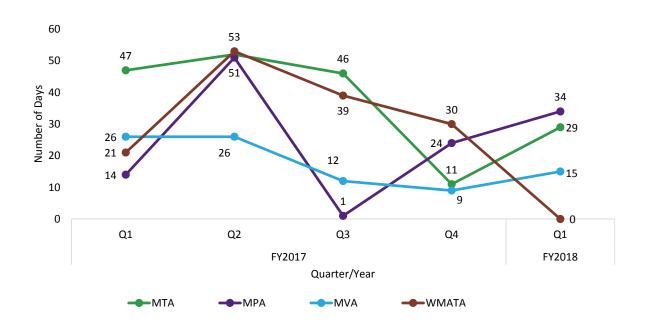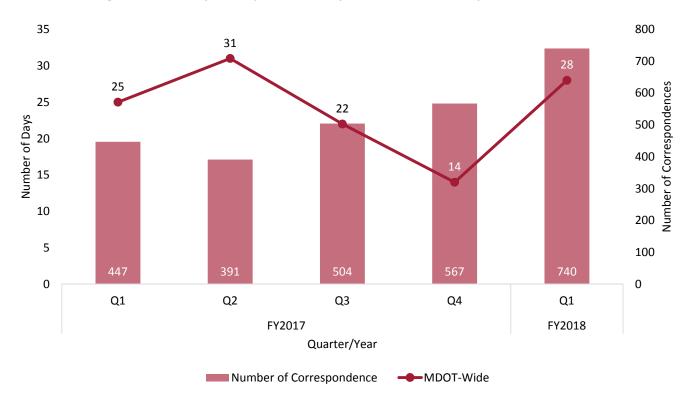

Chart 1.2A.2: Average Number of Days to Respond to Correspondence in MDOT IQ System by TBU FY2017 - Q1 FY2018

PERFORMANCE MEASURE 1.2A

Responsiveness to MDOT Customer Correspondence: Average Number of Days for Correspondence in the MDOT IQ System

Chart 1.2A.3: Average Number of Days to Respond to Correspondence in MDOT IQ System MDOTWide FY2017 - Q1 FY2018

TANGIBLE RESULT DRIVER:
Leslie Dews
Motor Vehicle Administration (MVA)

PERFORMANCE MEASURE DRIVER:
Richard Powers
Maryland Port Administration (MPA)

PURPOSE OF MEASURE:
To track the rate of the responsiveness to direct customer contact.

FREQUENCY:
Quarterly (Data is Monthly)

DATA COLLECTION METHODOLOGY:
Database Metrics Provided by TBUs.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 1.2B

Responsiveness to MDOT Customer Correspondence: Percent of Customer Contact Responded to within 24 hours (One Business Day)

MDOT customers interact directly with TBUs in many ways (e.g., phone, email, letters, social media, etc.) each with an accompanying set of expectations for response time. Regardless of the contact method, MDOT is committed to ensuring a rapid and accurate response to customer inquiries, requests and issues. As such, MDOT intends to respond to customers within one business day regardless of their method of communication.

The establishment of a standard of 24 hours/one business day for response to all customer contact and achieving that goal demonstrates to customers the organization's commitment to exceptional customer service and ultimately ensure a workforce that is highly proficient in and knowledgeable about our business and truly focused on the needs of our customers.

The realization of this standard, while challenging given that TBUs currently use different systems for collection and reporting and have varying standards for response to customer contact, will truly set the organization on a sustainable path of exceptional customer service.

MDOT continues to work on both short term and long-term solutions to develop a comprehensive approach for managing customer contact across all TBUs. Ultimately this solution will ensure that the organization provides consistent, exceptional service to our customers in a manner that is responsive and timely. This work entails analysis of existing systems, policies and procedures and other barriers to the achievement of this measure. Based on the outcome of this analysis, MDOT will have reportable data regarding our performance in responding to customer contact.

TANGIBLE RESULT DRIVER:
Leslie Dews
Motor Vehicle Administration (MVA)

PERFORMANCE MEASURE DRIVER:
Darol Smith
Maryland Transportation Authority (MDTA)

PURPOSE OF MEASURE:
To identify the percentage of customers not connecting or speaking with call centers resulting from not receiving goods or services from MDOT.

FREQUENCY:
Quarterly

DATA COLLECTION METHODOLOGY:
Database metrics provided by TBUs. Calculated formula abandoned calls divided by total inbound calls in percent.

NATIONAL BENCHMARK:
Seven percent average sampled industry leader (no national industry standard available).

PERFORMANCE MEASURE 1.3A

Customer Satisfaction with Receiving Goods and Services: Percent of Abandoned Calls at Call Centers

Reducing the rate of abandoned calls to MDOT call centers will ensure that more customers reach MDOT to address their needs. The longer the time customers must wait before being connected to a call center agent, the higher the abandon rate. The inability of customers to connect with MDOT representatives negatively impacts their level of satisfaction with the goods and services received from the organization.

As shown in Chart 1.3A.1, the abandonment rate for the period Jul 1– Sept 30, 2017 was 5 percent. MDOT continues to maintain a positive trend in the call abandonment rate. Current performance rate at 5 percent is lower than the benchmark of 7 percent. Moreover, in comparison to previous years, MDOT maintains a trend in Q3 of CY 2017 with a 5 percent abandonment rate compared to 13 percent during the same period in CY2016, 16 percent in CY2015 and 10 percent in CY2014.

Targeted process improvements and other changes are influencing the positive results at individual TBU call center operations. Changes implemented to enhance the performance of MDOT call center operations include:

• Conducting biweekly meetings with call center representatives across MDOT TBUs to share operational and customer service best practices and call center needs;

• Augmenting staffing resources to address customer demand;

• Implementing call triage process to reduce call wait times;

• Revamping IVRs so that customers can reach agents or conduct phone transactions more rapidly; and

• Expanded hours.

PERFORMANCE MEASURE 1.3A

Customer Satisfaction with Receiving Goods and Services: Percent of Abandoned Calls at Call Centers

Chart 1.3A.1: Percent Abandoned Calls at MDOT Call Centers CY2014-CY2017
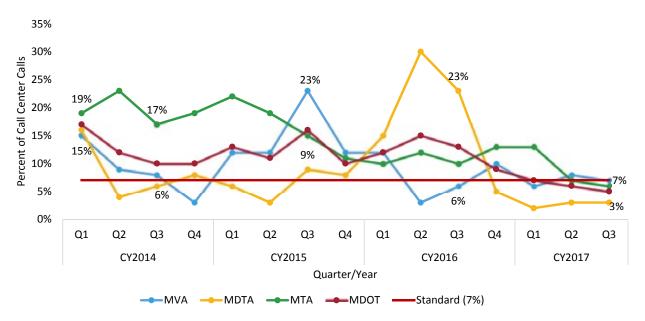
Chart 1.3A.2: MDOT Percent of Abandoned Calls at Call Centers vs. Call Center Volume CY2014-2017

PURPOSE OF MEASURE:
To collect and evaluate the time it takes the average customer to wait before speaking with the call center to answer phone inquiries.

FREQUENCY:
Quarterly

DATA COLLECTION METHODOLOGY:
Database metrics provided by TBUs. Average amount of time caller waits.

NATIONAL BENCHMARK:
60 seconds average sampled industry leaders (no national industry standards available).

PERFORMANCE MEASURE 1.3B

Customer Satisfaction with Receiving Goods and Services: Average Call Wait Times at Call Centers

Providing consistent and responsive service to our customers is a top priority for the organization. Reducing the time it takes for customers to reach MDOT call center representatives ensures customer needs are addressed more rapidly and increases their satisfaction with the support and overall customer service provided by MDOT. It can also identify areas of opportunity for improvement in call center operations.

For the period Jul 1 – Sep 30 2017, Chart 1.3B.1 shows that the average call wait time was 1:18, compared to 1:34 in the previous quarter. The current performance level remains higher than the benchmark of 60 seconds, however, MDOT collectively continues a positive performance trend in this critical measure of customer service. In comparing the 1:18 call wait time for Q3 of CY2017 to 4:02 during the same period in CY2014, 2:11 in CY2015 and 4:12 in CY2016, MDOT has clearly demonstrated progress.

As previously mentioned, targeted process improvements such as collaboration across TBU call centers, staff augmentation, adoption of best practices and other operational and technology changes are influencing the positive direction for MDOT call center operations.

PERFORMANCE MEASURE 1.3B

Customer Satisfaction with Receiving Goods and Services: Percent of Abandoned Calls at Call Centers

**Chart 1.3B.1: Average Call Wait Times at MDOT Call Centers CY2014-CY2017**
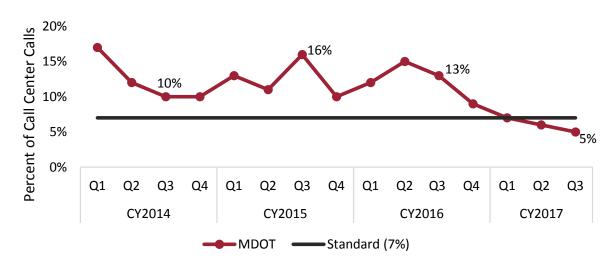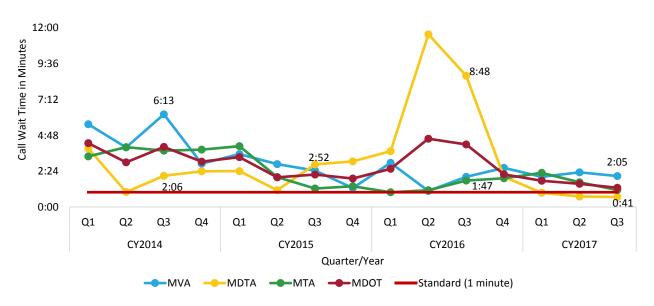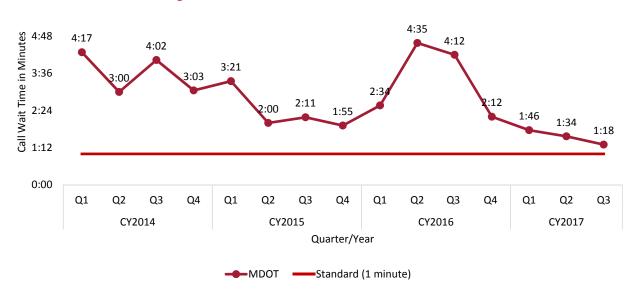

Chart 1.3B.2: Average Call Wait Times at MDOT Call Centers MDOT-Wide CY2014-CY2017

TANGIBLE RESULT DRIVER:
Leslie Dews
Motor Vehicle Administration (MVA)

PERFORMANCE MEASURE DRIVER:
Darol Smith
Maryland Transportation Authority (MDTA)

PURPOSE OF MEASURE:
To assess customer satisfaction with call centers in resolving call inquiries.

FREQUENCY:
Quarterly

DATA COLLECTION METHODOLOGY:
Phone survey of call center customers.

NATIONAL BENCHMARK:
82 percent average sampled industry leaders (no national industry standard available).

PERFORMANCE MEASURE 1.3C
Customer Satisfaction with Receiving Goods and Services: Level of Satisfaction with Resolving Call Inquiries at Call Centers

The level of satisfaction with resolving call inquiries is an indicator of whether MDOT is meeting customers' expectations. MVA is currently the only call center that has a data collection mechanism in place for this performance measure.
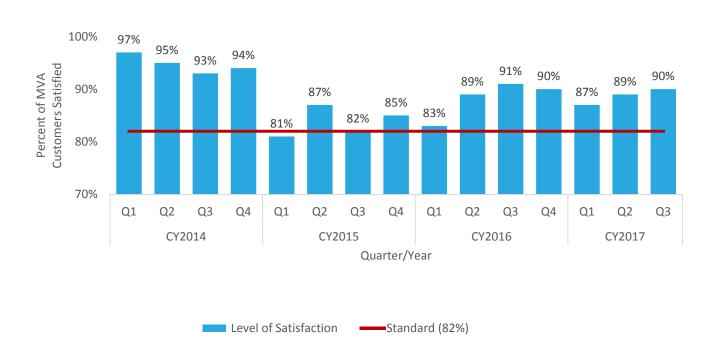
As shown in Chart 1.3C.1, for the period Jul 1 – Sep 30, 2017, MVA achieved 90 percent average level of satisfaction with resolving call inquiries which is favorable to the benchmark of 82 percent. This data continues to illustrate a trend back to prior TBU achievement levels that are better than the benchmark in place today.

As mentioned previously, focus on process improvement and other changes are influencing the positive results at MDOT call centers. We continue to work on a mechanism to capture customer satisfaction for all TBU call centers. Changes to the MVA call center to enhance customer service and performance include consolidating call center operations, expanding hours and implementing a call triage process to reduce call wait times.

PERFORMANCE MEASURE 1.3C

Customer Satisfaction with Receiving Goods and Services: Level of Satisfaction with Resolving Call Inquiries at Call Centers

Chart 1.3C.1: Level of Satisfaction with Resolving MVA Call Inquires CY2014-CY2017

TANGIBLE RESULT DRIVER:
Leslie Dews
Motor Vehicle Administration (MVA)

PERFORMANCE MEASURE DRIVER:
Sabrina Bass
The Secretary's Office (TSO)

PURPOSE OF MEASURE:
To better determine how satisfied MDOT customers are when interacting with MDOT representatives.

FREQUENCY:
Annually (in October)

DATA COLLECTION METHODOLOGY:
Data was collected through a survey conducted by the University of Baltimore utilizing a telephone survey.

NATIONAL BENCHMARK:
Best in Nation -87 percent.

PERFORMANCE MEASURE 1.4
Customer Satisfaction with Interactions with MDOT Representatives

Ensuring that every customer contacting MDOT has access to knowledgeable, professional and courteous MDOT representatives improves overall customer experience and builds trust in the organization and its products and services.
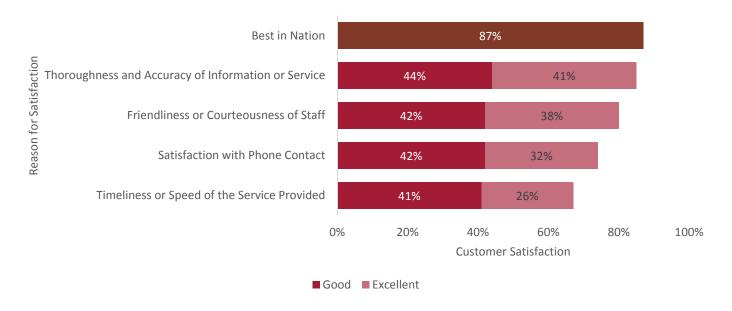
As reported, the Schaefer Center for Public Policy at the University of Baltimore conducted a survey to gauge the satisfaction with and opinions of MDOT services across the State. Chart 1.4.1 shows that 80 percent of respondents believed MDOT personnel provided friendly and courteous service, 85 percent rated the thoroughness and accuracy of information provided by MDOT representatives as good or excellent and 74 percent of respondents who contacted MDOT by phone were satisfied or very satisfied with their experience. The survey, however, revealed the need for improvement in the timeliness in our services with 67 percent of respondents rating the speed of service provided as good or excellent. Best in Nation benchmark is 87 percent.

MDOT continues to implement strategies to improve customer service. Each TBU has a customer service plan that includes mandatory customer service training for all employees, which aligns with the Governor's statewide customer service initiative. The results will be used to enhance training and improve customer service provided by MDOT representatives.

Provide Exceptional Customer Service

PERFORMANCE MEASURE 1.4

Customer Satisfaction with Interactions with MDOT Representatives

Chart 1.4.1: Customer Satisfaction with MDOT Representatives CY2017

Reason for Satisfaction (y-axis) vs Customer Satisfaction (x-axis)

Reason for Satisfaction	Good	Excellent
Best in Nation	87%	
Thoroughness and Accuracy of Information or Service	44%	41%
Friendliness or Courteousness of Staff	42%	38%
Satisfaction with Phone Contact	42%	32%
Timeliness or Speed of the Service Provided	41%	26%

Provide Exceptional Customer Service

TANGIBLE RESULT DRIVER:
Leslie Dews
Motor Vehicle Administration (MVA)

PERFORMANCE MEASURE DRIVER:
Lindsey Franey
State Highway Administration (SHA)

PURPOSE OF MEASURE:
To show how satisfied MDOT customers are when interacting with the website and usefulness of the information.

FREQUENCY:
Annually (in April)

DATA COLLECTION METHODOLOGY:
On-line Survey

NATIONAL BENCHMARK:
ACSI e business report average of highest annual scores for social media, portal/ search engine and news/ opinion websites.

PERFORMANCE MEASURE 1.5A
Percent of Customers Who Felt MDOT Websites Met Their Needs

Customers expect 21st century interactions with MDOT. Improving the quality of MDOT websites ensures customers have access to information, can request services and process transactions at their convenience. This further enhances the level of customer service provided by the organization.
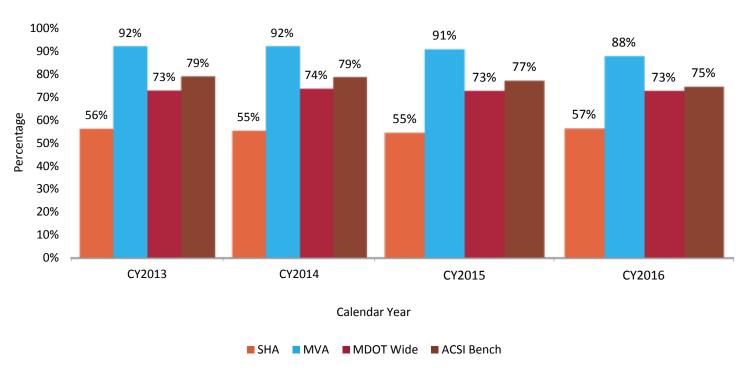
For 2016, Chart 1.5A.1 shows that 56.5 percent of SHA customers found SHA's website to be helpful while 88 percent of eMVA customers would recommend MVA's website. The ACSI benchmark for 2016 was 74.67 percent favorability.

To ensure continuous improvement with customer satisfaction with MDOT websites, an online survey which better mirrors the ACSI benchmarks has been developed and is now live on all TBU homepages. Information derived from the surveys will allow the identification of opportunities for improvement for all MDOT websites to better meet the needs of customers.

PERFORMANCE MEASURE 1.5A

Percent of Customers Who Felt MDOT Websites Met Their Needs

Chart 1.5A.1: Percent of Customers Who Felt MDOT Websites Met Their Needs CY2013-CY2016

TANGIBLE RESULT DRIVER:
Leslie Dews
Motor Vehicle Administration (MVA)

PERFORMANCE MEASURE DRIVER:
Lindsey Franey
State Highway Administration (SHA)

PURPOSE OF MEASURE:
To show how satisfied MDOT customers are when interacting with the website and usefulness of the information.

FREQUENCY:
Annually (in April)

DATA COLLECTION METHODOLOGY:
On-line Survey

NATIONAL BENCHMARK:
ACSI e business report average of highest annual scores for social media, portal/search engine and news/opinion websites with specifics on ease of use, ease of navigation and site performance.

PERFORMANCE MEASURE 1.5B
Percent of Customers Who Felt that it was Easy to Find Desired Information on MDOT Websites

MDOT's considerable online presence enables customers to report and obtain information on our goods and services as well as process transactions. The quality of our websites is a key component in providing exceptional customer service. To improve customer satisfaction, websites must be structured, and information presented, in a way to ensure the ease of navigation for customers to find what they want quickly.

Existing survey results for 2016 indicated that 56.5 percent of SHA customers found SHA's website to be helpful while 88 percent of eMVA customers would recommend MVA's website. The ACSI benchmark for 2016 was 77 percent favorability.

In 2016 not all TBUs were capturing data to determine if customers felt that their attempts to find desired information on MDOT websites was effortless. All TBUs now have links to take a survey which went live in mid-February 2017 that better tracks the ACSI benchmarks. Data derived from the surveys will be used to identify improvements in MDOT websites to enhance ability of customers to find information on the website.

PERFORMANCE MEASURE 1.5B

Percent of Customers Who Felt that it was Easy to Find Desired Information on MDOT Websites

Chart 1.5B.1: Percent of Customers Who Felt that it was Easy to Find Desired Information on MDOT Websites CY2013-CY2016

Calendar Year

■ SHA ■ MVA ■ MDOT Wide ■ ACSI Bench

Use Resources Wisely

MDOT receives resources from our customers and they expect products and services in return. To better serve our customers, MDOT must maximize the value of every dollar we spend.

RESULT DRIVER:

Corey Stottlemyer
The Secretary's Office (TSO)

TANGIBLE RESULT DRIVER:
Corey Stottlemyer
The Secretary's Office (TSO)

PERFORMANCE MEASURE DRIVER:
Laurie Brown
Maryland Transit Administration (MTA)

PURPOSE OF MEASURE:
To track the efficiency of capital spending.

FREQUENCY:
Quarterly

DATA COLLECTION METHODOLOGY:
Track capital project spending versus the Consolidated Transportation Plan programmed funds.

NATIONAL BENCHMARK:
N/A
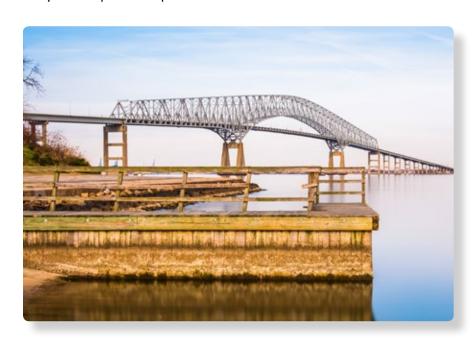
PERFORMANCE MEASURE 2.1
Percent Capital Dollars Spent as Programmed

"What we need to do is paint a vision for customers, promise them deliverables, and go hit at it." — Sanjay Kumar

The purpose of this measure is to show MDOT's customers that MDOT is delivering on the capital projects and funding programmed in the annual Consolidated Transportation Program (CTP). MDOT evaluates this measure by tracking capital funding expenditure rates and monitoring the reasons why expenditure levels are falling short or exceeding CTP programmed amounts.

At the close of FY2018 Q1, MDOT's capital program spending rate was at 20 percent of CTP forecasted funds expended, which is 2 percent higher than last year's 18 percent expenditure rate.

PERFORMANCE MEASURE 2.1
Percent Capital Dollars Spent as Programmed

Chart 2.1.1: 6-Year Expenditure Rate Analysis, Federal & State FY2013-FY2018

Legend: FY2013, FY2014, FY2015, FY2016, FY2017, FY2018

Quarter	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018
Q1	17%	15%	18%	13%	18%	20%
Q2	38%	39%	40%	35%	40%	
Q3	60%	59%	58%	51%	62%	
Q4	95%	93%	86%	83%	91%	
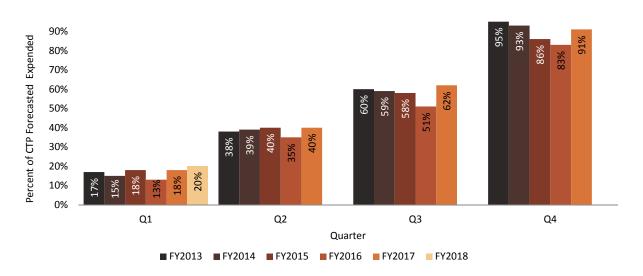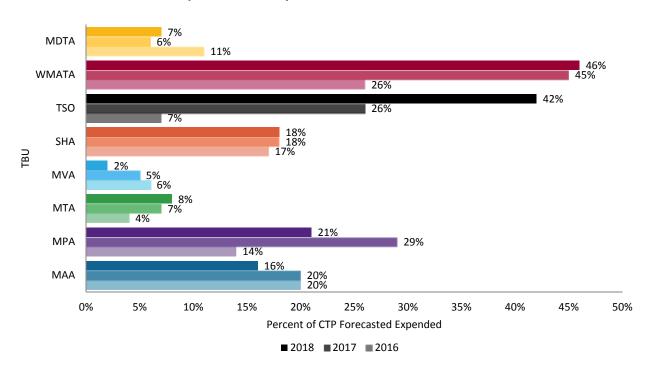
Chart 2.1.2: 3 Year Expenditure Rate By TBU at Q1 Mark, State/Federal/Toll FY2016-FY2018

TBU	2018	2017	2016
MDTA	7%	6%	11%
WMATA	46%	45%	26%
TSO	42%	26%	7%
SHA	18%	18%	17%
MVA	2%	5%	6%
MTA	8%	7%	4%
MPA	21%	29%	14%
MAA	16%	20%	20%

Legend: 2018, 2017, 2016

TANGIBLE RESULT DRIVER:
Corey Stottlemyer
The Secretary's Office (TSO)

PERFORMANCE MEASURE DRIVER:
Tony Moore
Maryland Port Administration (MPA)

PURPOSE OF MEASURE:
To track other sources of dollars utilized to fund capital projects as an indicator of MDOT's success at leveraging its finite resources.

FREQUENCY:
Annually (in April)

DATA COLLECTION METHODOLOGY:
This measure tracks county/local contributions, private contributions, and federal discretionary funding received each year towards projects.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 2.2
Percent of Projects Leveraging Other Funding Sources

"When we leverage, we aggregate and organize existing resources to achieve success." — Richie Norton

The purpose of this measure is to track and highlight successes at leveraging Transportation Trust Fund (TTF) dollars with federal, local, and private dollars.

MDOT leveraged $117M in other funding in FY2016. This represents roughly 5 percent of the total FY2017 capital program expended. Most of this funding was leveraged by SHA through private contributions, MTA through Purple Line enabling projects, as well as TSO through the award of discretionary funding for the Maglev project.

Of the $117M in other funding leveraged in FY2016, $51M was received from successfully competing for discretionary federal funding. Another $34M was leveraged from private contributions towards roadway improvements on SHA right-of-way. This is down from $74M in FY2015. In addition, there was another $32M in local/county contributions in the form of funding or enabling projects.

PERFORMANCE MEASURE 2.2

Percent of Projects Leveraging Other Funding Sources

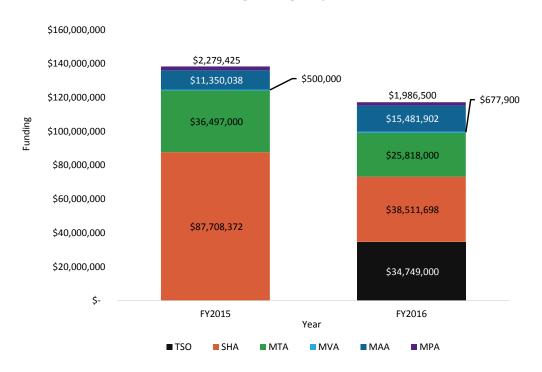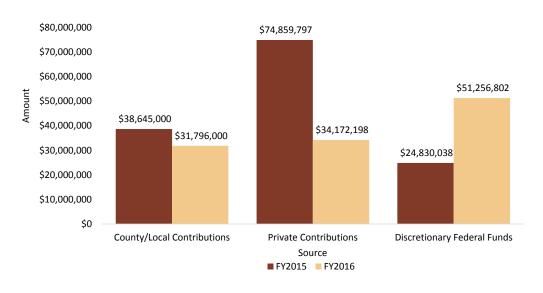### Chart 2.2.1: Other Funding Leveraged by TBU FY2015-FY2016

Chart 2.2.2: Amount of Other Funding Leveraged By Source FY2015-FY2016

TANGIBLE RESULT DRIVER:
Corey Stottlemyer
The Secretary's Office (TSO)

PERFORMANCE MEASURE DRIVER:
Ellery Loomis
Maryland Vehicle Administration (MVA)

PURPOSE OF MEASURE:
To track the commitment of our employees in furthering MDOT's reputation, mission and interests by identifying key motivators and obstacles in the workplace.

FREQUENCY:
Annually

DATA COLLECTION METHODOLOGY:
Develop and implement one MDOT employee feedback survey administered to all employees.

NATIONAL BENCHMARK:
*GALLUP 2015 national engagement percentages:

32 percent engaged employees

50.8 percent not engaged

17.2 percent actively disengaged

PERFORMANCE MEASURE 2.3
Employee Engagement

There are only three measurements that tell you nearly everything you need to know about your organization's overall performance: employee engagement, customer satisfaction, and cash flow." — Jack Welch

Engagement accounts for the emotional commitment an employee has for MDOT and the amount of discretionary effort the employee expends on behalf of MDOT. Engaged employees go beyond what they "have to do" to what they "want to do" for MDOT and its customers.

MDOT completed its first ever department-wide Employee Feedback Survey that eliminated redundant efforts and minimized expense by combining talent and resources, ensured a systematic and consistent approach to employee engagement across all TBUs, and accurately gauged the workforce climate to develop and prioritize new business strategies. The results of the survey were positive, but also pointed to areas of improvement on which to focus strategies.

PERFORMANCE MEASURE 2.3
Employee Engagement

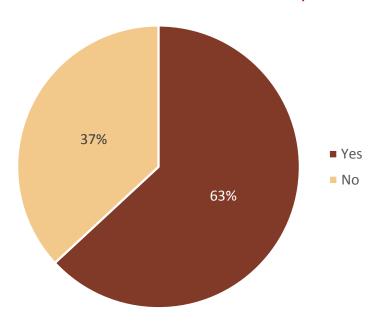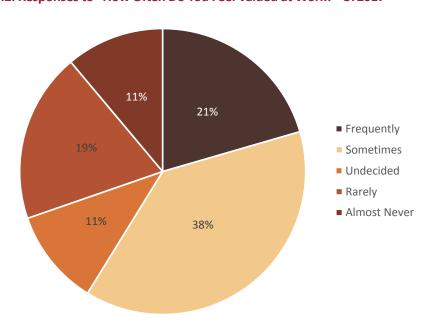**Chart 2.3.1: Responses to "Would You Consider MDOT to Have a Positive Workplace Environment?" CY2017**

- Yes: 63%
- No: 37%

Chart 2.3.2: Responses to "How Often Do You Feel Valued at Work?" CY2017

- Frequently: 21%
- Sometimes: 38%
- Undecided: 11%
- Rarely: 19%
- Almost Never: 11%

TANGIBLE RESULT DRIVER:
Corey Stottlemyer
The Secretary's Office (TSO)

PERFORMANCE MEASURE DRIVER:
Bret A. Dousharm
Maryland Transportation Authority (MDTA)

PURPOSE OF MEASURE:
To identify the percentage of employees who leave MDOT and analyze trends in voluntary and involuntary separations.

FREQUENCY:
Quarterly

DATA COLLECTION METHODOLOGY:
Quarterly reports of employee separations are provided by TSO HRIS Unit. These reports show the number of separations during a given period of time for each TBU broken down by all available separation codes (i.e. reasons).

NATIONAL BENCHMARK:
U.S. Department of Labor (DOL) Bureau of Labor Statistics for U.S. State and Local Governments.

PERFORMANCE MEASURE 2.4
Employee Turnover Rate

"Having to re-recruit, rehire, and retrain, and wait for a new employee to get up to speed is devastating in terms of cost." – Patrick Lencioni

Annual employee turnover rate is the ratio of total separations, both voluntary and involuntary, compared to the average number of employees during the given timeframe, expressed as a percentage. The Human Resource Information System (HRIS) Unit in the Human Resources Division of the TSO provided the total number of employees and total number of separations for each TBU on a quarterly basis. The national benchmark was determined by utilizing the U.S. Bureau of Labor Statistics' Job Opening and Labor Turnover Survey (JOLTS) data for U.S. state and local governments (excluding education, seasonally adjusted) total employee separations.

Chart 2.4.1 compares the turnover rate of each TBU for the 1st quarter (Q1) of FY2017 and FY2018. Chart 2.4.2 compares the MDOT total turnover rate to the national average for state and local governments. MDOT is one percent above the national average.

One notable element that continues to be important in analyzing MDOT turnover is the employee separations that occur within one year from the date of hire. The following chart illustrates the number of newly hired employees that have separated from MDOT in comparison to all other separations occurring in Q1 of FY2018. This data reflects that approximately 24.9 percent of all employee separations during this timeframe occurred within the first year of hire. This is a 5.9 percent increase from Q4 of FY2017.

Several action strategies are underway to address employee turnover concerns. MTA successfully identified and resolved a payroll system coding limitation that allows the appropriate reason for separation to be tracked for all MTA employees, including Transportation Service Human Resource System (TSHRS) and union employees. Properly identifying the reason these employees choose to leave MDOT is a crucial factor in developing successful business practices to retain a healthy workforce and lower turnover costs.

In addition, TSO collected exit interview procedures and materials from all TBUs and a review of these materials is underway to determine best practices and areas for improvement. TSO is also leading the effort of developing a MDOT employee separation policy to document and standardize necessary procedures.

PERFORMANCE MEASURE 2.4
Employee Turnover Rate

Chart 2.4.1: Employee Turnover Rate by TBU (Total Employees), Seasonal Comparison of Q1 FY2017 vs. Q1 FY2018
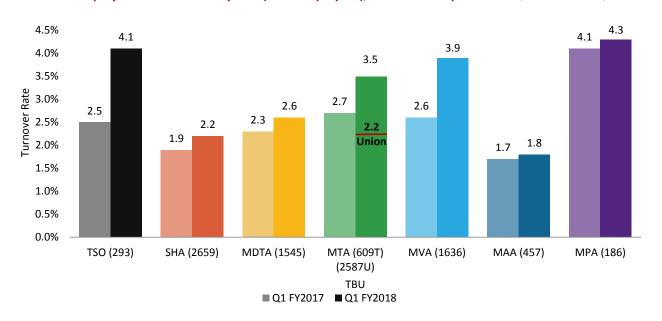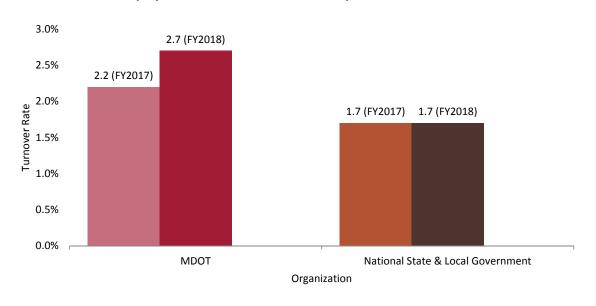
Chart 2.4.2: Employee Turnover Rate, Seasonal Comparison of Q1 FY2017 vs Q1 FY2018

PERFORMANCE MEASURE 2.4
Employee Turnover Rate

Chart 2.4.3: Employee Separations by TBU (Total Employees) Q1 FY2018

TBU	All other separations	Within 1 year of hire
TSO (293)	10	2
SHA (2659)	47	11
MDTA (1545)	30	10
MTA (609T)(2587U)	55	24
MVA (1636)	48	16
MAA (457)	7	1
MPA (186)	5	3

Number of Separations

■ All other separations ■ Within 1 year of hire
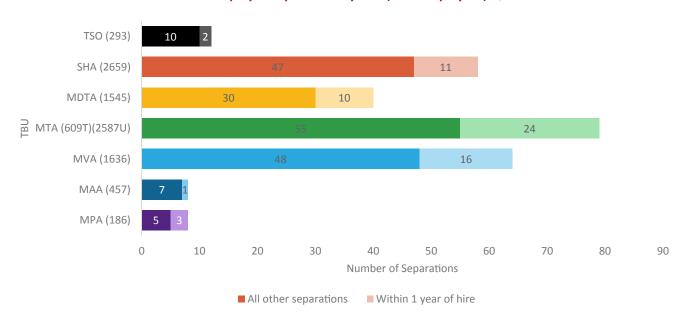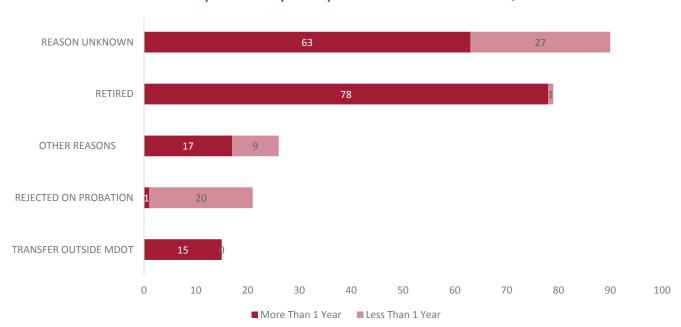
Chart 2.4.4: Top 5 Most Frequent Separation Reasons MDOT-Wide Q1 FY2018

Reason	More Than 1 Year	Less Than 1 Year
REASON UNKNOWN	63	27
RETIRED	78	1
OTHER REASONS	17	9
REJECTED ON PROBATION	1	20
TRANSFER OUTSIDE MDOT	15	0

■ More Than 1 Year ■ Less Than 1 Year

PURPOSE OF MEASURE:
To demonstrate efficient use of available positions and identify opportunities for improvement in our recruitment and selection processes.

FREQUENCY:
Quarterly

DATA COLLECTION METHODOLOGY:
Quarterly report for MDOT and each TBU from HRIS housed at TSO and spreadsheets completed by TBU Human Resource Offices.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 2.5
Time to Fill Vacancies

"You should take your time making new hires, I'll give you that -- but how much time do you really have? The people you're interviewing have lives." – Liz Ryan

Reducing the time it takes to fill our vacant positions will increase MDOT's staffing levels, improving the ability to deliver projects on time and rapidly address emergencies affecting the transportation system.
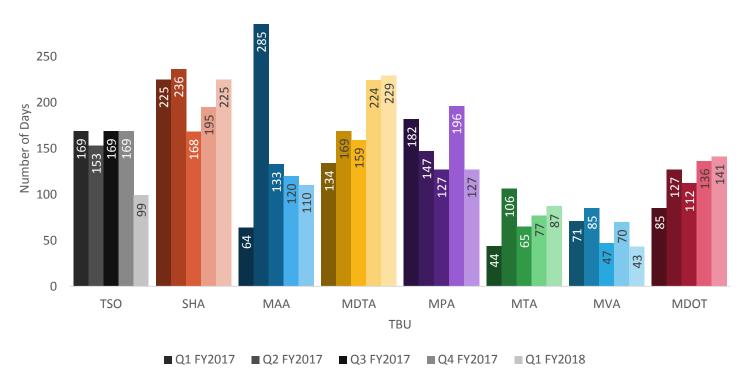
To better reflect the data, the measure shifted from a mean to a median to discount outliers. While MDOT saw another increase in the past quarter, Trends and MAA, MPA, and MVA are headed in the right direction. This number also inversely follows the percent of vacancies filled in less than 180 days.

MDOT did see a drastic decrease in the number of outstanding PINs (6 months or older) in the First Quarter of Fiscal Year 18. These dramatic improvements are a combination of eliminated PINs, process improvements, and Agile HR. Overall MDOT saw an 82.7-percent decrease in PINS older than 6 months. SHA dropped from 77 to 5 and MTA dropped from 56 to 0.5.

PERFORMANCE MEASURE 2.5

Time to Fill Vacancies
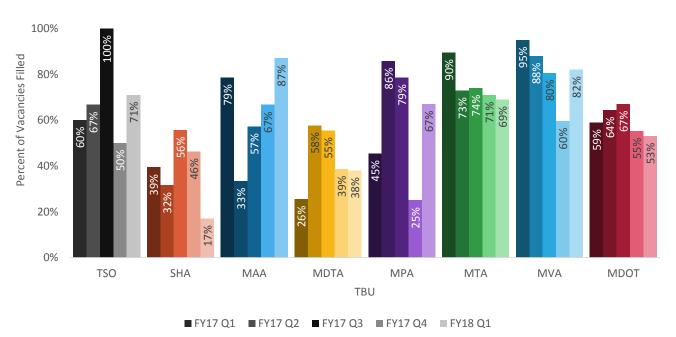
Chart 2.5.1: Median Time to Fill Vacancies by TBU FY2017 -Q1 FY2018

Legend: Q1 FY2017 | Q2 FY2017 | Q3 FY2017 | Q4 FY2017 | Q1 FY2018

Y-axis: Number of Days
X-axis: TBU

TBU	Q1 FY2017	Q2 FY2017	Q3 FY2017	Q4 FY2017	Q1 FY2018
TSO	169	153	169	169	99
SHA	225	236	168	195	225
MAA	64	285	133	120	110
MDTA	134	169	159	224	229
MPA	182	147	127	196	127
MTA	44	106	65	77	87
MVA	71	85	47	70	43
MDOT	85	127	112	136	141
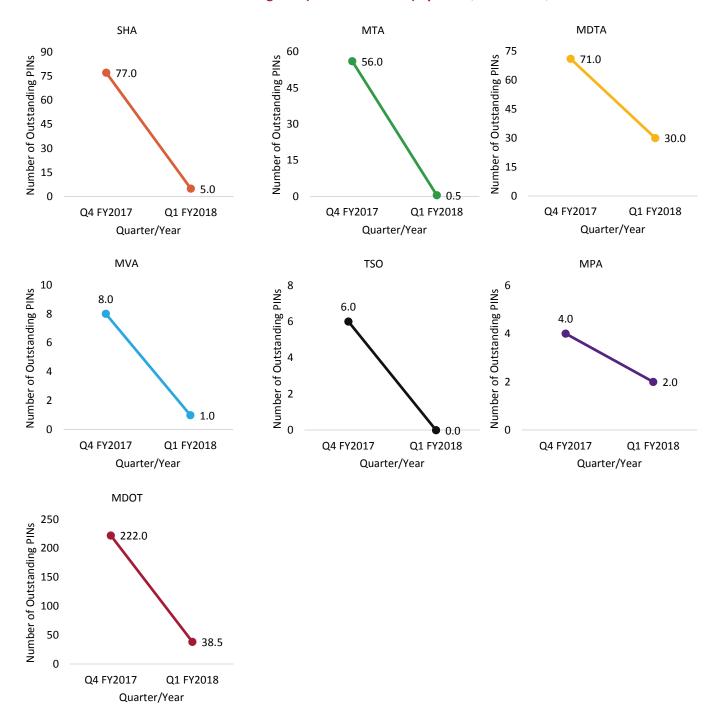
PERFORMANCE MEASURE 2.5
Time to Fill Vacancies

Chart 2.5.2: Percent of Vacancies Filled in Less than 180 Days by TBU FY2017 -Q1 FY2018

PERFORMANCE MEASURE 2.5
Time to Fill Vacancies

Chart 2.5.3: Outstanding PINs (6 months or older) by TBU Q4 FY2017 – Q1 FY2018

SHA — Q4 FY2017: 77.0, Q1 FY2018: 5.0

MTA — Q4 FY2017: 56.0, Q1 FY2018: 0.5

MDTA — Q4 FY2017: 71.0, Q1 FY2018: 30.0

MVA — Q4 FY2017: 8.0, Q1 FY2018: 1.0

TSO — Q4 FY2017: 6.0, Q1 FY2018: 0.0

MPA — Q4 FY2017: 4.0, Q1 FY2018: 2.0

MDOT — Q4 FY2017: 222.0, Q1 FY2018: 38.5

PERFORMANCE MEASURE 2.6

Percentage of Fixed Asset Units Identified or Accounted for During the Annual Physical Inventory of Fixed Assets

"You can't control what you can't measure." — Tom Demarco

This measure emphasizes the importance of stewardship and internal controls with respect to fixed assets owned by each of the TBUs. This performance measure reports the percentage of fixed assets counted by each business unit during its annual fixed asset physical inventory versus the number of fixed assets recorded in each business unit's official inventory records. A regularly-conducted physical inventory of fixed assets ensures accurate information for the management of assets and discourages fraud.

Currently, five of seven business units conduct a full inventory of nonsensitive Items once every three years and a full inventory of sensitive items annually. The remaining business units, MAA and SHA, conduct a full inventory of both sensitive and non-sensitive items annually.

Table 2.6.1: Physical Inventory by TBU - 2015- 2016

	Sensitive Assets		Non-Sensitive Assets		Total Assets	
	2015	**2016**	**2015**	**2016**	**2015**	**2016**
MAA	98.6%	98.9%	99.0%	96.2%	98.8%	98.8%
MDTA	82.8%	100.0%	-	100.0%	82.8%	100.0%
MPA	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
MTA	77.7%	94.8%	76.7%	94.0%	77.3%	94.4%
MVA*	95.7%	86.9%	93.2%	87.1%	95.6%	86.9%
SHA	-	97.7%	91.4%	98.8%	91.4%	98.5%
TSO	94.9%	94.4%	94.9%	-	94.9%	94.4%
MDOT	**89.9%**	**93.3%**	**87.6%**	**97.2%**	**89.3%**	**94.8%**

Note: MVA Non-Sensitive Asset percentage for 2015 restated from prior year.

TANGIBLE RESULT DRIVER:
Corey Stottlemyer
The Secretary's Office (TSO)

PERFORMANCE MEASURE DRIVER:
Sejal Barot
State Highway Administration (SHA)

Dan Favarulo
The Secretary's Office (TSO)

PURPOSE OF MEASURE:
Provide an overview which shows how TBUs monitor asset management activities.

FREQUENCY:
Annually (in January)

DATA COLLECTION METHODOLOGY:
Asset inspection condition and asset life-cycle cost analyses are compiled at the TBU level.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 2.7
Managing Capital Assets

"One of the great responsibilities that I have is to manage my assets wisely, so that they create value." — Alice Walton

Customers deserve to know that MDOT is strategically managing its diverse capital assets. Each TBU maintains its physical assets according to policies that minimize asset life-cycle cost while avoiding negative impacts on the delivery of transportation services.

As part of this measure, MDOT has embarked on an inventory of capital assets across all TBUs. This survey was the first of its kind done at MDOT and includes pavement, bridges, tunnels, rail, vehicles and equipment, facilities, and IT systems.

MTA, SHA, MAA, MDTA and MPA perform annual bridge inspections per federal guidelines to assess a rating, which is used to determine if any remedy is required to keep bridges structurally sound.
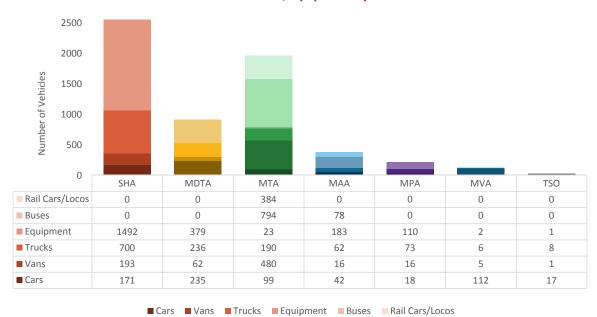
To assess the pavement, SHA and MDTA monitor the condition of pavement based upon the overall pavement condition. It is based upon the International Roughness Index (IRI) Pavement Criteria, which is the most commonly used measure worldwide for evaluating and managing road systems. Monitoring is performed using annual road inspections. In MDOT's recent Customer Satisfaction Survey, 76 percent of respondents were either very satisfied or satisfied with the smoothness of state-owned roads.

MTA monitors rail conditions for MTA Metro and Light Rail systems using TERM Lite evaluation software to evaluate guideway, track work and special structures. Evaluation occurs during an annual asset inventory.

MPA utilizes U.S. Army Corps of Engineers bay channel annual inspection surveys to monitor the dredging depth for shipping access channels to the Port of Baltimore.

PERFORMANCE MEASURE 2.7
Managing Capital Assets

Chart 2.7A.1: Vehicles/Equipment by TBU CY2017

	SHA	MDTA	MTA	MAA	MPA	MVA	TSO
Rail Cars/Locos	0	0	384	0	0	0	0
Buses	0	0	794	78	0	0	0
Equipment	1492	379	23	183	110	2	1
Trucks	700	236	190	62	73	6	8
Vans	193	62	480	16	16	5	1
Cars	171	235	99	42	18	112	17

■ Cars ■ Vans ■ Trucks ■ Equipment ■ Buses ■ Rail Cars/Locos

Chart 2.7A.2: Number of Facilities by TBU CY2017

	SHA	MDTA	MTA	MAA	MPA	MVA	TSO
Maintenance/Administrative	100	22	27	10	2	6	1
Customer	13	0	89	14	9	33	0

PERFORMANCE MEASURE 2.7
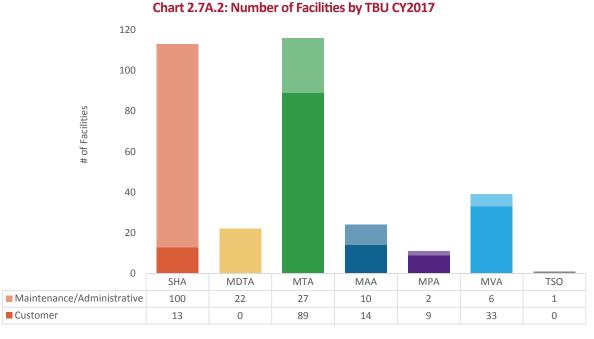## Managing Capital Assets

Chart 2.7B.1: Percent (and Number) of Structurally Deficient Bridges CY2017
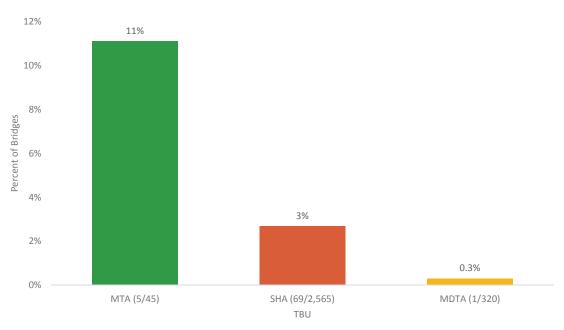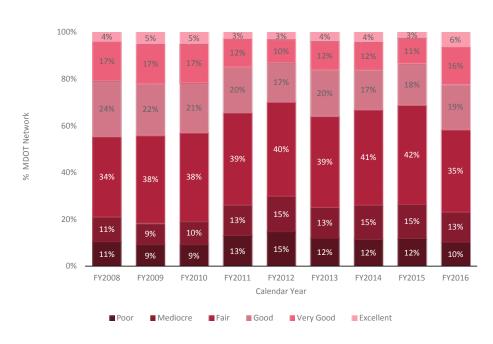
Chart 2.7C.1: Condition of MDOT Road Network CY2008-CY2016

PERFORMANCE MEASURE 2.7
Managing Capital Assets

Chart 2.7C.2: Satisfaction with Smoothness of State Roads CY2017

Satisfaction Level

- Not satisfied at all — 7%
- Not very satisfied — 17%
- Satisfied — 60%
- Very satisfied — 16%

Percent Satisfaction
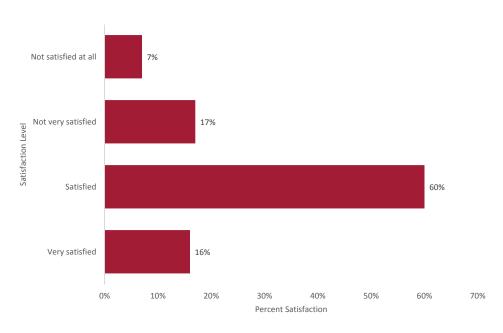
Chart 2.7C.3: Perception of Maryland's Roads Compared to Other States CY2017

Response

- Worse — 15%
- About the same — 46%
- Better — 39%

Percent of Respondents

PERFORMANCE MEASURE 2.7
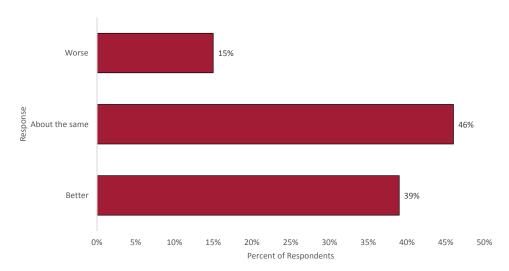## Managing Capital Assets

Chart 2.7D.1: Rating of Baltimore Metro Rail in "Good" Condition (>2.5) FY2015-FY2016
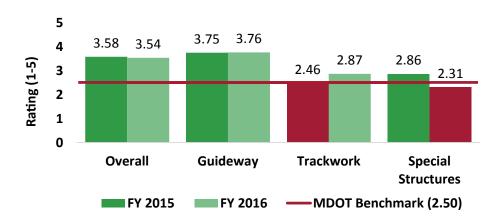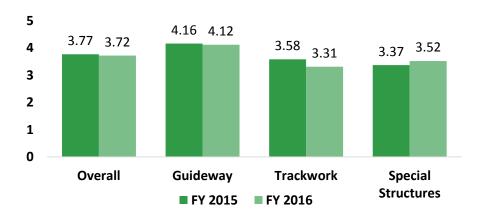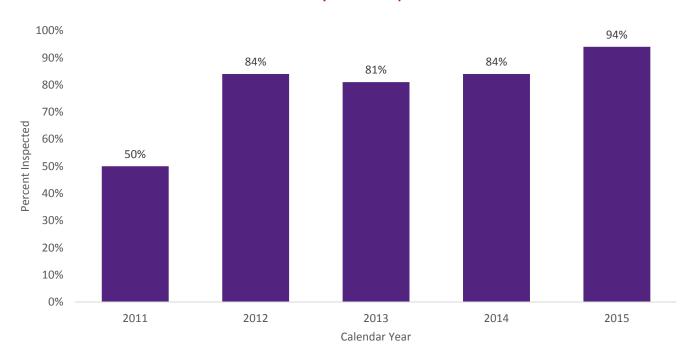
Chart 2.7D.2: Rating of Light Rail in "Good" Condition (>2.5) FY2015-FY2016

PERFORMANCE MEASURE 2.7
Managing Capital Assets

Chart 2.7E.1: Percent of Bay Channel Inspected CY2011-CY2015

Percent Inspected

- 2011: 50%
- 2012: 84%
- 2013: 81%
- 2014: 84%
- 2015: 94%

Calendar Year

TANGIBLE RESULT DRIVER:
Corey Stottlemyer
The Secretary's Office (TSO)

PERFORMANCE MEASURE DRIVER:
Jessica Mettle
Maryland Transportation Authority (MDTA)

PURPOSE OF MEASURE:
To track the timeliness and ability to match the budgets of the procurement process to be more efficient in our contracts.

FREQUENCY:
Annually (in October)

DATA COLLECTION METHODOLOGY:
Focus reports MDOT wide showing all active BPO for the fiscal year.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 2.8
Percent of Procurement on Time and on Budget

"Price is what you pay. Value is what you get."— Warren Buffett

The purpose of this measure is to encourage all managers to proactively monitor and manage each of their procurements to make sure that they are in line with the project and budget in an effort to improve overall contracting efficiencies. Over time, managers will do a better job at setting timelines and budgets for projects. Managers will report the project status accurately and in a timely manner so that problems are identified early and corrective action taken swiftly.

While the trend is improving, we have not addressed underlying issues. The focus must remain on identifying those contracts with issues. The process improvement team is working to understand the systemic problems that prevent contracts that should have been closed in FY2017 from being closed.

PERFORMANCE MEASURE 2.8
Percent of Procurement on Time and on Budget

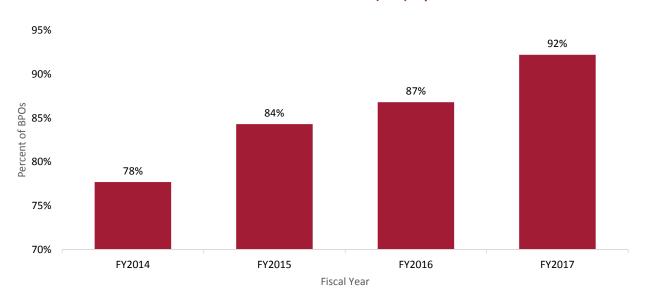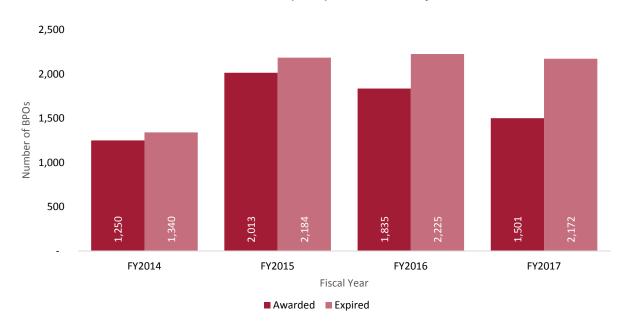**Chart 2.8.1: Percent of Blanket Purchase Orders (BPO) Expired FY2014-FY2017**

Chart 2.8.2: Number of Blanket Purchase Orders (BPOs) Awarded and Expired MDOT-Wide FY2014-FY2017

PURPOSE OF MEASURE:
To measure (a) the percent of occurrences and (b) the dollar value of unanticipated contract modifications on procurement contracts.

FREQUENCY:
Annually (in October)

DATA COLLECTION METHODOLOGY:
MDOT wide showing active unanticipated contract modifications equal to or greater than $1 million.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 2.9
Percent and Value of Unanticipated Contract Modifications

"The comptroller and I — it's no secret — complain every single meeting about retroactive contracts and extension requests in order to complete new procurements." — Governor Larry Hogan

The purpose of this measure is to encourage all managers to proactively monitor and manage each of their procurements to make sure that they are minimizing the value and amount of unanticipated contract modifications. In addition, it will encourage project staff to use timely and accurate reports that managers can analyze to examine trends in unanticipated contract modifications.

The amount and value of contract modifications will vary from one transportation business unit to another depending on the type of project. For example, construction contracts, because of the uncertainties due to weather conditions or soil conditions, may require more contract modifications than building maintenance contracts. Similarly, an IT development contract may require more contract modifications than an IT maintenance contract.

Chart 2.9.1: Value of Unanticipated Contract Modifications in Millions of Dollars MDOTWide FY2015-FY2017

PERFORMANCE MEASURE 2.9
Percent and Value of Unanticipated Contract Modifications

Chart 2.9.2: Percent of Unanticipated Contract Modification Dollars Spent by TBU FY2015 - FY2017
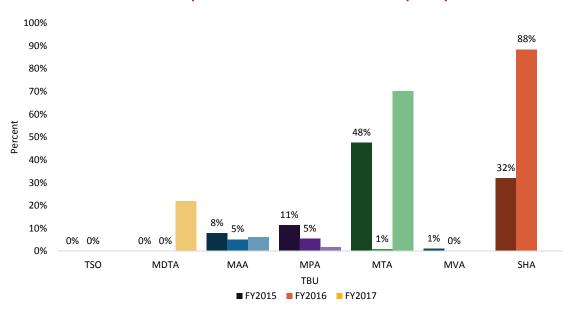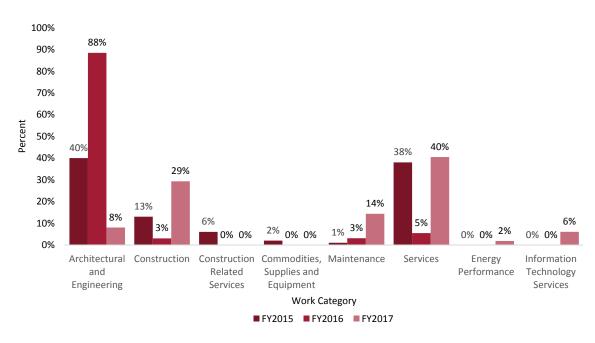

Chart 2.9.3: Percent of Unanticipated Contract Modification Dollars Spent by Category of Work FY2015 - FY2017

PURPOSE OF MEASURE:
To understand how procurement competition impacts MDOT resources.

FREQUENCY:
Quarterly

DATA COLLECTION METHODOLOGY:
Data was collected on each TBU procurement contract over $200,000 during the first quarter of FY 2018. Sole source, emergency, and intergovernmental purchasing procurements were not included, as they have their own processes for determination. Procurement contract ID, number of bids, estimated cost and final contract amount were the used data points.

NATIONAL BENCHMARK:
N/A
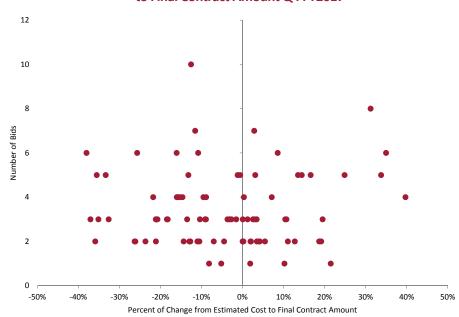
PERFORMANCE MEASURE 2.10
Relationship Between Procurement Competition and Cost

The purpose of this performance measure is to assess the impact of procurement competitiveness on contract costs, testing the hypothesis that increased competition leads to a better price. The chart below suggests that, in most cases as the number of bids increase, procurement contracts come in at or below cost estimate (-100 percent -0 percent). The procurements that increased in cost had a low number of bids.

The data trend revealed the need to develop an MDOT-wide initiative to track cost estimates on procurement contracts and to evaluate the process for determining estimates.

In Q4 of FY2017 an MDOT wide project improvement team forwarded to the Secretary recommendations for many standardized process and procedures that are proposed to provide more consistency throughout all MDOT TBU's. Recommendations include development of a standardized (ICE) price estimate procedure, a more comprehensive centralized database for contract information and a ONE MDOT Project Management Office among other items.

Chart 2.10.1: Percent Change from Estimated Cost to Final Contract Amount Q4 FY2017

PERFORMANCE MEASURE 2.10
Relationship Between Procurement Competition and Cost
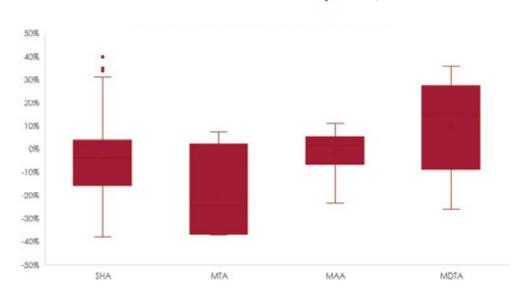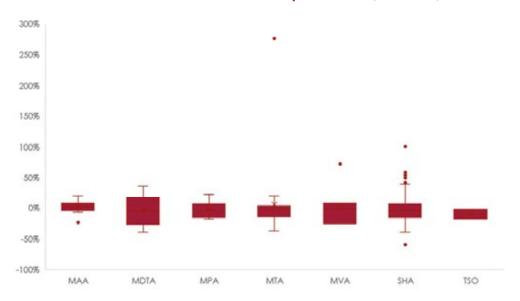
Chart 2.10.2: Actual Versus Estimated by TBU 1Q FY 2018

Chart 2.10.3: Actual Versus Estimated by TBU from 4QFY16 to 1QFY18

PERFORMANCE MEASURE 2.10
Relationship Between Procurement Competition and Cost

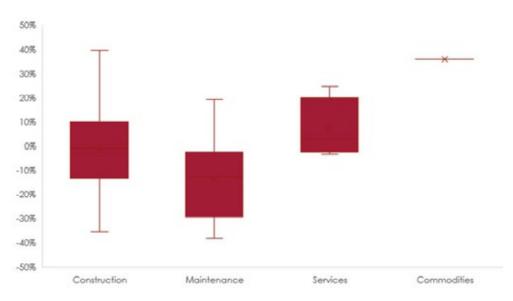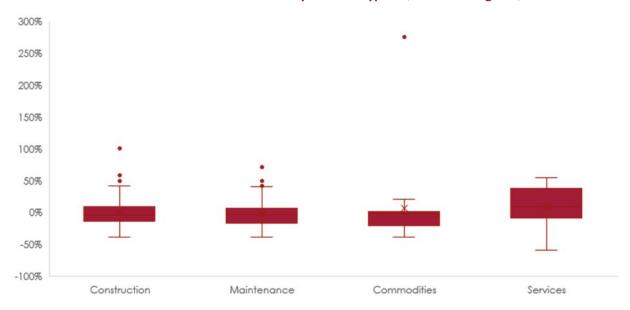**Chart 2.10.4: Actual Versus Estimated by Contract Type 1Q FY2018**

Chart 2.10.5: Actuals Versus Estimates by Contract Type 4QFY2016 through 4QFY 2017

TANGIBLE RESULT DRIVER:
Corey Stottlemyer
The Secretary's Office (TSO)

PERFORMANCE MEASURE DRIVER:
Patrick Bradley
Maryland Aviation Administration (MAA)

PURPOSE OF MEASURE:
To monitor compliance with State and organizational operating processes and procedures each year by tracking the number of Internal Audit Findings and Repeat Internal Audit Findings.

FREQUENCY:
Annually (in October)

DATA COLLECTION METHODOLOGY:
Information collected from TBU audit databases.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 2.11

Number of Internal Audit Findings and Number of Repeat Internal Audit Findings

"Internal audit . . . the coolest profession in the world." — Tom Peters

Transparent, informative, and accurate financial reporting is essential for our customers to have confidence in MDOT's ability to manage resources. Audits provide a window into current systems and areas for improvement. Data will be presented by TBU in the number of audit findings and repeat audit findings on an annual basis. This will encourage MDOT and each TBU to avoid audit and repeat audit findings.

From FY2013-FY2017, there were 844 Internal Audit Findings. The number of Repeat Internal Audit Findings totaled 44 from FY2013-FY2017, dealing with materials and supplies management (22 findings), promotional expense documentation and authorization (9 findings), fixed asset inventories (6 findings), MBE subcontractors reporting and compliance reviews (2 findings), overtime approvals not being documented (2 findings) and one finding each on the COMAR competitive bid process, quality assurance reviews not signed and improper auto title lien documentation.

The repeat audit findings of materials and supplies management include such items as segregation of duties, access to storeroom, non-signed receipts, perpetual inventory records not being accurate, documentation issues and inventory turning over less than three times per year.

From FY2013-FY2016, of 627 total Internal Audit Findings, 32 were Repeat Internal Audit Findings or 5.1 percent.

From FY2013-FY2016, of 844 total Internal Audit Findings, 44 were Repeat Internal Audit Findings or 5.2 percent.

PERFORMANCE MEASURE 2.11

Number of Internal Audit Findings and Number of Repeat Internal Audit Findings

Chart 2.11.1: Number of Internal Audit Findings by TBU FY2013-FY2017
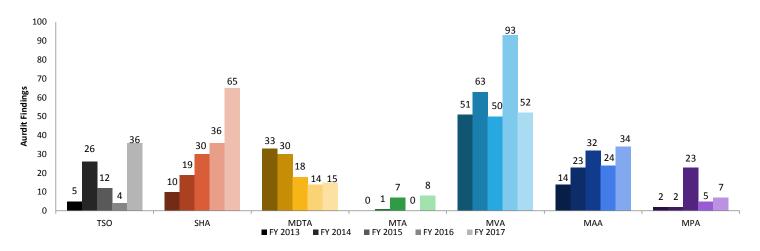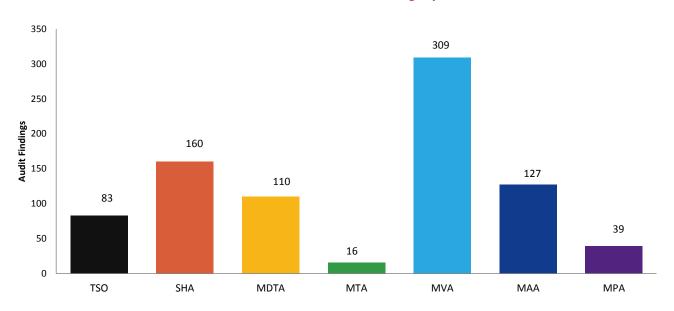
Chart 2.11.2: Number of Total Internal Audit Findings by TBU FY2013-FY2017
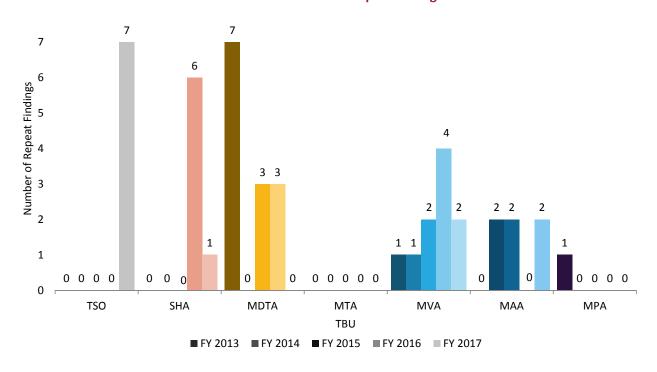
PERFORMANCE MEASURE 2.11

Number of Internal Audit Findings and Number of Repeat Internal Audit Findings

Chart 2.11.3: Total Internal Audit Findings MDOT-Wide FY2013-FY2017

Chart 2.11.4: Number of Internal Audit Repeat Findings FY2013-FY2017

PERFORMANCE MEASURE 2.11

Number of Internal Audit Findings and Number of Repeat Internal Audit Findings

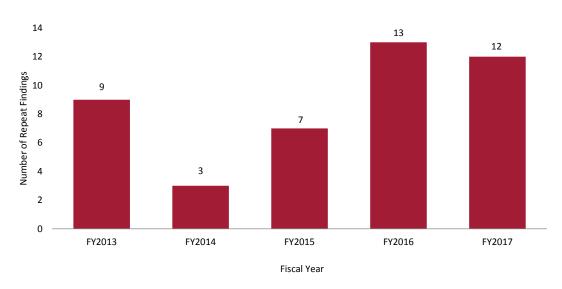**Chart 2.11.5: Trend in Total Internal Audit Repeat Findings MDOT-Wide FY2013-FY2017**

PURPOSE OF MEASURE:
To monitor compliance with State and organizational operating processes and procedures each year by tracking the number of Legislative Repeat Audit Findings.

FREQUENCY:
Annually (in January)

DATA COLLECTION METHODOLOGY:
Information collected from TBU audit databases.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 2.12
Number of Legislative Repeat Audit Findings

"Fraud is a binary issue where the only good number is zero."
— Rob Norman

Transparent, informative, and accurate financial reporting is essential for our customers to have confidence in MDOT's ability to manage resources. Legislative audits provide an external view of our current systems and areas for improvement.

The purpose of this performance measure is to track the number of Legislative Repeat Audit Findings. Data will be presented MDOT-wide in the number of legislative repeat audit findings on an annual basis. This will encourage MDOT and each TBU to avoid legislative repeat audit findings.

In FY2013-FY2017 there were six total Office of Legislative Audit (OLA) Repeat Audit Findings dealing with proper internal controls over items purchased not being maintained, access to fare collection equipment and money rooms not being controlled, access controls to critical database security logs, files and transactions lacking, a lack of controls over critical virtual servers, the process for determining the propriety of architectural and engineering contract billings not being comprehensive and a lack of internal controls to ensure independent approvals for purchasing and disbursement transactions.

Five Legislative Repeat Audit Findings occurred in FY2013-FY2017 and have been resolved.

There were zero Legislative Repeat Audit Findings in FY2016.

There was one Legislative Repeat Audit Finding in FY2017 which has been resolved.

PERFORMANCE MEASURE 2.12

Number of Legislative Repeat Audit Findings

Chart 2.12.1: Number of OLA Findings & Repeat Findings by TBU FY2013 - FY2017

| | Fiscal Year | | | | | | | | | | |
	2013		2014		2015		2016		2017		Total	
TSO	4	0					3	0			7	0
SHA	10	1					2	0			12	1
MDTA			2	1					0	0	2	1
MTA					9	1					9	1
MVA			9	2							9	2
MAA	8	0							4	1	12	1
MPA					2	0					2	0
Total Findings	22		11		11		5		4		53	
Total Repeat Findings		1		3		1		0		1		6

PERFORMANCE MEASURE 2.13
MDOT Fleet Vehicle On-Time Preventive Maintenance

"Take care of your car in the garage, and the car will take care of you on the road." – Amit Kalantri

The Preventive Maintenance (PM) Programs at each TBU is designed to ensure preventative maintenance is performed that will support efficient and effective vehicle/equipment service on a daily basis. Effective servicing leads to reliability, operating efficiency and optimizes the number of vehicles/equipment available to meet service demand functions/customer service throughout MDOT.
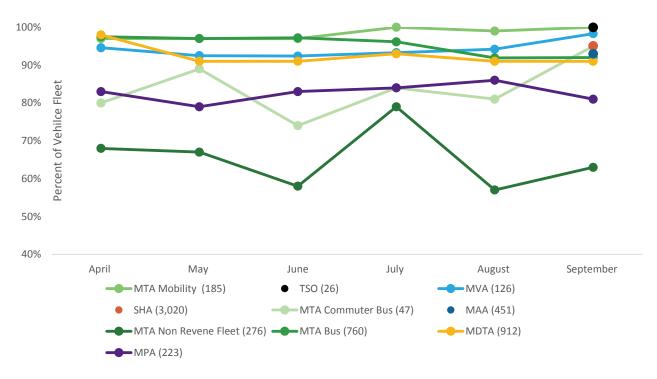
These objectives must be achieved with proper balance of vehicle/equipment preventive maintenance and fiscal constraints. It is recognized that preventive maintenance has associated costs however, vehicle/equipment resources are a significant investment and must be a protected asset.

In August, 2017 the decision was made to add all TBU's to this Performance Measure and transfer it to Excellerator TR2. Both items were accomplished in September, 2017 and the new TR is now identified as Performance Measure 2.13, Use Resources Wisely, "MDOT Fleet Vehicle On-Time PM's." The previous measure, "Critical Zone" PM's is exclusive to MDTA and will continue to be reported individually. An initial meeting was conducted with all fleet representatives on 9/27/17. Reporting criteria was shared and agreed on. Each TBU discussed their ability to retrieve requested data in time for the October Excellerator meeting. Data challenges: All TBU's may not be able to retrieve a year of data since there have been recent changes in their collection systems. We will report on available data in October with a continued pursuit to collect additional/future data. Information will be supplied by month but reported as quarterly data.

MDTA was able to increase the vehicle replacement mileage from 100,000 to 150,000 through its PM program without compromise to safety and equipment availability. This extends the life of the vehicle while avoiding overall replacement costs.

PERFORMANCE MEASURE 2.13
MDOT Fleet Vehicle On-Time Preventive Maintenance

Chart 2.13.1: MDOT On-Time Preventitive Maintenance by TBU CY2017

Legend:
- MTA Mobility (185)
- TSO (26)
- MVA (126)
- SHA (3,020)
- MTA Commuter Bus (47)
- MAA (451)
- MTA Non Revene Fleet (276)
- MTA Bus (760)
- MDTA (912)
- MPA (223)

Provide a Safe and Secure Transportation Infrastructure

MDOT will not compromise on our commitment to continually improve the safety and security of our customers and partners in everything we do.

RESULT DRIVER:

Sarah Clifford
Maryland Transportation Authority (MDTA)

TANGIBLE RESULT DRIVER:
Sarah Clifford
Maryland Transportation Authority (MDTA)

PERFORMANCE MEASURE DRIVER:
Bud Frank
The Secretary's Office (TSO)

PURPOSE OF MEASURE:
To track crime trends and adjust strategies/staffing/ response to protect customers, employees, and State property.

FREQUENCY:
Quarterly

DATA COLLECTION METHODOLOGY:
MTA Police and MDTA Police will report directly to Measure Driver. SHA and MVA will compile information and also report directly to Measure Driver. Measure Driver will report to Project Management Team.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 3.1
Number of Crimes Against Persons and Property Committed at MDOT Facilities

This measure includes all Part I offenses and select Part II offenses as defined in the FBI Uniform Crime Report (UCR). The UCR is a national standard used by law enforcement for the collection and comparison of crime data nationwide. Part I offenses include homicide, forcible rape, robbery, aggravated assault, burglary, larceny, motor vehicle theft and arson. Part II offenses are less serious offenses including other assaults, vandalism, disorderly conduct, and other sex offenses.

The following charts show a comparison Q1-Q3 CY2016 to Q1-Q3 CY2017, for Part I and Part II crimes. The charts are listed in three categories; MD Transit Administration, MD Aviation Administration, and the remaining TBUs combined.

Law enforcement reviews this data on a weekly and bi-weekly basis for resource allocation and targeted enforcement activities. The data is also used to determine areas of security concern.

PERFORMANCE MEASURE 3.1

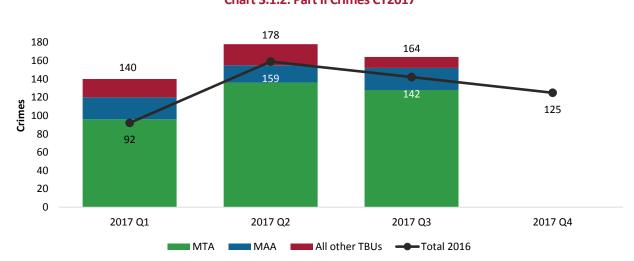Number of Crimes Against Persons and Property Committed at
MDOT Facilities

Chart 3.1.1: Part I Crimes CY2017

Chart 3.1.2: Part II Crimes CY2017

TANGIBLE RESULT DRIVER:
Sarah Clifford
Maryland Transportation Authority (MDTA)

PERFORMANCE MEASURE DRIVER:
Thomas Gianni
Motor Vehicle Administration (MVA)

PURPOSE OF MEASURE:
To track quarterly and annual trends in the number of persons killed in motor vehicle crashes.

FREQUENCY:
Quarterly

DATA COLLECTION METHODOLOGY:
Based on Collected Police Data submitted to Maryland State Police (MSP) through ACRS.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 3.2
Number of Traffic-Related Fatalities on All Roads

MDOT strives to implement programs that will increase motorist safety by reducing traffic-related crashes that result in serious injuries and deaths. One key measure is tracking the number of fatalities on all roads and analyzing specific causes and related trends. Maryland's Strategic Highway Safety Plan (SHSP) is a comprehensive set of emphasis areas and strategies designed to reduce highway fatalities and serious injuries by implementing behavioral and engineering safety countermeasures. It is based on the Toward Zero Deaths approach to reduce the number of traffic fatalities 50 percent by 2030 from the 2008 baseline of 592 fatalities. The 2020 fatality reduction target is 394.

In 2014, the number of fatalities (443) was the lowest since 1948; but in 2015, the State experienced a 17.6 percent increase in highway fatalities (521), the largest single-year increase in 30 years. Although the number of highway deaths remained steady in 2016 (522), these numbers still are far greater than those in previous years, as well as greater than established reduction targets.

The total number of deaths on our nation's highways also is increasing – by 5.6 percent in 2016 to 34,461 fatalities and by 7.2 percent to 35,092 fatalities in 2015. The National Highway Traffic Safety Administration (NHTSA) attributes some of the cause of these fatality increases to relatively inexpensive gasoline, a sharp increase in vehicle miles traveled (VMT) and an improved economy.

Preliminary analysis of 2017 data indicates that traffic fatalities across the State are up slightly from the previous year. Likewise, VMT in Maryland has increased by more than two percent during this same period - an increase of almost one billion miles traveled. This increased exposure, coupled with risky driving behaviors and a failure to use seat belts, is believed to be a significant reason for the increase in highway fatalities in Maryland. **Drivers remain the single most important safety feature inside a vehicle.**

At the current pace, the State likely will experience a similar number of bicycle fatalities in 2017 as in the previous two years. These recent numbers represent a significant increase from what was about one percent of total fatalities only a few years ago.

Pedestrian deaths typically account for approximately 20 percent of all traffic-related fatalities. Pedestrian fatalities consistently measure approximately 100 per year, but are likely to exceed 100 deaths by the end of 2017.

PERFORMANCE MEASURE 3.2
Number of Traffic-Related Fatalities on All Roads

Maryland's SHSP (2016-2020) establishes six specific emphasis areas along with long-term goals and mid-range reduction targets to help save lives on Maryland roads. The five-year plan was developed by a diverse group of partners and stakeholders representing all 4-Es of highway safety (Engineering, Enforcement, Education and Emergency Medical Services). Emphasis Area Teams (Aggressive Driving, Distracted Driving, Impaired Driving, Occupant Protection, Highway Infrastructure Safety, and Pedestrian and Bicycle Safety) are comprised of a broad range of safety officials and stakeholders who design action plans for implementing the SHSP's strategies. These teams meet regularly to gauge progress and determine what changes need to be made to better implement the safety strategies.

The SHSP is managed by an Executive Council of high-ranking officials responsible for public and highway safety. This group meets semi-annually to review overall progress and to discuss possible amendments to the plan as necessitated by changing dynamics. The SHSP is administered by the MDOT MVA's Maryland Highway Safety Office (MHSO).
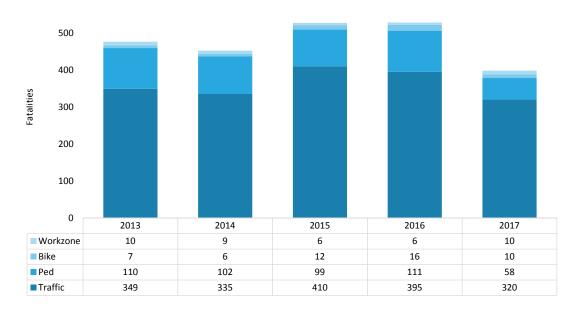
Chart 3.2.1: Annual Comparison of All Fatalities CY2013-CY2017 (YTD)

	2013	2014	2015	2016	2017
Workzone	10	9	6	6	10
Bike	7	6	12	16	10
Ped	110	102	99	111	58
Traffic	349	335	410	395	320

PERFORMANCE MEASURE 3.2

Number of Traffic-Related Fatalities on All Roads

Chart 3.2.2: Comparison of Fatalities Q2 CY2014 - Q2 CY2017 (YTD)

	2014	2015	2016	2017
Workzone	2	2	5	4
Bike	0	2	4	4
Peds	29	17	33	14
Traffic	92	115	99	123
VMT	14,654	15,189	15,275	15,394

Chart 3.2.3: Annual Comparison of All Fatalities CY2013-CY2017

Q1 Q2 Q3 Q4

PERFORMANCE MEASURE 3.3
Maryland Traffic-Related Fatality Rate (Highways)

The fatality rate is a measure of the number of persons killed in a traffic-related crash for every 100 million VMT on all roads in the State. Through the use of automated highway counters, the VMT is determined monthly by SHA and is compared annually to the number of traffic-related fatalities to determine the rate.

Maryland's traffic-fatality rate compares favorably to the national fatality rate. While the U.S. fatality rate never has dipped below one death per 100 million VMT, Maryland's rate has remained below one for the past seven years. Although this rate had been trending downward, it increased in 2015 to .91 fatalities per 100 million VMT.

This increase corresponds with the significant increase in traffic-related fatalities in Maryland in 2015. Preliminary analysis of 2016 data in Maryland indicates VMT increased by nearly 2 percent - an increase of more than one billion miles driven. Despite these increases, Maryland's 2015 rate remained below the national rate of 1.12.

Historically, as the nation's and/or state's economy grows, people tend to drive more, increasing both the state's VMT and a person's risk for being in a crash. Opportunities to lower the fatality rate are best achieved by decreasing the number of traffic-related fatalities, as VMT is more difficult to influence.

PERFORMANCE MEASURE 3.3

Maryland Traffic-Related Fatality Rate (Highways)

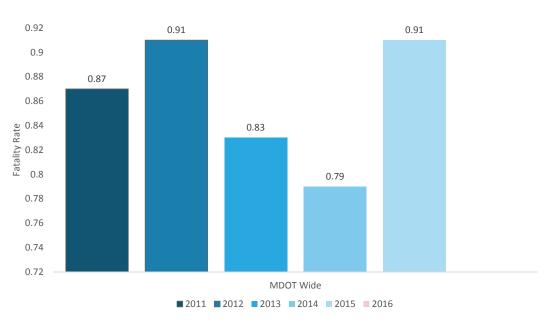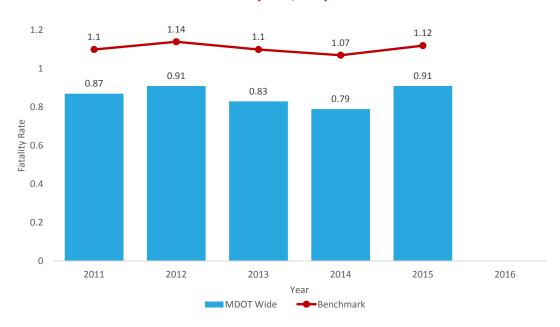**Chart 3.3.1: Maryland Traffic-Related Fatality Rate**

Legend: ■ 2011 ■ 2012 ■ 2013 ■ 2014 ■ 2015 ■ 2016

Chart 3.3.2: Traffic-Related Fatality Rate, Maryland vs. National Benchmark

Legend: ■ MDOT Wide ●— Benchmark

TANGIBLE RESULT DRIVER:
Sarah Clifford
Maryland Transportation Authority
(MDTA)

PERFORMANCE MEASURE DRIVER:
Thomas Gianni
Motor Vehicle Administration (MVA)

PURPOSE OF MEASURE:
To track quarterly and annual trends in the number of persons seriously injured in motor vehicle crashes.

FREQUENCY:
Quarterly

DATA COLLECTION METHODOLOGY:
Based on collected police data submitted to MSP through ACRS.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 3.4
Number of Traffic-Related Serious Injuries on all Roads

The number of traffic-related serious injuries is a count of persons sustaining an incapacitating injury in a crash. It is determined by a responding police officer investigating the crash and gathered from the injury severity code entered on the crash report. Maryland's SHSP – described in Performance Measure 3.2 – is based on the Toward Zero Deaths approach to reduce the number of fatalities and serious injuries from traffic-related crashes by 50 percent by 2030 from the 2008 baseline. The 2020 serious-injury reduction target is 2,939. Strategies for reducing the crashes that cause both fatal and serious injuries are contained within the six emphasis areas of the SHSP.

Following a significant 10-year decline, the number of serious injuries on Maryland roadways in 2016 increased by 16 percent. This upward trend has continued into 2017 as traffic-related serious injuries during the first three quarters of the year increased by 12 percent – or 283 more persons seriously injured in crashes – compared to the same period last year. While this increase aligns with increases in highway fatalities and in VMT across the State, the upward trend in serious injuries is significantly greater.
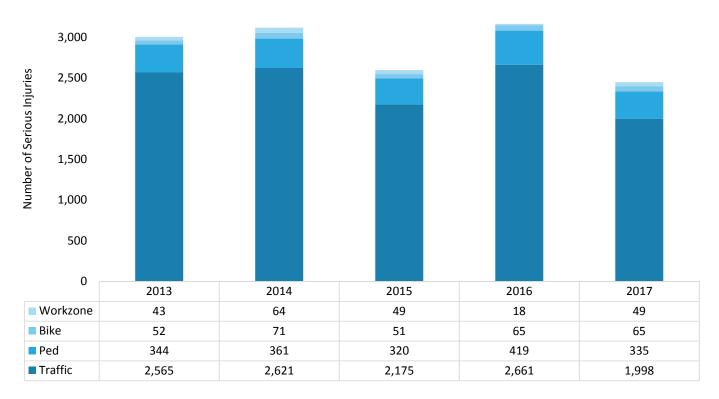
Since fatality data is only a small portion of the entire crash picture in Maryland, serious injuries, and their frequency, help to provide more robust data in determining crash trends across the State. Additionally, striving to minimize crashes that result in serious injuries serves to reduce a motorist's risk for suffering such life-altering consequences.

Since serious injuries are defined differently from state to state, there is no national or common benchmark.

PERFORMANCE MEASURE 3.4

Number of Traffic-Related Serious Injuries on all Roads
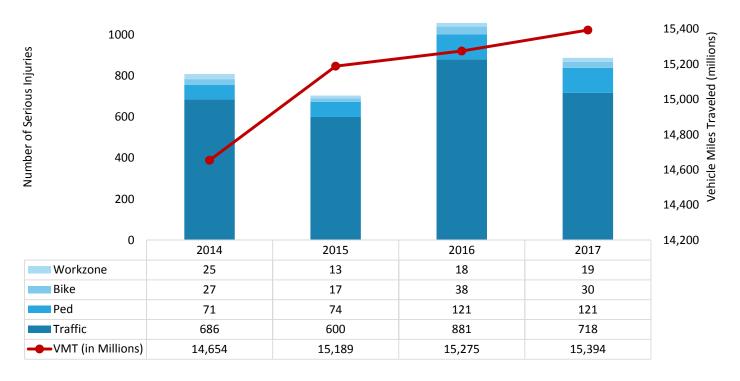
Chart 3.4.1: Annual Comparison of All Serious Injuries CY2013-CY2017

Number of Serious Injuries

	2013	2014	2015	2016	2017
Workzone	43	64	49	18	49
Bike	52	71	51	65	65
Ped	344	361	320	419	335
Traffic	2,565	2,621	2,175	2,661	1,998

PERFORMANCE MEASURE 3.4

Number of Traffic-Related Serious Injuries on all Roads
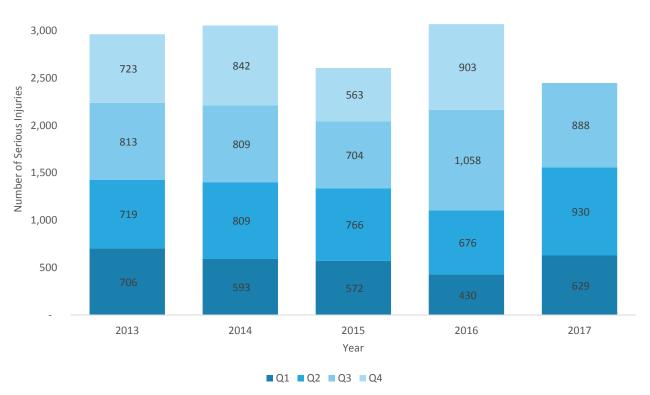
Chart 3.4.2: Comparison of Serious Injuries Q3 CY2013 - Q3 CY2017

	2014	2015	2016	2017
Workzone	25	13	18	19
Bike	27	17	38	30
Ped	71	74	121	121
Traffic	686	600	881	718
VMT (in Millions)	14,654	15,189	15,275	15,394

PERFORMANCE MEASURE 3.4

Number of Traffic-Related Serious Injuries on all Roads

Chart 3.4.3: Annual Comparison of All Serious Injuries CY2013-CY2017

Year	Q1	Q2	Q3	Q4
2013	706	719	813	723
2014	593	809	809	842
2015	572	766	704	563
2016	430	676	1,058	903
2017	629	930	888	

TANGIBLE RESULT DRIVER:
Sarah Clifford
Maryland Transportation Authority (MDTA)

PERFORMANCE MEASURE DRIVER:
Thomas Gianni
Motor Vehicle Administration (MVA)

PURPOSE OF MEASURE:
To track trends in the number of persons seriously injured in motor vehicle crashes per VMT.

FREQUENCY:
Annually (in January)

DATA COLLECTION METHODOLOGY:
SHA collects VMT data based on highway counts on roadways across the State. The serious injury data is collected by the MSP through its ACRS. The MHSO collects the data from these two agencies. The rate is based on persons seriously injured in crashes per 100 million VMT.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 3.5
Maryland Traffic-Related Serious Injury Rate (Highways)
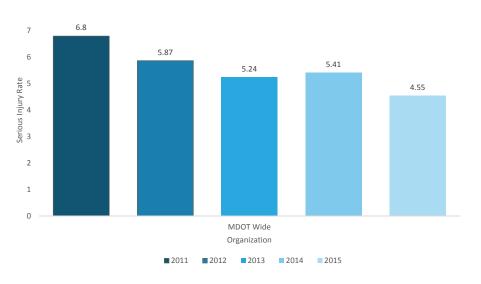
Maryland's serious injury rate is based on a measure similar to the fatality rate (number of persons seriously injured in a traffic-related crash per 100 million VMT). Over the past eight years, both the number of serious injuries and the corresponding rate have dropped dramatically by more than 33 percent. The SHSP is based on the Toward Zero Deaths approach, and serious injury rate targets have been set using a similar methodology.

The SHSP contains strategies intended to reduce risky driving behaviors that result in the types of crashes leading to death or serious injury. By addressing and ultimately eliminating these severe crashes, all motorists can enjoy traveling Maryland's roadways without the fear of being killed or seriously injured. Death or serious injury is not an acceptable consequence of driving.

As engineering advances have resulted in safer vehicles and highways, and as emergency medical services continue to provide immediate critical care, the numbers of traffic-related serious injuries (and their corresponding rates) have declined significantly in the last several years. Even in 2015, when traffic-related fatalities increased significantly, the number of traffic-related serious injuries and its corresponding rate continued to decline.

Chart 3.5.1: Maryland Traffic-Related Serious Injury Rate CY2011-CY2016

TANGIBLE RESULT DRIVER:
Sarah Clifford
Maryland Transportation Authority (MDTA)

PERFORMANCE MEASURE DRIVER:
Gina Watson
Maryland Port Administration (MPA)

PURPOSE OF MEASURE:
To track trends in seat belt use in Maryland and assess how Maryland ranks against the national rate as an indicator of how well seatbelt use is encouraged.

FREQUENCY:
Annually (in January)

DATA COLLECTION METHODOLOGY:
Observational Survey conducted by MHSO.

NATIONAL BENCHMARK:
Nationwide usage rate provided by NHTSA reached 90.1 percent in 2016.

PERFORMANCE MEASURE 3.6
Maryland Seat Belt Usage Rate

The use of seat belts by Maryland drivers greatly reduces the severity of personal injury and occupant fatalities in crashes. States such as Maryland with primary and secondary seat belt enforcement laws exhibit higher seat belt usage rates.
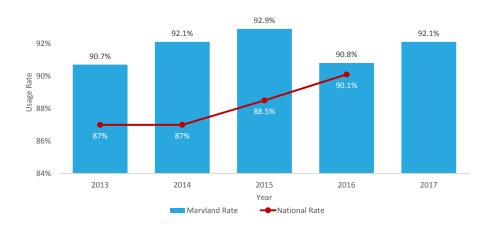
Maryland's seat belt usage rate is collected by an observational survey methodology approved by the NHTSA. The overall seat belt usage rate in Maryland was 92.1% for 2017 representing a 1.3% increase over the previous year. The MHSO goal for seat belt usage for 2017 was 94.1%. The nationwide seat belt usage rate was not available at the time of this analysis.

Maryland will remain a strong supporter of the Click-It or Ticket campaign with incorporation of dynamic public awareness programs. In addition, law enforcement agencies will continue to be educated on the importance of seat belt enforcement.

Chart 3.6.1: Maryland Seatbelt Usage Rate vs. National Benchmark Rate CY2013-CY2017

TANGIBLE RESULT DRIVER:
Sarah Clifford
Maryland Transportation Authority (MDTA)

PERFORMANCE MEASURE DRIVER:
Cedric Ward
State Highway Administration (SHA)

PURPOSE OF MEASURE:
To track and assess the performance of MDOT's incident management programs to respond to customer needs while traveling.

FREQUENCY:
Quarterly

DATA COLLECTION METHODOLOGY:
Data is collected from centralized reporting to CHART for roadway data. MPA and MAA data are collected individually.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 3.7
Disabled Motorists Assisted by MDOT

The Coordinated Highways Action Response Team (CHART) is a joint effort of MDOT, MSP, and numerous other federal, State and local agencies. CHART provides assistance to disabled motorists and responds to traffic incidents throughout Maryland. In the Baltimore and Washington metropolitan areas, patrols are operated 24 hours per day, seven days per week. In addition to services on highways, the MPA and MAA provide assistance to their customers who experience vehicle issues.
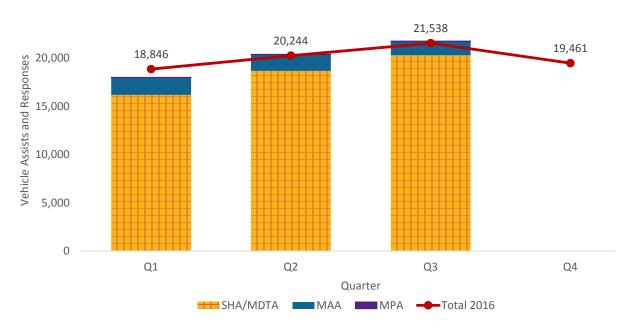
These services provide an added value to MDOT customers who might otherwise need to rely on paid service providers. Customers can access this service by dialing #77 or through the normal 911 emergency dispatch.

For the 2017 calendar year, MDOT has helped 60,125 disabled motorists. Additionally, CHART provides real-time traffic conditions through its website: http://www.chart.state.md.us/.

PERFORMANCE MEASURE 3.7

Disabled Motorists Assisted by MDOT

Chart 3.7.1: Number of Assists and Responses CY2016-CY2017

TANGIBLE RESULT DRIVER:
Sarah Clifford
Maryland Transportation Authority (MDTA)

PERFORMANCE MEASURE DRIVER:
Bernadette Bridges
Maryland Aviation Administration (MAA)

PURPOSE OF MEASURE:
To track injury reporting trends at MDOT TBUs.

FREQUENCY:
Quarterly

DATA COLLECTION METHODOLOGY:
Collected by Injured Workers Insurance Fund (Chesapeake Employers' Insurance is for private companies) and sent to agencies as a report.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 3.8
Number of Employee Injuries Reported (First Report of Injury)

This measure is used for analysis and the development and implementation of risk mitigation strategies. This is the starting point data source for maintaining a safe work environment.

This measure includes all First Reports of Injury (FROI) to the Injured Workers Insurance Fund (Chesapeake Employers' Insurance is for private companies). This is an annual comparison of FY2016 versus FY2017. Data indicates a decrease during FY2017 in the number of employee injuries reported.

Strategies for reducing employee injuries include the creation of a MDOT TBU Process Improvement Team, the formulation of MDOT-wide recommendations on processes/ practices to improve documenting and coding work injury leave; creation of a list of risk mitigation strategies based on types of injuries; identification of strategies for mitigating potential work injury leave abuse and creation of a strategy to capture value of lost work days. TBU Risk Managers meet quarterly to review data, evaluate progress, and develop strategies for emerging risks.

Chart 3.8.1: Number of Injuries (FROI) Reported MDOT-Wide FY2016 - FY2018

TANGIBLE RESULT DRIVER:
Sarah Clifford
Maryland Transportation Authority (MDTA)

PERFORMANCE MEASURE DRIVER:
Bernadette Bridges
Maryland Aviation Administration (MAA)

PURPOSE OF MEASURE:
To track, trend, and mitigate lost work days.

FREQUENCY:
Quarterly

DATA COLLECTION METHODOLOGY:
Data is collected through multiple MDOT time keeping systems.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 3.9
Number of Employee Lost Work Days Due to Injuries

Employee safety is a top priority to MDOT. Injuries do occur on the job and work days are sometimes lost as a result. Lost work days reduce the effectiveness of TBUs and are an indirect measure of employee health and welfare.

This measure only includes lost work days due to on the job, work-related injuries. Note that lost work days are not associated with the number of injuries reported in Performance Measure 3.8. Factors affecting this measure include varying work conditions and environments, and differing risk profiles among employees across TBUs, as well as inconsistent leave coding policies and practices across MDOT's payroll systems.

This is an annual comparison of FY2016 versus FY2017. Data indicates a FY2017 decrease in the number of lost work days due to injuries.

Strategies for reducing employee injuries are the same as PM 3.8 and include creation of MDOT TBU Process Improvement Team, formulation of MDOT-wide recommendations on processes/practices to improve documenting and coding work injury leave; creation of a list of risk mitigation strategies based on types of injuries; identification of strategies for mitigating potential work injury leave abuse and creation of strategy to capture value of lost work days. TBU Risk Managers meet quarterly to review data, evaluate progress, and develop strategies for emerging risks.

PERFORMANCE MEASURE 3.9

Number of Employee Lost Work Days Due to Injuries

Chart 3.9.1: Number of Employees Coding LY (Work Injury Leave) Q1 FY2018
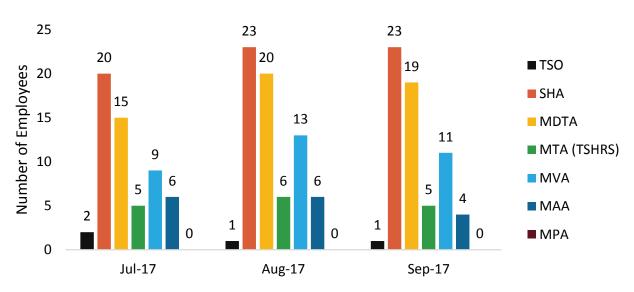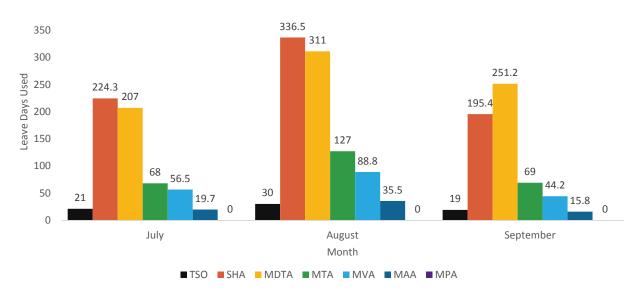
Chart 3.9.2: Number of Work Injury Leave (LY) Days Used Q1 FY2018

PERFORMANCE MEASURE 3.9

Number of Employee Lost Work Days Due to Injuries
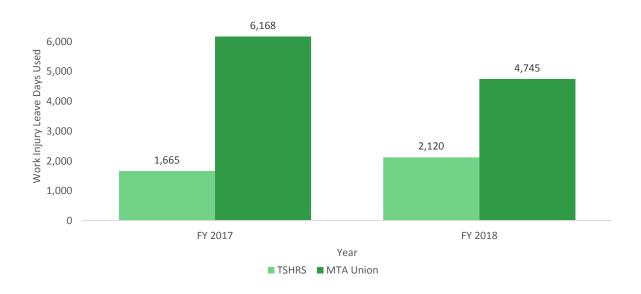
Chart 3.9.3: MTA Union Lost Work Days Due to Injuries FY2014 - FY2018 July-September

Chart 3.9.4: Number of Work Injury Days Used (TSHRS and MTA Union) FY2017 - FY2018 July-Sept

PERFORMANCE MEASURE 3.9

Number of Employee Lost Work Days Due to Injuries

Chart 3.9.5: Incident Rate for CY2017 (January-September)
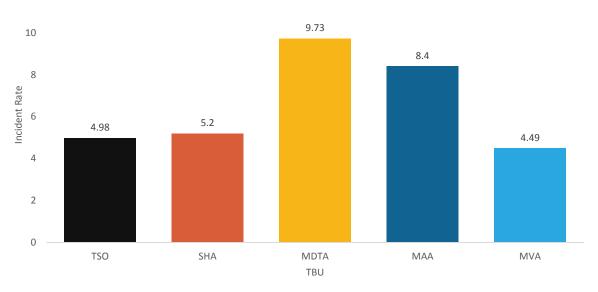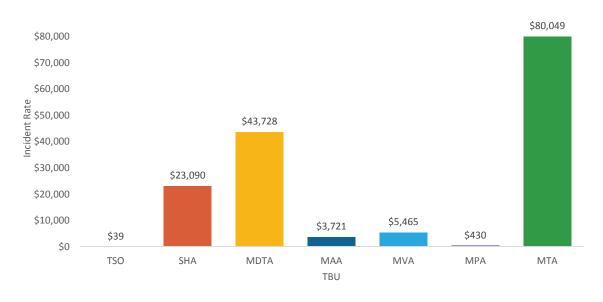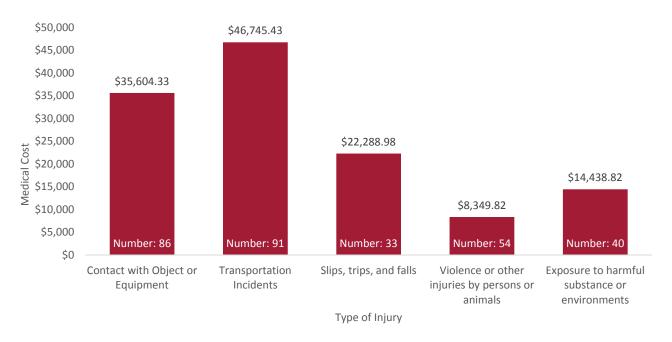
Chart 3.9.6: Medical Cost on Injuries Reported in FY2018

PERFORMANCE MEASURE 3.9

Number of Employee Lost Work Days Due to Injuries

Chart 3.9.7: MDOT Top Five Injuries by Type FY2018

Chart 3.9.7: MDOT Top Five Injuries by Type FY2018 — bar chart of Medical Cost by Type of Injury:
- Contact with Object or Equipment: $35,604.33 (Number: 86)
- Transportation Incidents: $46,745.43 (Number: 91)
- Slips, trips, and falls: $22,288.98 (Number: 33)
- Violence or other injuries by persons or animals: $8,349.82 (Number: 54)
- Exposure to harmful substance or environments: $14,438.82 (Number: 40)

TANGIBLE RESULT DRIVER:
Sarah Clifford
Maryland Transportation Authority (MDTA)

PERFORMANCE MEASURE DRIVER:
Phil Thomas
Maryland Transit Administration (MTA)

PURPOSE OF MEASURE:
To track customer (non-MDOT employees) who have sustained an injury or incident at MDOT buildings.

FREQUENCY:
Quarterly

DATA COLLECTION METHODOLOGY:
TBUs track using their existing processes and report to the driver via phone or email.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 3.10
Number of Customer Incidents at MDOT Facilities

MDOT has programs in place to ensure the safety and security of its facilities and its customers. TBUs provide many services to the public. MDOT is committed to providing a safe and secure environment to customers which is why measuring unplanned events that may or may not result in injury within enclosed buildings that provide a service to customers (i.e MVA centers, Stop in Centers) is important.

Although this is an important area for MDOT, within the past year the TBUs have begun measuring it. After being measured for a year, the Risk Managers met and re-evaluated how customer incidents and injuries are tracked with the TBUs. A standard definition was determined and agreed upon by all TBUs. To further make sure processes are consistent, the TBUs are working together to put into place standard policies and forms, while educating all staff to report any customer incident and injury they may witness.

PERFORMANCE MEASURE 3.11
Number of Employees Trained Under National Incident Management System (NIMS)

In 2003, Homeland Security Presidential Directive #5 (HSPD-5) was issued that discussed the management of domestic incidents. Part of Directive #5 was the issuance of the National Incident Management System (NIMS) and the tasking of training individuals in the use of the Incident Command System (ICS). This was the creation of a single comprehensive approach to domestic incident management; crisis management and consequence management became a single-integrated approach.

NIMS is a consistent nationwide approach for government agencies from all levels, along with non-government agencies, to work effectively and efficiently in all incidents (all-hazards approach). In HSPD-5 all states were required to adopt and implement the NIMS/ICS protocol. The Maryland NIMS/ICS Strategic Plan was developed in 2004 and identified the need for MD State agencies to adopt the NIMS, and train identified employees in the ICS.
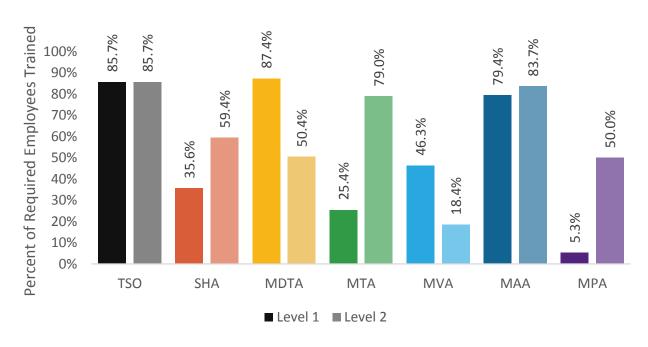
This plan determined that NIMS/ICS was the best tool to use for coordination and control of domestic (MD) incident management activities regardless of the cause, size, or complexity of the incident. It uses a "common operation platform" for all agencies, organizations, or entities – public or private, to operate on.
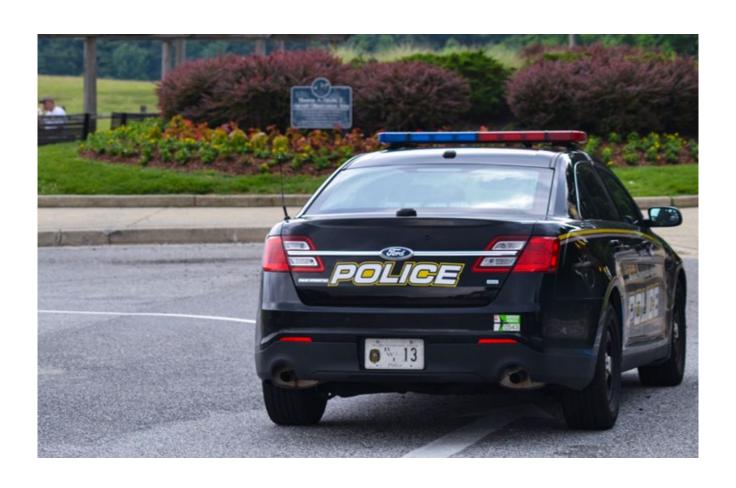
The TBUs have historically trained their personnel in NIMS/ICS, mainly because most TBUs are operationally oriented and incidents occur in their respective areas of responsibility. Many times they must work with other emergency responders (fire/police/EMS) and private stakeholders or partners that operate on their property or as part of their business model. For many years, the training of MDOT personnel in NIMS/ICS was a reportable item to FEMA on an annual basis. Several years ago, this required annual reporting was discontinued by Federal Emergency Management Agency (FEMA), and thus no longer tracked by MDOT.

PERFORMANCE MEASURE 3.11

Number of Employees Trained Under National Incident Management
System (NIMS)

Chart 3.11.1: NIMS/ICS Training Completed, Level 1 and Level 2

Y-axis: Percent of Required Employees Trained

Agency	Level 1	Level 2
TSO	85.7%	85.7%
SHA	35.6%	59.4%
MDTA	87.4%	50.4%
MTA	25.4%	79.0%
MVA	46.3%	18.4%
MAA	79.4%	83.7%
MPA	5.3%	50.0%

Legend: ■ Level 1 ■ Level 2

Deliver Transportation Solutions and Services of Great Value

MDOT will deliver transportation solutions on time and within budget. The Department will use strategies to ensure that the transportation solution meets the needs of customers and eliminates unnecessary costs.

RESULT DRIVER:
Jason Ridgway
State Highway Administration (SHA)

TANGIBLE RESULT DRIVER:
Jason Ridgway
State Highway Administration (SHA)

PERFORMANCE MEASURE DRIVER:
Natalie Grasso
Motor Vehicle Administration (MVA)

PURPOSE OF MEASURE:
To gauge the accuracy of capital project estimates to manage the Departments Capital Program more efficiently.

FREQUENCY:
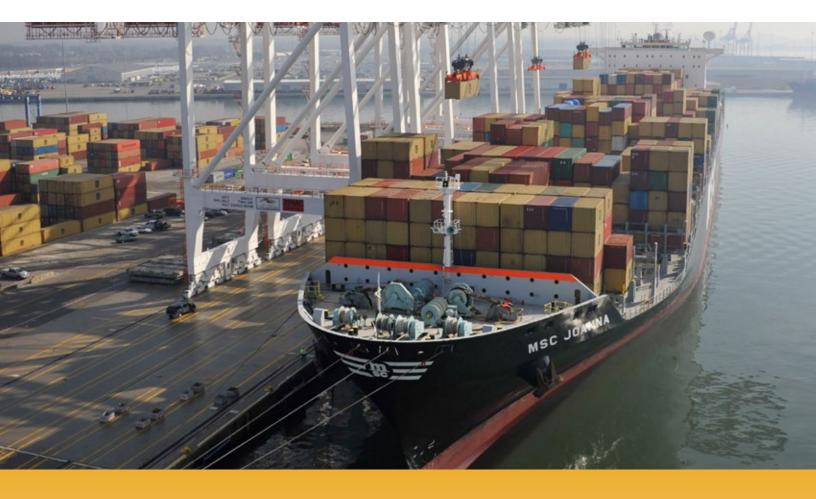Annually (In October)

DATA COLLECTION METHODOLOGY:
Through the Capital Program Management System (CPMS); the CTP; TSO & TBU's Procurement Offices.

NATIONAL BENCHMARK:
+/- 5% This mirrors the benchmark as reported by Nebraska's Dept. of Roads, Fiscal Responsibility for the Accuracy of Project Estimates. Further, while MODOT has not specified a benchmark per se, they use Nebraska's 5% as the bench for the best.

Note: This benchmark applies to capital construction projects. So far and with extensive research, we have been unable to find a benchmark for IT projects.

PERFORMANCE MEASURE 4.1
Percent of Estimated Project Budget as Compared to Final Project Award

This performance measure fosters more accuracy and better budget management of the State's limited transportation funding. Accurate estimating enables MDOT to provide better services to its customers, whether it is infrastructure improvements to State roadways and bridges; increasing and retaining the commerce going in and out of the Port of Baltimore; attracting and retaining airlines and travelers at BWI Marshall; providing more alternative service options to Maryland citizens to conduct their MVA transaction remotely; or improving transit services throughout the State.

Given the diverse differences between construction and IT projects, we have separated into two categories with specific budget parameters:

• $ 1M+ construction type projects: SHA, MDTA MPA, MAA and MTA

• $400K+ IT projects: TSO and MVA

For FYs 2014, 2015 and 2016, the range in variance between estimated project budgets and final project awards was from 4.7 percent to 7.6 percent. While the range is within the +/- 5 percent and the estimates vs award are very good, the goal is to continue working on strategies to obtain the +/- 5 percent consistently.
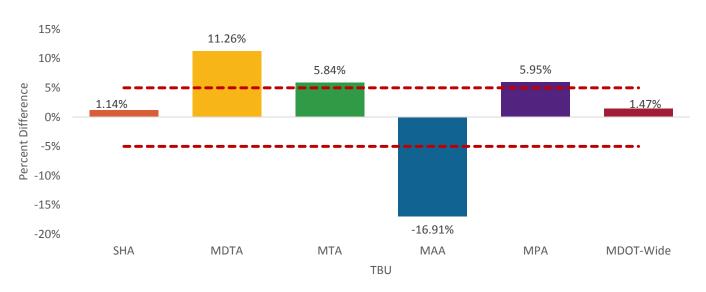
To improve the outcomes of this measure, MDOT is engaged in the following activities:

• Team expansion with subject matter expers (SMEs) from each TBU;

• Usage of estimating manual;

• Creation of excel spreadsheet to ensure consistency in gathering data for PM 4.1 - PM 4.3;

• Clarifying definitions with TBUs; and

• Modified dataset for construction contracts to $1M (MAA, SHA, MDTA, MPA and MTA).

PERFORMANCE MEASURE 4.1
Percent of Estimated Project Budget as Compared to Final Project Award

Chart 4.1.1: Percent of Estimated Project Budget as Compared to Final Project Award FY2017

TBU	SHA	MDTA	MTA	MAA	MPA	MDOT-Wide
Award	1,029,051,170	177,924,428	29,519,407	88,001,987	17,724,902	1,342,221,894
Estimate	1,040,811,704	197,953,784	31,242,017	73,116,662	18,778,936	1,361,903,103

■ Percent Difference   ▬ ▬ Benchmark (High): 5%   ▬ ▬ Benchmark (Low): -5%

PERFORMANCE MEASURE 4.1
Percent of Estimated Project Budget as Compared to Final Project Award

Chart 4.1.2: Percent of Estimated Project Budget as Compared to Final Project Award TSO and MVA FY2017

	TSO	MVA	Combined
■ Percent Difference	-3.00%	0.00%	-3.00%
Award	$515,852	0.00%	$515,852
Estimate	$500,000	0	$500,000

PERFORMANCE MEASURE 4.2
Percent of Change for Finalized Contracts

It is important to assess how well we manage the budgeted and awarded amount during the duration of Department contracts. This is done to ensure we are getting what we paid for and not adding unnecessary or unbudgeted costs to our transportation projects. This will facilitate better contract performance and better management of contracts which will add overall value to the project and ensure worthwhile expenditures of taxpayer dollars.

Strategy development meetings have been held with TBU representatives throughout the reporting year to review data and address any issues that exist in order to meet the 2 percent benchmark for compliance. Data for FY2017 illustrates a collective effort for benchmark compliance by TBU. This is reflected for FY2017 by TBU compliance across the board.

Issue that could arise as this TR moves forward would be contracts that exceed the award amount by 2 percent at final payout.

TBUs will have to monitor contracts and justify overages through contract changes and justifications for those changes.

Individual TBUs may not have data from a fiscal year if no contract(s) closed during the respective fiscal year.

PERFORMANCE MEASURE 4.2
Percent of Change for Finalized Contracts

Chart 4.2.1: Percent Change for Finalized Contracts by TBU FY2014
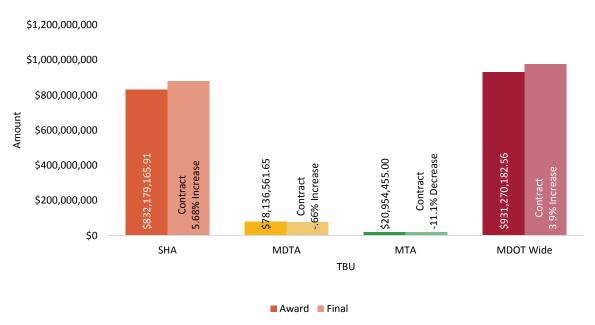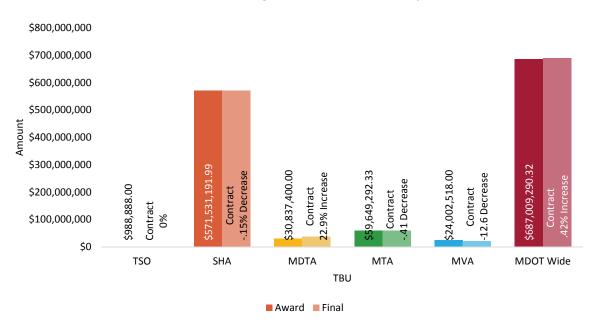
Chart 4.2.2: Percent Change for Finalized Contracts by TBU FY2015

PERFORMANCE MEASURE 4.2

Percent of Change for Finalized Contracts

Chart 4.2.3: Percent Change for Finalized Contracts by TBU FY2016

	TSO	SHA	MDTA	MVA	MPA	MDOT Wide
Amount	$1,554,000.00 Contract -.04% Decrease	$438,336,847.47 Contract .96% Increase	$57,404,913.77 Contract 7.9% Increase	$24,002,518.00 Contract 9.5% Increase	$20,273,338.00 Contract -2.6 Decrease	$550,057,089.00 Contract 1.78% Increase

■ Award ■ Final
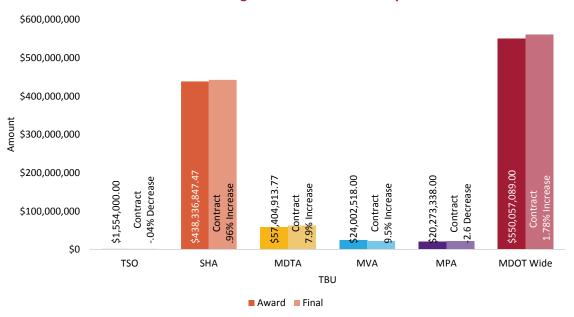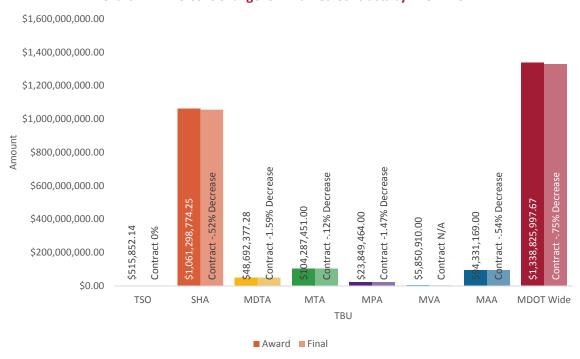
Chart 4.2.4: Percent Change for Finalized Contracts by TBU FY2017

	TSO	SHA	MDTA	MTA	MPA	MVA	MAA	MDOT Wide
Amount	$515,852.14 Contract 0%	$1,061,298,774.25 Contract -.52% Decrease	$48,692,377.28 Contract -1.59% Decrease	$104,287,451.00 Contract -.12% Decrease	$23,849,464.00 Contract -1.47% Decrease	$5,850,910.00 Contract N/A	$94,331,169.00 Contract -.54% Decrease	$1,338,825,997.67 Contract -.75% Decrease

■ Award ■ Final

PERFORMANCE MEASURE 4.3

On-time Services and Solutions: Percent of Projects Completed by Original Contract Date

When MDOT awards a contract or agrees to provide a service, it establishes a commitment date which is the date the contract or service begins providing benefits to MDOT's stakeholders.

The purpose of this performance measure is to track MDOT's accuracy in estimating if contracts and services committed to are completed and open to service by the commitment date specified in the contract. The performance measure will also determine if there are common factors that make contracts go over their budgeted time and whether these factors can be mitigated.
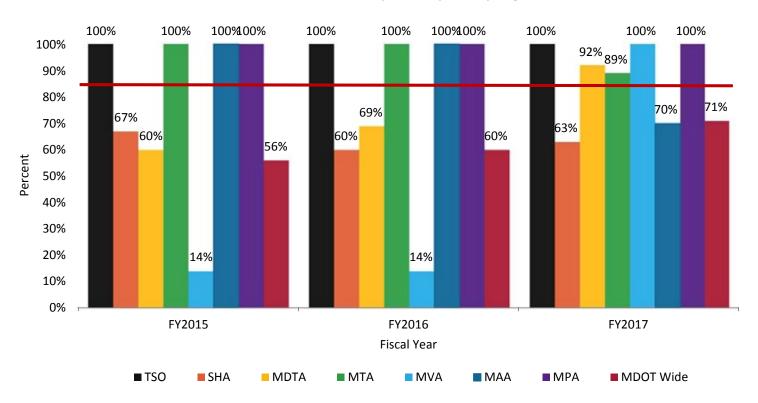
Overall MDOT increased the percentage of contracts completed in a timely basis from 56 percent in FY2015 and 60 percent in FY2016 to a FY2017 total of 71 percent. This is largely due to a new standard that measures project completion based on when our stakeholders start receiving "beneficial use" from the project. This aligns with MDOT's focus on its customers.

Another reason for the improved performance is the adoption of strategies designed to limit delays in the completion of contracts. These strategies include the implementation of A + B Bidding and Time of Year Letting strategies as well as a lessons learned process post-completion and a having design changes undergo administrator review and approval.

PERFORMANCE MEASURE 4.3

On-time Services and Solutions: Percent of Projects Completed by Original Contract Date

Chart 4.3.1: On-Time Services and Solutions, Percent of Projects Completed by Original Contract Date FY2015-FY2017

TANGIBLE RESULT DRIVER:
Jason Ridgway
State Highway Administration (SHA)

PERFORMANCE MEASURE DRIVER:
Ross Turlington
Maryland Transit Administration (MTA)

Jim Harkness
Maryland Transportation Authority (MDTA)

Shawn Ames
Maryland Aviation Administration (MAA)

PURPOSE OF MEASURE:
To track the average cost of common transportation services and solutions to make decisions as to where to reduce costs, as appropriate.

FREQUENCY:
Annually (in January and July)

DATA COLLECTION METHODOLOGY:
Through the Capital Program Management System (CPMS); CTP; and MDOT Capital Budget, Finance and Procurement Offices.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 4.4
Average Cost of Common Transportation Solutions and Services

It is MDOT's responsibility to provide transportation solutions and services to the public that are of great value.

The purpose of these measures is to track, access, and analyze data that will help reveal solutions for reducing the cost of transportation services. Tracking data that is grouped by shared services across business units will allow comparison across TBUs, and also insight into ways to reduce the cost of services to the public.

Performance measure 4.4 has 10 separate measurements. These measurements include minor and major road resurfacing cost, interstate road resurfacing cost, bridge replacement cost and major bridge redecking cost. Other measurements include operating cost per passenger trip, operating cost per revenue vehicle mile, passenger trips per revenue vehicle mile, farebox recovery and cost per transaction.

Tracking of these measures is based upon actual costs associated with contracts issued for various road and bridge projects. Because data for these projects is tracked annually, in any given year there may not be an award for this type of project as can be seen from some of the MDTA data.

Regardless, the data will provide our customers with insights into how Maryland transportation projects compare to national averages. Benchmarks are sought to gauge how Maryland solutions and services compare with national averages as well as who is considered the best in this category. Based on year-to-year data comparisons, the goal is to identify ways to reduce costs to the citizens of Maryland.

PERFORMANCE MEASURE 4.4A

Average Cost of Common Transportation Solutions and Services

Chart 4.4A.1: Minor Road Preservation Cost FY2014-FY2016

SHA

Chart 4.4A.2: Minor Road Preservation Life Cycle Cost FY2014-FY2016

SHA

PERFORMANCE MEASURE 4.4B
Average Cost of Common Transportation Solutions and Services

Chart 4.4B.1: Major Road Preservation Cost FY2014-FY2016
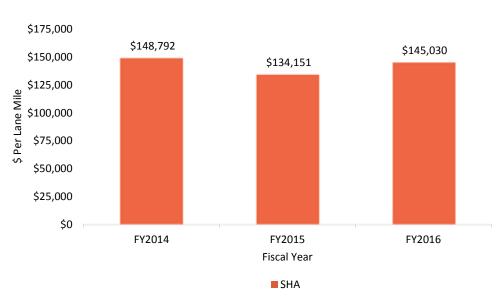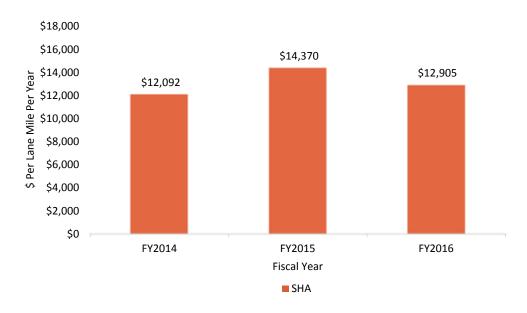
Chart 4.4B.2: Major Road Preservation Life Cycle Cost FY2014-FY2016

PERFORMANCE MEASURE 4.4C

Average Cost of Common Transportation Solutions and Services

Chart 4.4C.1: Interstate Preservation Cost FY2014-FY2016
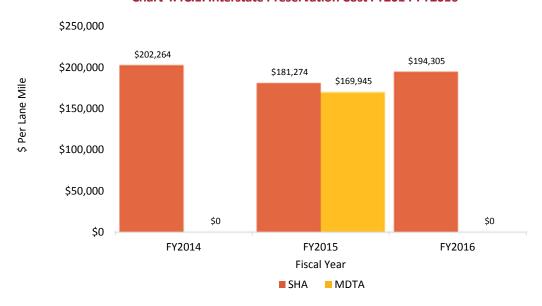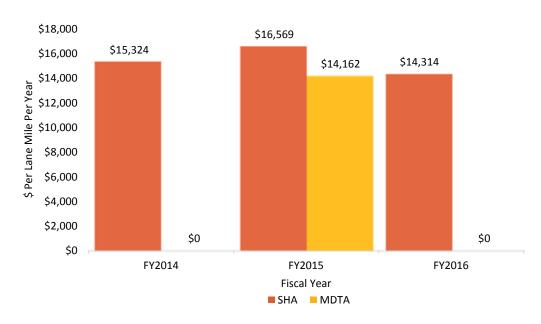
Chart 4.4C.2: Minor Road Preservation Life Cycle Cost FY2014-FY2016

PERFORMANCE MEASURE 4.4D AND E
Average Cost of Common Transportation Solutions and Services

Chart 4.4D.1: Average Bridge Replacement Cost FY2015-FY2017

Chart 4.4E.1: Average Bridge Redecking Cost FY2015-FY2017

PERFORMANCE MEASURE 4.4F

Average Cost of Common Transportation Solutions: Operating Cost per
Passenger Trip (MTA)

Operating cost per passenger trip is an indication of how effectively and efficiently the MTA is producing service given
the operating costs. Ideally, a lower operating cost per passenger trip demonstrates the ability to move passengers in an
efficient and effective manner.
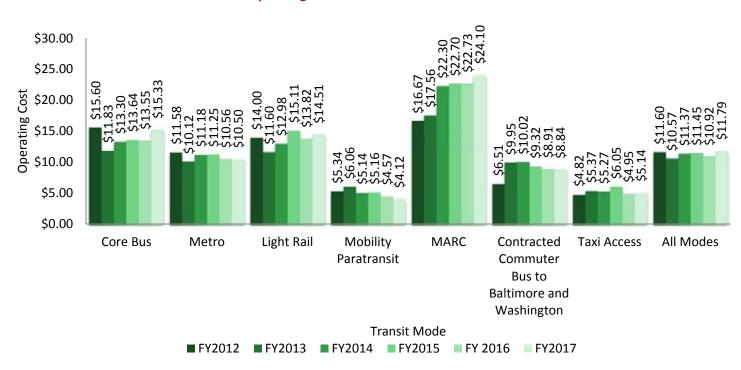
Chart 4.4F.1: Operating Cost Per Revenue Vehicle Mile FY2012-FY2017

Core Bus:
- FY2012: $15.60
- FY2013: $11.83
- FY2014: $13.30
- FY2015: $13.64
- FY 2016: $13.55
- FY2017: $15.33

Metro:
- FY2012: $11.58
- FY2013: $10.12
- FY2014: $11.18
- FY2015: $11.25
- FY 2016: $10.56
- FY2017: $10.50

Light Rail:
- FY2012: $14.00
- FY2013: $11.60
- FY2014: $12.98
- FY2015: $15.11
- FY 2016: $13.82
- FY2017: $14.51

Mobility Paratransit:
- FY2012: $5.34
- FY2013: $6.06
- FY2014: $5.14
- FY2015: $5.16
- FY 2016: $4.57
- FY2017: $4.12

MARC:
- FY2012: $16.67
- FY2013: $17.56
- FY2014: $22.30
- FY2015: $22.70
- FY 2016: $22.73
- FY2017: $24.10

Contracted Commuter Bus to Baltimore and Washington:
- FY2012: $6.51
- FY2013: $9.95
- FY2014: $10.02
- FY2015: $9.32
- FY 2016: $8.91
- FY2017: $8.84

Taxi Access:
- FY2012: $4.82
- FY2013: $5.37
- FY2014: $5.27
- FY2015: $6.05
- FY 2016: $4.95
- FY2017: $5.14

All Modes:
- FY2012: $11.60
- FY2013: $10.57
- FY2014: $11.37
- FY2015: $11.45
- FY 2016: $10.92
- FY2017: $11.79

Transit Mode

Legend: ■ FY2012 ■ FY2013 ■ FY2014 ■ FY2015 ■ FY 2016 ■ FY2017

PERFORMANCE MEASURE 4.4G

Average Cost of Common Transportation Solutions: Operating Cost per Revenue Vehicle Mile (MTA)

Operating cost per revenue vehicle mile is an indication of the cost efficiency of the MTA in producing service given operating costs and scheduling of service. Ideally, when a transit vehicle is in operation, the goal is to be in revenue service vs. deadhead or repair. A lower operating cost per revenue vehicle mile demonstrates an efficient, well scheduled service and maintained fleet.
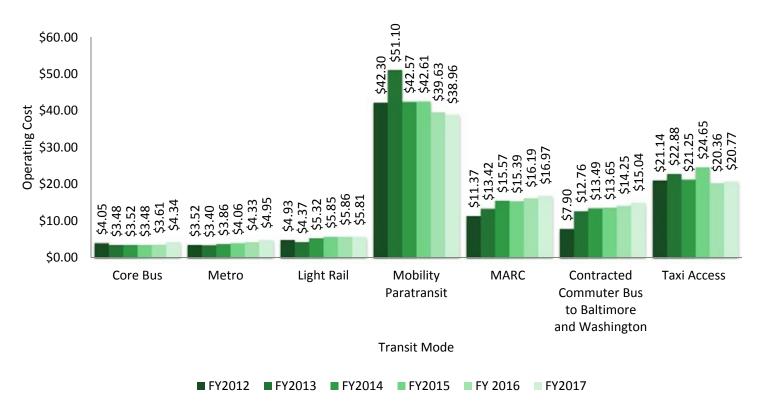
Chart 4.4G.1: Operating Cost Per Passenger Trip FY2012-FY2017

Bar chart showing Operating Cost (y-axis, $0.00 to $60.00) by Transit Mode (x-axis) for FY2012–FY2017.

Transit Mode	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017
Core Bus	$4.05	$3.48	$3.52	$3.48	$3.61	$4.34
Metro	$3.52	$3.40	$3.86	$4.06	$4.33	$4.95
Light Rail	$4.93	$4.37	$5.32	$5.85	$5.86	$5.81
Mobility Paratransit	$42.30	$51.10	$42.57	$42.61	$39.63	$38.96
MARC	$11.37	$13.42	$15.57	$15.39	$16.19	$16.97
Contracted Commuter Bus to Baltimore and Washington	$7.90	$12.76	$13.49	$13.65	$14.25	$15.04
Taxi Access	$21.14	$22.88	$21.25	$24.65	$20.36	$20.77

PERFORMANCE MEASURE 4.4H

Average Cost of Common Transportation Solutions: Passenger Trip per Revenue Vehicle Mile (MTA)

Passenger trips per revenue vehicle mile demonstrates the effectiveness of the transit's operating schedule showing scheduled service in such a way as to carry as many passengers as practicable without overcrowding the service.
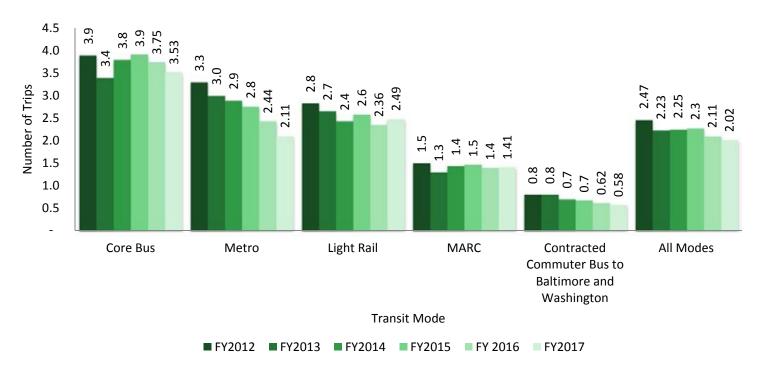
Chart 4.4H.1: Passenger Trips Per Revenue Vehicle Mile FY2012-FY2017

PERFORMANCE MEASURE 4.4I

Average Cost of Common Transportation Solutions: Farebox Recovery Ratio (MTA)

Farebox recovery ratio measures the percent of operating costs recovered through fares. Various factors affect the recovered operating costs such as fare price, ridership levels, and operating costs such as labor, fuel, and repair. State law mandates that MTA achieve a 35 percent Farebox Recovery Ratio.
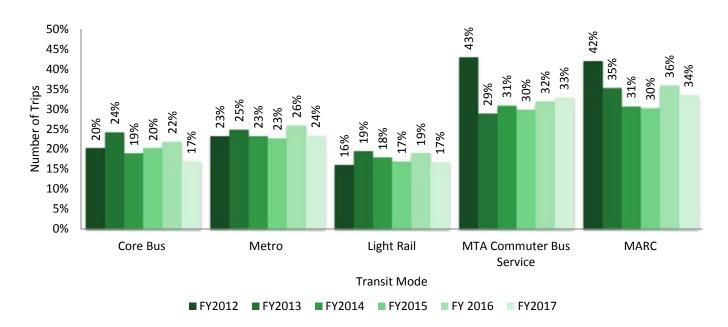
Chart 4.4I.1: Farebox Recovery Ratio FY2012-FY2017

PERFORMANCE MEASURE 4.4J

Average Cost of Common Transportation Solutions: Cost per Transaction (MVA)

Cost per transaction is based on the total operating expense compared to the total number of customer transactions. The operating expense is inclusive of salaries and wages, including overtime. Operating expenses also include MVA costs to provide driver's licensing, vehicle registration and titling customer services.

The ways in which MVA provides its services to its customers is a factor in the costs per transaction. For example, IT system enhancements (introducing alternative service delivery options to customers) offer higher levels of convenience and customer satisfaction. Recent service improvements include the ability for a customer's vision provider to submit vision exam results electronically to MVA for licensing purposes, thus allowing some customers to renew their license via the web in lieu of standing in a license renewal line. Other such innovative service delivery using computer-based methods are included in the costs per transaction.

Trends in cost per transaction can vary when new technologies are implemented. Initial technology rollout costs tend to create a spike in costs, but after implementation, cost per transaction usually stabilizes and then declines. Other factors included in cost per transaction include the number of transactions required to complete customer service or product requests; increases in vehicle sales, which can be more costly to process (full titling transactions); and changes in driver's licensing laws requiring more time-consuming customer identification screening.
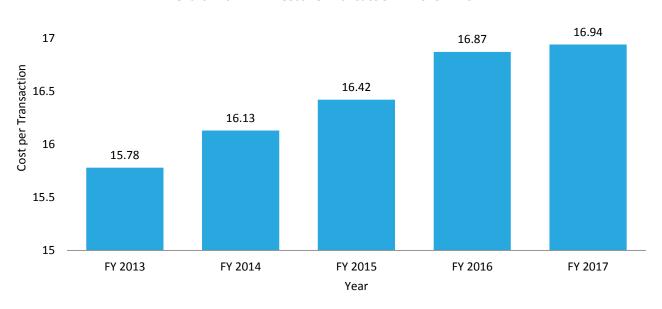
Chart 4.4J.1: MVA Cost Per Transaction FY2013-FY2017

Provide an Efficient, Well-Connected Transportation Experience

MDOT will provide an easy, reliable transportation experience throughout the system. This includes good connections and world class transportation facilities and services.

RESULT DRIVER:
Phil Sullivan
Maryland Transit Administration (MTA)

TANGIBLE RESULT DRIVER:
Phil Sullivan
Maryland Transit Administration (MTA)

PERFORMANCE MEASURE DRIVER:
Scott Jacobs
Maryland Transportation Authority (MDTA)

PURPOSE OF MEASURE:
To assess average wait time at facilities.

FREQUENCY:
Quarterly

DATA COLLECTION METHODOLOGY:
Verification of average wait times at facilities for services based on MDTA reporting the percentage of tolls collected via cash payment at toll facilities.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 5.1A

Reliability of the Transportation Experience: Percentage of Tolls Collected as Cash

Customers expect limited congestion and minimal wait times, particularly at paid toll facilities. A decrease in this measure indicates more free flow traffic using electronic means of payment. Currently we are trending positively, as our measure has been decreasing over the past year.
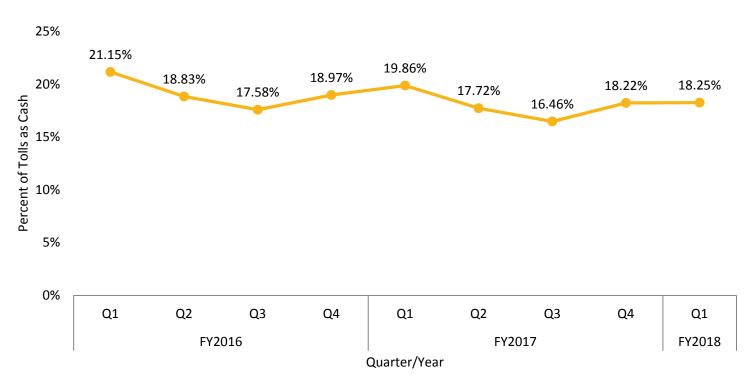
As of Q1 FY2018 we are at 18.25 percent of tolls collected as cash. This is a decrease of 0.75 percent from Q1 FY2017. Cash tolls cause more congestion and longer wait times at toll facilities. MDOT continues to market electronic toll collection and the lanes and signage reconfiguration in the current tri-message sign project is now in procurement.

PERFORMANCE MEASURE 5.1A

Reliability of the Transportation Experience: Percentage of Tolls Collected as Cash

Chart 5.1A.1: Percent of Tolls Collected as Cash for All Mixed Facilities Q1 FY2016 - Q1 FY2018

PERFORMANCE MEASURE 5.1B

Reliability of the Transportation Experience: Average Truck Turn Time per Container Transaction

This performance measure is important because customers of MDOT Port facilities expect reasonable turn times to obtain needed services. The reliability of the transportation experience is assessed through average truck transaction turn times at facilities to ensure that customers have an efficient transportation experience. This measure will allow MDOT to monitor the service provider and improve turn times at our container facility. The data will be reported and reviewed annually.

The MPA is reporting on container transaction turn time handled by trucks at Seagirt Marine Terminal by fiscal year. The gate turnaround time is determined by the accumulated time that each truck remains on the terminal to complete its transaction. The primary objective of the Port is to maintain industry leading turn times of 45 minutes or less. Turn times have increased in FY2017 from 30.7 minutes to 44.0 minutes per transaction. The increase is directly attributable to four factors:

1. The Panama Canal expansion allowing for larger vessels to call at the facility

2. These larger vessels irregular schedules contributing to vessel bunching.

3. An unexpected surge in container volume on average of 13% since January 2017 which has stressed Seagirt's historical operating methodology, labor and equipment.

4. A change in the metric for applying this data. Prior to 2017, turn times were measured at the beginning of the business transaction to the end of said transaction, the industry term for this measurement is "pedestal to pedestal." It was requested by the trucking community for turn times to more accurately reflect the actual time a driver is waiting to be serviced; not just the drivers actual time on the terminal. With the implementation of RFID technology over the past year, turn times can now be measured from the time a truck passes through the first security checkpoint until it passes through the final security checkpoint prior to exiting the terminal. It is important to note when comparing to prior reporting periods that the time from the first security checkpoint to the processing center which begins the business transaction is approximately eight to ten minutes, and this time was not reflected in prior reports.
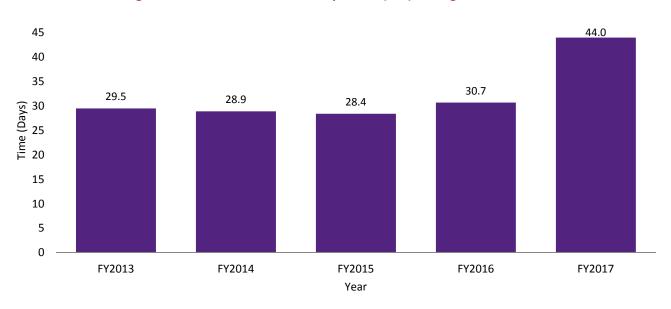
PERFORMANCE MEASURE 5.1B

Reliability of the Transportation Experience: Average Truck Turn Time per Container Transaction

Continual improvement of the trucker experience is important to the MDOT Maryland Port Administration as well as the terminal operator. The terminal operator has implemented the following to improve the truck turnaround times through:

1. Streamlining gate processes, including implementation of RFID technology.

2. Terminal infrastructure investments to include opening of a second truck gate.

3. Extending gate operating hours in coordination with CBP resources.

4. Deploying new technologies and expanding existing technologies including updating the NAVIS terminal operating system that is currently being installed.

5. Investing in new container handling equipment with the delivery of 6 new RTG (Rubber Tire Gantry) on 1.28.18 to better service over the road.

6. Executive level decisions and capital funding is committed to implement a portwide chassis pool, near dock empty container yard and a new Terminal operating system.

Lastly maintaining active lines of communication with the Maryland Motor Truck Association, Longshoreman's Association, Customs and Border Protection and United States Coast Guard all are very effective ways to eliminate unnecessary and unwarranted delays in the processing of trucks.

Chart 5.1B.1: Average Annual Truck Turnaround Time per Unit (Box) at Seagirt Marine Terminal FY2013-FY2017

TANGIBLE RESULT DRIVER:
Phil Sullivan
Maryland Transit Administration (MTA)

PERFORMANCE MEASURE DRIVER:
Jeffrey Gutowski
Maryland Port Administration (MPA)

PURPOSE OF MEASURE:
To assess average wait time at MVA facilities.

FREQUENCY:
Quarterly

DATA COLLECTION METHODOLOGY:
Verification of average wait times at MVA facilities for services.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 5.1C
Reliability of the Transportation Experience: Average Wait Time (MVA)

This performance measure is important as customers of MDOT expect reasonable wait times to obtain needed services and products. For performance measure 5.1C, the reliability of customer transportation experiences was assessed through monitoring of average wait times at MVA facilities. The data will be reported and reviewed quarterly.

Currently, the MVA reports the average wait time for customers to obtain services and products at all branch offices. The statewide average wait time goal is 14.8 minutes. This goal has been adjusted from the previous target time of 21.7 minutes, and was adjusted based on implemented improvements (pre-screening customers to identify those eligible to use a kiosk for immediate service, redesigned email renewal notices, and tablets for customers to use at each MVA branch). In the Q3 reporting period, the MVA average statewide wait time was 21.6. The average total wait time for the calendar year to date is 20.9 minutes. Both times are above the newly adjusted goal for average wait time. The increase in wait time from the prior period (2nd quarter-calendar year) can be attributed to increased in-person volumes during the summer months.

In addition to pre-screening customers for immediate service at kiosks, the MVA implemented a vision screening station at branch locations in August. As a result, the MVA was able to move more transactions to alternative services.

PERFORMANCE MEASURE 5.1C

Reliability of the Transportation Experience: Average Wait Time (MVA)

Chart 5.1C.1: Average Wait Time (MVA) CY2014-CY2017

TANGIBLE RESULT DRIVER:
Phil Sullivan
Maryland Transit Administration (MTA)

PERFORMANCE MEASURE DRIVER:
Kokuei Chen
Maryland Transit Administration (MTA)

PURPOSE OF MEASURE:
To assess the percent of on-time performance of our transportation service by mode to ensure a more reliable transportation experience for our customers.

FREQUENCY:
Quarterly

DATA COLLECTION METHODOLOGY:
Varies by mode. Most modes use GPS tracking to compare performance to the schedule and in a few cases field observations are used to assess reliability.

NATIONAL BENCHMARK:
Per APTA Standards Modal OTP Benchmarks are as follows:

Bus – 78 percent

Rail – 90 percent

Para-Transit – 92 percent

PERFORMANCE MEASURE 5.1D
Reliability of the Transportation Experience: On-Time Performance (MTA & MAA)

Reliability of transportation services is important to MDOT customers. Many rely on posted arrival and departure times to make needed connections and for critical appointments. This measure will allow the TBUs to focus resources where needed to improve on-time performance.

The public timetable has been referred to as "our contract with our riders." On-Time Performance (OTP) is the measurement of our adherence to that contract. Maintaining a high level of OTP is of critical importance when providing ground transportation.

Whether a customer has a one-seat ride or needs to make a complex intermodal connection, the rider has an expectation that services will be provided reliably and as scheduled. MTA and MAA schedule adherence drives not only customer perception of the service we provide directly, but our efficient use of taxpayer dollars, management processes, and the efficiency and reliability of State government.

As an organization, MDOT continues to strive to meet or exceed APTA benchmarks for OTP across bus (78 percent), rail (90 percent), and paratransit (92 percent) modes. Our commitment to continual improvement of OTP is evident in our efforts to provide a transit network that allows passengers to travel more efficiently throughout our service area utilizing schedules that accurately reflect passenger travel times, driving down service related complaints and resulting in a better passenger experience.

This is the first Excellerator in which MTA is providing a new measure of OTP for Core Bus. Each of the three distinct service types within Core Bus (City, Local and Express) are shown broken out from one another.

PERFORMANCE MEASURE 5.1D

Reliability of the Transportation Experience: On-Time Performance (MTA & MAA)

Chart 5.1D.1: On-Time Performance of MTA Local Bus, MTA Commuter Bus, & MAA Ground Transport CY2016-CY2017
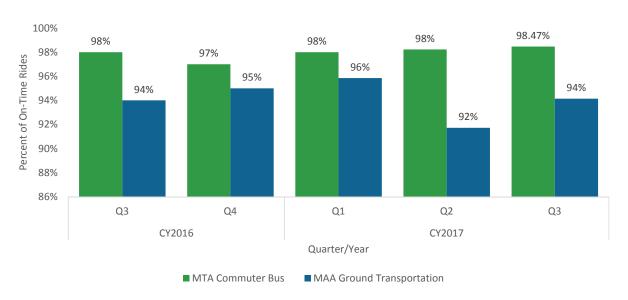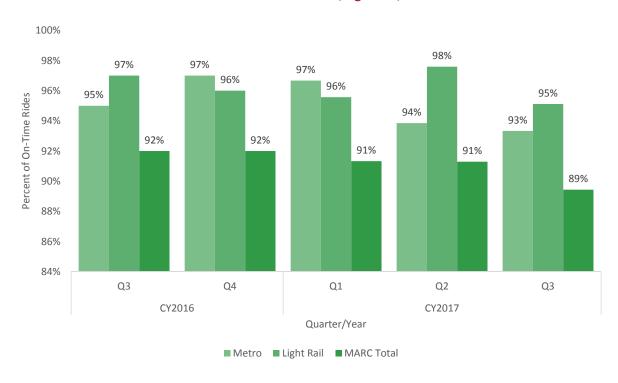

Chart 5.1D.2 On-Time Performance of MTA Metro, Light Rail, MARC Rail CY2016-CY2017

PERFORMANCE MEASURE 5.1D
Reliability of the Transportation Experience: On-Time Performance (MTA & MAA)

Chart 5.1D.3: On-Time Performance of MTA Paratransit CY2016-CY2017

Chart 5.1D.4: CityLINK (All Lines) Weekly Headway Performance CY2017

TANGIBLE RESULT DRIVER:
Phil Sullivan
Maryland Transit Administration (MTA)

PERFORMANCE MEASURE DRIVER:
Roxane Y. Mukai
Maryland Transportation Authority (MDTA)

PURPOSE OF MEASURE:
To provide customers with a gauge by which to assess travel time reliability on the State's highway system.

FREQUENCY:
Annually (April)

DATA COLLECTION METHODOLOGY:
Formula based.

NATIONAL BENCHMARK:
A Planning Time Index (PTI) which is < = 1.5.

PERFORMANCE MEASURE 5.1E
Reliability of the Transportation Experience: Planning Time Index for Highway Travel

Customers want reliable travel times when traveling on Maryland's highway system. The planning time index (PTI) is a metric that gauges the reliability of travel times on heavily used freeways and expressways during peak congestion.

For example, if a trip during uncongested, free-flowing traffic conditions takes a traveler 15 minutes; a PTI of 2.0 would indicate that the same trip during a heavily congested period could be expected to take up to 30 minutes. MDOT uses the following PTI ranges to describe the varying degrees of travel time reliability:

<div align="center">

PTI < 1.5 = Reliable
1.5 < PTI < 2.5 = Moderately Unreliable
PTI > 2.5 = Extremely Unreliable

</div>

In 2015, travel time on 8 percent (AM Peak) to 14 percent (PM Peak) of the freeways and expressways was assessed as "extremely unreliable" during congested periods on an average weekday. Almost all of the freeway and expressway segments that are "extremely unreliable" during congested periods are in the Baltimore-Washington region.
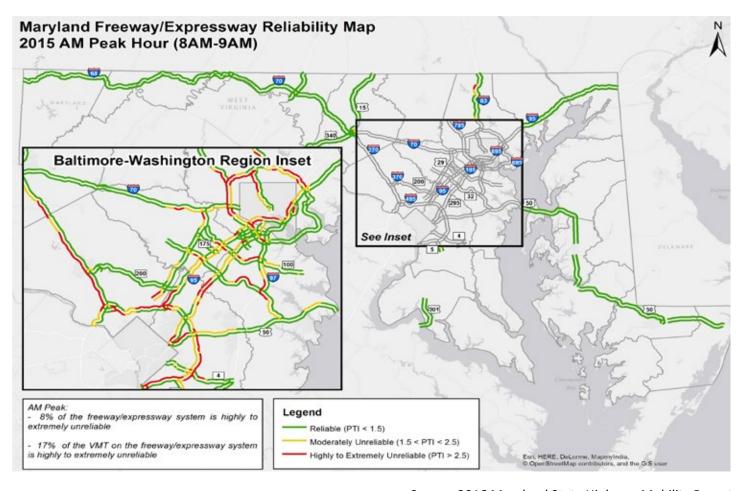
When compared to 2014, the 2015 travel reliability results were mixed. Continued economic recovery led to an increase of 1.6 percent in VMT above 2014, with a slight decrease (two miles) in roadway miles that experienced "extremely unreliable" conditions during the AM Peak and an additional 21 miles of freeway/expressway that experienced "extremely unreliable" travel conditions during the PM Peak.

Changes to the PTI that result from completed highway projects are reflected in the PTI analysis over time. As an example, the I-95 Express Toll Lane project in Baltimore opened in December 2014. The 2015 PTI analysis found that the I-95 SB PTI in the AM peak was reduced from 2.60 to 1.44 and the I-95 NB PTI in the PM peak was reduced from 2.79 to 1.18. The I-95 Expresss Toll lane project area is now assessed as a "reliable" freeway segment.

PERFORMANCE MEASURE 5.1E

Planning Time Index for Highway Travel

When compared to 2014, the AM Peak reflects a 1 percent increase in VMT and a 1 percent decrease in the number of freeway and expressway miles with a PTI > 2.5.

Source: 2016 Maryland State Highway Mobility Report

PERFORMANCE MEASURE 5.1E

Planning Time Index for Highway Travel

When compared to 2014, the PM Peak reflects a 3 percent increase in VMT and a 1 percent increase in the number of freeway and expressway miles with a PTI > 2.5.
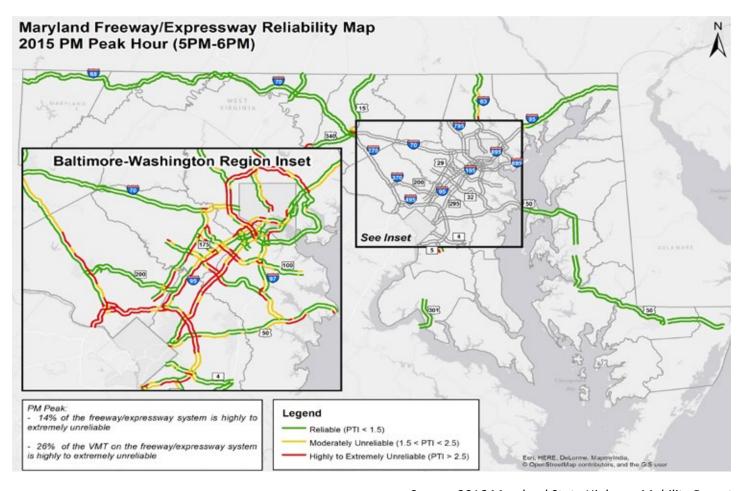

Source: 2016 Maryland State Highway Mobility Report

TANGIBLE RESULT DRIVER:
Phil Sullivan
Maryland Transit Administration (MTA)

PERFORMANCE MEASURE DRIVER:
Glenn McLaughlin
State Highway Administration (SHA)

PURPOSE OF MEASURE:
To understand the impact on efficiency of quickly restoring transportation services after incidents for customers.

FREQUENCY:
Annually (in April)

DATA COLLECTION METHODOLOGY:
The methodology involves an analysis of operational records collected in real-time, and results are contingent on the scale, number and types of incidents causing disruptions.

NATIONAL BENCHMARK:
Arizona – 32 minutes

North Carolina – 69 minutes

Connecticut – 45 minutes

Iowa – 56 minutes

Michigan – 54 minutes

Minnesota – 35 minutes

Missouri – 24 minutes

New Jersey – 43 minutes

Virginia – 32 minutes

PERFORMANCE MEASURE 5.2A
Restoring Transportation Services: Average Time to Restore Normal Operations After Disruptions

MDOT's customers expect a safe, well-maintained, efficient and reliable transportation system with minimal disruption to travel. Rapid response to effectively manage and clear incidents that disrupt highway travel is one strategy that is essential in meeting these expectations. Efforts to improve coordination and cooperation among TBUs and emergency responders facilitate the reduction in response times and the overall average incident duration, restoring travel more quickly for customers. The "average incident duration" is a measure of the time it takes a response unit to arrive, plus the elapsed time between the arrival of the first unit and the time stamp in the CHART advanced traffic management system denoting the restoration of normal operating conditions.

As shown in chart 5.2A.1, the average incident duration between years 2010 and 2015 has been consistently less than 30 minutes. The slight increase in average incident duration in 2014 (23.32 min.) and 2015 (23.54 min.) is likely due to the addition of overnight and weekend patrol hours. During the night and weekends, incident clearance takes slightly longer, since emergency responding agencies operate at reduced staffing levels, or depend on "on-call" staff. However, performance measures show that night and weekend patrols have a significant positive impact on reducing overall travel delays.
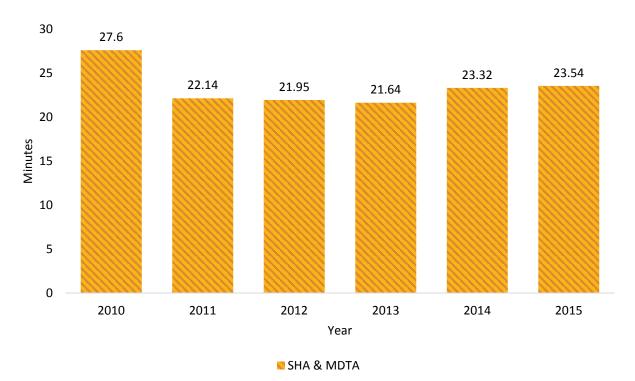
The primary strategies for improving Transportation Incident Management focus on assuring that emergency responders have well established coordination procedures, effective communications, thorough training and the resources available to address any type of incident. MDOT is leading three initiatives to improve coordination with the MSP including; formalizing working relationships with the heavy tow industry through MSP managed agreements which may include performance incentives for prompt vehicle recovery; organizational modifications to better support inter-organization coordination between MSP and MDOT; and enhancing data collection on reported crashes including the identification of preventable secondary incidents.

MDOT is also supporting the deployment of the Maryland First radio system statewide to improve inter-organization emergency communication. And, MDOT is leading efforts to provide standardized incident management training to raise the level of emergency preparedness and safety of emergency responders who manage incidents on the transportation system.

Provide an Efficient, Well-Connected Transportation Experience

PERFORMANCE MEASURE 5.2A

Restoring Transportation Services: Average Time to Restore Normal Operations After Disruptions

Chart 5.2A.1: Average Highway Incident Duration (minutes) CY2010-CY2015

Bar chart showing Average Highway Incident Duration (minutes) by year:
- 2010: 27.6
- 2011: 22.14
- 2012: 21.95
- 2013: 21.64
- 2014: 23.32
- 2015: 23.54

Y-axis: Minutes (0 to 30). X-axis: Year.

Legend: ■ SHA & MDTA

TANGIBLE RESULT DRIVER:
Phil Sullivan
Maryland Transit Administration (MTA)

PERFORMANCE MEASURE DRIVER:
Glenn McLaughlin
State Highway Administration (SHA)

PURPOSE OF MEASURE:
To understand the impact on efficiency of quickly restoring transportation services after weather events.

FREQUENCY:
Annually (in April)

DATA COLLECTION METHODOLOGY:
The methodology involves an analysis of operational records collected in real-time, and results are contingent on the scale, number and types of weather events.

NATIONAL BENCHMARK:
Minnesota – 3 hours

Washington, DC – 18 hours

Missouri – 3.8 hours

PERFORMANCE MEASURE 5.2B
Restoring Transportation Services: Average Time to Restore Normal Operations After a Weather Event

Disruptions in travel due to inclement weather (snow, ice, etc.) require specialized operations experience and rapid response to restore normal operating conditions. To understand performance during winter storms, MDOT collects data on the "average time to restore normal operations after weather events." This measure is calculated by identifying the lapse in time from the ending of frozen precipitation in a maintenance shop's area of responsibility and achieving bare (wet or dry) pavement conditions.

As shown in chart 5.2B.1, the average time to restore normal operations after weather events for the years 2011 through 2015 was consistently less than the benchmark value (3.8 hours –Missouri). The Average Time to Restore Normal Operations after a Weather Event increased to 6 hours in Fiscal Year 2016, mostly due to the impacts of Winter Storm Jonas which involved more than 24 inches of snow accumulation, over the period of January 22-24, 2016.
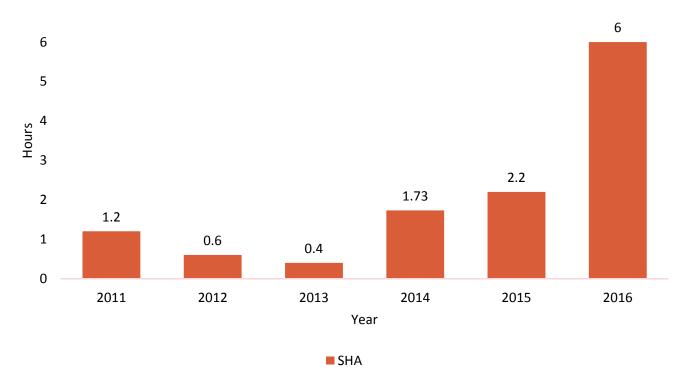
Recognizing that a large winter event such as Jonas presented unique challenges, MDOT initiated a major after-action initiative, which identified 30 tasks for improving Maryland's winter storm preparedness. Some of the major tasks included compiling and maintaining winter storm emergency contact lists; updating emergency procurement procedures for obtaining necessary resources (e.g. food, lodging and supplies) during major weather events; developing the capability of displaying automated emergency weather warning on programmable highway message signs; identifying resources for transporting personnel during heavy snow conditions; and documenting and distributing lists of "pre-identified" snow disposal areas. All tasks were accomplished between February and October 2016.

Another major strategy was to incorporate contracts for private, heavy-tow services under the emergency snow removal procurement regulations. These services are used to recover and relocate trucks stranded in the snow from travel lanes, to maintain a clear roadway and facilitate overall snow removal efforts.

Provide an Efficient, Well-Connected Transportation Experience

PERFORMANCE MEASURE 5.2B

Restoring Transportation Services: Average Time to Restore Normal Operations After a Weather Event

Chart 5.2B.1: Time to Regain Bare Pavement After Snow (hours) CY2011-CY2016

MDOT MARYLAND DEPARTMENT OF TRANSPORTATION

PURPOSE OF MEASURE:

To measure percentage of services through alternate methods other than in-person visit as an indicator of easy and reliable access to MDOT services and products.

FREQUENCY:

Semi-Annually (in April and October)

DATA COLLECTION METHODOLOGY:

Formula accounts for total customer transportation services and products compared to those acquired by alternate methods.

NATIONAL BENCHMARK:

FY2018 - 68%

PERFORMANCE MEASURE 5.3

Percent of Transportation Services and Products Provided Through Alternative Service Delivery (ASD) Methods
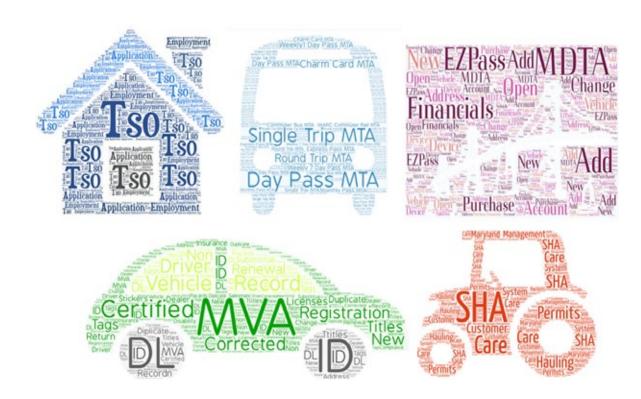
MDOT customers want easy and reliable access to acquire transportation services and products. A 2015 Pew Research Center study, shows 42 percent of Americans use the internet to get government services and/or information and 22 percent use the internet to make or receive payments. Including the projected increase in use of smart phones, it is expected that up to 68 percent of MDOT customers will complete transactions at their leisure without having to visit MDOT offices.

The methodology used to capture data is transaction count for services or goods delivered by ASD. Service Delivery Channel (SDC) for ASD includes Web, KIOSK, call center/IVR and mail-in. The percentage of ASD is derived by dividing ASD transactions by the number of total transactions. At present MDTA, MTA, MVA, SHA and TSO combined have 66 services available to customers through ASD methods.

For the first three quarters of 2017 over 20.1 million transactions were completed using ASD out of 30 million total accounting for 67% of all transactions. The strategy to grow ASD includes marketing to effect behavior change, looking for services to be added to ASD and capturing services that may not be reported.
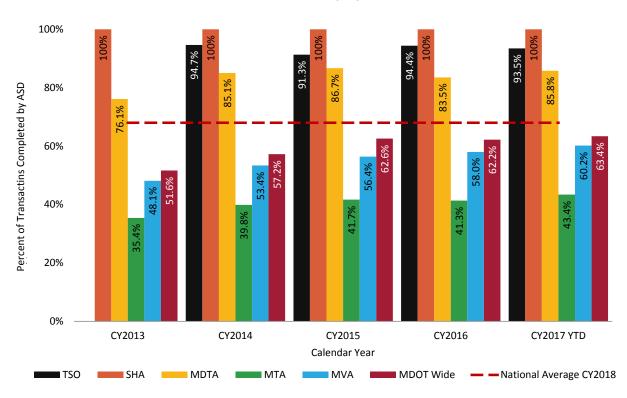
PERFORMANCE MEASURE 5.3

Percent of Transportation Services and Products Provided Through
Alternative Service Delivery (ASD) Methods

PERFORMANCE MEASURE 5.3

Percent of Transportation Services and Products Provided Through Alternative Service Delivery (ASD) Methods

Chart 5.3.1: Alternative Service Delivery by TBU CY2013-CY2017 (YTD)

TANGIBLE RESULT DRIVER:
Phil Sullivan
Maryland Transit Administration (MTA)

PERFORMANCE MEASURE DRIVER:
Ralign T. Wells
Maryland Aviation Administration (MAA)

PURPOSE OF MEASURE:
To assess the functionality and value of real-time signage and information systems offered.

FREQUENCY:
Quarterly for functionality.

Annually for customer satisfaction (in July).

DATA COLLECTION METHODOLOGY:
Sampling of real-time signage or IVR systems to determine a percentage of functionality.

Survey users to assess their opinion of usefulness and satisfaction with Real-Time Information Systems.

NATIONAL BENCHMARK:
85%-90% functionality, according to Clever Devices (industry experts on real-time information technologies

PERFORMANCE MEASURE 5.4A AND 5.4B

Percent of Functional Real-Time Information Systems Provided; Customer Satisfaction with the Usefulness & Accuracy of Real-Time Information

MDOT's customers benefit from "real-time" information systems installed throughout the transportation network offering travelers the most accurate and up to date information available. These systems help customers prepare for and manage their time while using statewide transportation services.

Combined, all TBUs exceed industry standards of 90 percent functionality, averaging 99 percent functionality for Q1 of CY2017.

Currently, all TBUs have processes in place to ensure that any system failures are immediately addressed to ensure near 100 percent functionality at any given time. Systems will continually be monitored to ensure continued stellar "up-time" performance of these systems.
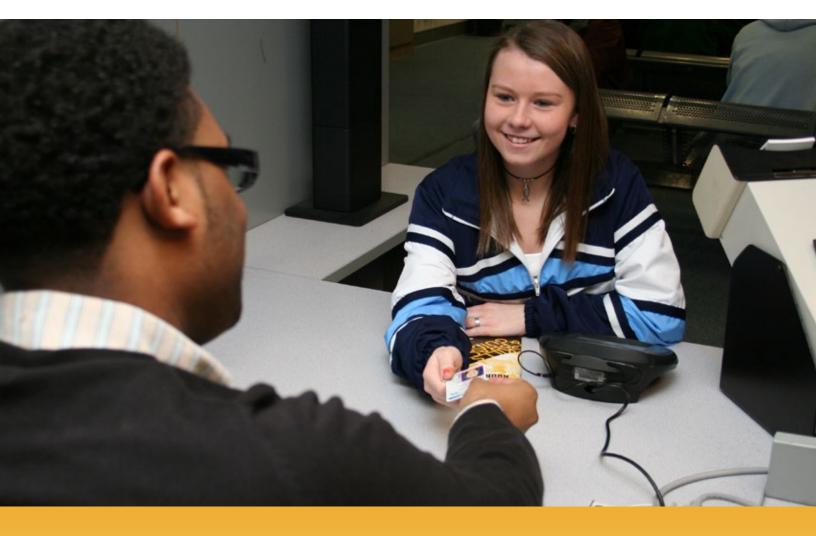
PERFORMANCE MEASURE 5.4B

Percent of Transportation Services and Products Provided Through Alternative Service Delivery (ASD) Methods

Chart 5.4A.1: Percent of Functional Real-Time Information Systems Provided CY2016-CY2017

	Q4 CY2016	Q1 CY2017	Q2 CY2017	Q3 CY2017
MVA Wait Time	100%	100%	100%	100%
MTA Mobility	100%	100%	100%	100%
MTA Bus Tracker	100%	100%	100%	100%
MTA Light Rail	100%	100%	100%	100%
MAA Flight Info	100%	100%	100%	100%
MAA Next Vehicle	97%	98%	96%	97%
MDTA CHART	98.0%	98.0%	99.3%	98.6%
SHA CHART	98.7%	98.7%	99.1%	98.9%
MTA MARC	98.5%	98.5%	99.1%	99.4%

Communicate Effectively With Our Customers

Every MDOT employee has to communicate with customers, some on a daily basis. It is critical to communicate clearly, concisely, accurately, and in a timely manner with customers.

RESULT DRIVER:

Diane Langhorne
The Secretary's Office (TSO)

PURPOSE OF MEASURE:
To examine and analyze the social media activities of each MDOT TBU to gauge if we are communicating effectively with our customers/followers.

FREQUENCY:
Quarterly

DATA COLLECTION METHODOLOGY:
MDOT gathers social media analytics for this measure from MDOT Twitter and Facebook accounts.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 6.1A
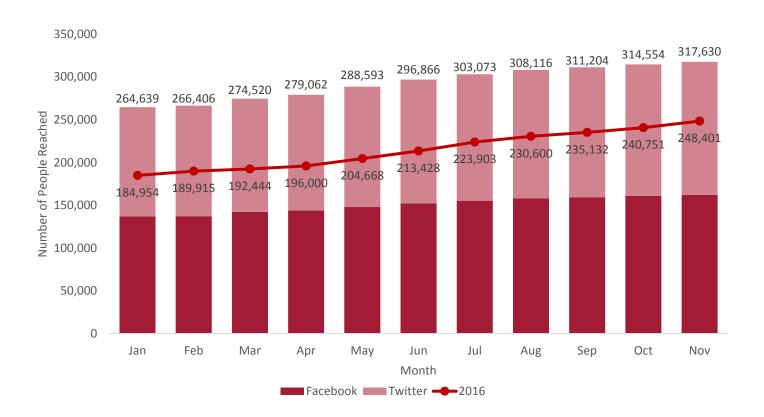## Communicate Effectively Utilizing Social Media: Social Reach

Social media offers MDOT powerful avenues to disseminate important information directly to its customers and to interact with them in real-time. Each of our TBUs continues to grow its social media following and expand its reach.

"Social Reach" measures the number of customers who have seen our message on Facebook and Twitter. MDOT strives to reach customers through the channels they use. Efforts are focused on developing social media strategic skills and programs MDOT-wide to enhance Social Reach. To date, MDOT proudly has nearly 320,000 fans on social media and continues to grow. During the last quarter, MDOT TBUs reached an average of five million users each month, a 30 percent increase in reach over 2016.

PERFORMANCE MEASURE 6.1A

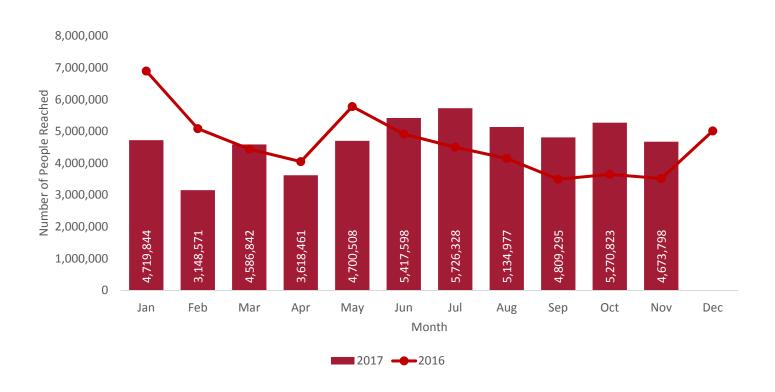## Communicate Effectively Utilizing Social Media: Social Reach

Chart 6.1A.1: Total MDOT Social Media Followers CY2017

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Communicate Effectively With Our Customers

PERFORMANCE MEASURE 6.1A

Communicate Effectively Utilizing Social Media: Social Reach

Chart 6.1A.2: Total MDOT Social Media Reach CY2017

Chart showing Number of People Reached by Month:

Month	2017
Jan	4,719,844
Feb	3,148,571
Mar	4,586,842
Apr	3,618,461
May	4,700,508
Jun	5,417,598
Jul	5,726,328
Aug	5,134,977
Sep	4,809,295
Oct	5,270,823
Nov	4,673,798

Legend: 2017 (bars), 2016 (line)

TANGIBLE RESULT DRIVER:
Diane Langhorne
The Secretary's Office (TSO)

PERFORMANCE MEASURE DRIVER:
Richard Scher
Maryland Port Administration (MPA)

PURPOSE OF MEASURE:
To examine and analyze the social media activities of each MDOT TBU to gauge if we are communicating effectively with our customers/followers.

FREQUENCY:
Quarterly

DATA COLLECTION METHODOLOGY:
MDOT gathers social media analytics for this measure from all MDOT Twitter and Facebook accounts.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 6.1B

Communicate Effectively Utilizing Social Media: Social Engagement

While "social reach" measures the total number of people who have seen a message, "social engagement" recognizes how followers engaged with that message. Engagements initiate opportunities to communicate interactively with customers.
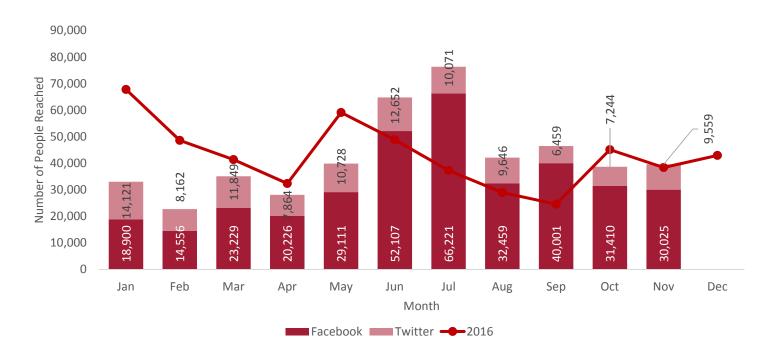
To determine the effectiveness of its social media communication, MDOT measures social engagement across all MDOT social media accounts, looking for trends in likes, comments, and shares in order to better provide content its followers will enjoy and find informative. Through education and training, MDOT staff are determined to heighten the social experience of their customers.

MDOT continues to learn the interests of its customers through social media channels in order to provide the content customers expect.

PERFORMANCE MEASURE 6.1B

Communicate Effectively Utilizing Social Media: Social Engagement

Chart 6.1B.1: Total MDOT Social Media Engagements CY2017

Number of People Reached (y-axis) vs. *Month* (x-axis)

Month	Facebook	Twitter	2016 line (approx.)
Jan	18,900	14,121	—
Feb	14,556	8,162	—
Mar	23,229	11,849	—
Apr	20,226	7,864	—
May	29,111	10,728	—
Jun	52,107	12,652	—
Jul	66,221	10,071	—
Aug	32,459	9,646	—
Sep	40,001	6,459	—
Oct	31,410	7,244	—
Nov	30,025	9,559	—
Dec	—	—	—

Legend: ■ Facebook ■ Twitter —●— 2016

TANGIBLE RESULT DRIVER:
Diane Langhorne
The Secretary's Office (TSO)

PERFORMANCE MEASURE DRIVER:
Jennifer White
Maryland Transit Administration (MTA)

PURPOSE OF MEASURE:
To track how clearly and effectively MDOT communicates with customers during public events.

FREQUENCY:
Quarterly

DATA COLLECTION METHODOLOGY:
Data will be collected via survey at all public meetings hosted by TBUs. The data will be owned and housed by the TBU in charge of the public meetings and sent to MVA on a quarterly basis.

NATIONAL BENCHMARK:
84% (American Customer Survey Index)

PERFORMANCE MEASURE 6.2
Satisfaction with Communication at Public Meetings

MDOT wants to ensure only positive and valuable customer service interactions are experienced during its public transportation events. We understand that customer views and guidance can greatly influence Maryland transportation related programs and projects; as a result, MDOT encourages open and honest feedback from all its customers (residents, community leaders, and stakeholders).
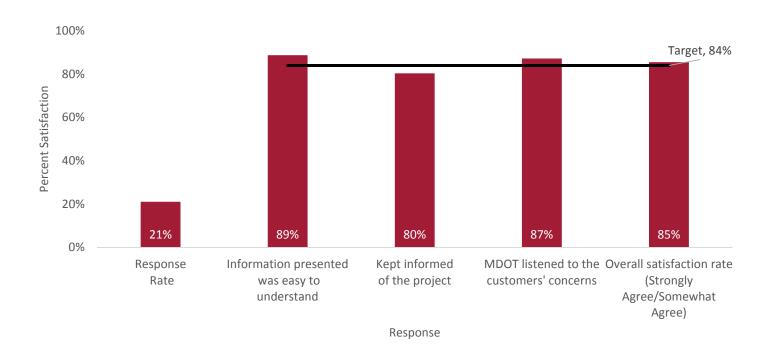
From July 2016 – December 2017, MDOT achieved an overall 85 percent satisfaction rating from customers (292 customers) indicating that MDOT effectively communicated during 37 separate MDOT-hosted public events. We are proud to once again exceed the national benchmark of 84 percent, but, be assured MDOT will continue to explore and implement enhanced communication methods and techniques.

During this past quarter, in an effort to increase opportunities for customer outreach, the Customer Feedback mechanism was revised, which can be electronically accessed by visiting https://www.surveymonkey.com/r/ MDOTpublicEventsCY18. In addition, language translation of the Customer Feedback Indicator form can now be accessed at www.mdot.maryland.gov/ newMDOT/Public_Meetings/PublicMeetings.html. Translation is available by using the Google Translate link on MDOT's website. For customer convenience, a listing of current MDOT Public Meetings can be found at www.mdot.maryland.gov listed under the Transportation Services category.

Communicate Effectively With Our Customers

PERFORMANCE MEASURE 6.2

Satisfaction with Communication at Public Meetings

**Chart 6.2.1: Overall Customer Satisfaction with Communication at Public Meetings
FY2017 & Q1 FY2018 YTD**

PERFORMANCE MEASURE 6.3A

Communicate Effectively Through News Releases: Number of News Stories Generated from Major Releases

MDOT communications and media relations professionals work to showcase the good work performed by our employees across MDOT on behalf of our customers. These public information specialists use their skills, experience, and knowledge to represent MDOT and serve as spokespersons before the news media.
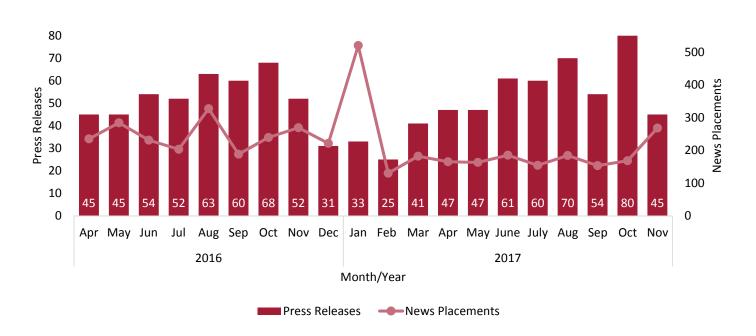
Performance measure 6.3A encourages each MDOT TBU to monitor and analyze the news that it creates and disseminates. Press releases remain an important tool to distribute news to Maryland residents, businesses, and visitors. This performance measure examines the number of press releases issued each month and the corresponding number of news stories that resulted from the press releases.

The press releases created by MDOT TBUs continue to result in broad reach across local, national, international, and transportation trade media.

PERFORMANCE MEASURE 6.3A

Communicate Effectively Through News Releases: Number of News Stories Generated from Major Releases

Chart 6.3A.1: MDOT Press Releases and News Placements CY2016-CY2017

PERFORMANCE MEASURE 6.3A

Communicate Effectively Through News Releases: Number of News Stories Generated from Major Releases

TANGIBLE RESULT DRIVER:
Diane Langhorne
The Secretary's Office (TSO)

PERFORMANCE MEASURE DRIVER:
Valerie Burnette Edgar
State Highway Administration (SHA)

PURPOSE OF MEASURE:
To evaluate the effectiveness of the news releases issued by MDOT. Demonstrates cost effectiveness of releasing public information to media outlets vs. buying advertising space/time.

FREQUENCY:
Quarterly

DATA COLLECTION METHODOLOGY:
Data can be derived through software systems and some of the data is calculated per news story by individuals using advertising rates of media outlets.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 6.3B

Communicate Effectively Through News Releases: Earned Media Value of Print and Broadcast Coverage Generated by News Releases

To reach its customers, MDOT has the option to buy advertising space or time in the market or to issue news releases that are then used and editorialized by media outlets. News releases offer a significant cost-savings to MDOT and the tax-paying public while allowing MDOT messages to reach more customers quickly and efficiently.
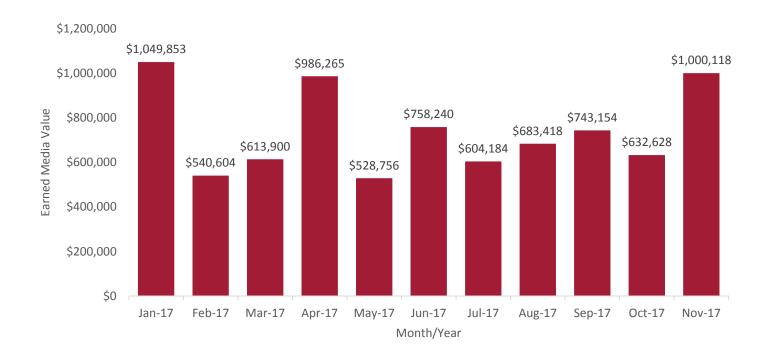
MDOT issues news releases to inform customers of important information they need regarding transportation services and projects. This measure shows the value of print and broadcast stories generated by news releases to determine the cost effectiveness of news releases (reaching customers with news and information without purchasing advertising for public notice).

MDOT staff follows up with media outlets to assure the right person is receiving the news releases and encourage coverage, particularly in small media markets where transportation projects and programs are typically of great interest to customers.

PERFORMANCE MEASURE 6.3B

Communicate Effectively Through News Releases: Earned Media Value of Print and Broadcast Coverage Generated by News Releases
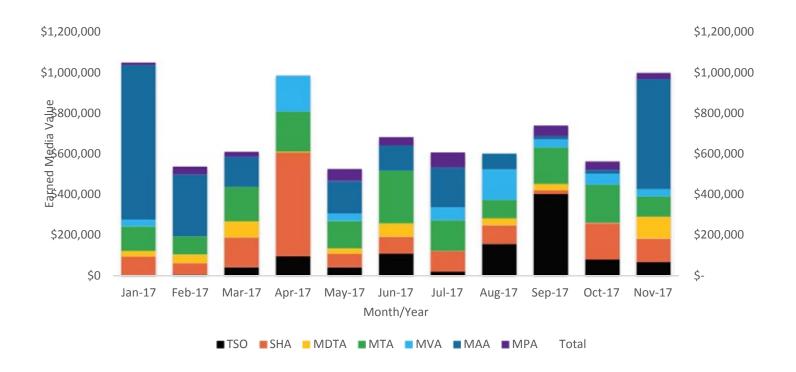
Chart 6.3B.1: Earned Media Value of Print and Broadcast Coverage Generated by News Releases MDOT-wide CY2017

PERFORMANCE MEASURE 6.3B

Communicate Effectively Through News Releases: Earned Media Value of Print and Broadcast Coverage Generated by News Releases

Chart 6.3B.2: Earned Media Value of Print and Broadcast Coverage Generated by News Releases by TBU CY2017

PURPOSE OF MEASURE:
To evaluate the tone of media coverage resulting from news releases.

FREQUENCY:
Quarterly

DATA COLLECTION METHODOLOGY:
MDOT's team will use software that tracks releases and news generated to evaluate tone of news stories.
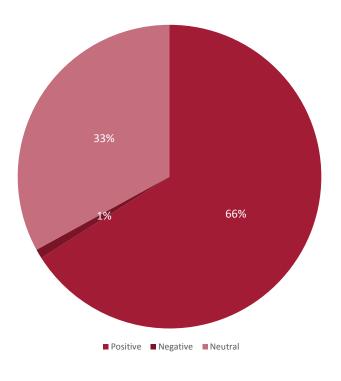
NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 6.3C

Communicate Effectively Through New Releases: Evaluate Tone of News Stories by Publications Generated from MDOT Releases

MDOT has a responsibility to inform customers about important information they need relating to services, transportation options and improvements in their communities. One way MDOT shares information is through issuing news releases to the media.

This measure helps MDOT evaluate the tone of print and broadcast news stories that are directly related to MDOT news releases to determine if there is balanced coverage for customers. It also helps MDOT determine if more, less, or different information is needed to ensure customers are receiving factual information via news outlets.
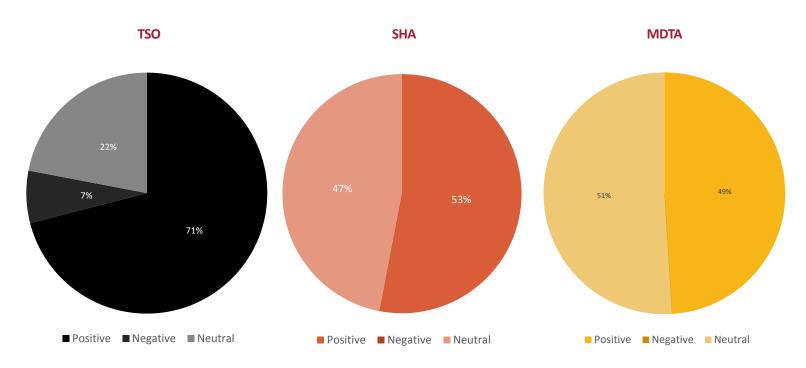
Chart 6.3C.1: "News Tone" MDOT-Wide January 2017 - November 2017

Positive Negative Neutral

PERFORMANCE MEASURE 6.3C

Communicate Effectively Through New Releases: Evaluate Tone of News Stories by Publications Generated from MDOT Releases

Chart 6.3C.1: "News Tone" by TBU January 2017 – November 2017

TSO	SHA	MDTA
71% / 22% / 7%	53% / 47%	49% / 51%

Positive ■ Negative ■ Neutral

PERFORMANCE MEASURE 6.3C

Communicate Effectively Through New Releases: Evaluate Tone of News Stories by Publications Generated from MDOT Releases
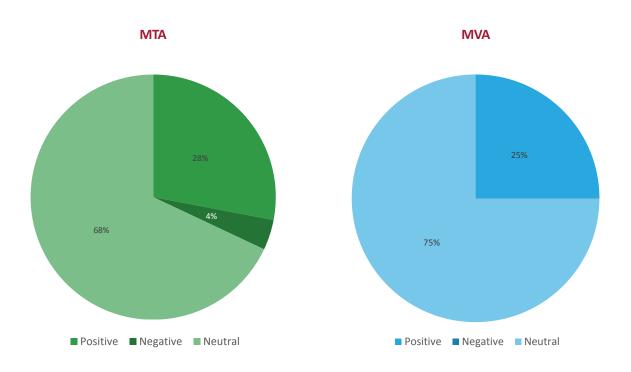
Chart 6.3C.1: "News Tone" by TBU January 2017 – November 2017

MTA

MVA

28%

4%

68%

■ Positive ■ Negative ■ Neutral

25%

75%

■ Positive ■ Negative ■ Neutral

PERFORMANCE MEASURE 6.3C

Communicate Effectively Through New Releases: Evaluate Tone of News Stories by Publications Generated from MDOT Releases
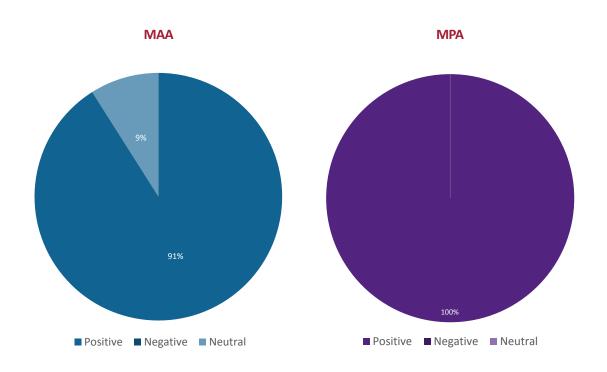
Chart 6.3C.1: "News Tone" by TBU January 2017 – November 2017

MAA

9%

91%

■ Positive ■ Negative ■ Neutral

MPA

100%

■ Positive ■ Negative ■ Neutral

TANGIBLE RESULT DRIVER:
Diane Langhorne
The Secretary's Office (TSO)

PERFORMANCE MEASURE DRIVER:
Jonathan Dean
Maryland Aviation Administration (MAA)

PURPOSE OF MEASURE:
To track number of stories generated to ensure maximum customer reach.

FREQUENCY:
Quarterly

DATA COLLECTION METHODOLOGY:
Data gathered, measured, and analyzed with software system.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 6.4
News Customers Can Use – Proactive Media Stories

MDOT monitors activities to identify opportunities to share and promote unique and positive stories for our customers. Our communications professionals work to develop and maintain relationships with reporters and editors across the news media.

This new performance measure highlights MDOT communicators' work to create and disseminate distinctive stories to the news media and the general public. Customer service initiatives are a major emphasis of this media outreach. For this measure, our MDOT media relations employees are encouraged to "go beyond the press release" by directly pitching positive stories to the media.

For this measure, we have worked to establish that TBUs will identify several significant, leading media outlets. Our communicators will coordinate with these news outlets to produce stories related to customer service or new MDOT services. For each quarter, we will highlight several positive news stories that were the result of the expanded outreach.

PERFORMANCE MEASURE 6.4
News Customers Can Use – Proactive Media Stories

Maryland's Ports are Doing 'Great'

PERFORMANCE MEASURE 6.4

News Customers Can Use – Proactive Media Stories

Students take part in BaltimoreLink system

PERFORMANCE MEASURE 6.4

News Customers Can Use – Proactive Media Stories

Small businesses take wing at BWI Airport

Be Fair and Reasonable to Our Partners

MDOT will provide an easy, reliable procurement experience throughout the system.

RESULT DRIVER:
Wanda Dade
State Highway Administration (SHA)

PURPOSE OF MEASURE:
To track MBE participation achieved on contracts within MDOT.

FREQUENCY:
Quarterly

DATA COLLECTION METHODOLOGY:
MDOT TBUs report the data on a quarterly basis to the Governor's Office of Women, Small, Minority Business Affairs and MDOT. The information will be provided by MDOT from that report.

NATIONAL BENCHMARK:
N/A

The state goal/benchmark is 29 percent.

PERFORMANCE MEASURE 7.1
Percentage of Minority Business Enterprise (MBE) Participation Achieved by Each TBU

The MBE program is a statewide program to facilitate minority business participation on contracts. Each MDOT TBU tracks MBE participation data for internal program monitoring. Participation is reported on a quarterly year to date basis.

• MDOT MBE participation for the first quarter of FY2018 was approximately 18.31 percent (average of all TBUs) reflecting a decrease from FY2017, which was approximately 22.52 percent. Participation is reported as year to date participation, so Q1 represents participation for FY2018 (July 2017 – September 2017). Participation at the TBUs ranged from 3.18 percent to 38.55 percent.

• MBE participation is important as MDOT is subject to the statewide MBE goal of 29 percent as are all state agencies. Participation has been up and down during the last fiscal year, but overall the participation has not been at that level.

• Per the strategic plan, input was obtained from MDOT Procurement and Fair Practices staff regarding approaches to positively impact the goal. Unbundling of contracts, an increase in the number of smaller contracts and increased/enhanced outreach efforts are items that were recommended. Implementation of these items is on-going and should have a positive impact on participation.

• MDOT MBE Participation for FY2017 as cited above was approximately 22.52 percent (average of all TBUs).

PERFORMANCE MEASURE 7.1

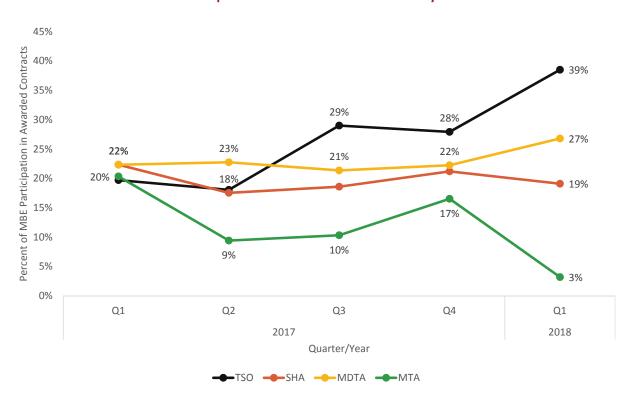Percentage of Minority Business Enterprise (MBE) Participation Achieved by Each TBU

Chart 7.1.1: MBE Participation Rate in Awarded Contracts by TBU FY2017-FY2018

PERFORMANCE MEASURE 7.1

Percentage of Minority Business Enterprise (MBE) Participation Achieved by Each TBU

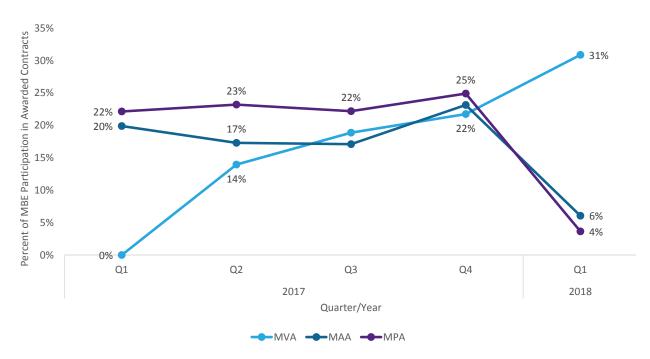**Chart 7.1.2: MBE Participation Rate in Awarded Contracts by TBU FY2017-FY2018**
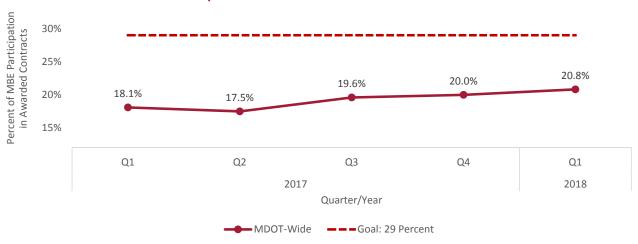

Chart 7.1.3: MBE Participation Rate in Awarded Contracts MDOT-Wide FY2017-FY2018

PURPOSE OF MEASURE:
To track MBE prime contractor participation achieved on contracts within MDOT to ensure MDOT provides opportunities to all of business partners.

FREQUENCY:
Quarterly

DATA COLLECTION METHODOLOGY:
Data will be collected from MDOT and TBUs.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 7.2
Number and Percent of Contracts Awarded to MBE Firms as the Prime Contractor

Participation of MBE firms as a prime contractor is important to facilitate their growth and enable them to compete in the general marketplace after graduation. MBE firms "graduate" from the program when reaching designated thresholds (re. company gross receipts and personal net worth of owners).

The information previously reported in this measure was the number of MBE prime contractors awarded contracts at/above $500,000, which did not include small purchases. The contracts covered a variety of areas including construction, architectural, engineering, maintenance and services.   The overall percentage of MBE prime awards at the designated threshold of $500,000 and above within MDOT fluctuated based on the number of prime contracts awarded overall, and the number of MBE prime contracts awarded. In instances where a smaller number of contracts were awarded overall, and a higher number of MBE prime contracts were awarded, the percentage of MBE primes was higher, but usually it was in a range at or below 10 percent.

Due to the small number of contracts awarded at the $500,000 and above level, it was determined that the better approach would be to review and report the total number of MBE prime contracts awarded. This approach would also reflect the information that is reported to the Governor's Office of Small, Minority and Women Business Affairs (GOSBA). The year-to-date percentage of MBE prime contractors for MDOT for the first quarter of FY2018 (July – September 2017) was 4.7 percent. The percentages for the MDOT TBUs ranged from 2 percent to 9.5 percent.

Per the strategic plan, input from the Procurement and Fair Practices staff was obtained regarding approaches to increase the number of MBE primes. Unbundling of contracts, increasing the number of smaller contracts in areas with high levels of MBE firms and increased/enhanced outreach and technical assistance to these MBE firms are items that were recommended. Implementation of these changes is on-going and should have a positive impact on the participation of MBE firms as prime contractors.

PERFORMANCE MEASURE 7.2

Number and Percent of Contracts Awarded to MBE Firms as the
Prime Contractor

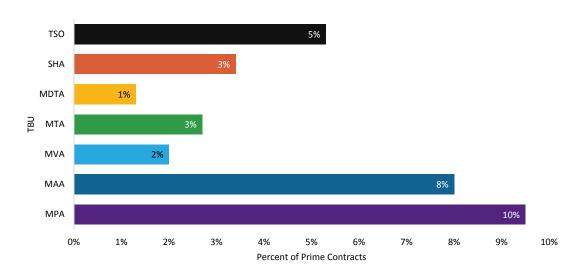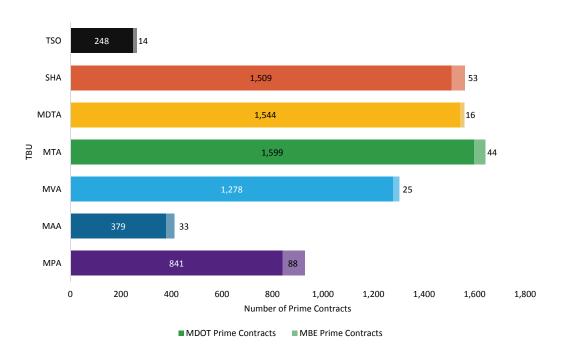**Chart 7.2.1: Percent of MBE Prime of Total Contracts by TBU Q1 FY2018**

Chart 7.2.2: MDOT Prime Contracts vs. MBE Prime Contracts by TBU Q1 FY2018

PURPOSE OF MEASURE:
Track compliance with State mandate for awarding 15% of MDOT's total eligible procurement expenditures to certified Small Business Reserve contracts.

FREQUENCY:
Quarterly, compiled annually

DATA COLLECTION METHODOLOGY:
SBR goal is calculated quarterly from eligible contracts and expenditure data exported from FMIS, iFMIS and US Bank for Corporate Credit Card data.

NATIONAL BENCHMARK:
The Governor's Office of Women, Small, Minority Business Affairs maintains the State's official record of SBR designation and spending across 77 participating agencies, including MDOT's TBUs.

PERFORMANCE MEASURE 7.3
Percent of Payments Awarded to Small Business Reserve (SBR) Contracts

Maryland's economy is powered by the jobs and innovative resources generated by small businesses. The SBR Program is a race and gender neutral program that provides small businesses with the opportunity to participate as prime contractors on State contracts and procurements by competing with other small businesses instead of larger, more established firms.

To ensure compliance with State regulations, each MDOT TBU is required to participate in the SBR Program by spending at least 15 percent of their annual fiscal year eligible procurement expenditures with designated and certified small businesses.

For the first time since the SBR Program was established in 2004, MDOT achieved an 11.2 percent participation rate in FY2015. The FY2016 annual achievement rate is 9.6%, reflecting a programmatic change in the reporting requirements that limit the recognition of procurements that designate SBR participation.

To increase the SBR Program participation rates, MDOT provided documented policy guidelines to all TBUs. These guidelines focus on increasing the SBR participation rate by requiring an annual strategic plan from each TBU. Some strategies include:

• Require Procurement Review Group's approval of SBR goals;
• Create a SBR liaison and reporting expert;
• Train and work closely with purchasing card holders to emphasize SBR firms; and
• Increase small business outreach and vendor education.

Be Fair and Reasonable to Our Partners

PERFORMANCE MEASURE 7.3

Percent of Payments Awarded to Small Business Reserve (SBR) Contracts

Chart 7.3.1: MDOT Small Business Reserve (SBR) Achievement Rates FY2012-FY2017
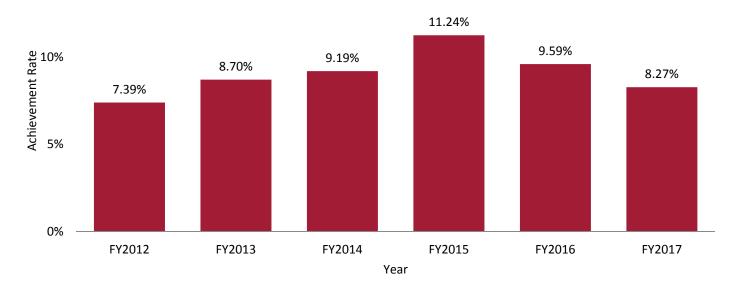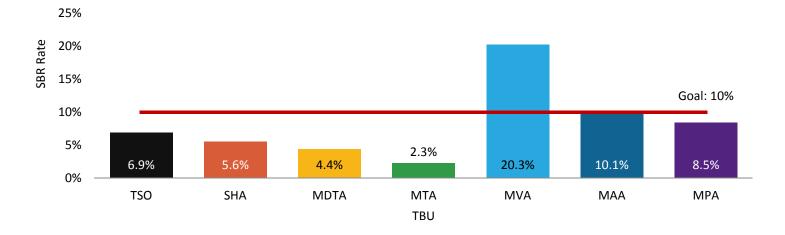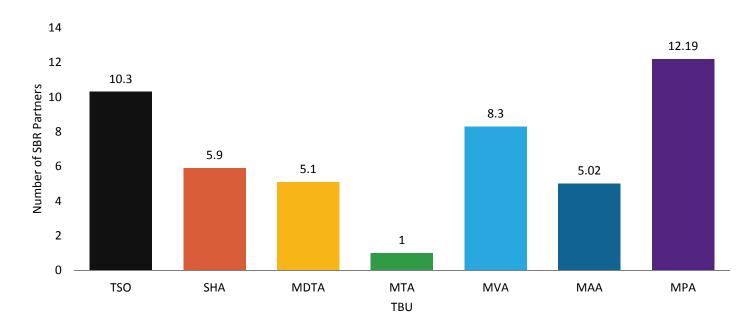

Chart 7.3.2: Annual Small Business Reserve (SBR) Rate by TBU FY2017

PERFORMANCE MEASURE 7.3

Percent of Payments Awarded to Small Business Reserve (SBR) Contracts

Chart 7.3.3: Small Business Reserve Participation Q1 FY2018

TANGIBLE RESULT DRIVER:
Wanda Dade
State Highway Administration (SHA)

PERFORMANCE MEASURE DRIVER:
Cheryl Stambaugh
Motor Vehicle Administration (MVA)

PURPOSE OF MEASURE:
To track the percent of VSBE contract values to ensure that MDOT continues a contractual relationship with VSBs in Maryland.

FREQUENCY:
Annually (in January)

DATA COLLECTION METHODOLOGY:
Using the financial management system at MDOT.

NATIONAL BENCHMARK:
N/A

The State's mandate is 1% or better of its total dollar value of procurement contracts.

PERFORMANCE MEASURE 7.4
Percent of Veteran Owned Small Business Enterprise (VSBE) Participation
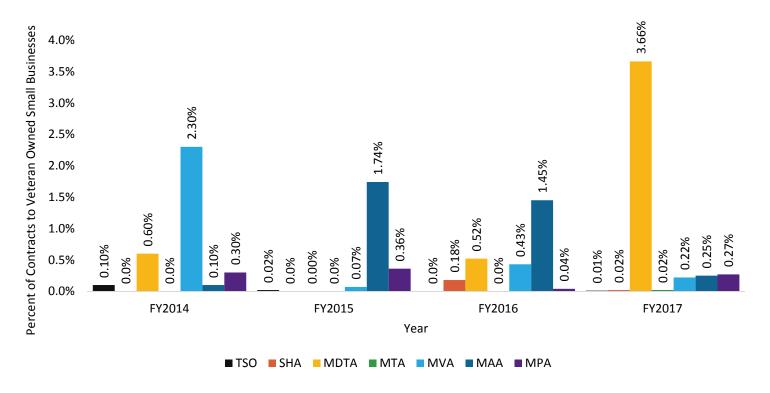
MDOT considers small business, especially veteran owned small businesses, to be an important sector of the business community. Procurement opportunities for this business segment are directly linked to the socioeconomic well-being of the State of Maryland. MDOT is committed to attaining or exceeding the State mandated goal for veteran businesses.

PERFORMANCE MEASURE 7.4

Percent of Veteran Owned Small Business Enterprise (VSBE) Participation

Chart 7.4.1: Veteran Owned Small Business Enterprise Participation by TBU FY2014-FY2017

MARYLAND DEPARTMENT OF TRANSPORTATION

PURPOSE OF MEASURE:
To determine the level of satisfaction of our business partners with processes MDOT-wide.

FREQUENCY:
Quarterly

DATA COLLECTION METHODOLOGY:
The PM Driver administers a Level of Satisfaction survey to MDOT's partners. After the survey cutoff date, the data is then compiled and analyzed. An Outlook email address has been established for easier quarterly reporting.

NATIONAL BENCHMARK:
TBD

PERFORMANCE MEASURE 7.5
Level of Satisfaction of Our Business Partners

Tracking business partner satisfaction will allow MDOT to determine how satisfied partners are with current business processes. This performance measure is crucial to gauging MDOT's effectiveness in being fair and reasonable to its business partners. Partners include contractors, consultants, vendors, other State agencies, federal, State, and local governments, trade associations, commissions, etc. This data can be used to improve those processes that may be ambiguous or cumbersome, and make them more user-friendly. It is important that people who avail themselves of this opportunity know that their comments are taken seriously, and that MDOT is committed to meeting or exceeding business partner expectations.

This performance measure captures MDOT's business partner satisfaction through quarterly surveys. Each quarter, a certain business segment (i.e. Construction, IT, A&E, etc.) is selected to be surveyed and the results are then reported. Each business segment will be surveyed one time per year. This quarter we surveyed MDOT's construction partners. Surveys are distributed via Survey Monkey.

Be Fair and Reasonable to Our Partners

PERFORMANCE MEASURE 7.5
Level of Satisfaction of Our Business Partners

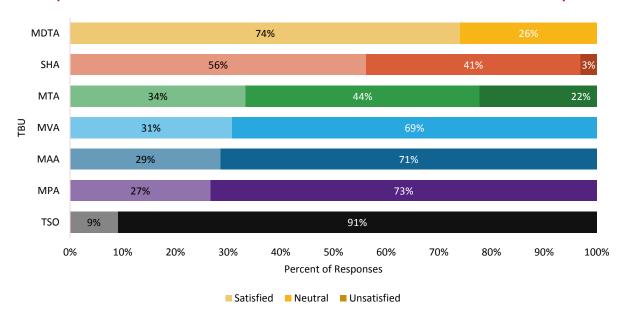**Chart 7.5.1: Responses to "How Satisfied Are MDOT Construction Partners with the Timeliness of Payments" CY2017**

TBU	Satisfied	Neutral	Unsatisfied
MDTA	74%	26%	
SHA	56%	41%	3%
MTA	34%	44%	22%
MVA	31%	69%	
MAA	29%	71%	
MPA	27%	73%	
TSO	9%	91%	

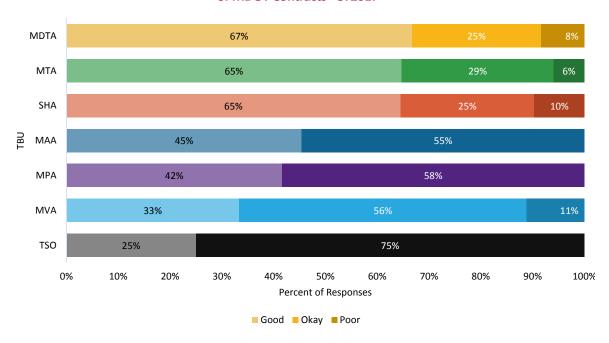**Chart 7.5.2: Responses to "How Fair and Reasonable are MDOT TBUs Construction Partners in Management of MDOT Contracts" CY2017**

TBU	Good	Okay	Poor
MDTA	67%	25%	8%
MTA	65%	29%	6%
SHA	65%	25%	10%
MAA	45%	55%	
MPA	42%	58%	
MVA	33%	56%	11%
TSO	25%	75%	

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PERFORMANCE MEASURE 7.5
Level of Satisfaction of Our Business Partners

Chart 7.5.3: Responses to "How Transparent is the MDOT Procurement Process to Construction Partners" CY2017
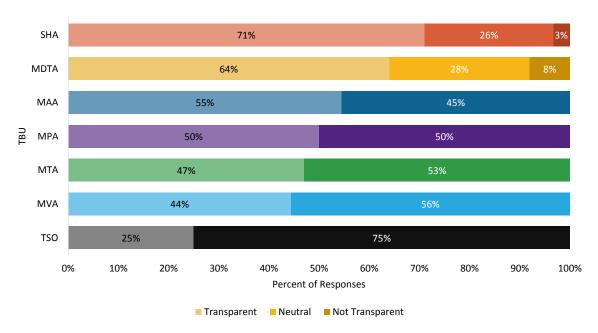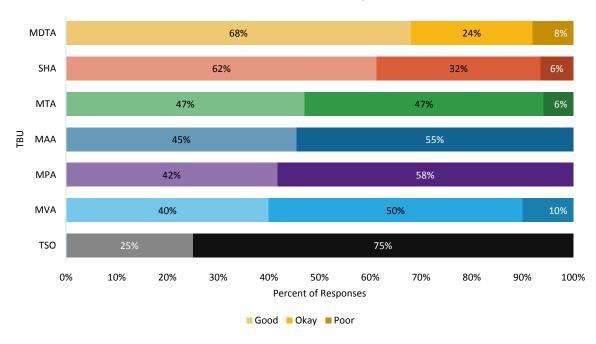

Legend: Transparent | Neutral | Not Transparent

X-axis: Percent of Responses (0% to 100%)
Y-axis: TBU

- SHA: 71% | 26% | 3%
- MDTA: 64% | 28% | 8%
- MAA: 55% | 45%
- MPA: 50% | 50%
- MTA: 47% | 53%
- MVA: 44% | 56%
- TSO: 25% | 75%

Chart 7.5.4: MDOT TBUs Rated as Business Partners by Construction Partners CY2017

Legend: Good | Okay | Poor

X-axis: Percent of Responses (0% to 100%)
Y-axis: TBU

- MDTA: 68% | 24% | 8%
- SHA: 62% | 32% | 6%
- MTA: 47% | 47% | 6%
- MAA: 45% | 55%
- MPA: 42% | 58%
- MVA: 40% | 50% | 10%
- TSO: 25% | 75%

TANGIBLE RESULT DRIVER:
Wanda Dade
State Highway Administration (SHA)

PERFORMANCE MEASURE DRIVER:
David Lynch
Maryland Transit Administration (MTA)

PURPOSE OF MEASURE:
To assess the number and percent of invoices properly paid to MDOT's partners in compliance with State requirements so MDOT can be responsive to business partners' needs.

FREQUENCY:
Quarterly

DATA COLLECTION METHODOLOGY:
MDOT Finance reports data monthly by TBUs.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 7.6

Number and Percent of Invoices Properly Paid to Our Partners in Compliance with State Requirements
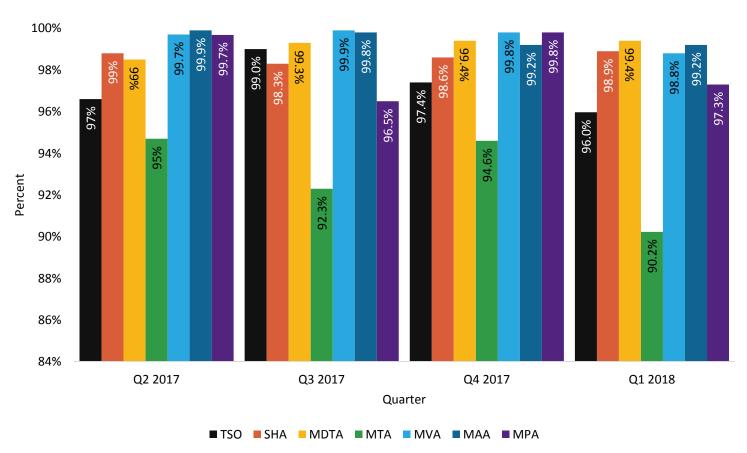
MDOT will treat contractors fairly by promptly paying invoices. Contractors should be able to trust MDOT TBUs consistency of payment with a goal of paying invoices within 30 calendar days 99 percent of the time. For FY2017 MDOT achieved an on time payment rate of 97.77 percent.

PERFORMANCE MEASURE 7.6

Number and Percent of Invoices Properly Paid to Our Partners in Compliance with State Requirements
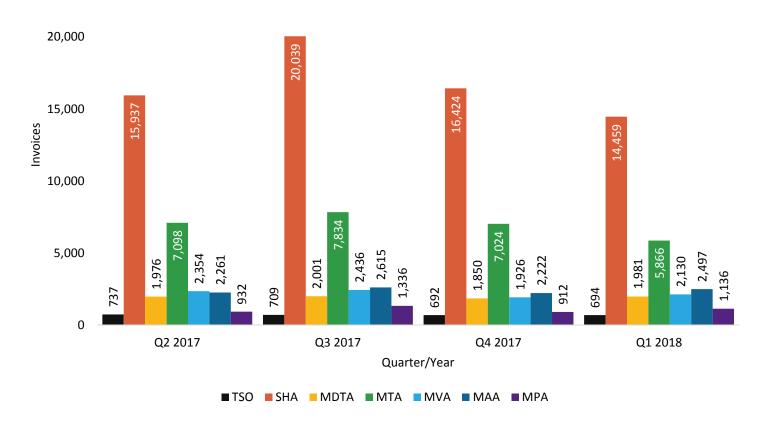
Chart 7.6.1: Percent of Invoices Properly Paid Within 30 Days FY2017-FY2018

PERFORMANCE MEASURE 7.6

Number and Percent of Invoices Properly Paid to Our Partners in Compliance with State Requirements
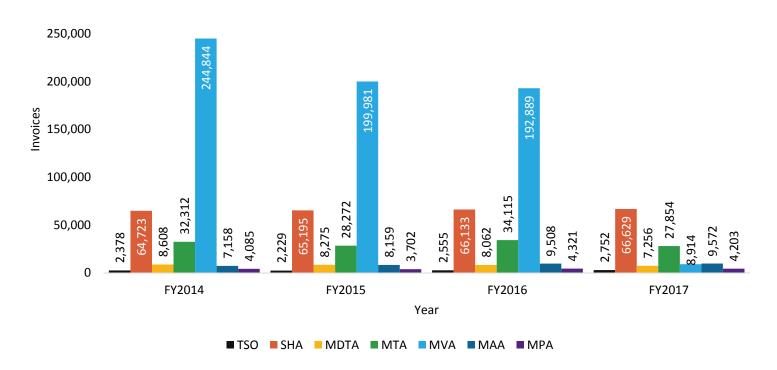
Chart 7.6.2: Total Number of Invoices Paid by TBU FY2017-FY2018

PERFORMANCE MEASURE 7.6

Number and Percent of Invoices Properly Paid to Our Partners in Compliance with State Requirements

Chart 7.6.3: Total Number of Invoices by TBU FY2014-FY2017

Legend: ■ TSO ■ SHA ■ MDTA ■ MTA ■ MVA ■ MAA ■ MPA

Year	TSO	SHA	MDTA	MTA	MVA	MAA	MPA
FY2014	2,378	64,723	8,608	32,312	244,844	7,158	4,085
FY2015	2,229	65,195	8,275	28,272	199,981	8,159	3,702
FY2016	2,555	66,133	8,062	34,115	192,889	9,508	4,321
FY2017	2,752	66,629	7,256	27,854	8,914	9,572	4,203

TANGIBLE RESULT DRIVER:
Wanda Dade
State Highway Administration (SHA)

PERFORMANCE MEASURE DRIVER:
Mike Zimmerman
The Secretary's Office (TSO)

PURPOSE OF MEASURE:
To determine what percentage of protests are legitimate and how MDOT can reduce the number of non-legitimate protests to create better solicitations for business partners.

FREQUENCY:
Quarterly

DATA COLLECTION METHODOLOGY:
MDOT TBU procurement departments report protest data to TSO Procurement on a monthly basis. Data is aggregated for reporting purposes.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 7.7

Number of MDOT Procurement Protests Filed and Percent of Protests Upheld by the Board of Contract Appeals

Minimizing protests and understanding how to avoid non-legitimate protests will enable MDOT to develop better solicitations and foster better relationships with business partners. Tracking contract protests will allow MDOT to determine how many protests are being filed without warrant, how many are legitimate, and how MDOT can create more concise solicitations for partners. The protest process is important because it allows a company doing business with the State to have confidence in the State's solicitation process by understanding that an aggrieved entity has the ability to be heard.
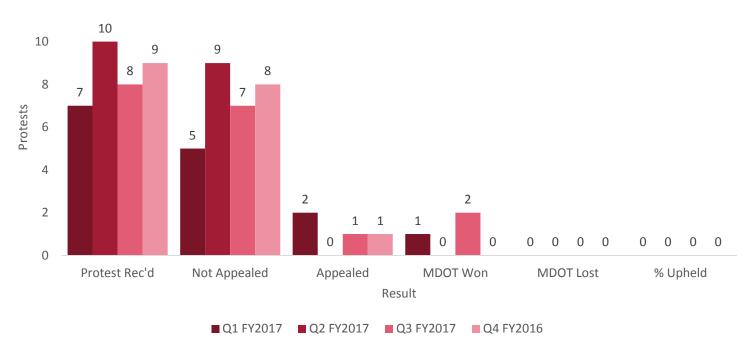
The TSO Office of Procurement (OOP) is collecting data from all the TBUs and is documenting the number of protests as well as the reason for the protest.

The TSO OOP will collect data regarding protests so that root cause analysis and corrective/preventive actions can be implemented. Currently there is not enough detail to determine the root cause.

PERFORMANCE MEASURE 7.7

Number of MDOT Procurement Protests Filed and Percent of Protests Upheld by the Board of Contract Appeals

Chart 7.7.1: Running Twelve Month Procurement Protests by Quarter FY2017

Be a Good Neighbor

As the owner of statewide transportation facilities, MDOT must work to find solutions that work for customers and are sensitive to our neighbors.

RESULT DRIVER:

Simon Taylor
Maryland Aviation Administration (MAA)

PERFORMANCE MEASURE 8.1
Percent of MDOT Facilities that Meet or Exceed Our Neighbor's Expectations

Attractive, efficient, and safe operations of MDOT facilities directly affect the surrounding neighbors and communities. MDOT values its relationships with neighbors and is committed to ensuring the Department meets or exceeds their expectations. MDOT engaged neighbors through a survey and outreach to better understand the impact its facilities have on communities and how the Department can be a better neighbor.

The Neighbor Satisfaction Surveys of 40 primary MDOT operating facilities were completed in the Spring of 2017. The results reveal that 77 percent of survey respondents believe the facility appearance meets or exceeds their expectations, and 82 percent believe operations at the facility meets or exceed their expectations. Areas in need of improvement include grounds maintenance, noise, and traffic operations.

MDOT developed facility improvement plans to address neighbor concerns. Plan implementation began in 2017 with the MDOT MVA partnering with the local community to upgrade landscaping amenities at its Easton Branch. The event coincided with the Governors Day to Serve initiative. Improvement plan implementation is ongoing.

MDOT continues to develop outreach and neighbor engagement opportuites hosting several Open House events and attending community association meetings across the State. The events provided an opportunity for neighbors and the local community to better understand how services are provided.

Surveys will be repeated upon completion of the improvements, and results used to further refine MDOT's efforts to meet or exceed our neighbor's expecatations.

PERFORMANCE MEASURE 8.1

Percent of MDOT Facilities that Meet or Exceed Our Neighbor's Expectations

PERFORMANCE MEASURE 8.1

Percent of MDOT Facilities that Meet or Exceed Our Neighbor's Expectations

TANGIBLE RESULT DRIVER:
Simon Taylor
Maryland Aviation Administration (MAA)

PERFORMANCE MEASURE DRIVER:
Priya Iyer
Maryland Transit Administration (MTA)

Terri Whitehead
Maryland Vehicle Administration (MVA)

PURPOSE OF MEASURE:
To assess the percent of facilities that meet or exceed ADA accessibility mandates and to ensure access to our facilities by all.

FREQUENCY:
Annually (in April)

DATA COLLECTION METHODOLOGY:
Data on the number of owned and occupied facilities along with the number of facilities that are ADA compliant are tallied and reported by each TBU on an annual basis.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 8.2
Percent of MDOT Facilities that are ADA Compliant

Compiling and charting data for seven TBUs on the percent of their administrative buildings that are owned and occupied daily that meet or exceed ADA mandates is essential to MDOT's customers and more importantly to MDOT's neighbors to ensure everyone can visit MDOT facilities. Data collected will help to inform each TBU across MDOT on how and where to focus their resources to meet ADA compliance and make administrative buildings more accommodating to all customers and neighbors who visit our buildings.

Percent of owned and occupied TBU administrative buildings that are ADA compliant:
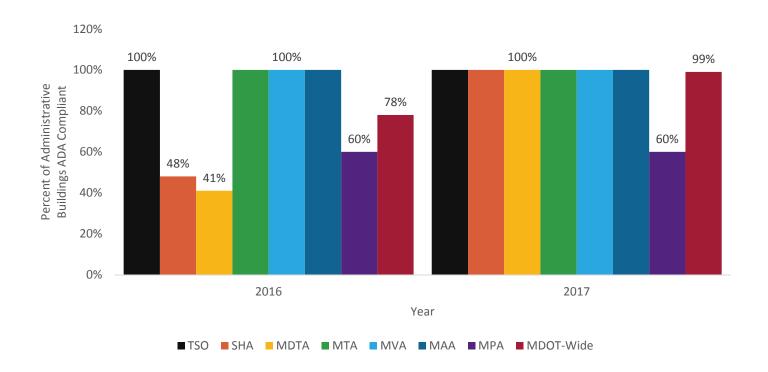
1. TSO - 01 owned and occupied; 01 compliant = (100 percent)
2. SHA - 33 owned and occupied; 33 compliant = (100 percent)
3. MDTA - 12 owned and occupied; 12 compliant = (100 percent)
4. MTA - 16 owned and occupied; 16 compliant = (100 percent)
5. MVA - 33 owned and occupied; 33 compliant = (100 percent)
6. MAA - 61 owned and occupied; 61 compliant = (100 percent)
7. MPA - 05 owned and occupied; 03 compliant = (60 percent)
8. MDOT WIDE – 161 owned and occupied; 159 compliant = (99 percent)

MDOT owned properties include several different elements that meet or exceed the ADA requirements. The report is related to administrative buildings only that are owned and occupied daily.

PERFORMANCE MEASURE 8.2

Percent of MDOT Facilities that are ADA Compliant

Chart 8.2.1: Percent of Administrative Buildings that are ADA Compliant by TBU CY2016-CY2017

PURPOSE OF MEASURE:
Understand how many property damage claims are being made by neighbors against MDOT TBU's and how satisfied the customer is with how the claim was handled.

FREQUENCY:
Quarterly

DATA COLLECTION METHODOLOGY:
Maryland Treasurer's Office records on State department property damage claims.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 8.3A AND B

Number of Property Damage Claims and Percent of Customers Satisfied with How Their Property Claim was Handled

Measuring the number of property damage claims by neighbors adjacent to MDOT facilities informs each TBU where extra awareness can keep claims from occurring.

In March 2017, this measure was added to TR 8. After requesting information on claims submitted by neighbors from the Treasurer's office and then each TBU, the data showed there were few instances of property damage being filed by neighbors. The vast majority of claims were "slip and falls" or a special circumstance such as a mailbox being knocked over by a snow plow in western Maryland.

The initial performance measure did not include claims like rocks hitting windshields while a road is being milled prior to paving. In mid-June, a decision was made to expand the measure to all property damage claims, which will include but is not limited to rocks in windshields, side swipes on parked (or moving vehicles) by TBU vehicles, and possible water contamination issues from salting the roads in the winter.

New data sources and strategies to mitigate any damages and adverse effects from MDOT operations will continue to be explored.

TANGIBLE RESULT DRIVER:
Simon Taylor
Maryland Aviation Administration (MAA)

PERFORMANCE MEASURE DRIVER:
David Seman
The Secretary's Office (TSO)

PURPOSE OF MEASURE:
Tracking instances of traffic violations will enable MDOT to better assess its impact on communities and contribute to improved public safety.

FREQUENCY:
Quarterly

DATA COLLECTION METHODOLOGY:
Traffic violation data provide individual TBU fleet managers.

NATIONAL BENCHMARK:
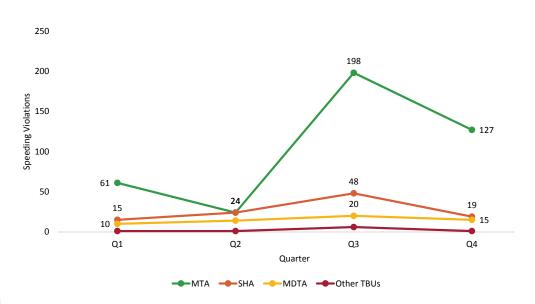N/A

PERFORMANCE MEASURE 8.4
Number of Traffic Violations While Driving a State Vehicle

Tracking vehicle citations by TBU will give MDOT the ability to strengthen driver education training and direct corrective action. This will show that MDOT employees care about public safety by reducing instances of violations. MDOT's mission is to ensure safe and dependable modes of transportation to the community and lead by example.

Although data collection for this measure continues to improve, the initial analysis of available data shows that MTA and SHA, TBUs with the largest vehicle fleets in MDOT, account for the majority of all traffic violations, including speeding and red light running. MDOT also collects data on parking and other violations and will report findings after they have been verified for accuracy.

To improve MDOT's understanding of traffic violation patterns and trends, TBUs will work toward a more standardized collection and reporting method. More accurate reporting will help MDOT to limit risk, ensure safe performance of MDOT's fleet vehicles, and keep the public and MDOT employees safe during daily operations.
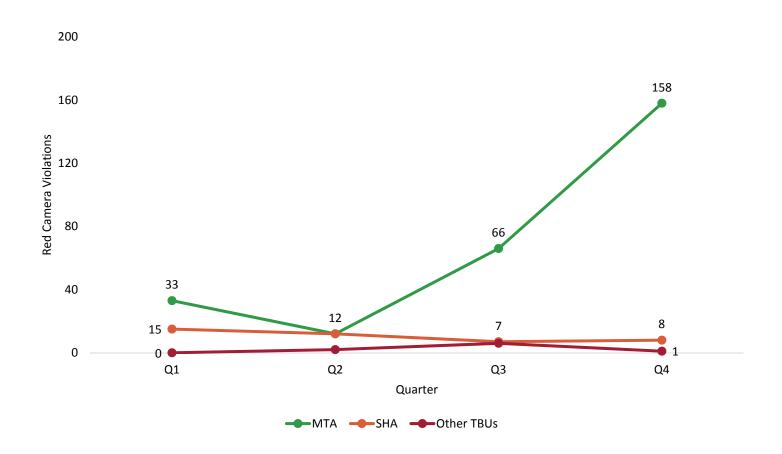
Chart 8.4.1: Speeding Violations by TBU CY2017

PERFORMANCE MEASURE 8.4

Number of Traffic Violations While Driving a State Vehicle

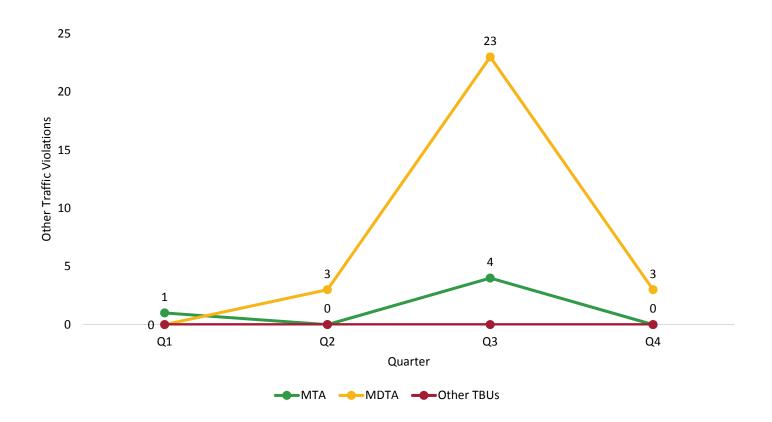**Chart 8.4.2: Red Light Camera Violations by TBU CY2017**

MARYLAND DEPARTMENT OF TRANSPORTATION

PERFORMANCE MEASURE 8.4

Number of Traffic Violations While Driving a State Vehicle

Chart 8.4.3: All Other Traffic Violations by TBU CY2017

Be a Good Steward of Our Environment

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

RESULT DRIVER:
Dorothy Morrison
The Secretary's Office (TSO)

PURPOSE OF MEASURE:
To evaluate the health of the Chesapeake Bay by measuring 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 (in October)

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 percent goal during their five-year permit term.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 9.1A
Water Quality: Water Quality Treatment to Protect and Restore the Chesapeake Bay

The fastest growing source of pollution in the Chesapeake Bay is stormwater runoff. Urbanization intensifies runoff by increasing paved surfaces and decreasing areas where rainfall can seep into the ground. Stormwater runoff increases delivery of pollutants including trash, organic debris, and sediment, from impervious areas to urban streams. Restoration efforts for 20 percent of MDOT's existing impervious surfaces will increase infiltration and reduce stormwater runoff. MDOT uses restoration practices such as installing new and upgrading existing stormwater management facilities, stream restoration, tree planting, and operations like street sweeping and inlet cleaning. This will improve conditions in urban streams, and reduce pollution in the Chesapeake Bay.

Chart 9.1A.1 compares the impervious restoration accomplished by each TBU with the remaining acreage to be treated in order to meet the 20 percent restoration goal.
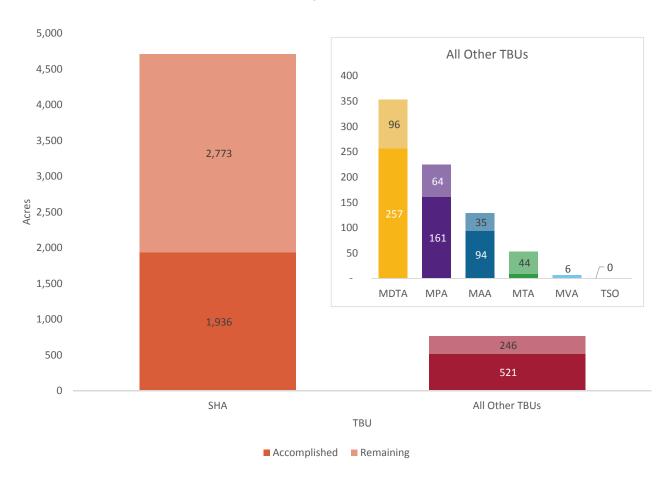
Approaching the 20 percent restoration requirements with a holistic One-MDOT strategy. This includes:

• Increased collaboration and data sharing between TBUs;

• Intelligent analysis of cost and restoration strategy to determine the most economical opportunities for impervious restoration across all MDOT; and

• Close coordination and collaboration to ensure all TBUs are adequately tracking and implementing Bay restoration projects and impervious surface treatment.

PERFORMANCE MEASURE 9.1A

Water Quality: Water Quality Treatment to Protect and Restore the Chesapeake Bay

Chart 9.1A.1: MDOT Impervious Restoration in Acres YTD

MARYLAND DEPARTMENT OF TRANSPORTATION

PERFORMANCE MEASURE 9.1A

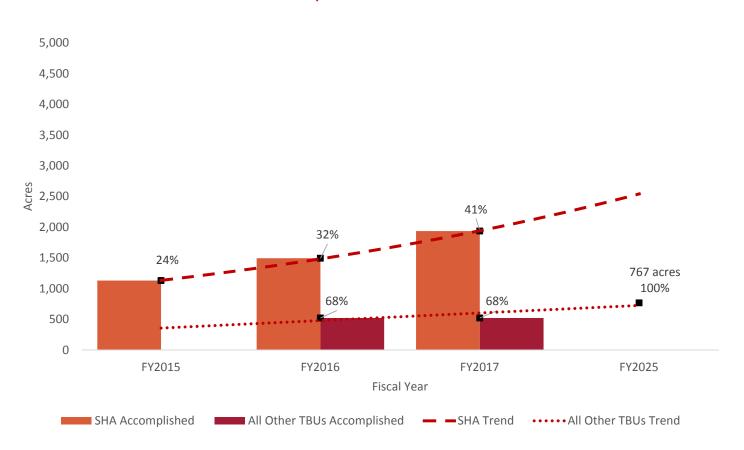Water Quality: Water Quality Treatment to Protect and Restore the Chesapeake Bay

Chart 9.1A.2: MDOT Impervious Restoration Trend FY2015-FY2025

PURPOSE OF MEASURE:
To track the percentage of waste diverted from the landfill or incineration through recycling.

FREQUENCY:
Annually (in April)

DATA COLLECTION METHODOLOGY:
Maryland Department of the Environment All State Organization Recycling (All StAR) reporting.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 9.2B
Land: Recycling (Non-Hazardous Materials)

Recycling conserves resources, saves energy, reduces greenhouse gas emissions, reduces the amount of waste sent to landfills, reduces carbon footprint and helps protect the environment.
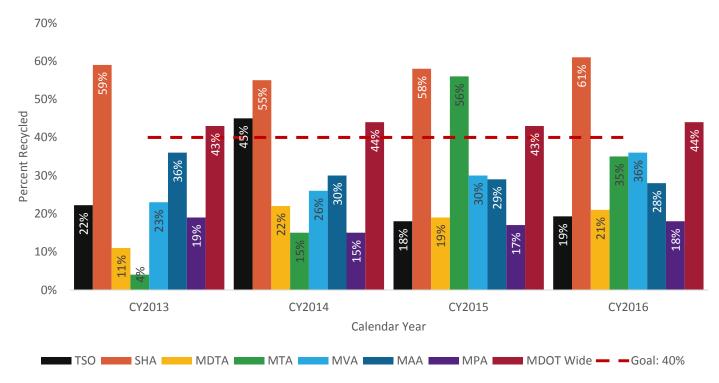
It also demonstrates that MDOT is in compliance with the State of Maryland established recycling and waste reduction goals. And, it is the Right Thing to Do!

Currently, MDOT meets the 40 percent goal set by the Maryland State Legislature. To continue to meet and exceed State legislative recycling goals, each MDOT TBU continues to provide awareness training and to evaluate dumpster size and frequency of trash collection services.

PERFORMANCE MEASURE 9.2B

Land: Recycling (Non-Hazardous Materials)

Chart 9.2B.1: Percent of Waste Recycled by TBU CY2013-CY2016

TANGIBLE RESULT DRIVER:
Dorothy Morrison
The Secretary's Office (TSO)

PERFORMANCE MEASURE DRIVER:
Barbara McMahon
Maryland Port Administration (MPA)

PURPOSE OF MEASURE:
To reduce TBU impact on solid waste landfill through recycling/ reuse of steel, asphalt and concrete.

FREQUENCY:
Annually (in April)

DATA COLLECTION METHODOLOGY:
The data collection methodology will include disposal weights (via bill of ladings) by TBU'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 9.2C
Land: 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. The TBUs established plans to recycle and/or reuse their solid waste: steel, asphalt and concrete. These materials are to be collected, weighed and recycled/reused. Benefits 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.
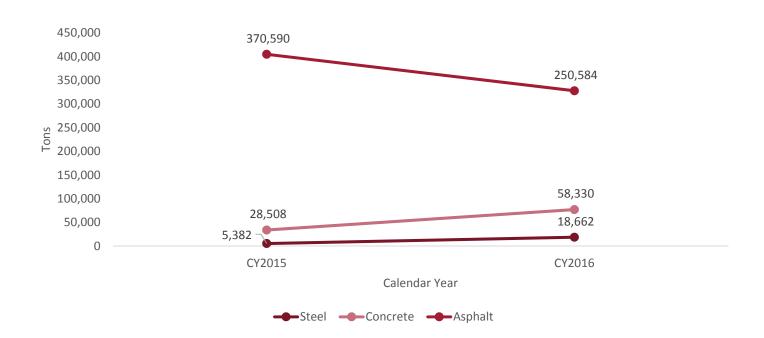
Due to the number and type construction/demolition activities and projects, we recognize that there may be variability among reporting periods and TBUs, but positive change can still occur by implementing some or all the following:

• Establish central data collection mechanisms and procedures in each TBU;

• Require contractors to segregate, collect, weigh and recycle these materials and provide information to TBU; and

• Ensure commitment to this goal and its positive impact on the environment by making employees and contractors aware of this PM.

PERFORMANCE MEASURE 9.2C

Land: Recycled/Reused Materials from Maintenance Activities and Construction/Demolition Projects

Chart 9.2C.1: Recycled/Reused Materials from Maintenance Activities & Construction/Demolition Projects, CY2015-CY2016

PURPOSE OF MEASURE:
To track overall fuel economy of fleet vehicles and ensure better air quality through the use of State vehicles. It is important to track miles per gallon in a meaningful manner to ensure that State vehicles are fuel efficient and not detrimental to our State air quality. Fuel economy data will be used to evaluate driving patterns as well as when the procurement of new fleet vehicles is considered.

FREQUENCY:
Annually (in April)

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

NATIONAL BENCHMARK:
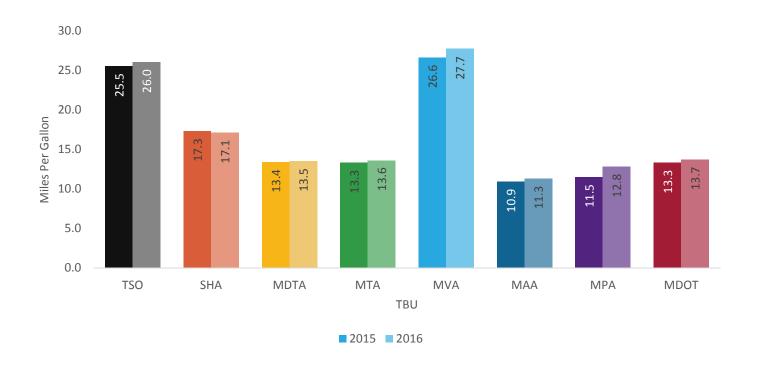N/A

PERFORMANCE MEASURE 9.3A
Energy: Miles Per Gallon

Reduced fuel costs and conservation of petroleum-based resources are the direct results of a more fuel efficient fleet (as determined through increases in vehicle miles per gallon calculations). Efforts with Mansfield Oil Company (statewide fueling vendor) have resulted in developing a means of tracking MPG data for our light-duty fleet throughout all TBUs. MPG data for CY2015 and CY2016 has been calculated and presented on Chart 9.3A.1. Although we are only presenting two years of data, our fuel efficiency has increased by 0.5 MPG as an Agency from 2015 (16.9 MPG) to 2016 (17.4 MPG). Vehicle replacement practices represent the largest factor affecting change to this measure. At pre-determined age or mileage thresholds, our fleet vehicles are replaced. Since the presumption is that newer models are more fuel efficient than their predecessors, MPG calculations for each TBU and the Department as a whole should increase from year-to-year through mere fleet replacement activities. However, in addition to fleet replacement, strategies such as encouraging carpooling to meetings and other functions and modifying state vehicle purchasing contract requirements are being evaluated as additional means of improving fleet MPG.

PERFORMANCE MEASURE 9.3A
Energy: Miles Per Gallon

Chart 9.3A.1: MDOT TBU Light-Duty Vehicle Average MPG CY2015-CY2016

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 in an effort to use less of our resources with State vehicles and equipment. Consumption patterns will be evaluated for improving fuel efficiency and shifting towards use of renewable fuels.

FREQUENCY:
Annually (in October)

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 9.3B
Energy: Total Gallons Consumed

Analyzing fuel consumption patterns enables fleet and facility managers to budget more effectively and use resources more efficiently. This data also will be beneficial as fleet acquisition purchases are considered and facility heating upgrades are considered. 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.

While ultra-low sulfur diesel continues to be the most consumed fuel for fiscal years (FY) 2014 – 2017, a distinct reduction (approximately 198,000 gallons) in consumption was noted from FY2016 to FY2017. This reduction is attributed to the MTA's procurement of 172 clean diesel buses which replaced older, less fuel-efficient models.
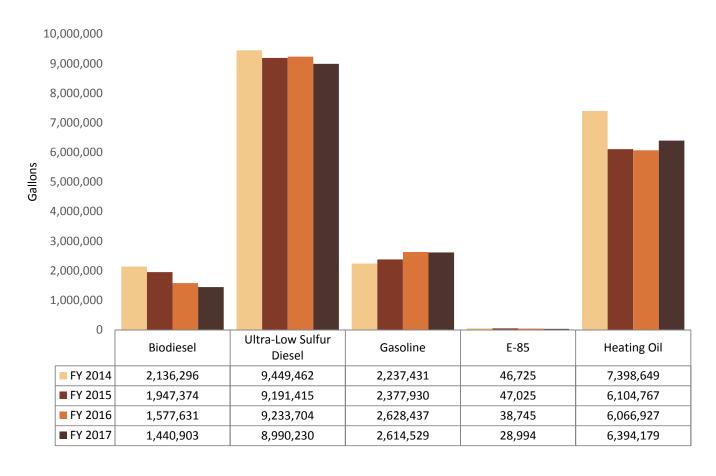
Heating oil consumption experienced a slight increase from FY2016 to FY2017. A portion of the increase is attributed to procurement strategies several TBUs used to purchase fuel where some were able to defer or minimize purchases during FY2016, but were required to make greater purchases in FY2017 to maintain appropriate on-hand fuel quantities. Furthermore, the inverse relationship between biodiesel and gasoline continued its trend in FY2017 as fleet managers continued to transition from diesel to gasoline powered vehicles.

The consumption of E-85 continued its downward trend in FY2017. As this is a renewable energy source, the desired outcome would be to achieve an overall increase in consumption. As an agency, MDOT needs to evaluate its overall commitment towards E-85 and possibly institute an overarching policy regarding its use throughout the TBUs.

PERFORMANCE MEASURE 9.3B
Energy: Total Gallons Consumed

Chart 9.3B.1: Total Gallons of Fuel Consumed FY2014-FY2017

	Biodiesel	Ultra-Low Sulfur Diesel	Gasoline	E-85	Heating Oil
FY 2014	2,136,296	9,449,462	2,237,431	46,725	7,398,649
FY 2015	1,947,374	9,191,415	2,377,930	47,025	6,104,767
FY 2016	1,577,631	9,233,704	2,628,437	38,745	6,066,927
FY 2017	1,440,903	8,990,230	2,614,529	28,994	6,394,179

TANGIBLE RESULT DRIVER:
Dorothy Morrison
The Secretary's Office (TSO)

PERFORMANCE MEASURE DRIVER:
Laura Rogers
The Secretary's Office (TSO)

PURPOSE OF MEASURE:
To reduce our consumption of conventional energy through efficiency measures and renewable energy sources.

FREQUENCY:
Quarterly

DATA COLLECTION METHODOLOGY:
Data for MDOT's electricity usage collected by EnergyCAP will be evaluated. Data for energy efficiency measures and renewable energy sources utilized by MDOT will be collected from the TBU energy managers. Emissions calculated based on the amount of energy used and regional energy mix.

NATIONAL BENCHMARK:
Renewable Energy Consumption as a share of state total (2014): Oregon, 49.3%; Washington, 47.1%; Maine, 38.3%

American Council for an Energy Efficient Economy ranked Maryland number 10 in the 2017 State Energy Efficiency Scorecard. Massachusetts was rated number 1.

PERFORMANCE MEASURE 9.3C AND D
Energy: Electricity Consumption and Renewable Energy Generation

Reducing our conventional energy consumption through energy efficiency measures and use of renewable energy can generate revenue, save Maryland taxpayers money, and reduce harmful air emissions while also helping Maryland meet its clean energy and greenhouse gas reduction goals.

The desired trend for conventional electricity use, cost, and associated carbon dioxide equivalent (CO2e) emissions is to decrease. In CY2017 (January-September), there was a decrease over CY2016 (January-September) in usage (10,594 megawatt hours), cost ($2,698,000), and CO2e emissions (6,469 metric tons). The desired trend for renewable energy generation, cost avoidance, and CO2e emissions avoidance is to increase. In CY2017 (January-December), there was an increase over CY2016 (January-December) in generation (102 megawatt hours), cost savings ($10,700), and CO2e emissions avoidance (72 metric tons).

MDOT released a Renewable Energy Development Request for Proposal on June 20, 2017, and received proposals on August 17, 2017. MDOT will use the resulting Master Services Agreement(s) to develop solar renewable energy systems quickly and efficiently on MDOT properties throughout the State.

MDOT is undertaking many strategies to increase energy efficiency. Each TBU has completed a comprehensive Energy Plan that details its energy consuming entities, existing and future energy conservation strategies, and future energy conservation goals. Many of the energy conservation measures MDOT implements also realize secondary benefits, such as improved lighting quality, lower operation and maintenance expenses, increased life span of equipment, improved indoor air quality, and enhanced tenant comfort.

Be a Good Steward of Our Environment

PERFORMANCE MEASURE 9.3C AND D

Energy: Electricity Consumption and Renewable Energy Generation

Chart 9.3C.1: Total MDOT Conventional Energy Use, Cost & CO2e Emissions CY2010 - CY2017 YTD
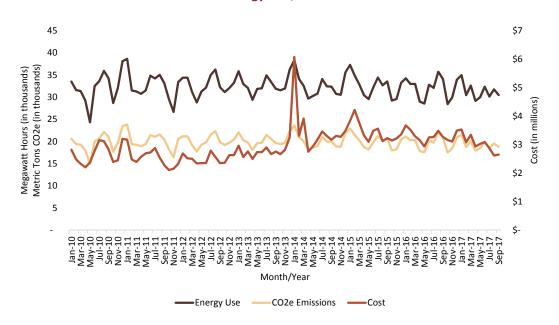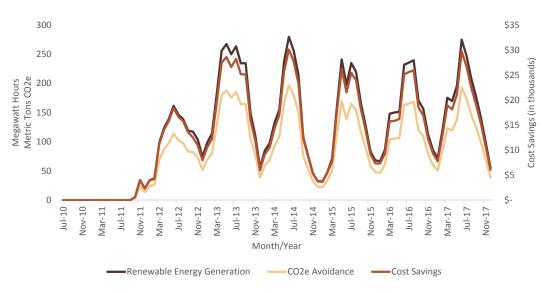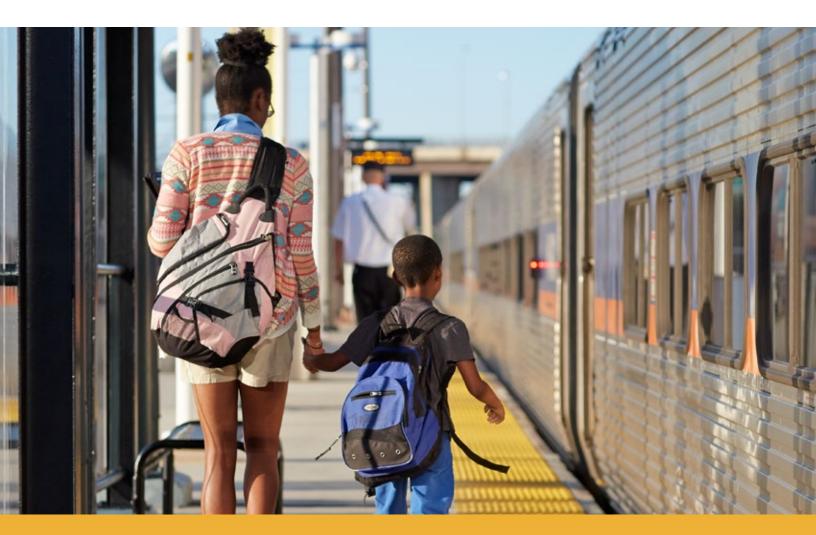

Chart 9.3D.1: Total MDOT Renewable Energy Generation, Cost Savings & CO2e Avoidance CY2010 - CY2017 YTD

Facilitate Economic Opportunity in Maryland

Maryland's transportation system is essential to the State's economy. An efficient transportation system provides a competitive advantage to businesses in a regional, national and global marketplace. Transportation directly impacts the viability of a region as a place where people want to live, work and raise families, and is critical to attracting a competent workforce.

RESULT DRIVER:
Jim Dwyer
Maryland Port Administration (MPA)

PERFORMANCE MEASURE 10.1

Economic Return from Transportation Investment (Jobs Generated by Total Capital Program Construction Investments)
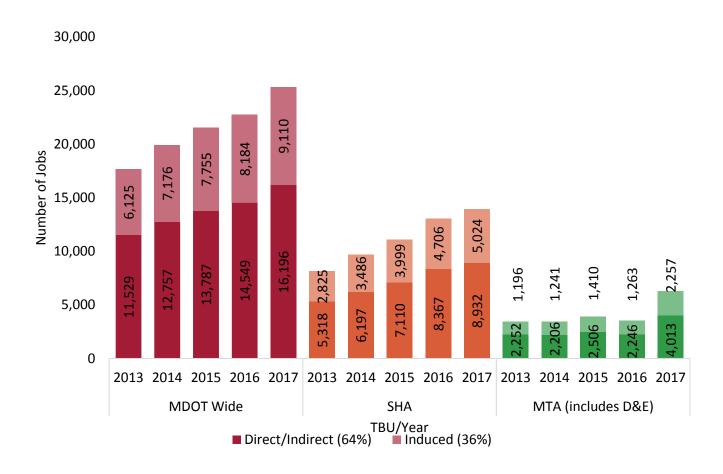
Construction spending on transportation projects has a significant economic impact on people and businesses throughout the State. Economic return from transportation investment is based on the estimated number of jobs created as a result of MDOT investments in capital projects. In FY2017, close to 26,000 jobs were created by MDOT which is an increase of nearly 2,600 over FY2016.

The annual CTP is used to identify planned investments by each TBU on major construction projects. Construction projects generate three types of jobs: direct jobs are those generated by the actual construction activity; indirect jobs are supported by the business purchases necessary for the project's construction; and induced jobs are a result of local purchases of goods and services by the direct employees. Capital investments in transportation infrastructure support economic activity across a wider region, beyond the specific project location.

Facilitate Economic Opportunity in Maryland

PERFORMANCE MEASURE 10.1

Economic Return from Transportation Investment (Jobs Generated by Total Capital Program Construction Investments)

Chart 10.1.1: Estimated Number of Jobs Created by TBU Capital/Construction Programs FY2013-FY2017

MARYLAND DEPARTMENT OF TRANSPORTATION

PERFORMANCE MEASURE 10.1

Economic Return from Transportation Investment (Jobs Generated by Total Capital Program Construction Investments)

Chart 10.1.2: Estimated Number of Jobs Created by TBU Capital/Construction Programs FY2013-FY2017
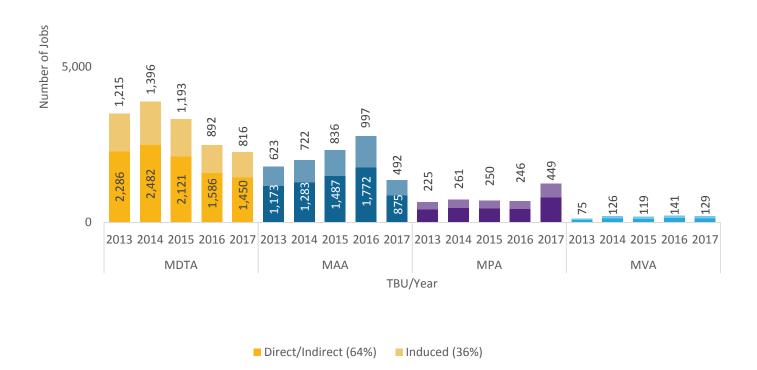
PURPOSE OF MEASURE:
To compare Maryland against other states' economic activity based on access to and condition of the infrastructure.

FREQUENCY:
Annually (in October)

DATA COLLECTION METHODOLOGY:
Using publicly available data, CNBC assesses every states' infrastructure including value of goods movement; availability of air travel; road and bridge conditions; and commute times.

NATIONAL BENCHMARK:
https://www.cnbc.com/2017/07/11/top-states-for-business-25-maryland.html
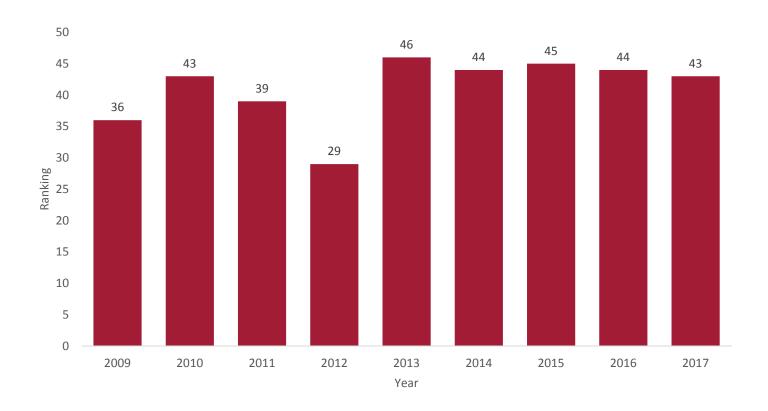
PERFORMANCE MEASURE 10.2
Maryland's Ranking in National Transportation Infrastructure Assessment

The CNBC business news media group uses publicly available data on 60 measures of competitiveness to score each state. The metrics are organized into ten broad categories and weighted based on how frequently each is used as a selling point in state economic development marketing materials. The infrastructure category is a measure of a state's transportation system and supply of safe drinking water. It includes metrics to compare the value of goods shipped by air, waterways, roads and rail within a state, the quality of roads and bridges, and commute times. The annual rankings can be used as a national benchmark for infrastructure conditions over time as a means of comparing Maryland's standing versus other states. For 2017, Maryland is ranked 43rd, which is a three-point improvement since 2013. Maryland ranks in the bottom ten because of the mobility/congestion components used to compute the infrastructure metric.

PERFORMANCE MEASURE 10.2

Maryland's Ranking in National Transportation Infrastructure Assessment

Chart 10.2.1: America's Top States for Business Annual Rankings for Maryland in Infrastructure CY2008-CY2017

PURPOSE OF MEASURE:
To assess freight mobility and the amount and value of freight originating and terminating in Maryland as an indicator of how supportive transportation infrastructure is for freight and Maryland's economy.

FREQUENCY:
Annually (in April)

DATA COLLECTION METHODOLOGY:
U.S. Department of Transportation Freight Analysis Framework (FAF4) Version 4 and MPA.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 10.3A
Freight Mobility: Freight Analysis Framework (FAF) Tonnage and Value of Freight

Efficient and interconnected multimodal freight movement is essential to the State's economy because freight is the economy-in-motion. Maryland manufacturers depend on the freight system to move raw materials and finished goods between production facilities, distribution centers and retail outlets in Maryland and throughout the U.S. and the world. Freight-dependent industries account for over one million jobs in Maryland.

• Water and rail are well-suited to cost-effectively haul goods long distances. Commercial ships utilize the Port of Baltimore to transfer waterborne goods to land, at which point trucks and rail haul these imported goods to communities around the nation.

• Trucks carry nearly every type of commodity from consumer products to chemicals to machinery.

• High value and time-sensitive products are commonly shipped via air.

• The top air freight commodities shipped out of MAA facilities include mail, machinery and transportation equipment.

MDOT is currently updating the Strategic Goods Movement Plan to address the latest Fixing America's Surface Transportation (FAST) Act requirements.

PERFORMANCE MEASURE 10.3A

Freight Mobility: Freight Analysis Framework (FAF) Tonnage and Value of Freight

Chart 10.3A: Freight Analysis Framework (FAF) Tonnage and Value of Freight

METHOD FOR MOVING FREIGHT	TOTAL VALUE (MILLIONS)	TOTAL TONNAGE (THOUSANDS)
Air*	**$13,379**	**141**
*Pipeline & Other***	*$72,539*	*39,488*
Rail*	$15,063	26,206
*Truck**	*$318,074*	*214,317*
Water***	$49,915	31,834
All Freight	*$468,970*	*311,986*

Source: U.S. Department of Transportation Freight Analysis Framework (FAF4). Other, Multiple Modes and Mail, Rail, and Truck value and tonnage data is estimated based on FAF4 data. The data is based off of 2012 actual data collected by FHWA and is factored by FHWA through 2015. MDOT adjusts the yearly by a 2% annual growth rate that reflects a conservative estimate of domestic and international freight growth given current economic conditions.

**Pipeline and Other freight consists largely pipeline, postal and courier shipments weighing less than 100 pounds and other intermodal combinations. Represents a combination of FAF4 Pipeline, Other and Unknown and Multiple Modes and Mail categories.*

**** International cargo through the Port of Baltimore in 2016, source: MPA.*

Data for air, rail and truck is adjusted yearly to account for 2016 FHWA FAF data (based on 2012 actual data and FHWA adjustments) and a 2% annual growth rate.

PERFORMANCE MEASURE 10.3B

Freight Mobility: Port of Baltimore International Cargo Market Share and Rankings

Cargo through the Port of Baltimore is an indicator of the region's commercial health. Freight is the economy in motion; if freight is not moving, then neither is the economy. International tonnage in Baltimore increased 46 percent in the 3rd quarter (compared to same period of the prior year) due to strong container, export autos and export coal volumes. The Port's general cargo was up 15 percent in the 3rd quarter, and bulk commodities were up 69 percent.

Baltimore's international cargo tonnage increased three million tons to a total of 9.5 million tons in the 3rd quarter compared to the same period of the prior year. Market share increased three percentage point for the Mid-Atlantic ports.

The MPA is an active partner with the Corps of Engineers to ensure the navigation channels are dredged to allow the world's fleets easy access between the Port and global markets.
In the Mid-Atlantic region year-to-date, the Port of Baltimore ranks:
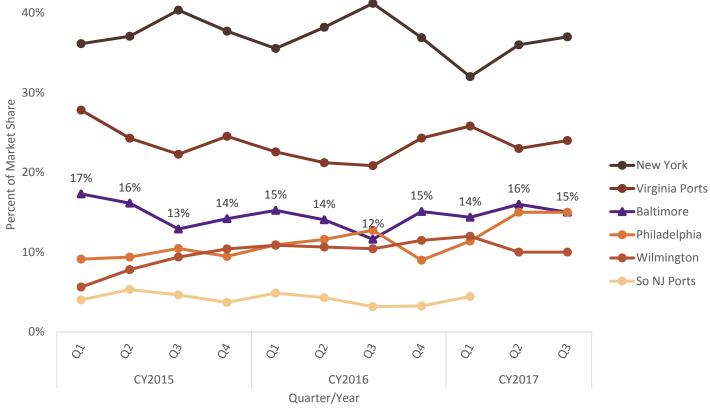
• 1st in Autos; and Roll-on/Roll-off heavy equipment;

• 1st in Imported Sugar,

• 2nd in Exported Coal,

• 2nd in Imported Forrest Products,

• 3rd in Containers, and

• 3rd in Total International Cargo.

Facilitate Economic Opportunity in Maryland

PERFORMANCE MEASURE 10.3B

Freight Mobility: Port of Baltimore International Cargo Market Share and Rankings

Chart 10.3B.1: Market Share, Mid-Atlantic Ports CY2015-CY2017

Q2 & Q3 2017 data for South NJ Ports are included with Philadelphia

TANGIBLE RESULT DRIVER:
Jim Dwyer
Maryland Port Administration (MPA)

PERFORMANCE MEASURE DRIVER:
Deb Rogers
Maryland Vehicle Administration (MVA)

PURPOSE OF MEASURE:
Data shows level of activity at Public Marine Terminals.

FREQUENCY:
Monthly

DATA COLLECTION METHODOLOGY:
Data obtained from MPA cargo Billing Reporting and Statistical System (BRASS). Historical data is available to 1998.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 10.3C
MPA Total General Cargo Tonnage including the following strategic commodities: Containers, Autos, RoRo and Imported Forest Products

As a rule of thumb, general cargo generates more jobs per ton than bulk commodities. Although international general cargo is one-third of the Port's total tonnage, it accounts for 94 percent of the Port's cargo value, and the State's public terminals handle most of the general cargo. Therefore, it is an important measure to track. Plus, freight is the economy in motion and marine terminals are a hive of activity which generates jobs.

Although the MPA set a record of 10.1 million tons in 2016, the Port's public terminals continue the record breaking trend in 2017, i.e., May set a new all-time monthly high, and the first ten months of 2017 are 7.95 percent higher than the same period of the prior year.

Containers showed the strongest growth. With the US Dollar weakening, and some global economies improving, exports have increased for Autos and Roll-on; Roll-off heavy equipment, i.e. farm, construction and mining equipment. Baltimore is the top Auto and Ro/Ro port on the East Coast.

MPA conducts a multi-pronged effort to sustain and expand cargo volumes, e.g., emphasizing long term contracts with favorable rates; marketing for the whole Port; facilitating ways to improve efficiency at Seagirt Marine Terminal to increase truck productivity; managing the capital program to focus on system preservation to keep current customers; and enhancements to keep pace with the evolving global logistics and ever-increasing fleet size and vessel sharing agreements.

PERFORMANCE MEASURE 10.3C

MPA Total General Cargo Tonnage including the following strategic commodities: Containers, Autos, RoRo and Imported Forest Products

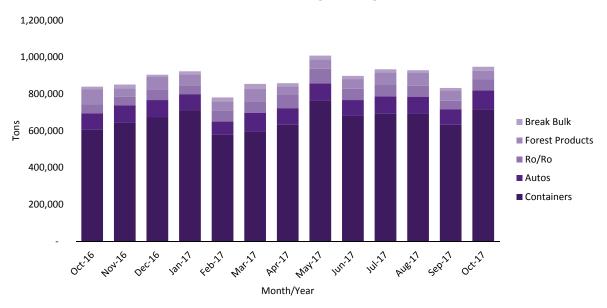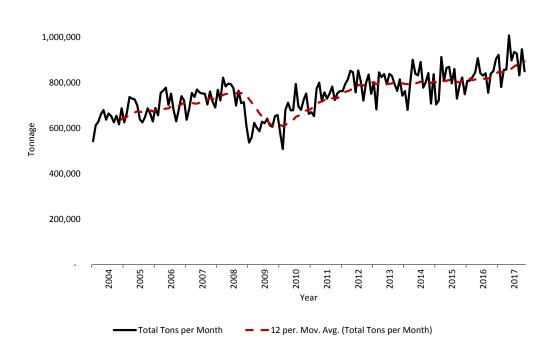**Chart 10.3C.1: MPA General Cargo Tonnage CY2016-CY2017**

Chart 10.3C.2: MPA Total Monthly General Cargo Tonnage CY2004-CY2017

PURPOSE OF MEASURE:
To minimize the number of weight-posted bridges to facilitate the improvement in movement of goods to businesses, communities and the economy.

FREQUENCY:
Annually (in July)

DATA COLLECTION METHODOLOGY:
Data reflects federal reporting in April of each year. The number of bridges on the State-owned system that are weight-posted are reported in the Structure Inventory and Appraisal (SI&A) report. That number is then divided by the total number of SHA and MDTA bridges, resulting in the calculation of the percentage of weight-posted bridges on the State system.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 10.4
Number and Percentage of Bridges on the State-Owned System that are Weight-Posted

Weight-posted bridges are those that are unable to safely carry the maximum weight of a legally loaded vehicle (80,000 lbs. for tractor trailers and 70,000 lbs. for dump trucks). Weight-posted bridges adversely affect movement of goods for businesses and communities, and can impact daily commercial operations and business growth.

Allowing all legally-loaded vehicles to traverse the bridges on the State system is essential to commerce in Maryland, facilitating the movement of goods and provision of services efficiently throughout the State. Minimizing weight posted bridges ensures the safety of the traveling public and facilitates emergency response time by avoiding the need for detour routes.
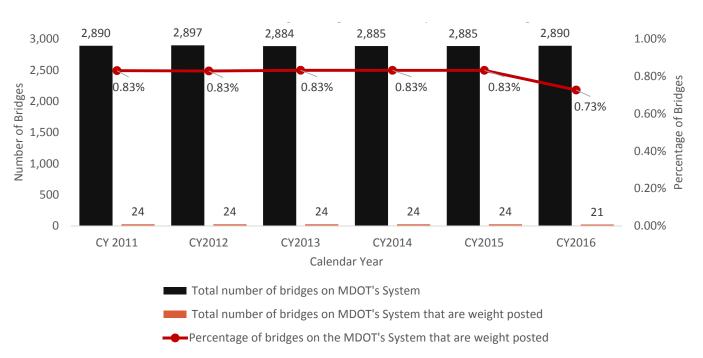
If a bridge cannot safely carry all legal loads, due to its present condition or original design criteria, it will be evaluated and a vehicle weight will be established that it can safely carry. This lower vehicle weight (which is less than the legal weight) will be placed on signs alerting all potential users of the maximum load that the bridge should carry.

Whenever inspections of weight-posted bridges or structurally deficient bridges indicate that repairs are necessary to prevent a weight posting or the lowering of the existing allowable weight restriction, the work to prevent this will be given top priority, and where possible, complete actual construction 18 months from the date when the need for the work was established. Less than 1 percent of SHA and MDTA bridges have a weight restriction.

PERFORMANCE MEASURE 10.4

Number and Percentage of Bridges on the State-Owned System that are Weight-Posted

Chart 10.4.1 Number & Percentage of Bridges on MDOT's System that are Weight-Posted CY2011-CY2016

Legend:
- Total number of bridges on MDOT's System
- Total number of bridges on MDOT's System that are weight posted
- Percentage of bridges on the MDOT's System that are weight posted

PURPOSE OF MEASURE:
To quantify the impacts of changes in the transportation network on the state's economy due to completed transportation projects providing businesses with access to labor, customers, and suppliers. Improved access leads to greater opportunities.

FREQUENCY:
Annually (in April)

DATA COLLECTION METHODOLOGY:
As transportation projects are completed and the transportation network is enhanced, changes in travel demand and user choice will be modeled using a transportation economic impact model; this is a multimodal measure.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 10.5
Change in Market Access due to Improvements in the Transportation Network

Improving access within Maryland's transportation network is a critical role MDOT plays in facilitating economic opportunity for the citizens of Maryland, its businesses and those who come to the State to do business. Currently, MDOT does not measure the impact of changes to the transportation network and its effect on market access. This measure would allow MDOT to look at how improvements in roads and multimodal access is affecting Maryland's economy and assess whether businesses have better access to labor, customers, suppliers and international markets.

This measure includes potential impacts from:

• Business Relocation – Improved market access has the effect of strengthening an economy's competitiveness in attracting and retaining business relative to other locations.
• Productivity Growth – Increasing an economy's accessibility and connectivity generates agglomeration benefits from returns to scale in production, knowledge spillovers, and better matching of suppliers and employees to businesses.
• Increased Import/Export Activity – Improving an economy's access to international gateways can enable new import/export activity.

The Multimodal Process Improvement Team for this measure has met and the tool used to measure the market access has been secured. MDOT has developed a standardized approach to modeling projects and is running test simulations to ensure consistency.

TANGIBLE RESULT DRIVER:
Jim Dwyer
Maryland Port Administration (MPA)

PERFORMANCE MEASURE DRIVER:
Corey Stottlemyer
The Secretary's Office (TSO)

PURPOSE OF MEASURE:
To quantify the impacts of changes in the transportation network on the productivity of people and businesses in Maryland.

FREQUENCY:
Annually (in April)

DATA COLLECTION METHODOLOGY:
As transportation projects are completed and the transportation network is enhanced, changes in travel demand and user choice will be modeled using a transportation economic impact model; this is a multimodal measure.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 10.6
Change in Productivity due to Improvements in the Transportation Network

Productivity gains are essential to economic growth as businesses and people have to do more with fewer resources. The transportation network is similar to the Internet and other innovations that allow people and businesses to be more productive. Currently, MDOT does not measure the impact of changes to the transportation network and its effect on productivity.

Using a transportation economic impact model, MDOT will be able to assess four types of productivity benefits to ensure it helps facilitate business opportunities throughout Maryland:

1. Travel cost savings;
2. Reliability benefits for industry;
3. Delivery logistics and supply chain benefits; and
4. Agglomeration effects on access to specialized skills and services.

The Multimodal Process Improvement Team for this measure has met and the tool used to measure the productivity has been secured. MDOT has developed a standardized approach to modeling projects and is running test simulations to ensure consistency.

Facilitate Economic Opportunity in Maryland

TANGIBLE RESULT DRIVER:
Jim Dwyer
Maryland Port Administration (MPA)

PERFORMANCE MEASURE DRIVER:
Karuna R. Pujara
State Highway Administration (SHA)

PURPOSE OF MEASURE:
To estimate benefits to highway users due to CHART incident management, major/minor capital improvements, signal retiming, HOV lane, and park-and-ride operations as an indicator of cost savings due to reduced delay.

FREQUENCY:
Annually (in January)

DATA COLLECTION METHODOLOGY:
MDOT collects and maintains data on travel speeds, traffic volumes, incidents, and facility usage to develop user cost savings.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 10.7A
Total User Cost Savings for the Traveling Public due to Congestion Management

The SHA and MDTA implement various projects, programs and policies to reduce congestion and enhance mobility on their facilities. The SHA focuses on both recurrent and non-recurrent aspects of congestion. These include CHART, Incident Management and Intelligent Transportation Systems (ITS) programs, major/minor roadway geometric improvements, traffic signal system optimization, and multimodal strategies like HOV lane operations and park-and-ride facilities. The congestion management solutions implemented by SHA and MDTA result in significant user cost savings (e.g. delay reduction, fuel savings) to automobile and truck traffic.

MDOT continues to implement operational strategies, including a Transportation Systems Management and Operations (TSM&O) Strategic Plan, and provides Traffic Incident Management training to partner organizations, while also exploring local, regional and State incident management coordination opportunities. Reductions in travel times directly result in roadway user cost savings.

205 MARYLAND DEPARTMENT OF TRANSPORTATION

PERFORMANCE MEASURE 10.7A

Total User Cost Savings for the Traveling Public due to Congestion Management

Chart 10.7A.1: Annual User Cost Savings Through MDOT Congestion Management Efforts CY2011-CY2016

	2011	2012	2013	2014	2015	2016
Capital Improvements	$18	$16	$19	$21	$4	$50
Signals & Multimodal	$85	$74	$90	$97	$92	$84
CHART	$1,097	$962	$1,163	$1,264	$1,360	$1,500

TANGIBLE RESULT DRIVER:
Jim Dwyer
Maryland Port Administration (MPA)

PERFORMANCE MEASURE DRIVER:
Deborah Rogers
Motor Vehicle Administration (MVA)

PURPOSE OF MEASURE:
To measure the impact of wait time cost to MDOT MVA customers visting a branch.

FREQUENCY:
Annually (in January)

DATA COLLECTION METHODOLOGY:
Wait time is calculated by the customer traffic monitoring (CTM) system. Average Branch Wait Time is determined by the CTM analysis. Research is completed on the Maryland median Income. Calculation is compledted to detmine cost of waiting.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 10.7B
Average Cost per Branch Customer due to Wait Time

MDOT MVA recognizes the value of our customers' time and therefore the goal is to decrease the time that customers spend waiting for goods and services. Continually, MDOT MVA implements process improvements and business policies which build efficiencies and therefore reduce the wait time for customers at our branch offices.
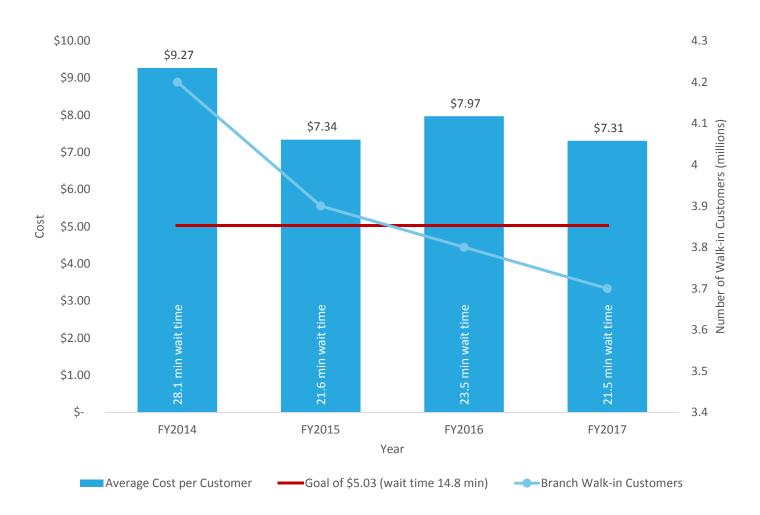
The graph shows that wait times are going down which means the cost to the customer waiting in line is going down. The economic vitality to the State is dependent on the ability to use resources and time in a manner that is beneficial for customers. The calculation is determined by (Wait Time and Median Hourly Wage).

The goal for this measure is to trend downward. MDOT MVA would like to decrease the cost of wait time to our customers and provide secure and efficient services.

Facilitate Economic Opportunity in Maryland

PERFORMANCE MEASURE 10.7B

Average Cost per Branch Customer due to Wait Time

Chart 10.7B.1: Average Cost to Customer due to Branch Office Wait Time FY2014-FY2017

Legend:
- Average Cost per Customer
- Goal of $5.03 (wait time 14.8 min)
- Branch Walk-in Customers

Data shown in chart:
- FY2014: $9.27 — 28.1 min wait time
- FY2015: $7.34 — 21.6 min wait time
- FY2016: $7.97 — 23.5 min wait time
- FY2017: $7.31 — 21.5 min wait time

PURPOSE OF MEASURE:
To identify costs savings to the customer based on the type of alternative service delivery method they choose to use to complete their MDOT MVA transactions.

FREQUENCY:
Annually (in January)

DATA COLLECTION METHODOLOGY:
MVA compiles the number of transactions for each type of ASD method. Average Wait Time is determined by the CTM analysis. Research is completed on the Maryland Median Hourly Wage. Calculation is completed to determine customer cost savings based on wait time savings, travel time savings and IRS mileage reimbursement.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 10.7C
Opportunity Cost Savings to Customer for ASD Usage

Over the past several years, MDOT MVA has been able to shift most customer transactions from branch walk-in (40 percent) to alternative service delivery (ASD) (60 percent). The method of ASD chosen is often dependent on the customer or the transaction. However, ASD has proved to be an overall benefit to the customer which saves time, money and offers convenience. This measure calculates the opportunity cost savings to the customer for their usage of ASD. Each ASD method will offer a different savings. The savings calculation is determined by wait time savings, Maryland average hourly wage, travel time savings, and IRS mileage reimbursement.

The largest customer savings of over $60 is from the use of internet and mail. These ASD methods do not require travel to an MDOT MVA Branch office nor is there a wait time associated with these transactions. Furthermore, the customer convenience is highest. The least customer savings is from the use of kiosk and tablet. With an opportunity cost savings of over $7.00, the customer would still have associated travel times and wait times with the kiosk and tablet ASD usage.

MDOT MVA continues to build process and system efficiencies that will support the use of ASD. Over the past year, MDOT MVA has implemented several ASD enhancements that support the convenience of customer transactions.

• Redesigned emails for renewal notices to customers for example adding the option of "one-click" to complete to complete vehicle registration renewals.

• Provided tablets in our branch office that can triage customers for services as well as complete Tag Return transactions.

• Implemented Vision Screening Stations in our branch offices which allows a customer to complete their vision test for driver's license renewals and then the remainder of their transaction can be completed at the kiosk or their home computer.
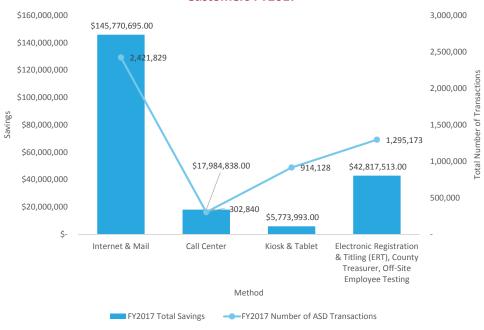
PERFORMANCE MEASURE 10.7C

Opportunity Cost Savings to Customer for ASD Usage

Chart 10.7C.1: Opportunity Cost Savings to Customer for Alternative Service Delivery (ASD) Usage - Individual Customer FY2017

Chart 10.7C.2: Opportunity Cost Savings to Customer for Alternative Service Delivery (ASD) Usage - Total Customers FY2017

PURPOSE OF MEASURE:
To quantify the degree of congestion experienced by highway users when traveling during peak hours.

FREQUENCY:
Annually (in January)

DATA COLLECTION METHODOLOGY:
Includes private sector vehicle probe speed data, and traffic count data on average weekdays.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 10.8

Percent of VMT in Congested Conditions on Maryland Freeways and Arterials in the AM/PM Peak Hours
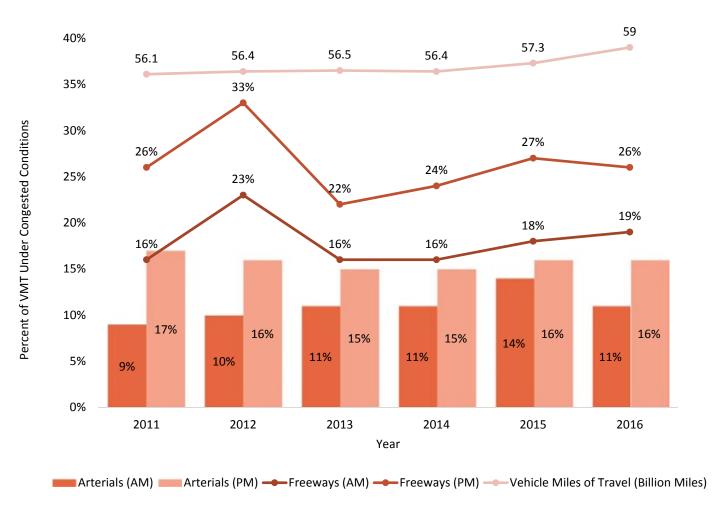
This measure represents the percentage of peak hour VMT on Maryland highways that occur in congested conditions. Congestion on freeways is said to occur when the travel time index (TTI) ratio is greater than 1.3 (traffic travels at 25 percent slower than the free flow speed). Congestion on arterials is said to occur when the traffic Level of Service (LOS) is rated E, or worse, on a scale of A through F. These congestion metrics are a good indicator of customer experience on roadways in morning and evening peak hours. The share of VMT on the freeways/expressways which occurred in congested conditions is generally higher than the share for arterial roadways. Peak hour congestion is dominated by nondiscretionary trips including goods movement, commute and school trips.

Reducing congestion and enhancing the reliability of peak hour trips make Maryland more attractive for economic development and provide users with a high quality, safe, efficient and reliable highway system while supporting State's economic growth.

Facilitate Economic Opportunity in Maryland

PERFORMANCE MEASURE 10.8

Percent of VMT in Congested Conditions on Maryland Freeways and Arterials in the AM/ PM Peak Hours

Chart 10.8.1: Peak Hour Congested VMT Trends on Maryland Roadways CY2011-CY2016

PERFORMANCE MEASURE 10.9A
Market Share: Martin State Airport's Regional Market Share

Martin State Airport is a general aviation facility located in eastern Baltimore County, Maryland serving the general aviation needs of the Baltimore region. It is owned and operated by the State of Maryland. This performance measure gauges the percentage of non-local general aviation activity at Martin State Airport as compared to non-local general aviation activity at BWI Marshall. Non-local general aviation activity is defined as a flight where its origin or destination takes it beyond the electronic control of the local control tower. This measure captures the amount of discretionary use of Martin State Airport by the business and general aviation community flying in and out of the Baltimore region.
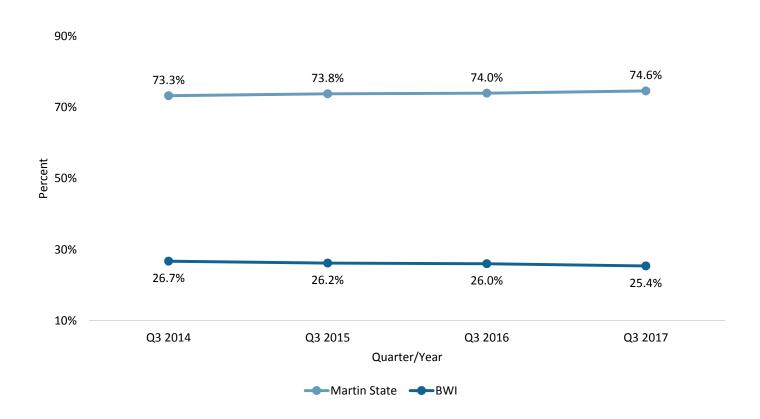
The volume of non-local general aviation operations is an indicator of how much business traffic Martin State Airport is, or is not, attracting. The more non-local operations, the more sale of fuel and other support operations occur at Martin State Airport. Such operations generate revenue and support existing jobs at, and around, the airport. Strong market share also indicates Martin State is adequately performing one of its primary missions, serving as a "reliever airport" for BWI Marshall. A reliever airport is one that attracts general aviation traffic away from a region's primary commercial airport, reducing demand on the congested airspace surrounding the commercial airport.

Martin State Airport is performing well. From Q3 2014 through Q3 2017, Martin State demonstrated solid growth in market share of non-local general aviation operations, increasing from 73 percent to nearly 75 percent while non-local general aviation activity at BWI Marshall declined from nearly 27 percent to 25 percent.

Facilitate Economic Opportunity in Maryland

PERFORMANCE MEASURE 10.9A

Market Share: Martin State Airport's Regional Market Share

Chart 10.9A.1: Percent of all General Aviation Operations other than Local Operations Q3 CY2014-CY2017

TANGIBLE RESULT DRIVER:
Jim Dwyer
Maryland Port Administration (MPA)

PERFORMANCE MEASURE DRIVER:
Jack Cahalan
Maryland Aviation Administration (MAA)

PURPOSE OF MEASURE:
To demonstrate the percent of scheduled nonstop destinations served by BWI Marshall against the total number of nonstop destinations served by the region's three major airports.

FREQUENCY:
Quarterly

DATA COLLECTION METHODOLOGY:
Air service schedule analysis.

NATIONAL BENCHMARK:
Reagan National Airport; Dulles International Airport.

PERFORMANCE MEASURE 10.9B

Market Share: Percent of Nonstop Markets Served Relative to Benchmark Airports
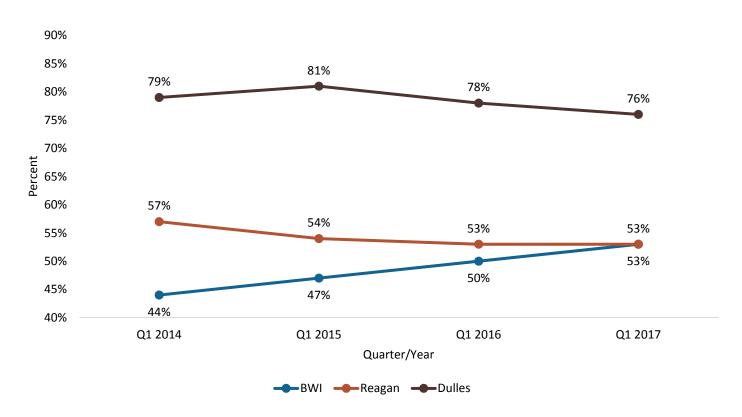
The Washington-Baltimore region is served by three primary airports. They include: Baltimore/Washington International (BWI) Thurgood Marshall Airport; Ronald Reagan National Airport; and Dulles International Airport. More than 25 million passengers flew through BWI Marshall Airport in 2016, an all-time record for passenger traffic. International passenger traffic reached 1.2 million passengers in 2016, also a new record, and 2016 was the second straight year with more than one million passengers. This positive trend continues in 2017. In fact, BWI Marshall posted 26-straight monthly passenger records through August 2017. Only two strong hurricanes in September 2017 that negatively impacted air travel to the southern United States and the Caribbean stood in the way of a 27th record month.

The number of nonstop destinations served by an airport is an important performance metric, as nonstop service is preferred by passengers. Due to the seasonal nature of air travel, the way to evaluate performance is by comparing how an airport performs in a particular quarter one year compared to that same quarter in another year. Chart 10.9B.1 demonstrates that BWI Marshall has produced a steady increase in nonstop destinations when comparing the third quarter of CY2014 through the third quarter of CY2017. The number of nonstop destinations served by BWI Marshall grew to 54 percent of all markets served by the region's three airports. That figure is up from 46 percent in the third quarter of CY2014. BWI Marshall Airport now offers service to more than 90 domestic and international destinations.

PERFORMANCE MEASURE 10.9B

Market Share: Percent of Nonstop Markets Served Relative to Benchmark Airports

Chart 10.9B.1: Percent of Nonstop Markets Served Relative to Benchmark Airports in Q1 CY2014-CY2017

TANGIBLE RESULT DRIVER:
Jim Dwyer
Maryland Port Administration (MPA)

PERFORMANCE MEASURE DRIVER:
Jack Cahalan
Maryland Aviation Administration (MAA)

PURPOSE OF MEASURE:
To determine market share in Baltimore/Washington region by tracking number of passengers and departing flights at BWI Marshall compared to other airports in the region.

FREQUENCY:
Air service schedule analysis

DATA COLLECTION METHODOLOGY:
Air service schedule analysis.

NATIONAL BENCHMARK:
Reagan National Airport; Dulles International Airport.

PERFORMANCE MEASURE 10.9C
Market Share: Percent of Passengers and Departing Flights Relative to Benchmark Airports

The Washington-Baltimore region is served by three primary airports. They include: Baltimore/Washington International (BWI) Thurgood Marshall Airport; Ronald Reagan National Airport; and Dulles International Airport.

More than 25 million passengers flew through BWI Marshall Airport in 2016, an all-time-record for passenger traffic. International passenger traffic reached 1,233,466 million passengers in 2016, also a new record, and 2016 was the second-straight year with more than one million international passengers. BWI Marshall has posted 26-straight monthly passenger records through August 2017.

Due to the seasonal nature of air service schedules, the most valid way to track service performance is a comparison of identical quarters in prior calendar years. As seen in the following charts, BWI Marshall Airport's percentage of departing flights steadily increased between the third quarter of 2014 and the same time-period in 2017. This positive performance is due primarily to continued growth by Southwest, jetBlue, Spirit, Alaska and Allegiant Airlines. In the third quarter of 2017, BWI Marshall Airport continued to serve more passengers than any other airport in the region.
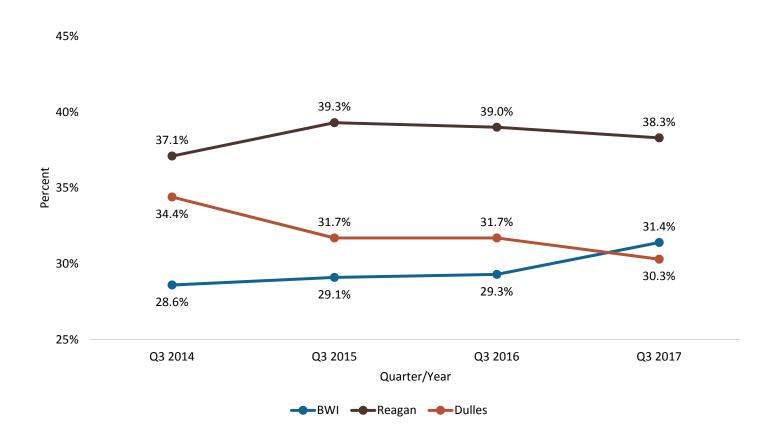
BWI is first in market share of passengers and has climbed into second place in market share of number of departing flights. Reagan National maintains the top spot in the third quarter of 2017 because it handles a great deal of commuter flights which use smaller aircraft and carry fewer passengers. This fact results in a larger number of overall departures at Reagan than BWI Marshall.

By contrast, the overwhelming majority of flights at BWI Marshall involve regularly scheduled, longer distance flights using standard size commercial aircraft like the Boeing 737 flown by Southwest Airlines, which is responsible for 70 percent of the traffic at BWI Marshall. As an example, a commuter jet may carry 50 passengers where a 737-800 model aircraft flown by Southwest will carry 175.

Facilitate Economic Opportunity in Maryland

PERFORMANCE MEASURE 10.9C

Market Share: Percent of Passengers and Departing Flights Relative to Benchmark Airports

Chart 10.9C.1: Percent of Total Daily Departures at the Region's Airports Q3 CY2014-CY2017

TANGIBLE RESULT DRIVER:
Jim Dwyer
Maryland Port Administration (MPA)

PERFORMANCE MEASURE DRIVER:
Glen Carter
The Secretary's Office (TSO)

PURPOSE OF MEASURE:
To improve customer service with a predictable, consistent and transparent process for obtaining an access permit for development in Maryland.

FREQUENCY:
Quarterly

DATA COLLECTION METHODOLOGY:
Reviews, permits and delivery times are tracked in the Access Management Database.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 10.10
Percent of Roadway Access Permits Issued within 21 Days or Less

Access permits help promote safe and efficient roads for travel while supporting economic development and growth in jobs and businesses. The issuance of access permits, and the resulting construction of roadway and entrance improvements by developers, are some of the last steps before opening a business or selling commercial or residential properties for occupancy. This activity contributes to the creation of new jobs, businesses and development/redevelopment opportunities.

This measure tracks MDOT-SHA efforts to improve customer service with a predictable, consistent and transparent process for obtaining an access permit. The performance target is 100 percent of permits that are issued within 21 days (after receipt of a complete application package). On average over the last five years, 105-125 completed applications are received each year.
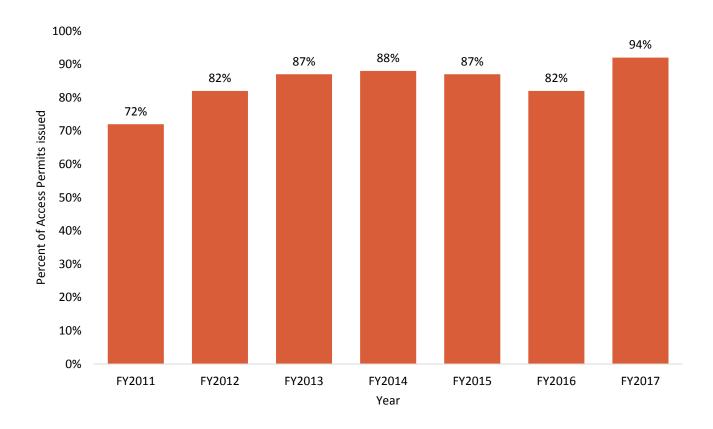
Ongoing practices include:

• Meeting with stakeholders in working group to establish clear expectations;
• Weekly project status alerts to the District Access Management Team.

Facilitate Economic Opportunity in Maryland

PERFORMANCE MEASURE 10.10

Percent of Roadway Access Permits Issued within 21 Days or Less
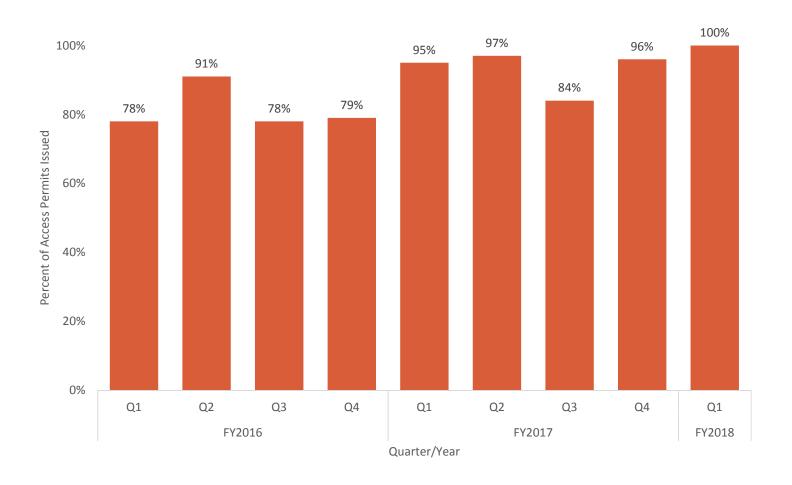
Chart 10.10.1: Percent of Permits Issued Within 21 Days FY2011-FY2017

Facilitate Economic Opportunity in Maryland

PERFORMANCE MEASURE 10.10

Percent of Roadway Access Permits Issued within 21 Days or Less

Chart 10.10.2: Percent of Permits Issued within 21 Days Per Quarter FY2016-FY2018

All Electronic Tolling (AET) – Collection of tolls at highway speeds using *E-ZPass* transponders or video tolling; no toll booths or cash collection.

Annual Attainment Report on Transportation System Performance – Pursuant to Transportation Article Section 2-103.1 of the Annotated Code of Maryland, the State is required to develop or update an annual performance report on the attainment of transportation goals and benchmarks in the Maryland Transportation Plan (MTP) and Consolidated Transportation Program (CTP). The Attainment Report must be presented annually to the Governor and General Assembly before they may consider the MTP and CTP.

Calendar Year (CY) – The period of 12 months beginning January 1 and ending December 31 of each reporting year.

Coordinated Highways Action Response Team (CHART) – CHART is an incident management system aimed at improving real-time travel conditions on Maryland's highway system. CHART is a joint effort of the State Highway Administration, Maryland Transportation Authority and the Maryland State Police, in cooperation with other federal, state and local agencies.

Consolidated Transportation Program (CTP) – A six-year program of capital projects, which is updated annually to add new projects and reflect changes in financial commitments.

Fiscal Year (FY) – A yearly accounting period covering the time frame between July 1 and June 30 of each reporting year.

MPA General Cargo – Foreign and domestic waterborne general cargo handled at the public (MPA) terminals.

Port of Baltimore Foreign Cargo – International (Foreign) cargo handled at public and private terminals within the Baltimore Port District. This includes bulk cargo (e.g., coal, sugar, petroleum, ore, etc. shipped in bulk) and all general cargo (e.g., miscellaneous goods shipped in various packaging).

MAA – Maryland Aviation Administration operates Baltimore/Washington International Thurgood Marshall Airport (BWI Marshall) and Martin State Airport, a general aviation/reliever airport northeast of Baltimore.

MDTA – Maryland Transportation Authority operates and maintains the State's eight toll facilities.

Mode - Form of transportation used to move people or cargo (e.g., truck, rail, air).

MPA – Maryland Port Administration promotes the Port of Baltimore as a leading east coast hub for cargo and cruise activity.

MTA – Maryland Transit Administration provides Local Bus, Light Rail, Metro Rail, Paratransit services and regional services through commuter rail (MARC) and Commuter Bus, as well as grant funding and technical assistance.

MVA – Motor Vehicle Administration serves as the gateway to Maryland's transportation infrastructure, providing a host of services for drivers and vehicles, including registration, licensing and highway safety initiatives.

SHA – State Highway Administration manages the State's highway system which includes 17,117 lane miles of roads and 2,564 bridges

TBU – Transportation Business Unit

TSO – The Secretary's Office

Vehicle Miles of Travel (VMT) – A measurement of the total miles traveled by all vehicles.

Boyd K. Rutherford
Lt. Governor

Larry Hogan
Governor

Pete K. Rahn
Secretary of Transportation

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*This document can be found at www.mdot.maryland.gov/MDOTExcellerator
and is available in alternative formats upon request.*

The data contained herein is impacted by a number of variables and may vary and evolve depending on those variables.

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