A Message From the Governor

“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.

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.

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 providing 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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<td>10.5 Change in Market Access due to Improvements in the Transportation Network</td>
<td>Annually (Oct.) Corey Stottlemyer, TSO</td>
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<td>10.6 Change in Productivity due to Improvements in the Transportation Network</td>
<td>Annually (Oct.) Corey Stottlemyer, TSO</td>
<td></td>
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<tr>
<td>10.7 Total User Cost Savings</td>
<td></td>
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<tr>
<td>10.7a - Total User Cost Savings for the Traveling Public due to Congestion Management</td>
<td>Annually (Jan.) Karuna R. Pujara, SHA</td>
<td></td>
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<td></td>
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<tr>
<td>10.7b - Average Cost per Branch Customer due to Wait Time</td>
<td>Annually (Jan.) Deborah Rogers, MVA</td>
<td></td>
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<tr>
<td>10.7c - Opportunity Cost Savings to Customer for ASD Usage</td>
<td>Annually (Jan.) Deborah Rogers, MVA</td>
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<tr>
<td>10.8 Percent of VMT in Congested Conditions on Maryland Freeways and Arterials in the AM/PM Peak Hours</td>
<td>Annually (Jan.) Karuna R. Pujara, SHA</td>
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<td></td>
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<tr>
<td>10.9 Market Share</td>
<td></td>
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<tr>
<td>10.9a - Martin State Airport’s Regional Market Share</td>
<td>Quarterly Jack Cahalan, MAA</td>
<td></td>
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<td></td>
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<tr>
<td>10.9b - Percent of Nonstop Markets Served Relative to Benchmark Airports</td>
<td>Quarterly Jack Cahalan, MAA</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>10.9c - Percent of Passengers and Departing Flights Relative to Benchmark Airports</td>
<td>Quarterly Jack Cahalan, MAA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.10 Percent of Roadway Access Permits Issued within 21 Days or Less</td>
<td>Quarterly Glen Carter, TSO</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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)*
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
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 January 1, 2018 through March 31, 2018, MDOT crafted 684 responses to customer correspondence assigned by the Governor's Office. The average number of days for MDOT response was 59 days. The total volume of responses increased from the previous quarter by 117 letters and the average number of days for MDOT response increased by 24 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. MDOT recently developed an online training module designed to improve knowledge of the correspondence guidelines. 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
Q4 CY2016 - Q1 CY2018

Chart 1.2A.2: Average Number of Days to Respond to Correspondence in MDOT IQ System by TBU
Q4 CY2016 - Q1 CY2018
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 MDOT-Wide
Q4 CY2016 - Q1 CY2018

Quarter/Year

<table>
<thead>
<tr>
<th>Quarter/Year</th>
<th>Number of Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q4 CY2016</td>
<td>391</td>
</tr>
<tr>
<td>Q1 CY2016</td>
<td>504</td>
</tr>
<tr>
<td>Q2 CY2017</td>
<td>567</td>
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<tr>
<td>Q3 CY2017</td>
<td>740</td>
</tr>
<tr>
<td>Q4 CY2017</td>
<td>567</td>
</tr>
<tr>
<td>Q1 CY2018</td>
<td>684</td>
</tr>
</tbody>
</table>

Number of Correspondences
Provide Exceptional Customer Service

**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 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 set the organization on a sustainable path of exceptional customer service.

MDOT continues to work on short 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.
Provide Exceptional Customer Service

**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. This 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 CY2017 was 6 percent and 7 percent for the period of January 1-March 31, 2018. MDOT continues to maintain a positive trend in the call abandonment rate. Current performance rate of 7 percent is equal to the benchmark of 7 percent. Moreover, in comparison to previous years, CY2017 average abandonment rate of 6 percent was a substantial improvement in comparison to CY2016 with an abandonment rate of 12 percent.

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;
- Continuing triage process to reduce call wait times;
- Revamping IVRs so that customers can reach agents or conduct phone transactions more rapidly; and
- Expanding 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 CY2015-CY2018

Chart 1.3A.2: MDOT Percent of Abandoned Calls at Call Centers vs. Call Center Volume CY2015-CY2018
Provide Exceptional Customer Service

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

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

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 CY2017, Chart 1.3B.1 shows that the average call wait time was 1:24 compared to 3:23 in CY 2016. The current performance level, Q1 CY2018, of 1:42 remains higher than the benchmark of 60 seconds, however, Q4 CY2018 achieved the benchmark. MDOT collectively continues a positive performance trend in this critical measure of customer service.

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.
Provide Exceptional Customer Service

PERFORMANCE MEASURE 1.3B
Customer Satisfaction with Receiving Goods and Services: Average Call Wait Times at Call Centers

Chart 1.3B.1: Average Call Wait Times at MDOT Call Centers CY2015-CY2018

Chart 1.3B.2: Average Call Wait Times at MDOT Call Centers MDOT-Wide CY2015-CY2018
Provide Exceptional Customer Service

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 CY2017, MVA achieved 89 percent and 87 percent Q1 CY2018 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. Q1 CY2018 result of 87 percent is equal to or better that the past three years which would take seasonality into consideration.

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.
Provide Exceptional Customer Service

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 Inquiries CY2015-CY2018

<table>
<thead>
<tr>
<th>Quarter/Year</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
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<tr>
<td>Q1</td>
<td>81%</td>
<td>89%</td>
<td>87%</td>
<td>87%</td>
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<tr>
<td>Q2</td>
<td>87%</td>
<td>91%</td>
<td>90%</td>
<td>90%</td>
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<tr>
<td>Q3</td>
<td>82%</td>
<td>89%</td>
<td>90%</td>
<td>90%</td>
</tr>
<tr>
<td>Q4</td>
<td>85%</td>
<td>87%</td>
<td>89%</td>
<td>87%</td>
</tr>
</tbody>
</table>
Provide Exceptional Customer Service

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 of 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

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

Customer satisfaction with interactions with MDOT Representatives is measured across various factors, with 'Best in Nation' achieving a high score of 87%. Detailed satisfaction levels are provided for each category, indicating areas for improvement or continued excellence.
Provide Exceptional Customer Service

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 CY2017, an MDOT survey was placed on each TBU website to gather feedback from customers regarding their satisfaction with MDOT websites. Results from the survey revealed that customer satisfaction levels related to MDOT websites meeting their needs ranged from 30.5 percent to 61.5 percent. Compared to the ACSI benchmark of 74.3 percent favorability, there is opportunity for improvement in the satisfaction levels of MDOT customers with TBU websites.

To ensure continuous improvement in customer satisfaction with MDOT websites, representatives from each TBU met to discuss survey results and to develop strategies to ensure MDOT websites meet the needs of customers. The working team has reviewed survey data and implemented survey modifications to obtain more precise data and better mirror the ACSI benchmark. CY2017 survey results indicated that MDOT websites were difficult to navigate, not mobile device friendly, and that it was difficult to locate basic information such as contact information or hours of operations. Customers also expressed concerns about technical jargon, difficulty finding job notices and expressed that TBU websites are in general not user friendly. Each TBU is making strides to improve their websites, including adding functionality for mobile devices.
Provide Exceptional Customer Service

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 CY2017

<table>
<thead>
<tr>
<th>TBU</th>
<th>SHA</th>
<th>MVA</th>
<th>MTA</th>
<th>MDTA</th>
<th>MAA</th>
<th>MPA</th>
<th>MDOT Wide</th>
<th>ACSI Benchmark</th>
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<tr>
<td>CY2015</td>
<td>34%</td>
<td>31%</td>
<td>34%</td>
<td>37%</td>
<td>62%</td>
<td>46%</td>
<td>40%</td>
<td>74%</td>
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<tr>
<td>CY2016</td>
<td>34%</td>
<td>31%</td>
<td>34%</td>
<td>37%</td>
<td>62%</td>
<td>46%</td>
<td>40%</td>
<td>74%</td>
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</table>
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.

Results of the CY2017 survey reveal that the percent of MDOT customers who felt that it was easy to find the information they were looking for on MDOT websites ranged from 31 percent to 60.9 percent. Compared to the ACSI benchmark of 77 percent, MDOT websites require considerable improvement to ensure customers can easily retrieve desired information.

As mentioned previously, representatives from each TBU are working together to address survey feedback from customers and the identification of strategies to improve our websites, with focus on those issues identified from the survey of customers such as the challenges with navigation and finding basic information concerning MDOT operations. Recommendations for improvement from the working team will be shared across TBUs to ensure continuous improvement in MDOT websites.
Provide Exceptional Customer Service

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 CY2017

- SHA: 31%
- MVA: 38%
- MTA: 58%
- MDTA: 39%
- MAA: 61%
- MPA: 46%
- MDOT Wide: 45%
- ACSI Bench: 77%
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)
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 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 FY 2018 Q2, MDOT’s capital program spending rate was at 40 percent of CTP forecasted funds expended, which is identical to the same time last year.
PERFORMANCE MEASURE 2.1
Percent Capital Dollars Spent as Programmed

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

Chart 2.1.2: 3-Year Expenditure Rate By TBU at Q2 Mark, State/Federal/Toll FY2016-FY2018
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 July)

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 success in 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, and 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
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 the Department. 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%
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 a 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 of 2017 and 2018. 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 2018. This data reflects that approximately 43.1 percent of all employee separations during this timeframe occurred within the first year of hire.

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 to develop 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 CY2017-CY2018

Chart 2.4.2: Employee Turnover Rate, Seasonal Comparison CY2017-CY2018
PERFORMANCE MEASURE 2.4
Employee Turnover Rate

Chart 2.4.3: Employee Separations CY2018

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<thead>
<tr>
<th>Agency</th>
<th>More than 1 Year</th>
<th>Less than 1 Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHA (2690)</td>
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<td>7</td>
</tr>
<tr>
<td>MTA (628T)</td>
<td>13</td>
<td>4</td>
</tr>
<tr>
<td>MVA (1638)</td>
<td>21</td>
<td>20</td>
</tr>
<tr>
<td>MDTA (1586)</td>
<td>29</td>
<td>12</td>
</tr>
<tr>
<td>MAA (461)</td>
<td>10</td>
<td>3</td>
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<td>TSO (295)</td>
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<td>3</td>
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<tr>
<td>TBU</td>
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</tr>
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Chart 2.4.4: Top 5 Most Frequent Separation Reasons MDOT-Wide CY2018

<table>
<thead>
<tr>
<th>Reason</th>
<th>More than 1 Year</th>
<th>Less than 1 Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retired</td>
<td>72</td>
<td></td>
</tr>
<tr>
<td>Rejected on Probation</td>
<td>2</td>
<td>15</td>
</tr>
<tr>
<td>Transfer Outside MDOT</td>
<td>11</td>
<td>3</td>
</tr>
<tr>
<td>More Opportunity</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>Failed to Report</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>
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.

MDOT-wide the median for Q1 CY2018 was 69 days, down from Q1 CY2017’s median of 98 days.

In Q1 CY2018, 86% vacancies were filled in an average of 22 days, versus 67% vacancies filled in Q1 CY2017 with an average of 222 days.

The Agile HR workgroup on recruitment processes has been meeting to map the process across all TBUs and identify ways to streamline/standardize the process and eliminate unnecessary or redundant activities. As this work progresses, it is critical that all parties remain fully engaged in the recruitment process so that we can fill vacancies quickly and with high quality candidates.
PERFORMANCE MEASURE 2.5
Time to Fill Vacancies

Chart 2.5.1: Median Time to Fill Vacancies by TBU Q1 CY2017 - Q1 CY2018
PERFORMANCE MEASURE 2.5
Time to Fill Vacancies

Chart 2.5.2: Percent of Vacancies Filled in Less Than 180 Days by TBU CY2017 - CY2018

<table>
<thead>
<tr>
<th>TBU</th>
<th>Q1 CY2017</th>
<th>Q2 CY2017</th>
<th>Q3 CY2017</th>
<th>Q4 CY2017</th>
<th>Q1 CY2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSO</td>
<td>100%</td>
<td>71%</td>
<td>82%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>SHA</td>
<td>50%</td>
<td>56%</td>
<td>46%</td>
<td>57%</td>
<td>67%</td>
</tr>
<tr>
<td>MAA</td>
<td>100%</td>
<td>82%</td>
<td>75%</td>
<td>68%</td>
<td>80%</td>
</tr>
<tr>
<td>MDTA</td>
<td>87%</td>
<td>79%</td>
<td>67%</td>
<td>75%</td>
<td>80%</td>
</tr>
<tr>
<td>MPA</td>
<td>55%</td>
<td>55%</td>
<td>39%</td>
<td>57%</td>
<td>80%</td>
</tr>
<tr>
<td>MTA</td>
<td>79%</td>
<td>71%</td>
<td>57%</td>
<td>84%</td>
<td>80%</td>
</tr>
<tr>
<td>MVA</td>
<td>71%</td>
<td>74%</td>
<td>69%</td>
<td>84%</td>
<td>80%</td>
</tr>
<tr>
<td>MDOT</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Percent of Total Vacancies
PERFORMANCE MEASURE 2.5
Time to Fill Vacancies

Chart 2.5.3: Outstanding PINs (6 months or older) by TBU Q2 CY2017-Q1 CY2018

- **MPA**
  - Number of Outstanding Pins:
    - Quarter/Year
    - Q2: 4.0
    - Q3: 2.0
    - Q4: 2.0
    - Q1: 1.0

- **MTA**
  - Number of Outstanding Pins:
    - Quarter/Year
    - Q2: 56.0
    - Q3: 0.5
    - Q4: 0.0
    - Q1: 0.0

- **TSO**
  - Number of Outstanding Pins:
    - Quarter/Year
    - Q2: 6.0
    - Q3: 0.0
    - Q4: 3.0
    - Q1: 2.0

- **MDTA**
  - Number of Outstanding Pins:
    - Quarter/Year
    - Q2: 71.0
    - Q3: 30.0
    - Q4: 34.0
    - Q1: 19.0

- **MVA**
  - Number of Outstanding Pins:
    - Quarter/Year
    - Q2: 8.0
    - Q3: 1.0
    - Q4: 1.0
    - Q1: 0.0

- **SHA**
  - Number of Outstanding Pins:
    - Quarter/Year
    - Q2: 77.0
    - Q3: 5.0
    - Q4: 2.0
    - Q1: 0.0

- **MDOT-Wide**
  - Number of Outstanding Pins:
    - Quarter/Year
    - Q2: 222.0
    - Q3: 38.5
    - Q4: 42.0
    - Q1: 22.0
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 TBU during its annual fixed asset physical inventory versus the number of fixed assets recorded in each TBU’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 TBUs 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

<table>
<thead>
<tr>
<th></th>
<th>Sensitive Assets</th>
<th>Non-Sensitive Assets</th>
<th>Total Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAA</td>
<td>98.6%</td>
<td>98.9%</td>
<td>99.0%</td>
</tr>
<tr>
<td>MDTA</td>
<td>82.8%</td>
<td>100.0%</td>
<td>-</td>
</tr>
<tr>
<td>MPA</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>MTA</td>
<td>77.7%</td>
<td>94.8%</td>
<td>76.7%</td>
</tr>
<tr>
<td>MVA*</td>
<td>95.7%</td>
<td>86.9%</td>
<td>93.2%</td>
</tr>
<tr>
<td>SHA</td>
<td>-</td>
<td>97.7%</td>
<td>91.4%</td>
</tr>
<tr>
<td>TSO</td>
<td>94.9%</td>
<td>94.4%</td>
<td>94.9%</td>
</tr>
<tr>
<td>MDOT</td>
<td>89.9%</td>
<td>93.3%</td>
<td>87.6%</td>
</tr>
</tbody>
</table>

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

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

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

<table>
<thead>
<tr>
<th>Facility Type</th>
<th>SHA</th>
<th>MDTA</th>
<th>MTA</th>
<th>MAA</th>
<th>MPA</th>
<th>MVA</th>
<th>TSO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintenance/Administrative</td>
<td>100</td>
<td>22</td>
<td>27</td>
<td>10</td>
<td>2</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Customer</td>
<td>13</td>
<td>0</td>
<td>89</td>
<td>14</td>
<td>9</td>
<td>33</td>
<td>0</td>
</tr>
</tbody>
</table>
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

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

Percent of Respondents

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

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

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

<table>
<thead>
<tr>
<th>Component</th>
<th>FY 2015</th>
<th>FY 2016</th>
<th>MDOT Benchmark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>3.77</td>
<td>3.75</td>
<td>3.76</td>
</tr>
<tr>
<td>Guideway</td>
<td>3.58</td>
<td>3.54</td>
<td>3.58</td>
</tr>
<tr>
<td>Trackwork</td>
<td>2.46</td>
<td>2.87</td>
<td>2.50</td>
</tr>
<tr>
<td>Special Structures</td>
<td>2.86</td>
<td>2.31</td>
<td>2.50</td>
</tr>
</tbody>
</table>

Chart 2.7D.2: Rating of Light Rail in “Good” Condition (>2.5) FY2015-FY2016

<table>
<thead>
<tr>
<th>Component</th>
<th>FY 2015</th>
<th>FY 2016</th>
<th>MDOT Benchmark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>3.77</td>
<td>3.72</td>
<td>3.77</td>
</tr>
<tr>
<td>Guideway</td>
<td>4.16</td>
<td>4.12</td>
<td>4.16</td>
</tr>
<tr>
<td>Trackwork</td>
<td>3.58</td>
<td>3.31</td>
<td>2.50</td>
</tr>
<tr>
<td>Special Structures</td>
<td>3.37</td>
<td>3.52</td>
<td>2.50</td>
</tr>
</tbody>
</table>
PERFORMANCE MEASURE 2.7
Managing Capital Assets

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

- 2011: 50%
- 2012: 84%
- 2013: 81%
- 2014: 84%
- 2015: 94%
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, and the focus must remain on identifying those contracts with concerns. The process improvement team made recommendations to Executive Staff which are now currently being implemented, specifically the creation of Office of Project Quality Assurance.
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

- FY2014: 78%
- FY2015: 84%
- FY2016: 87%
- FY2017: 92%

Fiscal Year

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

- FY2014: Awarded 1,250, Expired 1,340
- FY2015: Awarded 2,013, Expired 2,384
- FY2016: Awarded 1,835, Expired 2,225
- FY2017: Awarded 1,501, Expired 2,172

Fiscal Year

Awarded, Expired
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 TBU 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

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Value in Millions</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY2015</td>
<td>$187</td>
</tr>
<tr>
<td>FY2016</td>
<td>$116</td>
</tr>
<tr>
<td>FY2017</td>
<td>$81</td>
</tr>
</tbody>
</table>
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

Use Resources Wisely
PERFORMANCE MEASURE 2.9
Percent and Value of Unanticipated Contract Modifications

Chart 2.9.3: Percent of Unanticipated Contract Modification Dollars Spent by Category of Work FY2015 - FY2017
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 2017, an MDOT-wide project improvement team forwarded to the Secretary recommendations for many standardized processes and procedures that would provide more consistency throughout all MDOT TBU’s. Recommendations include development of a standardized independent cost estimate procedure to develop, a more comprehensive centralized database for contract information, and the creation of a coordinating office among other items.
PERFORMANCE MEASURE 2.10
Relationship Between Procurement Competition and Cost

Chart 2.10.1: Actual Versus Estimates by TBU 3Q CY2017

Chart 2.10.2: Actual Versus Estimates by TBU 4Q CY2017
PERFORMANCE MEASURE 2.10
Relationship Between Procurement Competition and Cost

Chart 2.10.3: Actual Versus Estimated by TBU from Apr 2016 to Dec 2017

Chart 2.10.4: Percent Change, Actual vs. Estimates by Contract Type Q3 CY2017
PERFORMANCE MEASURE 2.10
Relationship Between Procurement Competition and Cost

Chart 2.10.5: Percent Change, Actual vs. Estimates by Contract Type Q4 CY2017

Chart 2.10.6: Actuals Versus Estimates by Contract Type from Apr 2016 to Dec 2017


**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.

Legislative Audits are tracked on a Fiscal Year basis (July of current year though June of the following year). From FY2013-FY2017, there were 844 Internal Audit Findings. The number of Repeat Internal Audit Findings totaled 44 from FY2013-2017. These repeat findings dealt 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), one finding each on the COMAR competitive bid process, unsigned quality assurance reviews, 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

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Number of Repeat Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY2013</td>
<td>9</td>
</tr>
<tr>
<td>FY2014</td>
<td>3</td>
</tr>
<tr>
<td>FY2015</td>
<td>7</td>
</tr>
<tr>
<td>FY2016</td>
<td>13</td>
</tr>
<tr>
<td>FY2017</td>
<td>12</td>
</tr>
</tbody>
</table>
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 these findings.

Legislative Audits are performed by the Maryland Department of Legislative Services and tracked on a Fiscal Year basis (July of current year though June of the following year). From Fiscal Year 2013 through Fiscal Year 2017, 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

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSO</td>
<td>4</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>SHA</td>
<td>10</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td>MDTA</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>MTA</td>
<td></td>
<td></td>
<td>9</td>
<td>1</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>MVA</td>
<td>9</td>
<td>2</td>
<td></td>
<td></td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>MAA</td>
<td>8</td>
<td>0</td>
<td>4</td>
<td>1</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td>MPA</td>
<td></td>
<td>2</td>
<td>0</td>
<td></td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total Findings</strong></td>
<td><strong>22</strong></td>
<td><strong>11</strong></td>
<td><strong>11</strong></td>
<td><strong>5</strong></td>
<td><strong>4</strong></td>
<td><strong>53</strong></td>
</tr>
<tr>
<td><strong>Total Repeat Findings</strong></td>
<td><strong>1</strong></td>
<td><strong>3</strong></td>
<td><strong>1</strong></td>
<td><strong>0</strong></td>
<td><strong>1</strong></td>
<td><strong>6</strong></td>
</tr>
</tbody>
</table>
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 TBUs 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 Preventive Maintenance.” We have data through December 2017. All TBUs are now reporting and vehicle types are reporting data.
PERFORMANCE MEASURE 2.13
MDOT Fleet Vehicle On-Time Preventive Maintenance

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

- MTA Mobility (185)
- TSO (26)
- SHA (3,020)
- MTA Commuter Bus (47)
- MTA Bus (760)
- MDTA (912)
- MTA Non Revenue Fleet (276)
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)
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 CY2016, CY2017, and partial reporting for Q1 CY2018, for Part I and Part II crimes. The charts are listed in three categories; MTA, MAA, 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.
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PERFORMANCE MEASURE 3.1
Number of Crimes Against Persons and Property Committed at MDOT Facilities

Chart 3.1.1: Part I Crimes CY2018
- Q1 Total: 94

Chart 3.1.2: Part II Crimes CY2018
- Q1 Total: 65
Provide a Safe and Secure Transportation Infrastructure

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

PERFORMANCE MEASURE DRIVER:
Kelly Melhem
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 collective police data submitted to Maryland State Police (MSP) through Automated Crash Reporting System (ACRS).

NATIONAL BENCHMARK:
N/A

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

Behind every number is a person, a family, and a community changed forever.

MDOT strives to increase motorist safety by reducing traffic 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), administered by the MDOT MVA’s Maryland Highway Safety Office (MHSO), is our roadmap driving us Toward Zero Deaths. Its goal is to reduce the number of traffic fatalities 50 percent by 2030 from the 2008 baseline (592 fatalities) using behavioral and engineering safety strategies. Drivers remain the single most important safety feature inside a vehicle.

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), preliminary analysis indicates that traffic fatalities across the State increased in 2017.

The total number of deaths on our nation’s highways also is increasing – by 5.6 percent in 2016 to 37,461 fatalities and by 8.4 percent from 2014 to 2015. The National Highway Traffic Safety Administration (NHTSA) attributes some of the cause to relatively inexpensive gasoline, a sharp increase in vehicle miles traveled (VMT) and an improved economy. VMT in Maryland increased by two percent from 2016 to 2017. This increased exposure, coupled with risky driving behaviors and a failure to use seat belts, is believed to be a significant reason for the increasing number of highway fatalities in Maryland.

Maryland’s preliminary 2017 crash data also indicates:
• An increase in bicyclist fatalities from 2016.
• An increase in pedestrian fatalities from 2016. One in five traffic deaths is a pedestrian.
• An increase in traffic fatalities in work zones from 2016, which may be linked to changes in crash reporting.

Early crash data for the first quarter of 2018 shows a preliminary decline in both fatalities and VMT compared to the same timeframe in 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 CY2014-CY2018 (YTD)
PERFORMANCE MEASURE 3.2
Number of Traffic-Related Fatalities on All Roads

Chart 3.2.2: Annual Comparison of All Fatalities CY2014-CY2018
PERFORMANCE MEASURE 3.3
Maryland Traffic-Related Fatality Rate (Highways)

*Behind every number is a person, a family, and a community changed forever.*

The annual 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.

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 eight years and dropped slightly from 0.91 in 2015 to 0.89 in 2016.

This slight decrease corresponds with the continued rise in Maryland’s VMT and the consistent number of traffic deaths between 2015 and 2016. Maryland’s 2016 fatality rate remained below the national rate of 1.18.

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. Since VMT is more difficult to influence, decreasing the number of traffic fatalities is the best opportunity to lower the fatality rate.
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PERFORMANCE MEASURE 3.3
Maryland Traffic-Related Fatality Rate (Highways)

Chart 3.3.1: Traffic-Related Fatality Rate, Maryland vs. National Benchmark CY2011-CY2016

Maryland Rate | National Rate
---|---
2011 | 0.87 | 0.91
2012 | 0.91 | 0.83
2013 | 0.83 | 0.79
2014 | 0.79 | 0.91
2015 | 0.91 | 0.89
2016 | 0.89 |
**TANGIBLE RESULT DRIVER:**
Sarah Clifford  
*Maryland Transportation Authority (MDTA)*

**PERFORMANCE MEASURE DRIVER:**
Kelly Melhem  
*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 collective police data submitted to MSP through Automated Crash Reporting System (ACRS).

**NATIONAL BENCHMARK:**
N/A

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

*Behind every number is a person, a family, and a community changed forever.*

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.

Following a significant 10-year decline, the number of serious injuries on Maryland roadways in 2016 increased by 16 percent. Preliminary 2017 crash data indicates a slight increase in the number of serious injuries, while early first quarter data from 2018 (369 serious injuries) shows a preliminary decline from the same period in 2017 (629 serious injuries).

Striving to minimize crashes that result in serious injuries serves to reduce a motorist’s risk for suffering life-altering consequences. 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 crashes by 50 percent by 2030. The SHSP brings together federal, state and local partners to help reach this goal by reducing impaired, distracted and aggressive driving; improving pedestrian, bicyclist and motorcyclist safety; reaching 100 percent seat belt use; and engineering safer roads.

Since serious injuries are defined differently from state to state, there is no national benchmark.
PERFORMANCE MEASURE 3.4
Number of Traffic-Related Serious Injuries on all Roads

Chart 3.4.1: Annual Comparison of All Serious Injuries CY2014-CY2018 (YTD)

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bike</td>
<td>71</td>
<td>51</td>
<td>65</td>
<td>78</td>
<td>5</td>
</tr>
<tr>
<td>Ped</td>
<td>361</td>
<td>320</td>
<td>419</td>
<td>475</td>
<td>63</td>
</tr>
<tr>
<td>Driver/Passenger</td>
<td>2,621</td>
<td>2,224</td>
<td>2,679</td>
<td>2,627</td>
<td>301</td>
</tr>
</tbody>
</table>
PERFORMANCE MEASURE 3.4
Number of Traffic-Related Serious Injuries on all Roads

Chart 3.4.2: Annual Comparison of All Serious Injuries CY2014-CY2018

<table>
<thead>
<tr>
<th>Year</th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
<th>Annual VMT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>593</td>
<td>809</td>
<td>571</td>
<td>562</td>
<td>66,400</td>
</tr>
<tr>
<td>2015</td>
<td>758</td>
<td>704</td>
<td>57,314</td>
<td></td>
<td>60,118</td>
</tr>
<tr>
<td>2016</td>
<td>463</td>
<td>1,058</td>
<td>58,974</td>
<td></td>
<td>59,000</td>
</tr>
<tr>
<td>2017</td>
<td>629</td>
<td>935</td>
<td>907</td>
<td></td>
<td>55,000</td>
</tr>
<tr>
<td>2018</td>
<td>369</td>
<td></td>
<td></td>
<td></td>
<td>54,000</td>
</tr>
</tbody>
</table>
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PERFORMANCE MEASURE 3.5
Maryland Traffic-Related Serious Injury Rate (Highways)

_Behind every number is a person, a family, and a community changed forever._

Maryland’s serious injury rate is based on a measure similar to the fatality rate (number of persons seriously injured annually in a traffic-related crash per 100 million VMT).

After a 33-percent drop in both the number of serious injuries and the corresponding rate between 2008 and 2015, Maryland’s serious injury rate increased from 4.55 in 2015 to 5.36 in 2016. This rate increase corresponds with the increased number of serious injuries between 2015 and 2016, as well as the growing number of VMT in Maryland.

Serious injury or death is not an acceptable consequence of driving. The SHSP contains strategies intended to reduce risky driving behaviors statewide that result in the types of crashes leading to serious injury or death. Engineering advances in safer vehicles and highways, and immediate critical care from emergency medical providers, have contributed significantly to the declines in traffic-related serious injuries (and their corresponding rates) during several recent years.

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

_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 MVA Maryland Highway Safety Office (MHSO).

NATIONAL BENCHMARK:
Nationwide usage rate provided by National Highway Traffic Safety Administration (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 percent for 2017 representing a 1.3 percent increase over the previous year. The MHSO goal for seat belt usage for 2017 was 94.1 percent. The nationwide seat belt usage rate was not available at the time of this analysis.

Maryland will kick off the 2018 Click-It or Ticket seat belt enforcement campaign on May 21, 2018. The campaign involves approximately fifty law enforcement agencies who will join forces for a border-to-border enforcement effort across Maryland.

Chart 3.6.1: Maryland Seatbelt Usage Rate vs. National Benchmark Rate CY2013-CY2017
PERFORMANCE MEASURE 3.7
Travelers 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 CY2017, MDOT has helped 60,125 disabled motorists. Additionally, CHART provides real-time traffic conditions through its website: http://www.chart.state.md.us/.

Chart 3.7.1: Number of Assists and Responses CY2018
PERFORMANCE MEASURE 3.7
Disabled Vehicles Assisted by MDOT

Chart 3.7.2: Number of Assists and Responses Q1 CY2016-CY2018

<table>
<thead>
<tr>
<th></th>
<th>Q1 CY2016</th>
<th>Q1 CY2017</th>
<th>Q1 CY2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAA</td>
<td>2,121</td>
<td>1,796</td>
<td>1,977</td>
</tr>
<tr>
<td>MPA</td>
<td>19</td>
<td>24</td>
<td>36</td>
</tr>
<tr>
<td>SHA/MDTA</td>
<td>16,728</td>
<td>16,175</td>
<td>20,511</td>
</tr>
</tbody>
</table>

Chart 3.7.3: MDOT Travelers Assisted Compared to VMT CY2014-CY2017 (YTD)

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>MDOT Assists</td>
<td>56,400</td>
<td>57,314</td>
<td>58,974</td>
<td>60,118</td>
</tr>
<tr>
<td>VMT (in Millions)</td>
<td>77,865</td>
<td>85,562</td>
<td>80,089</td>
<td>80,577</td>
</tr>
</tbody>
</table>
Provide a Safe and Secure Transportation Infrastructure

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

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

PURPOSE OF MEASURE:
To track the readiness of MDOT emergency personnel for responding to emergency incidents by ensuring awareness and understanding of the National Incident Management System and Incident Command System.

FREQUENCY:
Annually (in October)

DATA COLLECTION METHODOLOGY:
Individual TBUs will identify emergency response positions that require NIMS/ICS training and the completion of training.

NATIONAL BENCHMARK:
Internal MDOT benchmark is 90 percent of emergency response positions will have completed the required NIMS/ICS training.

PERFORMANCE MEASURE 3.8
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 resulted in the creation of single-integrated 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 at 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 NIMS/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.

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 the Federal Emergency Management Agency (FEMA) on an annual basis. Several years ago, this required annual reporting was discontinued by FEMA, and thus no longer tracked by MDOT.
Provide a Safe and Secure Transportation Infrastructure

**PERFORMANCE MEASURE 3.8**  
Number of Employees Trained Under National Incident Management System (NIMS)

3.8.1: Percent of NIMS/ICS Training (Level 1 and 2) for Required Personnel Completed FY2017

<table>
<thead>
<tr>
<th>Agency</th>
<th>Level 1</th>
<th>Level 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSO</td>
<td>86%</td>
<td>86%</td>
</tr>
<tr>
<td>SHA</td>
<td>59%</td>
<td>36%</td>
</tr>
<tr>
<td>MDTA</td>
<td>87%</td>
<td>50%</td>
</tr>
<tr>
<td>MTA</td>
<td>25%</td>
<td>79%</td>
</tr>
<tr>
<td>MVA</td>
<td>46%</td>
<td>18%</td>
</tr>
<tr>
<td>MAA</td>
<td>79%</td>
<td>84%</td>
</tr>
<tr>
<td>MPA</td>
<td>79%</td>
<td>67%</td>
</tr>
</tbody>
</table>

![Chart 3.8.1: Percent of NIMS/ICS Training Completed, Level 1 and 2 FY2017](chart.png)
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 includes lost work days due to on the job, work-related injuries. Lost work days are not associated with the number of injuries reported. Performance Measure 3.9 factors affecting this measure include varying work conditions and environments, and differing risk profiles among employees across TBUs. The goal of this performance measure is to develop consistent leave coding policies and practices across MDOT’s payroll systems.

This is an annual comparison of CY2017 versus CY2018. Data indicates a CY2017 decrease in the number of lost work days due to injuries. The graphs illustrated for Performance Measure 3.9 illustrates various dimensions of Employee Lost Work Days Due to Injuries such as: results by TBUs, primary type of injuries, union impact and relative costs. The information acquired from these results contribute to specific mitigating lost work days actions. Also, PM 3.9C consists of three measurements; Incidence Rate, Cost of Injury and MDOT Top 5 Injury Events. Incidence Rate allows a TBU to show a relative level of injury regardless of size. Utilizing this measure, a TBU can compare itself versus all other industries within the USA. MDOT Top 5 Injury Events allows TBUs to focus on the tasks that lead to those events. This leads to focused effort on the most meaningful tasks to achieve reductions in injury costs.

Strategies for reducing employee injuries include creation of MDOT TBU Safety Management Programs, a 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 Injuries (FROI) Reported MDOT-Wide CY2016-2018
PERFORMANCE MEASURE 3.9
Number of Employee Lost Work Days Due to Injuries

Chart 3.9.2: Number of Employees Coding LY (Work Injury Leave) by Quarter CY2017-CY2018

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

Chart 3.9.3: Number of Work Injury Leave (LY) Days Used by Quarter CY2017-CY2018

*Work Injury Leave Codes have been revised and distributed to Risk Managers

Chart 3.9.4: MTA Union Lost Work Days Due to Injuries CY2014-CY2018 January - March
PERFORMANCE MEASURE 3.9
Number of Employee Lost Work Days Due to Injuries

Chart 3.9.5: Number of Work Injury Days Used, TSHRS and MTA Union CY2017-CY2018 January - March

![Chart showing work injury days used in CY2017 and CY2018. TSHRS and MTA Union data are presented.]

Chart 3.9.6: Incident Rate by Cumulative Quarter CY2017-CY2018

![Chart showing incident rates per 100 employees for different quarters and departments.]

- **Q3 CY2017**
- **Q4 CY2017**
- **Q1 CY2018**
PERFORMANCE MEASURE 3.9
Number of Employee Lost Work Days Due to Injuries

Chart 3.9.7: Incurred Injury Costs Q1 CY2016-CY2018

<table>
<thead>
<tr>
<th></th>
<th>TSO</th>
<th>SHA</th>
<th>MDTA</th>
<th>MAA</th>
<th>MVA</th>
<th>MPA</th>
<th>MTA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1 CY2016</td>
<td>$327</td>
<td>$2,691,234</td>
<td>$490,706</td>
<td>$173,739</td>
<td>$118,089</td>
<td>$347</td>
<td>$3,962,878</td>
</tr>
<tr>
<td>Q1 CY2017</td>
<td>$2,571</td>
<td>$443,601</td>
<td>$852,223</td>
<td>$9,336</td>
<td>$216,251</td>
<td>$1,011</td>
<td>$2,442,304</td>
</tr>
<tr>
<td>Q1 CY2018</td>
<td>$50,749</td>
<td>$205,752</td>
<td>$432,996</td>
<td>$50,749</td>
<td>$92,036</td>
<td>$998</td>
<td>$2,432,867</td>
</tr>
</tbody>
</table>

Chart 3.9.8: Total Incurred Injury Costs CY2016-CY2018

<table>
<thead>
<tr>
<th></th>
<th>TSO</th>
<th>SHA</th>
<th>MDTA</th>
<th>MAA</th>
<th>MVA</th>
<th>MPA</th>
<th>MTA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$477,346</td>
<td>$5,450,706</td>
<td>$5,152,103</td>
<td>$699,639</td>
<td>$1,286,318</td>
<td>$77,564</td>
<td>$26,800,216</td>
</tr>
</tbody>
</table>
PERFORMANCE MEASURE 3.9
Number of Employee Lost Work Days Due to Injuries

Chart 3.9.9: MDOT Top 5 Injuries by Type Q1 CY2018

- Contact with Object or Equipment: $23,399.01, Number: 88
- Transportation Incidents: $25,005.40, Number: 70
- Slips, trips and falls: $44,771.74, Number: 65
- Violence or other injuries by persons or reaction/overexertion animals: $9,468.64, Number: 17
- Bodily reaction/overexertion: $15,140.23, Number: 26
MDOT and its TBUs provide many services to the public and has programs in place to ensure the safety and security of its facilities and its customers. 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, it has only been within the past year that 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 by 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 3.10
Number of Customer Incidents at MDOT Facilities

Chart 3.10.2: Number of Customer Incidents per 100,000 Customers Visited CY2017-CY2018

Chart 3.10.3: Number of Customer Incidents at MDOT Buildings CY2017-CY2018
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)
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;
- Use 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).

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

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

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

- **1.14%** SHA
- **11.26%** MDTA
- **5.84%** MTA
- **5.95%** MAA
- **1.47%** MPA
- **-16.91%** MDOT-Wide

**Percent Difference Benchmark (High):** 5%
**Percent Difference 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**

<table>
<thead>
<tr>
<th>Percent Change</th>
<th>TSO</th>
<th>MVA</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent Difference</td>
<td>-3.00%</td>
<td>0.00%</td>
<td>-3.00%</td>
</tr>
<tr>
<td>Award</td>
<td>$515,852</td>
<td>0.00%</td>
<td>$515,852</td>
</tr>
<tr>
<td>Estimate</td>
<td>$500,000</td>
<td>0</td>
<td>$500,000</td>
</tr>
</tbody>
</table>
TANGIBLE RESULT DRIVER:
Jason Ridgway
State Highway Administration (SHA)

PERFORMANCE MEASURE DRIVER:
Brian Miller
Maryland Port Administration (MPA)

PURPOSE OF MEASURE:
To measure the difference in the contract amount from NTP to final contractor payout.

FREQUENCY:
Annually (in October)

DATA COLLECTION METHODOLOGY:
Collect data from MDOT TBUs for FY2013 to FY2016. Data will reflect contracts that closed out in each respective fiscal year. Data will be shown as a bar graph for each fiscal year.

NATIONAL BENCHMARK:
2%

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.

The 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

Chart 4.2.4: percent Change for Finalized Contacts by TBU FY2017
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 ensuring 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

- FY2015: 100%
- FY2016: 100%
- FY2017: 100%

Percentages for Fiscal Years:
- FY2015: 67%
- FY2016: 69%
- FY2017: 92%

Legend:
- TSO
- SHA
- MDTA
- MTA
- MVA
- MAA
- MPA
- MDOT Wide
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 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 evidenced by 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

[Bar chart showing costs for FY2014, FY2015, and FY2016]


[Bar chart showing life cycle costs for FY2014, FY2015, and FY2016]
PERFORMANCE MEASURE 4.4B
Average Cost of Common Transportation Solutions and Services

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

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

Chart 4.4C.1: Interstate Preservation 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

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Bus</td>
<td>$15.60</td>
<td>$11.83</td>
<td>$13.64</td>
<td>$13.55</td>
<td>$15.33</td>
<td></td>
</tr>
<tr>
<td>Metro</td>
<td>$11.58</td>
<td>$11.42</td>
<td>$10.76</td>
<td>$10.60</td>
<td>$10.33</td>
<td></td>
</tr>
<tr>
<td>Light Rail</td>
<td>$13.00</td>
<td>$12.98</td>
<td>$13.82</td>
<td>$14.51</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobility</td>
<td>$5.34</td>
<td>$5.14</td>
<td>$4.57</td>
<td>$4.12</td>
<td>$5.16</td>
<td></td>
</tr>
<tr>
<td>Paratransit</td>
<td>$9.50</td>
<td>$9.95</td>
<td>$8.46</td>
<td>$8.84</td>
<td>$9.89</td>
<td></td>
</tr>
<tr>
<td>MARC</td>
<td>$6.51</td>
<td>$5.95</td>
<td>$5.27</td>
<td>$5.14</td>
<td>$6.05</td>
<td></td>
</tr>
<tr>
<td>Contracted Commuter Bus to Baltimore and Washington</td>
<td>$10.57</td>
<td>$11.86</td>
<td>$11.45</td>
<td>$11.92</td>
<td>$12.47</td>
<td>$13.64</td>
</tr>
<tr>
<td>Taxi Access</td>
<td>$5.37</td>
<td>$5.89</td>
<td>$6.05</td>
<td>$6.95</td>
<td>$4.95</td>
<td></td>
</tr>
<tr>
<td>All Modes</td>
<td>$11.60</td>
<td>$10.57</td>
<td>$11.86</td>
<td>$11.45</td>
<td>$11.92</td>
<td>$12.47</td>
</tr>
</tbody>
</table>
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
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)

The cost per transaction includes those costs that directly affect an MVA product. It is based on the operating expense, compared to the total number of customer transactions completed by visiting one of the MVA locations, mailing in a request, or completing a transaction through alternative service delivery. The operating expense is inclusive of salaries, overtime and wages, and all other expenses related to completing a customer transaction.

Operating expense does not include the administrative costs, costs for IT system enhancements, and onetime start-up costs for new product development. Also, not included are costs for MHSO and Capital Programs.

Costs that directly affect a transaction were $11.44 in 2015, $11.96 in 2016 and $12.08 in 2017. The change in 2016 and 2017 is primarily due to salaries and benefits increasing by 2.5% in 2017 and 1.8% in 2016. Salaries and benefits comprise about 64% of the total operating budget. All branch costs are considered in the cost per transaction calculation. The janitorial and ground maintenance costs are captured in the total branch costs, and have increased by a small amount because of the change in minimum wage, and this will rise in 2018 and 2019 as contracts expire and are renegotiated.

Another factor impacting cost per transaction is the shift from branch to alternative service delivery. In 2015 the branch transactions were 38% of total transactions, in 2016 the branch transactions were 34% and in 2017, the branch transactions were 33%. MVA anticipates that more customers will utilize alternative service delivery and branch transactions will continue to decrease. Trends in cost per transaction can vary when new technologies are implemented allowing customers to complete more transactions online and through kiosks.

Branch facilities will continue to drive the cost per transaction calculation. The MVA has been collaborating with other state agencies to utilize MVA locations to offer more opportunities for Maryland customers. Currently, MVA is adding the ease of completing transactions for DNR, EZPass, Charm Cards, Vital Records, TWIC Card and TSA precheck to the list of services offered inside the MVA facilities. MVA staff are manning the TWIC and TSA pre-check counters. As this scenario continues, MVA will be able to quantify the percentage of other state agencies utilizing MVA branches, and this will affect the MVA cost per transaction.
PERFORMANCE MEASURE 4.4J
Average Cost of Common Transportation Solutions: Cost per Transaction (MVA)

Chart 4.4J.1: MVA Operating & Administrative Cost Per Transaction FY2015-FY2017

- FY2015: Operating Cost $11.45, Administrative Cost $4.97, Percent of Administrative Cost 41%
- FY2016: Operating Cost $11.96, Administrative Cost $5.06, Percent of Administrative Cost 40%
- FY2017: Operating Cost $12.08, Administrative Cost $4.77, Percent of Administrative Cost 38%

Legend:
- Operating Cost
- Administrative Cost
- Percent of Administrative Cost
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)
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 CY2018 we are at 14.51 percent of tolls collected as cash. This is a decrease of 1.95 percent from Q1 CY2017. 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 CY2016 - Q1 CY2018

<table>
<thead>
<tr>
<th>Quarter</th>
<th>CY2016</th>
<th>CY2017</th>
<th>CY2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1</td>
<td>17.58%</td>
<td>16.13%</td>
<td>14.51%</td>
</tr>
<tr>
<td>Q2</td>
<td>18.97%</td>
<td>18.22%</td>
<td></td>
</tr>
<tr>
<td>Q3</td>
<td>19.86%</td>
<td>18.25%</td>
<td></td>
</tr>
<tr>
<td>Q4</td>
<td>17.72%</td>
<td>16.46%</td>
<td></td>
</tr>
<tr>
<td>Q1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Provide an Efficient, Well-Connected Transportation Experience
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 allows for larger vessels to call at the facility.
2. Irregular schedules of these larger vessels contribute to vessel bunching.
3. An unexpected surge in container volume on average of 13 percent 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 at 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 MPA 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 January 28, 2018 to better service over the road.
6. Executive level decisions and capital funding is committed to implementing a port-wide chassis pool near the 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
Provide an Efficient, Well-Connected Transportation Experience

**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)

MDOT customers 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. In the CY2017 Q4 reporting period, MVA average statewide wait time was 15.3 minutes. The average total wait time for CY2017 was 19.5 minutes. For Q1 of CY2018 the average MVA wait time was 16.4 minutes.

In addition to pre-screening customers for immediate service at kiosks, redesigned email renewal notices, and tablets for customers to use at each MVA branch, the MVA implemented a vision screening station at branch locations last year. As a result, the MVA was able to move more transactions to alternative service delivery.
Provide an Efficient, Well-Connected Transportation Experience

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

Chart 5.1C.1: Average Wait Time (MVA) CY2015-CY2018
Provide an Efficient, Well-Connected Transportation Experience

**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.

Swiftly GPS systems have been installed in all MTA Core Buses in Q1 CY2018. APC (Automatic Passenger Count) data has previously been utilized in the Excellerator and continues to be used for OTP analysis as Swiftly data is not complete for the quarter. The MTA bus system contains three core bus services: CityLink, LocalLink, and ExpressLink. OTP is broken down for each of these services.
Provide an Efficient, Well-Connected Transportation Experience

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

Chart 5.1D.1: On-Time Performance of MTA Commuter Bus & MAA Ground Transport CY2017-CY2018

<table>
<thead>
<tr>
<th>Quarter/Year</th>
<th>MTA Commuter Bus</th>
<th>MAA Ground Transportation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1 CY2017</td>
<td>98%</td>
<td>96%</td>
</tr>
<tr>
<td>Q2 CY2017</td>
<td>98%</td>
<td>92%</td>
</tr>
<tr>
<td>Q3 CY2017</td>
<td>98.47%</td>
<td>94%</td>
</tr>
<tr>
<td>Q4 CY2017</td>
<td>98.33%</td>
<td>94.45%</td>
</tr>
<tr>
<td>Q1 CY2018</td>
<td>95.03%</td>
<td>95.39%</td>
</tr>
</tbody>
</table>

Chart 5.1D.2 On-Time Performance of MTA SubwayLink, Light RailLink, & MARC CY2017-CY2018

<table>
<thead>
<tr>
<th>Quarter/Year</th>
<th>Metro</th>
<th>Light Rail</th>
<th>MARC Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1 CY2017</td>
<td>97%</td>
<td>96%</td>
<td>94%</td>
</tr>
<tr>
<td>Q2 CY2017</td>
<td>98%</td>
<td>94%</td>
<td>94%</td>
</tr>
<tr>
<td>Q3 CY2017</td>
<td>94%</td>
<td>92%</td>
<td>89%</td>
</tr>
<tr>
<td>Q4 CY2017</td>
<td>95%</td>
<td>92%</td>
<td>92%</td>
</tr>
<tr>
<td>Q1 CY2018</td>
<td>94%</td>
<td>94%</td>
<td>95%</td>
</tr>
</tbody>
</table>

Quarter/Year

Percent of On-Time Rides

Chart 5.1D.1: On-Time Performance of MTA Commuter Bus & MAA Ground Transport CY2017-CY2018

Chart 5.1D.2 On-Time Performance of MTA SubwayLink, Light RailLink, & MARC CY2017-CY2018
PERFORMANCE MEASURE 5.1D
Reliability of the Transportation Experience: On-Time Performance (MTA & MAA)

Chart 5.1D.3: On-Time Performance of MTA Paratransit CY2017-CY2018

<table>
<thead>
<tr>
<th>Quarter/Year</th>
<th>Percent of On-Time Rides</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1 CY2017</td>
<td>94.4%</td>
</tr>
<tr>
<td>Q2 CY2017</td>
<td>94.0%</td>
</tr>
<tr>
<td>Q3 CY2017</td>
<td>94.4%</td>
</tr>
<tr>
<td>Q4 CY2017</td>
<td>93.1%</td>
</tr>
<tr>
<td>Q1 CY2018</td>
<td>93.7%</td>
</tr>
</tbody>
</table>
Provide an Efficient, Well-Connected Transportation Experience

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

Chart 5.1D.4: CityLink (All Lines) Weekly Headway Performance CY2017-CY2018

CityLink Goal (80%) Trend
Provide an Efficient, Well-Connected Transportation Experience

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

Chart 5.1D.5: LocalLink (All Lines) Weekly Headway Performance CY2017-CY2018

<table>
<thead>
<tr>
<th>Month</th>
<th>July</th>
<th>August</th>
<th>September</th>
<th>October</th>
<th>November</th>
<th>December</th>
<th>January</th>
<th>February</th>
<th>March</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-Time Performance</td>
<td>65.2%</td>
<td>67.6%</td>
<td>67.4%</td>
<td>66.7%</td>
<td>68.2%</td>
<td>67.0%</td>
<td>68.0%</td>
<td>67.2%</td>
<td>65.7%</td>
</tr>
<tr>
<td></td>
<td>65.9%</td>
<td>65.0%</td>
<td>66.4%</td>
<td>65.0%</td>
<td>67.2%</td>
<td>66.3%</td>
<td>66.2%</td>
<td>65.9%</td>
<td>64.6%</td>
</tr>
<tr>
<td></td>
<td>66.5%</td>
<td>66.4%</td>
<td>66.7%</td>
<td>66.7%</td>
<td>66.4%</td>
<td>66.8%</td>
<td>66.4%</td>
<td>66.4%</td>
<td>66.2%</td>
</tr>
<tr>
<td></td>
<td>66.1%</td>
<td>67.0%</td>
<td>66.6%</td>
<td>66.8%</td>
<td>67.0%</td>
<td>67.1%</td>
<td>67.2%</td>
<td>66.5%</td>
<td>66.0%</td>
</tr>
<tr>
<td></td>
<td>67.2%</td>
<td>67.5%</td>
<td>67.4%</td>
<td>67.1%</td>
<td>67.4%</td>
<td>67.0%</td>
<td>66.8%</td>
<td>66.8%</td>
<td>66.2%</td>
</tr>
<tr>
<td></td>
<td>65.9%</td>
<td>65.7%</td>
<td>66.2%</td>
<td>66.4%</td>
<td>65.9%</td>
<td>65.6%</td>
<td>65.5%</td>
<td>65.4%</td>
<td>63.6%</td>
</tr>
<tr>
<td></td>
<td>61.6%</td>
<td>61.8%</td>
<td>63.9%</td>
<td>62.2%</td>
<td>63.1%</td>
<td>62.2%</td>
<td>62.2%</td>
<td>62.1%</td>
<td>61.6%</td>
</tr>
</tbody>
</table>

LocalGoal: 80 percent
Trend
Provide an Efficient, Well-Connected Transportation Experience

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

Chart 5.1D.6: ExpressLink (All Lines) Weekly Headway Performance CY2017-CY2018

<table>
<thead>
<tr>
<th>Month</th>
<th>On-Time Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>July</td>
<td>53.0%</td>
</tr>
<tr>
<td>August</td>
<td>52.6%</td>
</tr>
<tr>
<td>September</td>
<td>53.3%</td>
</tr>
<tr>
<td>October</td>
<td>54.3%</td>
</tr>
<tr>
<td>November</td>
<td>57.7%</td>
</tr>
<tr>
<td>December</td>
<td>57.2%</td>
</tr>
<tr>
<td>January</td>
<td>52.6%</td>
</tr>
<tr>
<td>February</td>
<td>54.0%</td>
</tr>
<tr>
<td>March</td>
<td>58.2%</td>
</tr>
<tr>
<td>April</td>
<td>52.3%</td>
</tr>
<tr>
<td>May</td>
<td>52.6%</td>
</tr>
<tr>
<td>June</td>
<td>56.7%</td>
</tr>
<tr>
<td>July</td>
<td>56.1%</td>
</tr>
<tr>
<td>August</td>
<td>53.8%</td>
</tr>
<tr>
<td>September</td>
<td>53.7%</td>
</tr>
<tr>
<td>October</td>
<td>53.7%</td>
</tr>
<tr>
<td>November</td>
<td>54.4%</td>
</tr>
<tr>
<td>December</td>
<td>55.3%</td>
</tr>
<tr>
<td>January</td>
<td>54.7%</td>
</tr>
<tr>
<td>February</td>
<td>51.6%</td>
</tr>
<tr>
<td>March</td>
<td>53.9%</td>
</tr>
<tr>
<td>April</td>
<td>53.4%</td>
</tr>
<tr>
<td>May</td>
<td>53.5%</td>
</tr>
<tr>
<td>June</td>
<td>52.9%</td>
</tr>
<tr>
<td>July</td>
<td>53.4%</td>
</tr>
<tr>
<td>August</td>
<td>53.4%</td>
</tr>
<tr>
<td>September</td>
<td>54.8%</td>
</tr>
<tr>
<td>October</td>
<td>55.6%</td>
</tr>
<tr>
<td>November</td>
<td>58.1%</td>
</tr>
<tr>
<td>December</td>
<td>59.1%</td>
</tr>
<tr>
<td>January</td>
<td>55.7%</td>
</tr>
<tr>
<td>February</td>
<td>55.8%</td>
</tr>
<tr>
<td>March</td>
<td>54.8%</td>
</tr>
</tbody>
</table>

ExpressLink Goal: 80 percent

Trend
Provide an Efficient, Well-Connected Transportation Experience

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

**PERFORMANCE MEASURE DRIVER:**
Meredith Hill  
*State Highway Administration (SHA)*

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

**FREQUENCY:**
Annually (in April)

**DATA COLLECTION METHODOLOGY:**
Formula based.

**NATIONAL BENCHMARK:**
A Planning Time Index (PTI) which is < 1.5, for 80th Percentile travel time;  
Maryland uses 95th percentile travel time for reliability.

---

**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:

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

In 2016, travel time on 7 percent (AM Peak) to 12 percent (PM Peak) of the freeways and expressways was assessed as “extremely unreliable” during congested periods on an average weekday. This was an improvement over 2015 travel times by 1 and 2 percent, respectively.

When compared to 2015, the 2016 travel reliability results improved despite an increase of 2.9 percent in VMT. Capacity improvements, CHART’s response to incidents, and increased use of projects such as the InterCounty connector support the improvement.

Changes to the PTI that result from completed highway projects are reflected in the PTI analysis over time. For example, the I-95 Express Toll Lane project in Baltimore opened in December 2014. Before the I-95 Express Toll Lanes were built the freeway operated under moderately to extremely unreliable conditions (PTI >2.5). Since the completed construction, the freeway operates as a reliable facility (PTI <1.5).
Provide an Efficient, Well-Connected Transportation Experience

**PERFORMANCE MEASURE 5.1E**
Planning Time Index for Highway Travel

When compared to 2015, motorists in the AM Peak hour experienced a 1 percent ↓ in the number of freeway and expressway miles with a PTI > 2.5. This amounts to a 4 percent ↓ in VMT that occur in extremely unreliable conditions.

When compared to 2015, motorists in the PM Peak hour experienced a 2 percent ↓ in the number of freeway and expressway miles with a PTI > 2.5. This amounts to a 4 percent ↓ in VMT that occur in extremely unreliable conditions.

*Source: 2017 Maryland State Highway Mobility Report*
Provide an Efficient, Well-Connected Transportation Experience

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 our 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 calendar years 2010 and 2015 has consistently been less than 30 minutes, and has been less than the lowest benchmark value (25.3 minutes – Missouri) for the last five years (2012 – 2016). The slight increase in average incident duration in calendar years 2015 and 2016 is likely due to the addition of overnight and weekend patrol hours. During the night and weekend hours, most incidents tend to take a slightly longer time to clear than they would during weekdays, 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 travel delays.

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

PERFORMANCE MEASURE DRIVER:
Joseph Sagal
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:
North Carolina – 75 minutes
Connecticut – 45 minutes
Iowa – 53 minutes
Minnesota – 35 minutes
Missouri – 25.3 minutes
New Jersey – 43 minutes
Restoring Transportation Services: Average Time to Restore Normal Operations After Disruptions

The primary strategies for improving Traffic 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. Just some of the current efforts to implement these strategies in Maryland include:

- MDOT is leading three Initiatives to improve coordination with the Maryland State Police (MSP) including:
  - Formalizing working relationships with the heavy tow industry, including a performance incentive program;
  - Organizational modifications to better support inter-agency coordination between MSP and MDOT; and
  - Enhancing data collection on reported crashes, including the identification of preventable secondary incidents.
- Supporting the deployment of the Maryland First radio system statewide to improve inter-agency emergency communication.
- Standardized Incident Management training, to raise the level of emergency preparedness and safety of emergency responders, who manage incidents on the transportation system.

![Chart 5.2A.1: Average Highway Incident Duration (minutes) CY2011-CY2016](chart.png)
Provide an Efficient, Well-Connected Transportation Experience

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

**PERFORMANCE MEASURE DRIVER:**
Joseph Sagal  
*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

MDOT’s customers expect a safe, well-maintained, efficient and reliable transportation system with minimal disruption to travel. Disruptions in travel due to inclement weather (snow, ice, etc.) require specialized operations experience and rapid response to restore normal operating conditions. To better understand the performance during winter storms, MDOT collects data on the “average time to restore normal operations after weather events.” The performance measure is calculated by identifying the lapse in time from the ending of frozen precipitation in a maintenance shop’s area of responsibility and the occurrence of bare (wet or dry) pavements on highways.

As shown in chart 5.2B.1, the average time to restore normal operations after weather events for the years 2012 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 FY2016, mostly due to the impacts of Winter Storm Jonas which occurred 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 for programmable highway message signs;
- Identifying resources for transporting personnel during heavy snow conditions;
- Documenting and distributing lists of “pre-identified” snow disposal areas.
PERFORMANCE MEASURE 5.2B
Restoring Transportation Services: Average Time to Restore Normal Operations After a Weather Event

All after-action tasks were accomplished between February 2016 and October 2016. In 2017, the average time returned to 3.93 hours, close to the benchmark and within the MDOT SHA target average of 4.0 hours. Another major action item 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 traveled lanes, to maintain a clear roadway and facilitate overall snow removal efforts.

Chart 5.2B.1: Time to Regain Bare Pavement After Snow (hours) FY2012-FY2017
MDOT strives to provide premier customer service by offering easy and reliable access to 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. Considering the projected increase in use of smart phones, it is estimated that up to 68 percent of MDOT customers have the potential to complete transactions at their leisure perhaps even without having to visit MDOT offices.

MDOT’s Service Delivery Channel (SDC) for ASD includes Web, kiosk, call center/IVR and mail-in. Currently MDTA, MTA, MVA, SHA, TSO and MPA combined report on 67 services.

The current reporting period covers CY2017 and Q1 CY2018. MDOT-wide result for 2017 ended with a record 67.7 ASD percentage, accounting for 25.7 out of 38 million transactions. The first quarter of CY2018 also shows ASD percentage increasing at 69.6%, albeit lower volume.

The strategy to grow ASD continues to include 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.

Provide an Efficient, Well-Connected Transportation Experience.
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-Q1 CY2018

Provide an Efficient, Well-Connected Transportation Experience
PERFORMANCE MEASURE 5.4A
Percent of Functional Real-Time Information Systems Provided

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% functionality for Q4 and Q1 of calendar years 2017 and 2018 respectively.

Currently, all TBUs have processes in place to ensure that any system failures are immediately addressed to ensure near 100% functionality at any given time. Systems will continually be monitored to ensure continued stellar “up-time” performance of these systems.
## PERFORMANCE MEASURE 5.4A
Percent of Functional Real-Time Information Systems Provided

**Chart 5.4.1: Percent of Functional Real-Time Information Systems Provided Q2 CY 2017 - Q1 CY 2018**

<table>
<thead>
<tr>
<th>Service</th>
<th>Q2 CY2017</th>
<th>Q3 CY2017</th>
<th>Q4 CY2017</th>
<th>Q1 CY2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>MVA Wait Time</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>MTA Mobility</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>MTA Bus Tracker</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>MTA Light Rail</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>MAA Flight Info</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>MAA Next Vehicle Arrival</td>
<td>96%</td>
<td>97%</td>
<td>91%</td>
<td>95%</td>
</tr>
<tr>
<td>SHA CHART</td>
<td>99.13%</td>
<td>98.90%</td>
<td>99.48%</td>
<td>99.04%</td>
</tr>
<tr>
<td>MDTA CHART</td>
<td>99.33%</td>
<td>98.66%</td>
<td>98.5%</td>
<td>96%</td>
</tr>
<tr>
<td>MTA MARC</td>
<td>99.1%</td>
<td>99.4%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Legend:**
- 100%
- < 100%
- < 90%
MDOT customers of MTA, MVA, MAA, SHA and MDTA, benefit from “real-time” information systems installed throughout the transportation network offering users the most accurate “real-time” information available to help them prepare for and manage their time while using statewide transportation services to pursue life’s opportunities.

It is important to understand how customers feel about the accuracy and usefulness of those systems to ensure that adjustments are made to these systems for continuous improvement.

MVA offers an automated wait time system to help customers estimate the length of time expected for certain transactions. Most recent survey information indicates that over 70% of MVA customers surveyed are satisfied with the helpfulness and accuracy of this system.

MAA offers Next Vehicle Arrival signage at BWI Marshall Airport’s Long-Term parking lot shuttle bus stops and most recent survey information indicates that over 89% of customers who park at those locations find the system both helpful and accurate.
### PERFORMANCE MEASURE 5.4B
Customer Satisfaction with Helpfulness and Accuracy of Real-Time Systems Provided

#### Table 5.4B.1: MVA Customer Satisfaction with Helpfulness and Accuracy of Wait-Time System Q4 CY2017

<table>
<thead>
<tr>
<th>SATISFIED</th>
<th>NOT SATISFIED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfaction with the helpfulness of wait time information</td>
<td>76%</td>
</tr>
<tr>
<td>Satisfaction with the accuracy of wait time information</td>
<td>74%</td>
</tr>
</tbody>
</table>

#### Table 5.4B.2: MVA Customer Satisfaction with Helpfulness and Accuracy of Wait-Time System Q1 CY2018

<table>
<thead>
<tr>
<th>SATISFIED</th>
<th>NOT SATISFIED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfaction with the helpfulness of wait time information</td>
<td>76%</td>
</tr>
<tr>
<td>Satisfaction with the accuracy of wait time information</td>
<td>74%</td>
</tr>
</tbody>
</table>

#### Table 5.4B.3 MAA Customer Satisfaction with Helpfulness and Accuracy of Next Vehicle Arrival System Q4 CY 2017

<table>
<thead>
<tr>
<th>SATISFIED</th>
<th>NOT SATISFIED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfaction with the helpfulness of wait time information</td>
<td>93%</td>
</tr>
<tr>
<td>Satisfaction with the accuracy of wait time information</td>
<td>92%</td>
</tr>
</tbody>
</table>

#### Table 5.4B.4 MAA Customer Satisfaction with Helpfulness and Accuracy of Next Vehicle Arrival System Q1 CY 2018

<table>
<thead>
<tr>
<th>SATISFIED</th>
<th>NOT SATISFIED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfaction with the helpfulness of wait time information</td>
<td>89%</td>
</tr>
<tr>
<td>Satisfaction with the accuracy of wait time information</td>
<td>90%</td>
</tr>
</tbody>
</table>

Provide an Efficient, Well-Connected Transportation Experience
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)
Communicate Effectively With Our Customers

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 transportation business units 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 350,000 fans on social media and continues to grow. During the last quarter, MDOT TBUs reached a record number of users. Providing real-time information during impactful weather events, MDOT reached an average of 7.4 million users each month, a 30% increase from 2017.

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

PERFORMANCE MEASURE DRIVER:
Katie Bennett
Maryland Transportation Authority (MDTA)

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

Chart 6.1A.1: Total MDOT Social Media Followers CY2018

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 CY2018

Communicate Effectively With Our Customers
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 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 CY2018
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 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. It 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 MDOT Public Meetings can be found at www.mdot.maryland.gov listed under the Transportation Services category.
PERFORMANCE MEASURE 6.2
Satisfaction with Communication at Public Meetings

Chart 6.2.1: Overall Customer Satisfaction with Communication at Public Meetings FY 2017 & Q1 FY 2018 YTD

- Response Rate: 21%
- Information presented was easy to understand: 89%
- Kept informed of the project: 80%
- MDOT listened to the customers' concerns: 87%
- Overall satisfaction rate (Strongly Agree/Somewhat Agree): 85%

Target: 84%
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 Q4 CY2017-Q1 CY2018

Communicate Effectively With Our Customers
PERFORMANCE MEASURE 6.3A
Communicate Effectively Through News Releases: Number of News Stories Generated from Major Releases

Chart 6.3A.2: Number of Press Releases Q4 CY2017-Q1 CY2018

Chart 6.3A.3: Number of News Placements Q4 CY2017-Q1 CY2018
PERFORMANCE MEASURE 6.3A
Communicate Effectively Through News Releases: Number of News Stories Generated from Major 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 MDOTWide CY2017-Q1 CY2018

Chart 6.3B.2: Earned Media Value of Print and Broadcast Coverage Generated by News Releases by TBU CY2017-CY2018 YTD
**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 – March 2018**

- **Positive**: 59%
- **Negative**: 1%
- **Neutral**: 40%

**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 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
Communicate Effectively With Our Customers

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 – March 2018

- **TSO**
  - Positive: 66%
  - Negative: 6%
  - Neutral: 28%

- **SHA**
  - Positive: 61%
  - Negative: 39%

- **MDTA**
  - Positive: 53%
  - Negative: 47%
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 – March 2018

MTA

Positive: 68%
Negative: 5%
Neutral: 27%

MVA

Positive: 32%
Negative: 66%
Neutral: 2%
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 – March 2018
**PERFORMANCE MEASURE 6.4A**
**Audience for Proactive Stories Picked Up By Media**

MDOT produces content to highlight important, distinctive and positive initiatives for our customers. Performance Measure 6.4A measures the number of people who read, viewed or listened to proactive media stories. Proactive media helps our customers understand transportation initiatives by telling MDOT’s own story. Proactive media goes beyond press releases to share unique stories of the organization.

By tracking the exposure of those unique stories, MDOT can properly evaluate if the messages are reaching the consumer. The number of exposures are calculated by compiling the number of times they were delivered to a customer through a newspaper article, online news website, radio or TV show.

This new Excellerator measure and data was collected for the first time. During the fourth quarter of 2017, MDOT reached 16,638,513 people with proactive media placements. In the first quarter of 2018, that total jumped to 32,389,625 – an increase of 95 percent. The rise can be attributed to a focus on proactive media, including a weekly report that tracks proactive items produced by all the Transportation Business Units, encouraging the production of more proactive initiatives.
PERFORMANCE MEASURE 6.4A
Audience for Proactive Stories Picked Up By Media

Chart 6.4A.1a: Audience for Proactive Stories Picked Up By Media Q4 CY2017

Total Audience: 16,638,513 people

Chart 6.4A.1b: Audience for Proactive Stories Picked Up By Media Q1 CY2018

Total Audience: 32,389,625 people
PERFORMANCE MEASURE 6.4A
Audience for Proactive Stories Picked Up By Media

Chart 6.4A.2a: Type of Media that Picked Up Proactive Stories Q4 CY2017

Chart 6.4A.2b: Type of Media that Picked Up Proactive Stories Q1 CY2018
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.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 6.4B
Audience for MDOT-Produced Proactive Content

MDOT produces its proactive content to showcase its own stories without relying on traditional press releases. This proactive content includes magazines, broadcasts, newsletters, photo albums and sound bites. The stories told in these items tell the positive impact of MDOT.

Performance Measure 6.4b measures the number of people looking at the content MDOT produced on its own and made available to subscribers, listeners and readers. This measure will guide how MDOT can best package proactive stories for each category of media. Through this measure, MDOT can see how large an audience it is reaching through internally produced items and compare that audience with Performance Measure 6.4a to analyze what categories of external media are placing MDOT-produced content.

The data has been collected for the same time as 6.4a. MDOT reached 27,166 people in the fourth quarter of 2017 with its own internally produced content. In the first quarter of 2018, the total audience decreased 21,203. The decrease is mainly due to the publishing schedule of Port of Baltimore magazine, which had two issues in the fourth quarter of 2017, compared to just one in the first quarter of 2018.
PERFORMANCE MEASURE 6.4B
Audience for MDOT-Produced Proactive Content

Chart 6.4B.1a: Audience for MDOT-Produced Proactive Content Q4 CY2017

Total Audience: 27,166 people

Chart 6.4B.1b: Audience for MDOT-Produced Proactive Content Q1 CY2018

Total Audience: 21,203 people
PERFORMANCE MEASURE 6.4B
Audience for MDOT-Produced Proactive Content

Chart 6.4B.2a: Type of MDOT-Produced Proactive Content Q4 CY2017

Chart 6.4B.2b: Type of MDOT-Produced Proactive Content Q1 CY2018
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.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 6.4C
Audience of Proactive Stories Published on Social Media

MDOT posts proactive content on social media to allow for speedy and wide distribution of positive stories and extras from press conferences and events, as well as campaigns. The posting of this content on social media is a subset of MDOT’s overall social media posts but is an important component and takes an exerted effort to coordinate.

This measure looks at the number of customers we reach with proactive stories distributed through social media channels. This audience is defined by the number of times the proactive items show up in social media feeds.

During the fourth quarter of 2017, the total audience for proactive MDOT items on social media was 2,443,881. It jumped to 2,665,888 in the first quarter of 2018 – a 9.1 percent increase.

Communicate Effectively With Our Customers
**Performance Measure 6.4C**

Audience of Proactive Stories Published on Social Media

**Chart 6.4C.1a: Audience of Proactive Stories Published on Social Media Q4 CY2017**

- Total Audience: 2,443,881 people

- TSO: 68,564 (3%)
- SHA: 409,897 (17%)
- MVA: 170,639 (7%)
- MAA: 68,564 (3%)
- MPA: 68,564 (3%)
- MDTA: 10,854 (1%)
- MTA: 1,066,825 (44%)

**Chart 6.4C.1b: Audience of Proactive Stories Published on Social Media Q1 CY2018**

- Total Audience: 2,665,888 people

- TSO: 96,611 (4%)
- SHA: 564,378 (21%)
- MVA: 669,310 (25%)
- MAA: 669,310 (25%)
- MPA: 107,952 (4%)
- MDTA: 139,837 (5%)
- MTA: 1,032,217 (39%)

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**Communicate Effectively With Our Customers**
PERFORMANCE MEASURE 6.4D
Interactions with Proactive Posts on Social Media

When posting proactive content onto social media channels, one of the goals is to make the content engaging for customers to enjoy. MDOT does this by producing videos, finding unique subject matter and being creative with the content.

This performance measures, which expands on 6.4c, looking at the number of times someone interacted with a proactive item on social media. Interactions are direct confirmation that someone has viewed and comprehended MDOT’s message – providing feedback on the effectiveness of proactive stories on social media. These interactions include likes, comments, retweets and clicks. By analyzing the results, MDOT can better target its messages to customers.

This was the first time this data was collected for proactive items, as with all the measures in 6.4, and the numbers reflect a new concentration on TBUs’ proactive output. In the fourth quarter of 2017, the total audience was 65,677 people. In the first quarter of 2018, the audience numbers spiked to 79,977, which is a 21.8 increase.
Communicate Effectively With Our Customers

PERFORMANCE MEASURE 6.4D
Interactions with Proactive Posts on Social Media

Chart 6.4D.1a: Interactions with Proactive Posts on Social Media Q4 CY2017

Total Audience: 65,677 people

MTA 39,586 (60%)
MAA 9,202 (14%)
SHA 8,050 (12%)
TSO 1,753 (3%)
MVA 594 (1%)
MPA 2,475 (4%)
MDTA 4,017 (6%)

Chart 6.4D.1b: Interactions with Proactive Posts on Social Media Q1 CY2018

Total Audience: 79,977 people

MTA 31,868 (40%)
SHA 20,350 (25%)
MVA 11,642 (15%)
MAA 5,577 (7%)
TSO 3,512 (4%)
MDTA 4,725 (6%)

[Charts showing interactions with proactive posts on social media for Q4 CY2017 and Q1 CY2018]
MDOT will provide an easy, reliable procurement experience throughout the system.

RESULT DRIVER:
Wanda Dade
State Highway Administration (SHA)
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 second quarter of FY2018 was approximately 16.15 percent (average of all TBUs) reflecting a slight decrease from the first quarter FY2018, which was approximately 18.31 percent. Participation is reported as year-to-date participation, so Q2 represents participation for FY2018 (July 2017 – December 2017). Participation at the TBUs ranged from 8.62 percent to 24.78 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 FY 2017 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 Percentage FY2018 YTD

Statewide MBE Goal, 29.00%
MDOT Average, 16.15%

MBE Percentage

- MPA: 8.62%
- MAA: 19.54%
- MDTA: 18.14%
- SHA TBU: 20.40%
- TSO: 24.78%
- MTA: 10.06%
- MVA: 11.53%

Be Fair and Reasonable to Our Partners
Be Fair and Reasonable to Our Partners

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

PERFORMANCE MEASURE DRIVER:
Angela Martin
Maryland Aviation Administration (MAA)

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 (e.g., company gross receipts and personal net worth of owners).

Information on the total number of prime contracts awarded as well as the number of MBE prime contracts awarded is reported. This approach reflects 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 second quarter of FY2018 (July – December 2017) was approximately 6 percent. The percentages for the MDOT TBUs ranged from .8 percent to 13.6 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 for Q2 FY2018

Chart 7.2.2: MDOT Prime Contracts vs. MBE Prime Contracts by TBU Q2 FY2018
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 Small Business Reserve (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 TBU is required to participate in the SBR Program by spending at least 15 percent of its annual fiscal year eligible procurement expenditures on SBR designated contracts. SBR designated contracts are only awarded to Maryland certified small businesses.

For Q4 CY2017, MDOT achieved 8.33 percent participation. 8.33 percent of its eligible procurement expenditures were spent with Maryland certified small businesses; however only 3.32 percent of its eligible procurement expenditures were spent on SBR designated contracts.

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 designation;
- Create a SBR liaison and reporting expert;
- Train and work closely with purchasing card holders to emphasize Maryland certified small businesses; and
- Increase small business outreach and vendor education.
PERFORMANCE MEASURE 7.3
Percent of Payments Awarded to Small Business Reserve (SBR) Contracts

Chart 7.3.1: Annual Small Business Reserve Rate by TBU Q4 CY2017

- TSO: 9.80%
- SHA: 3.30%
- MDTA: 5.80%
- MTA: 1.80%
- MVA: 14.50%
- MAA: 5.61%
- MPA: 12.20%
- MDOT-Wide: 8.33%

Legend: All SBR, Designated, Non-Designated
Be Fair and Reasonable to Our Partners

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. MDOT is committed to attaining or exceeding the State mandated goal for veteran businesses.

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

Chart 7.4.1: Veteran Owned Small Business Enterprise Participation by TBU FY2014-FY2017
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 non-specialized business partners. Surveys are distributed via Survey Monkey.
PERFORMANCE MEASURE 7.5
Level of Satisfaction of Our Business Partners

Chart 7.5.1: Responses to “How satisfied are you with the timeliness of payments after your invoice has been submitted?” by TBU during Q1 CY2018

<table>
<thead>
<tr>
<th>TBU</th>
<th>Satisfied</th>
<th>Neutral</th>
<th>Unsatisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHA</td>
<td>75%</td>
<td>9%</td>
<td>16%</td>
</tr>
<tr>
<td>MAA</td>
<td>64%</td>
<td>30%</td>
<td>6%</td>
</tr>
<tr>
<td>MVA</td>
<td>58%</td>
<td>38%</td>
<td>4%</td>
</tr>
<tr>
<td>MDTA</td>
<td>53%</td>
<td>30%</td>
<td>17%</td>
</tr>
<tr>
<td>MPA</td>
<td>48%</td>
<td>45%</td>
<td>7%</td>
</tr>
<tr>
<td>MTA</td>
<td>45%</td>
<td>15%</td>
<td>21%</td>
</tr>
<tr>
<td>TSO</td>
<td>35%</td>
<td>57%</td>
<td>8%</td>
</tr>
</tbody>
</table>

Chart 7.5.2: Responses to “Please rate MDOT’s transportation business units on how fair and reasonable they are in the management of MDOT contracts” by TBU during Q1 CY2018

<table>
<thead>
<tr>
<th>TBU</th>
<th>Good</th>
<th>Okay</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHA</td>
<td>68%</td>
<td>21%</td>
<td>11%</td>
</tr>
<tr>
<td>MAA</td>
<td>70%</td>
<td>23%</td>
<td>7%</td>
</tr>
<tr>
<td>MVA</td>
<td>53%</td>
<td>42%</td>
<td>5%</td>
</tr>
<tr>
<td>MDTA</td>
<td>63%</td>
<td>26%</td>
<td>11%</td>
</tr>
<tr>
<td>MPA</td>
<td>65%</td>
<td>30%</td>
<td>5%</td>
</tr>
<tr>
<td>MTA</td>
<td>62%</td>
<td>47%</td>
<td>3%</td>
</tr>
<tr>
<td>TSO</td>
<td>47%</td>
<td>47%</td>
<td>6%</td>
</tr>
</tbody>
</table>
PERFORMANCE MEASURE 7.5
Level of Satisfaction of Our Business Partners

Chart 7.5.3: Responses to “Is the procurement process transparent?” by TBU during Q1 CY2018

- SHA: 72% Transparent, 12% Neutral, 16% Not Transparent
- MAA: 62% Transparent, 28% Neutral, 10% Not Transparent
- MVA: 58% Transparent, 37% Neutral, 5% Not Transparent
- MDTA: 56% Transparent, 30% Neutral, 14% Not Transparent
- MPA: 50% Transparent, 35% Neutral, 15% Not Transparent
- MTA: 63% Transparent, 12% Neutral, 15% Not Transparent
- TSO: 24% Transparent, 59% Neutral, 17% Not Transparent

Chart 7.5.4: Responses to “Please rate MDOT’s transportation business units as business partners” by TBU during Q1 CY2018

- SHA: 70% Good, 15% Okay, 15% Poor
- MAA: 71% Good, 25% Okay, 4% Poor
- MVA: 65% Good, 25% Okay, 10% Poor
- MDTA: 54% Good, 27% Okay, 19% Poor
- MPA: 50% Good, 40% Okay, 10% Poor
- MTA: 54% Good, 19% Okay, 13% Poor
- TSO: 40% Good, 47% Okay, 13% Poor
**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. January through March of 2018 MDOTs on time percentage is 95.8%.
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 of Invoices CY2017-CY2018

<table>
<thead>
<tr>
<th>Quarter/Year</th>
<th>TSO</th>
<th>SHA</th>
<th>MDTA</th>
<th>MTA</th>
<th>MVA</th>
<th>MAA</th>
<th>MPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q4 CY2017</td>
<td>97%</td>
<td>99%</td>
<td>99%</td>
<td>99.1%</td>
<td>99.4%</td>
<td>96.4%</td>
<td>81%</td>
</tr>
<tr>
<td>Q1 CY2018</td>
<td>98.5%</td>
<td>97.2%</td>
<td>96.4%</td>
<td>87.4%</td>
<td>99.4%</td>
<td>98.3%</td>
<td>97.6%</td>
</tr>
</tbody>
</table>

Be Fair and Reasonable to Our Partners
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 CY2017-CY2018
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 CY2014-CY2017
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 it may administer a root cause analysis and implement corrective/preventive actions. Currently there is not enough detail to determine the root cause.
Perfomance 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-FY2018

- Q2 FY2017: 10
- Q3 FY2017: 8
- Q4 FY2017: 12
- Q1 FY2018: 9

Chart 7.7.2: Running Twelve Month Procurement Protests by Quarter: Appealed vs. Not Appealed, FY2017-FY2018

- 8 Appealed
- 31 Not Appealed

Chart 7.7.3: Running Twelve Month Procurement Protests by Quarter: Appeals Won/Lost/Pending, FY2017-FY2018

- 5 Pending
- 3 MDOT Won
- 3 MDOT Lost

Be Fair and Reasonable to Our Partners
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)
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 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.

Neighbor Satisfaction Surveys were completed in FY2018 for 40 primary MDOT operating facilities. TBUs developed improvement plans to address neighbor concerns identified in the surveys. These improvement plans will be implemented throughout FY2018-FY2019 to ensure our neighbors’ expectations are met.

Areas of focus include grounds maintenance, screening, noise, and traffic operations. The Neighbor Satisfaction Surveys will be repeated upon completion of the improvements; and the results will be used to further refine MDOT’s efforts to meet or exceed our neighbors’ expectations.

MDOT is also conducting the second round of Internal Facility Assessments for our primary operating facilities. Utilizing GIS technology, TR 8.1 Assessment Teams are visiting facilities Statewide to conduct the assessments. These assessments ensure that we are meeting or exceeding our own standards by evaluating each facility’s overall appearance and cleanliness.
PERFORMANCE MEASURE 8.1
Percent of MDOT Facilities that Meet or Exceed Our Neighbor’s Expectations
PERFORMANCE MEASURE 8.2
Percent of MDOT Facilities that are ADA Compliant

Compiling and charting data for seven (7) 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 on how and where to focus their resources to meet ADA compliancy and make our administrative buildings more accommodating to all our customers and neighbors.

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

A. For the 2017 reporting each TBU provided self-reported data on the percent of owned and occupied administrative buildings that are ADA Compliant. Data was used to individually rate each TBU:

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)

B. The 2018 report verified the self-reported data collected to identify any change. No change reported from 2017 to 2018.
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-CY2018

Be a Good Neighbor
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.

Further investigation has found that these types of property damage claims are extremely rare and the cost impact to MDOT and the TBU’s is negligible.
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-CY2018
PERFORMANCE MEASURE 8.4
Number of Traffic Violations While Driving a State Vehicle

Chart 8.4.2: Red Light Camera Violations by TBU CY2017-CY2018

Chart 8.4.3: All Other Traffic Violations by TBU CY2017-CY2018
TANGIBLE RESULT #9

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)
Be a Good Steward of Our Environment

PERFORMANCE MEASURE 9.1A
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 to meet the 20 percent restoration goal.

MDOT is approaching the 20 percent restoration requirement with a holistic One-MDOT strategy which 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 Treatment to Protect and Restore the Chesapeake Bay

Chart 9.1A.1: MDOT Impervious Restoration in Acres YTD October 2017

Be a Good Steward of Our Environment
PERFORMANCE MEASURE 9.1A
Water Quality Treatment to Protect and Restore the Chesapeake Bay

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

Be a Good Steward of Our Environment
PERFORMANCE MEASURE 9.1C
Bay Restoration Program Spending

The Chesapeake Bay has been referred to as “Maryland’s National Treasure.” It provides countless environmental, social, and economic benefits for the citizens of our state. For decades, water quality in the Bay has been impaired by pollution. Maryland, along with Delaware, New York, Pennsylvania, Virginia, West Virginia, and the District of Columbia, is working to address pollution sources entering the Bay.

Along with the impervious surface restoration efforts that are required by the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit, MDOT contributes annually to statewide Chesapeake Bay Restoration activities. Since 2011, total spending has been tracked statewide based on 10 restoration categories: Land Preservation, Septic Systems, Wastewater Treatment, Urban Stormwater, Agricultural Best Management Practices (BMPs), Oyster Restoration, Transit and Sustainable Transportation Alternatives, Living Resources, Education and Research, and Other. This information is shared annually within the Governor’s Fiscal Year Budget Highlights document.

Historically, MDOT contributions have been incorrectly categorized as Transit and Sustainable Transportation Alternatives, which diminished our involvement in Urban Stormwater, Living Resources, and other restoration categories. This measure will help quantify our relative contribution to Bay restoration and will improve reporting at a State level.
PERFORMANCE MEASURE 9.1C
Bay Restoration Program Spending

Chart 9.1C.1: Bay Restoration Program Allowance & Actual Spending FY2011-FY2017

Be a Good Steward of Our Environment
PERFORMANCE MEASURE 9.1C
Bay Restoration Program Spending

Chart 9.1C.2: Percent Contribution to Bay Restoration Program by Category FY2015-FY2017

- Transit and Sustainable Transportation Alternatives: 4%
- Living Resources: 13%
- Urban Stormwater: 82%
- Oyster Restoration: 1%
PERFORMANCE MEASURE 9.2A
Office Waste Recycled

Why this Performance Measure Matters?
Recycling helps protect the environment and reduces the amount of waste sent to landfills. It conserves resources, saves energy, reduces greenhouse gas emissions, and carbon footprint.

And, it is the right thing to do!

Office Waste Includes:
- Commingled containers (glass, metal, and plastic);
- Glass (fluorescent light tubes, mixed glass containers);
- Metals (mixed cans, and tin/steel cans);
- Paper (corrugated cardboard, mixed paper, shredded paper and newspaper);
- Plastic (mixed plastic bottles, other plastics);
- Electronics; and
- Printer cartridges.

What is the Status of this Performance Measure?

<table>
<thead>
<tr>
<th>CY</th>
<th>RECYCLED OFFICE WASTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>30%</td>
</tr>
<tr>
<td>2017</td>
<td>26%</td>
</tr>
</tbody>
</table>

What is Being Done to Affect Change?
- Continuing awareness training;
- Continuing to evaluate dumpster size and frequency of trash collection services; and
- Single stream recycling.
PERFORMANCE MEASURE 9.2A
Office Waste Recycled

Chart 9.2A.1: Percent of Office Waste Recycled by TBU CY2016-CY2017
PERFORMANCE MEASURE 9.2B
Non-Office Waste Recycled

Why this Performance Measure Matters?
Recycling helps protect the environment. It reduces the amount of waste sent to landfills, conserve resources, saves energy, reduces greenhouse gas emissions, and carbon footprint.

And, it is the right thing to do!

Non-Office Waste Includes:

- Lead-acid batteries (vehicle);
- Compostables (grass, leaves, brush, branches, mixed yard trimmings, food waste, and other);
- Metals (white goods - refrigerators, stoves, washing machines, dryers, water heaters, and air conditioners);
- Animal protein/solid fat;
- Tires;
- Antifreeze;
- Industrial fluids;
- Motor oil;
- Scrap automobiles; and
- Scrap metals.

What is the Status of this Performance Measure?

<table>
<thead>
<tr>
<th>CY</th>
<th>RECYCLED NON-OFFICE WASTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>47%</td>
</tr>
<tr>
<td>2017</td>
<td>53%</td>
</tr>
</tbody>
</table>

What is Being Done to Affect Change?

- Continuing awareness training;
- Continuing to evaluate dumpster size and frequency of trash collection services; and
- Single stream recycling.
PERFORMANCE MEASURE 9.2B
Non-Office Waste Recycled

Chart 9.2B.1: Percent of Non-Office Waste Recycled by TBU CY2016-CY2017

<table>
<thead>
<tr>
<th>Year</th>
<th>CY2016</th>
<th>CY2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>TSO</td>
<td>56%</td>
<td>34%</td>
</tr>
<tr>
<td>SHA</td>
<td>64%</td>
<td>55%</td>
</tr>
<tr>
<td>MDTA</td>
<td>59%</td>
<td>47%</td>
</tr>
<tr>
<td>MTA</td>
<td>19%</td>
<td>76%</td>
</tr>
<tr>
<td>MVA</td>
<td>3%</td>
<td>53%</td>
</tr>
<tr>
<td>MAA</td>
<td>1%</td>
<td>55%</td>
</tr>
<tr>
<td>MPA</td>
<td>16%</td>
<td>13%</td>
</tr>
<tr>
<td>MDOT-Wide</td>
<td>72%</td>
<td>72%</td>
</tr>
</tbody>
</table>

Be a Good Steward of Our Environment
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: metal, 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 the 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 each TBU; and
- Ensure commitment to this goal and its positive impact on the environment by making employees and contractors aware of this performance measure.
PERFORMANCE MEASURE 9.2C
Recycled/Reused Materials from Maintenance Activities and Construction/Demolition Projects


Be a Good Steward of Our Environment

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 [MPG] 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 thru CY2017 has been calculated and presented on Chart 9.3A.1. In the three years of data presented, MDOT’s fuel efficiency has increased by 1.0 MPG from 2015 (16.9 MPG) to 2017 (17.9 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 Agency 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-CY2017

MVA: 26.6, 27.7, 28.2
TSO: 25.5, 26.0, 26.9
SHA: 17.3, 17.1, 17.8
MTA: 13.3, 13.6, 14.1
MPA: 11.5, 12.8, 13.4
MDTA: 13.5, 13.5, 13.8
MAA: 10.9, 11.3, 11.5
MDOT: 16.9, 17.4, 17.9

2015 2016 2017
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 FY2014 – FY2017, 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 busses 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 transitioned 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.
Be a Good Steward of Our Environment

PERFORMANCE MEASURE 9.3B
Energy: Total Gallons Consumed

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

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

FY2017 Total Fuel Cost: $34,723,110
PERFORMANCE MEASURE 9.3C AND D
Utility Electricity Use & 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, there was a decrease over CY2016 in usage (14,051 megawatt hours), cost ($3,389,580), and CO2e emissions (8,596 metric tons). The desired trend for renewable energy generation, cost avoidance, and CO2e emissions avoidance is to increase. Between April 2017 and March 2018, there was a decrease over April 2016 through March 2017 in generation (10.5 megawatt hours), cost savings ($1,860), and CO2e emissions avoidance (74 metric tons).

MDOT released a Renewable Energy Development Request for Proposal on June 20, 2017, and received proposals on August 17, 2017. MDOT recommended award to six master contractors. The Board of Public Works approved the project on February 7, 2018. MDOT is evaluating 35 locations throughout the State for development under Phase I of the project.

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
Utility Electricity Use & Renewable Energy Generation

Chart 9.3C.1: Total MDOT Utility Electricity Use, Cost & CO2e Emissions Q1 CY2014-Q4 CY2017
PERFORMANCE MEASURE 9.3C AND D
Utility Electricity Use & Renewable Energy Generation

Chart 9.3D.1: Total MDOT Renewable Energy Generation, Cost Savings & CO2e Avoidance Q2 CY2012-Q1 CY2018

Be a Good Steward of Our Environment
TANGIBLE RESULT #10

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 3,500 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.
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

Facilitate Economic Opportunity in Maryland

Direct/Indirect (64%)  Induced (36%)
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

Facilitate Economic Opportunity in Maryland

[Bar chart showing estimated number of jobs created by TBU Capital/Construction Programs from FY2013 to FY2017, with data points for MDTA, MAA, MPA, and MVA, and segments indicating direct/indirect (64%) and induced (36%) contributions.]
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 State for Business Annual Rankings for Maryland in Infrastructure CY2008-CY2017

Facilitate Economic Opportunity in Maryland
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.
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

<table>
<thead>
<tr>
<th>METHOD FOR MOVING FREIGHT</th>
<th>TOTAL VALUE (MILLIONS)</th>
<th>TOTAL TONNAGE (THOUSANDS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air*</td>
<td>$13,646</td>
<td>144</td>
</tr>
<tr>
<td>Pipeline &amp; Other**</td>
<td>$73,990</td>
<td>40,278</td>
</tr>
<tr>
<td>Rail*</td>
<td>$15,364</td>
<td>26,730</td>
</tr>
<tr>
<td>Truck*</td>
<td>$324,435</td>
<td>218,603</td>
</tr>
<tr>
<td>Water***</td>
<td>$53,893</td>
<td>38,444</td>
</tr>
<tr>
<td>All Freight</td>
<td>$481,328</td>
<td>324,199</td>
</tr>
</tbody>
</table>

*Source: U.S. Department of Transportation on 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 on 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 2017, source: MPA.
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 23.4 percent in the 4th quarter (compared to same period of the prior year) due to strong container, import gypsum and export coal volumes. The Port’s general cargo was up 8.9 percent in the 4th quarter, and bulk commodities were up 30 percent.

Baltimore’s international cargo tonnage increased two million tons to a total of 11.0 million tons in the 4th quarter compared to the same period of the prior year, and its market share increased two percentage point for the ports in the Mid-Atlantic region.

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.

Port of Baltimore National Port Rankings for 2017 international cargo:

- 1st in Autos; and Roll-on/Roll-off heavy equipment,
- 1st in Imported Sugar,
- 1st in Imported Gypsum,
- 2nd in Exported Coal,
- 9th in Overall Foreign Cargo Value ($53.9 billion), and
- 12th in Overall Foreign Cargo Tonnage (38.4 million tons).

Baltimore is third in the competitive Mid-Atlantic marketplace, and growing market share.
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

*After Q1 2017, South NJ Ports data are combined with Philadelphia.*
PERFORMANCE MEASURE 10.3B
Freight Mobility: Port of Baltimore International Cargo Market Share and Rankings

Chart 10.3B.2: Mid-Atlantic Ports Annual Market Share CY2015-CY2017
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. In addition, freight is the economy in motion and marine terminals are a hive of job generating activity.

The MPA set a record of 10.7 million tons of general cargo in 2017. This was a 6.7 percent increase over the prior record. The Port’s public terminals continue the record breaking trend for the first two months of 2018, with an additional 4.9 percent increase compared to the same period of the prior year. Tonnage in February 2018 was 13% greater than February 2017.

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. For example, 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; 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 these Strategic Commodities: Containers, Autos, RoRo and Imported Forest Products

Chart 10.3C.1: MPA Total General Cargo February 2017-February 2018

- Tons
- Month/Year
- Break Bulk
- Forest Products
- Ro/Ro
- Autos
- Containers
PERFORMANCE MEASURE 10.3C
MPA Total General Cargo Tonnage including these Strategic Commodities: Containers, Autos, RoRo and Imported Forest Products

The graph below shows MPA’s long term general cargo tonnage had steady growth before and after the Great Recession. Between 2012 and 2015, cargo volumes were stable. Cargo is increasing again over the past two years, due to larger ship size, vessel sharing agreements, and increased shipping from the expanded Panama Canal.

Chart 10.3C.2: MPA Total General Cargo CY2000-CY2017
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 CY2014-CY2017

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Bridges</th>
<th>Percentage of Bridges</th>
</tr>
</thead>
<tbody>
<tr>
<td>CY2014</td>
<td>2,885</td>
<td>0.83%</td>
</tr>
<tr>
<td>CY2015</td>
<td>2,885</td>
<td>0.83%</td>
</tr>
<tr>
<td>CY2016</td>
<td>2,890</td>
<td>0.73%</td>
</tr>
<tr>
<td>CY2017</td>
<td>2,893</td>
<td>0.73%</td>
</tr>
</tbody>
</table>

- **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**
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.
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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.

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 October)

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 10.7A
Total User Cost Savings for the Traveling Public due to Congestion Management

SHA and MDTA implement various projects, programs and policies to reduce congestion and enhance mobility on their facilities. 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.
**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**

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Capital Improvements</strong></td>
<td>$18</td>
<td>$16</td>
<td>$19</td>
<td>$21</td>
<td>$4</td>
<td>$50</td>
</tr>
<tr>
<td><strong>Signals &amp; Multimodal</strong></td>
<td>$85</td>
<td>$74</td>
<td>$90</td>
<td>$97</td>
<td>$92</td>
<td>$84</td>
</tr>
<tr>
<td><strong>CHART</strong></td>
<td>$1,097</td>
<td>$962</td>
<td>$1,163</td>
<td>$1,264</td>
<td>$1,360</td>
<td>$1,500</td>
</tr>
</tbody>
</table>
PERFORMANCE MEASURE 10.7B
Average Cost per Branch Customer due to Wait Time

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. MVA continually 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. MVA would like to decrease the cost of wait time to our customers and provide secure and efficient services.
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

- FY2014: 28.1 min wait time, 4.2 million customers, cost $9.27
- FY2015: 21.6 min wait time, 3.9 million customers, cost $7.34
- FY2016: 23.5 min wait time, 3.8 million customers, cost $7.97
- FY2017: 21.5 min wait time, 3.7 million customers, cost $7.31

Goal of $5.03 (wait time 14.8 min)

Branch Walk-in Customers

Average Cost per Customer
OVERVIEW
Facilitate Economic Opportunity in Maryland

PERFORMANCE MEASURE 10.7C
Opportunity Cost Savings to Customer for ASD Usage

Over the past several years, 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 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.

MVA continues to build process and system efficiencies that will support the use of ASD. Over the past year, 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


<table>
<thead>
<tr>
<th>Method</th>
<th>Cost</th>
<th>FY2017 ASD Transactions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet &amp; Mail</td>
<td>$60.19</td>
<td>2,421,829</td>
</tr>
<tr>
<td>Call Center</td>
<td>$59.39</td>
<td>302,840</td>
</tr>
<tr>
<td>Kiosk &amp; Tablet</td>
<td>$7.41</td>
<td>914,128</td>
</tr>
<tr>
<td>Electronic Registration &amp; Titling (ERT), County Treasurer, Off-Site Employee Testing</td>
<td>$33.06</td>
<td>1,295,173</td>
</tr>
</tbody>
</table>
Facilitate Economic Opportunity in Maryland

PERFORMANCE MEASURE 10.7C
Opportunity Cost Savings to Customer for ASD Usage

Chart 10.7C.2: Opportunity Cost Savings to Customer for Alternative Service Delivery (ASD) Usage - Total Customers FY2017

<table>
<thead>
<tr>
<th>Method</th>
<th>FY2017 Total Savings</th>
<th>FY2017 Number of ASD Transactions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet &amp; Mail</td>
<td>$145,770,695.00</td>
<td>2,421,829</td>
</tr>
<tr>
<td>Call Center</td>
<td>$17,984,838.00</td>
<td>302,840</td>
</tr>
<tr>
<td>Kiosk &amp; Tablet</td>
<td>$5,773,993.00</td>
<td>914,128</td>
</tr>
<tr>
<td>Electronic Registration &amp; Titling (ERT), County Treasurer, Off-Site Employee Testing</td>
<td>$42,817,513.00</td>
<td>1,295,173</td>
</tr>
</tbody>
</table>
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.
PERFORMANCE MEASURE 10.8
Percent of VMT in Congested Conditions on Maryland Freeways and Arterials in the AM/PM Peak Hours

Facilitate Economic Opportunity in Maryland

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 itinerant general aviation activity at Martin State as compared to the general aviation facility at BWI Marshall. Itinerant general aviation activity is defined as a non-local 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 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 in potential fuel sales and other support operations occur at the airport. Such operations generate revenue and support existing jobs at, and around, Martin State. 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 Q4 CY2014 to Q4 CY2017, Martin State has demonstrated strong growth in market share of non-local general aviation operations, increasing from 70 percent to nearly 76 percent during that period while similar general aviation activity at BWI Marshall declined from 29 percent to nearly 24 percent.
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 Q4 CY2014-CY2017
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 26 million passengers flew through BWI Marshall Airport in 2017, an all-time record for passenger traffic. International passenger traffic reached 1.1 million passengers in 2017. It is the third straight year with more than one million international passengers. This positive trend continues in 2018. In fact, BWI Marshall has posted monthly passenger records in 30 of the last 31 months through January 2018. 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 an unbroken streak.

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 first quarter of CY2015 through the first quarter of CY2018. The number of nonstop destinations served by BWI Marshall leveled off in CY2018 due to a slight reduction in markets served by commuter airlines utilizing the airport. Today, BWI Marshall has nonstop service to 52 percent of all markets served by the region’s three airports. That figure is up from 47 percent in the first quarter of CY2015. 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 CY2015-CY2018
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.

In 2017, 26.4 million passengers flew through BWI Marshall Airport, an all-time-record for passenger traffic. International passenger traffic during the same period reached 1.1 million passengers, the third-straight year with more than one million international passengers. BWI Marshall has posted passenger records in 30 of the past 31 months through January 2018. Only back-to-back hurricanes that negatively impacted the southeast United States and the Caribbean in September 2017 got in the way of the streak.

Due to the seasonal nature of air service schedules, the 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 first quarter of CY2015 and the same time-period in CY2018. This positive performance is due primarily to continued recent growth by Spirit, Alaska and United Airlines. BWI Marshall is now second place in market share of number of departing flights. Reagan National maintains the number one position in the first quarter of CY2018 because it handles a large number of commuter flights. 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. Southwest 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.

BWI Marshall continues to serve more passengers than any other airport in the region. During the fourth quarter of CY2017, the most recent quarter where passenger numbers are available, BWI Marshall is first in market share of total passengers served by the region’s airports.
PERFORMANCE MEASURE 10.9C
Market Share: Percent of Passengers and Departing Flights Relative to Benchmark Airports

Chart 10.9C.1: Percent of Total Daily Depatures at the Region’s Airports Q1 CY2015-CY2018

Quarter/Year

<table>
<thead>
<tr>
<th></th>
<th>Q1 2015</th>
<th>Q1 2016</th>
<th>Q1 2017</th>
<th>Q1 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>BWI</td>
<td>27.1%</td>
<td>28.3%</td>
<td>28.2%</td>
<td>28.7%</td>
</tr>
<tr>
<td>Reagan</td>
<td>31.0%</td>
<td>29.3%</td>
<td>30.1%</td>
<td>30.8%</td>
</tr>
<tr>
<td>Dulles</td>
<td>41.9%</td>
<td>42.4%</td>
<td>41.7%</td>
<td>40.5%</td>
</tr>
</tbody>
</table>
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 SHA’s efforts 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

Ongoing practices include:

- Meeting with stakeholders in working group to establish clear expectations;
- Weekly project status alerts to the District Access Management Team.
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 FY2011-2018 YTD

Chart 10.10.2: Percent of Roadway Access Permits Issued within 21 Days by 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.

The data contained herein is impacted by a number of variables and may vary and evolve depending on those variables.