

## TANGIBLE RESULT #4

# Deliver Transportation Solutions and Services of Great Value



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

### RESULT DRIVER:

Jason Ridgway  
State Highway Administration (SHA)

# Deliver Transportation Solutions and Services of Great Value

## TANGIBLE RESULT DRIVER:

Jason Ridgway  
*State Highway Administration (SHA)*

## PERFORMANCE MEASURE DRIVER:

Terri Lins  
*Motor Vehicle Administration (MVA)*

## PURPOSE OF MEASURE:

To help determine how well the Department is with estimating project budgets.

## FREQUENCY:

Annually

## DATA COLLECTION METHODOLOGY:

Through the Capital Program Management System (CPMS) ;

The Consolidated Transportation Plan (CTP) & MDOT Procurement Offices

## BENCHMARK:

N/A

## PERFORMANCE MEASURE 4.1

### Percent of Estimated Project Budget as Compared to Final Project Award

The Consolidated Transportation Plan (CTP) is the six- year investment plan for MDOT and its six TBUs. The CTP solidifies the Department's planned projects and programs, both major and minor. The plan is built working with stakeholders such as Maryland citizens, local jurisdictions and the local and State delegations.

The purpose of this measure is to track the percent difference between the estimated project budgets as compared to final project award. This is a valuable measure as it fosters more accuracy and better budget management of the State's limited transportation funding.

Accurate estimating enables MDOT to provide the services its customers want whether it is infrastructure improvements to Maryland roadways and bridges; increasing and retaining the commerce going in/out of the Port of Baltimore; attracting/retaining airlines and travelers at BWI Marshall; providing more alternative service options to Maryland citizens to conduct their MVA transaction remotely; or improving Maryland's transit services throughout the State.

Given the diverse contract types e.g., highway construction vs information technology (IT) software development, the data has been divided into three groups by project similarity. The following graphs represent transportation business unit data for FY2013, FY2014 and FY2015 using financial thresholds for capital projects as follows:

\$ All - (MDTA, SHA)

\$10M - (MPA, MAA, MTA)

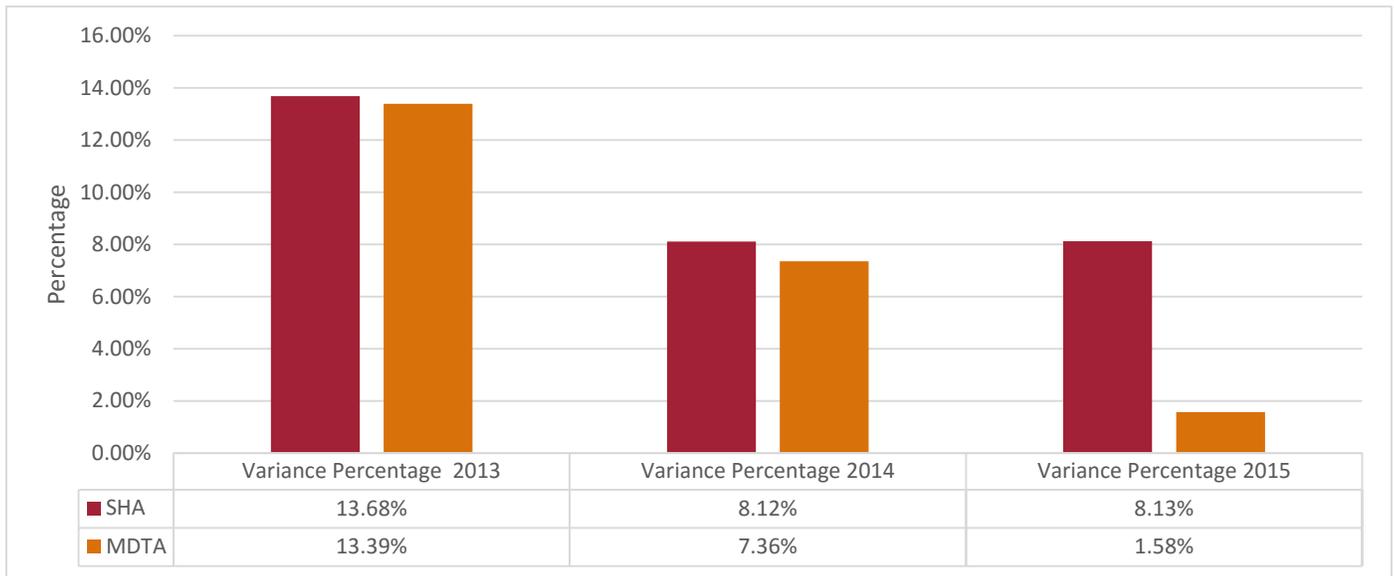
\$400K - IT (TSO, MVA)

# Deliver Transportation Solutions and Services of Great Value

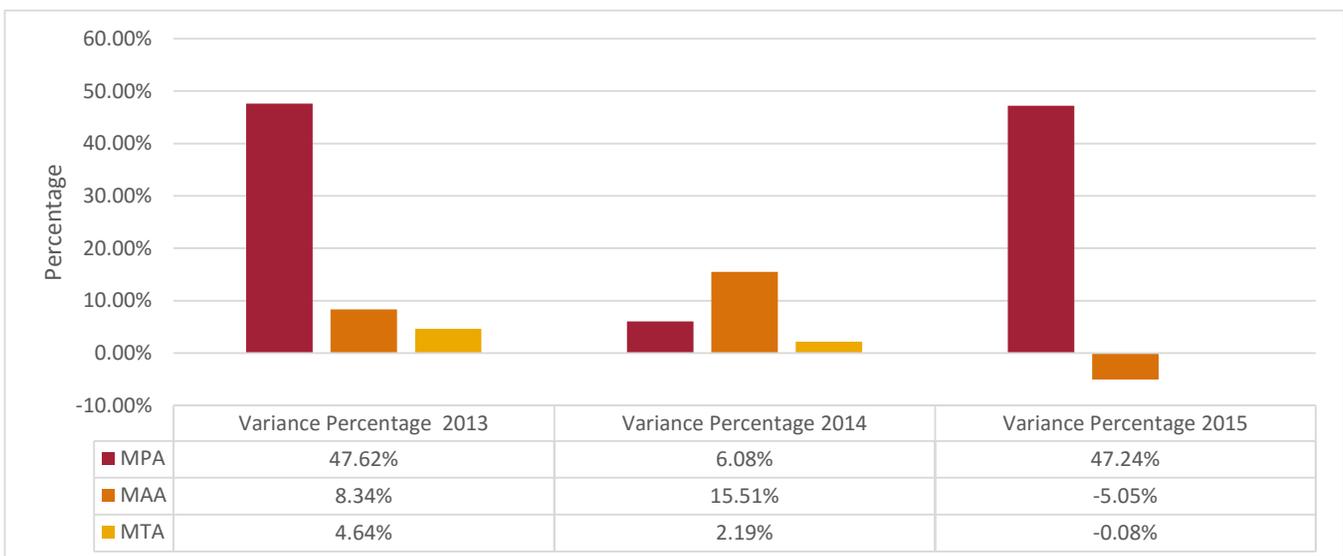
## PERFORMANCE MEASURE 4.1

Percent of Estimated Project Budget as Compared to Final Project Award

**Project Variance Estimate to Award – SHA, MDTA**



**Project Variance Estimate to Award – MPA, MAA, MTA**

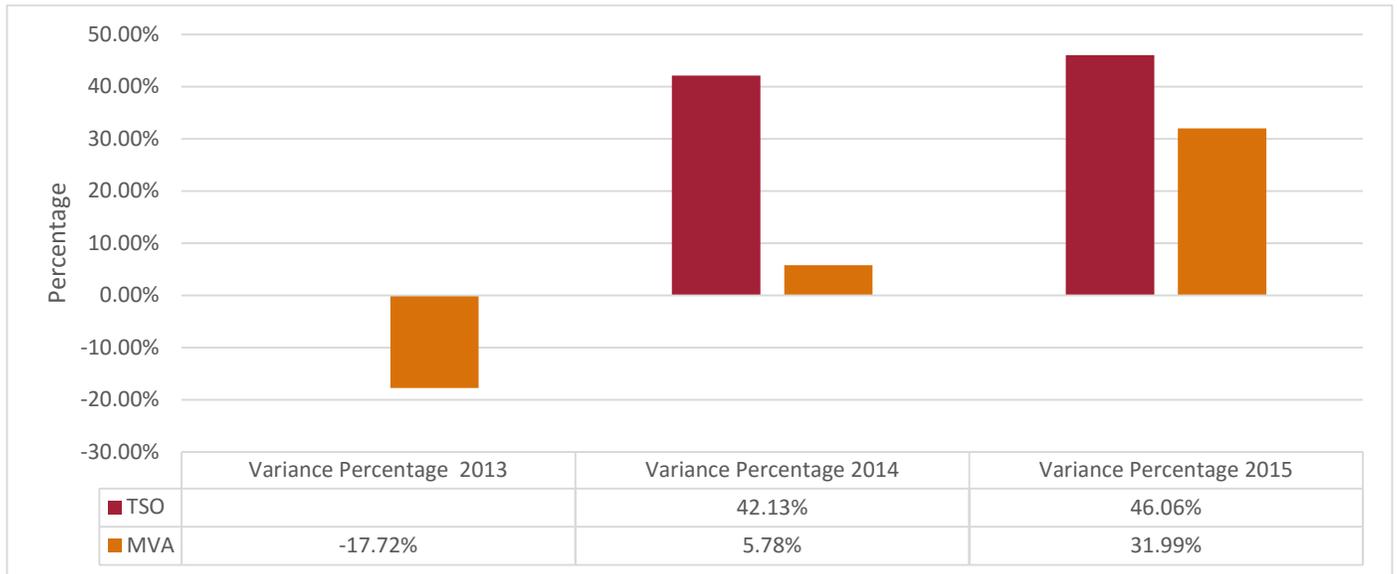


# Deliver Transportation Solutions and Services of Great Value

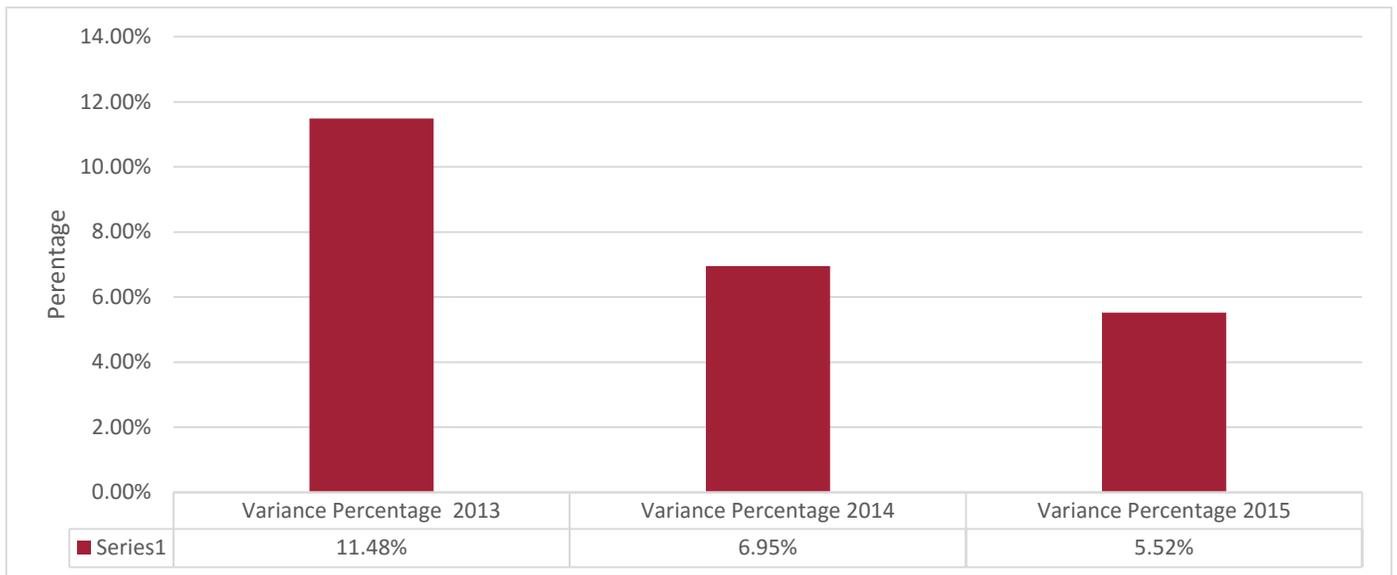
## PERFORMANCE MEASURE 4.1

Percent of Estimated Project Budget as Compared to Final Project Award

Project Variance Estimate to Award – TSO, MVA



MDOT Variance of Project Estimate to Award – Total All TBUs



# Deliver Transportation Solutions and Services of Great Value

**TANGIBLE RESULT DRIVER:**

Brian W. Miller  
Maryland Port Administration (MPA)

**PERFORMANCE MEASURE DRIVER:**

Jason Ridgway  
State Highway Administration (SHA)

**PURPOSE OF MEASURE:**

To measure the difference in the contract amount from NTP to final contractor payout

**FREQUENCY:**

Annually

**DATA COLLECTION METHODOLOGY:**

Collect data from MDOT TBUs for Fiscal Years 2013 to 2015. Data will reflect contracts that closed out in each respective Fiscal Year. Data will be reflected in a bar graph for each Fiscal Year

**NATIONAL BENCHMARK:**

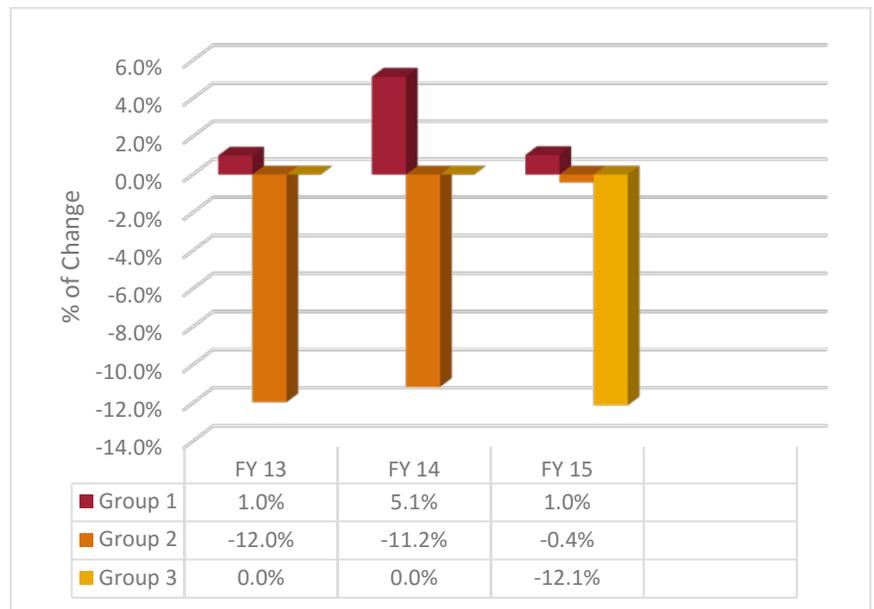
N/A

**PERFORMANCE MEASURE 4.2**

**Percent of Change for Finalized Contracts**

The graphs below are depicted by fiscal year and are divided into three groups. The groups consist of Group 1 (MDTA/SHA), Group 2 (MAA/MPA/MTA) and Group 3 (MVA/TSO). The primary issue will be for contracts that exceed the award amount at final payout. MDOT will have to monitor contracts and justify overages through contract changes and justification for those changes.

**Change for Finalized Contracts**



# Deliver Transportation Solutions and Services of Great Value

## TANGIBLE RESULT DRIVER:

Jason Ridgway  
State Highway Administration (SHA)

## PERFORMANCE MEASURE DRIVER:

Wayne Schuster  
Maryland Aviation Administration (MAA)

## PURPOSE OF MEASURE:

Gauge whether customers traveling through a project feel that the project met their needs and expectations

## FREQUENCY:

Annually

## DATA COLLECTION METHODOLOGY:

Survey of travelers and users

## NATIONAL BENCHMARK:

The American Satisfaction Index (<http://www.theasci.org/customer-satisfaction-benchmarks>). The 2015 satisfaction benchmark for all transportation projects was reported as 74%.

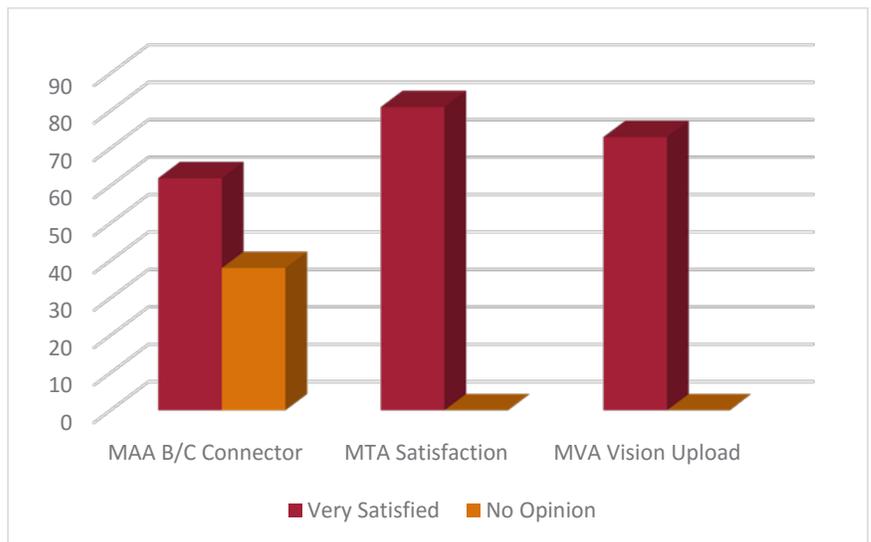
## PERFORMANCE MEASURE 4.3A

### Survey Satisfaction Results

The measure of a successful project is whether it has met the needs and expectations of the customer, or end user. MDOT has a long tradition of engaging stakeholders and potential project users during project development and design phases. However, MDOT has not consistently asked customers for their opinions about projects once they are completed.

Moving forward, MDOT will systematically gauge customer satisfaction with projects delivered by the TBUs. Because the TBUs do not have identical types of projects or services, project users, and/or methods by which travelers pass through their projects, each TBU is developing a survey that can be used to ask travelers whether a project met their needs and expectations. Survey results will provide insight into customer satisfaction, which will then help each TBU adjust future project scopes of work to maximize customer benefits.

### Recent Surveys



# Deliver Transportation Solutions and Services of Great Value

## TANGIBLE RESULT DRIVER:

Jason Ridgway  
State Highway Administration (SHA)

## PERFORMANCE MEASURE DRIVER:

Wayne Schuster  
Maryland Aviation Administration  
(MAA)

## PURPOSE OF MEASURE:

This measure tracks the use of innovative contracting methods on MDOT projects including design-build contracts, construction manager at risk, P3 contracts, and GEC

## FREQUENCY:

Annually

## DATA COLLECTION METHODOLOGY:

MDOT projects utilizing innovative contracting methods are reported during the fiscal year in which they are awarded. Contract award values are collected through MDOT's bid opening summaries and project records

## NATIONAL BENCHMARK:

N/A

## PERFORMANCE MEASURE 4.3B

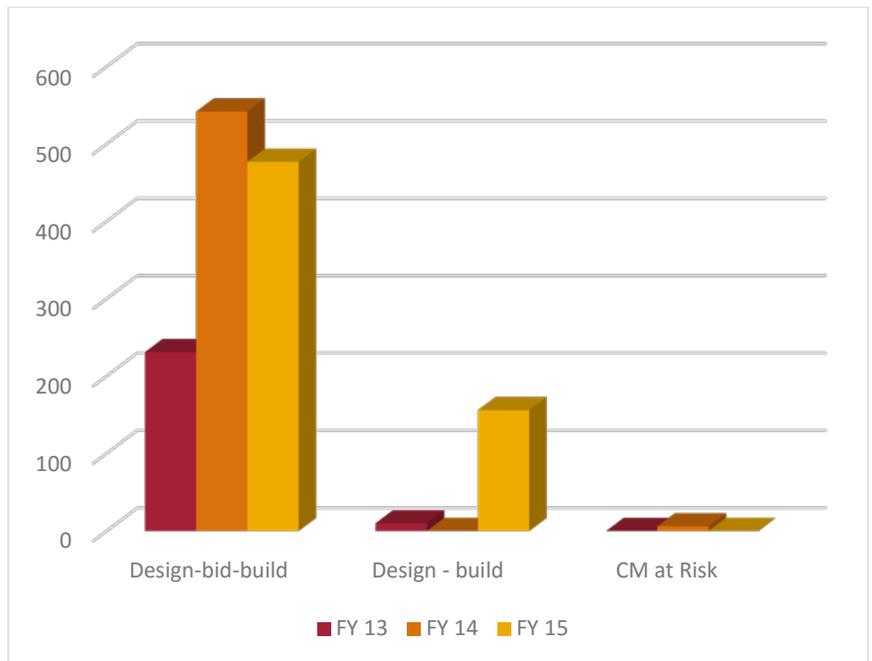
### Project Value by Contracting Method

With limited transportation funding and increasing needs, MDOT is using innovative contracting methods to improve efficiency, increase flexibility and maximize value to the customer.

When selecting a project delivery method and identifying innovative contracting options, MDOT takes into account project characteristics such as project size and cost, type (preservation, rehabilitation or reconstruction) and complexity (urban or rural, traffic impact and number of project elements). Innovative contracts can promote accelerated project completion or facilitate achievement of other project performance objectives.

Use of innovative contracting methods is expected to result in project cost and schedule savings, providing value to MDOT's customers.

SHA Project Value by Contracting Method



# Deliver Transportation Solutions and Services of Great Value

**TANGIBLE RESULT DRIVER:**

Jason Ridgway  
State Highway Administration (SHA)

**PERFORMANCE MEASURE DRIVER:**

Wayne Schuster  
Maryland Aviation Administration (MAA)

**PURPOSE OF MEASURE:**

This measure tracks the use of value analysis during the design of MDOT projects. For the purposes of this measure, value analysis means either practical design, value engineering, partnering, peer review or Program Management

**FREQUENCY:**

Annually

**DATA COLLECTION METHODOLOGY:**

Capital program records and staff knowledge are used to develop lists of projects that have had value analysis performed during the design phase

**NATIONAL BENCHMARK:**

N/A

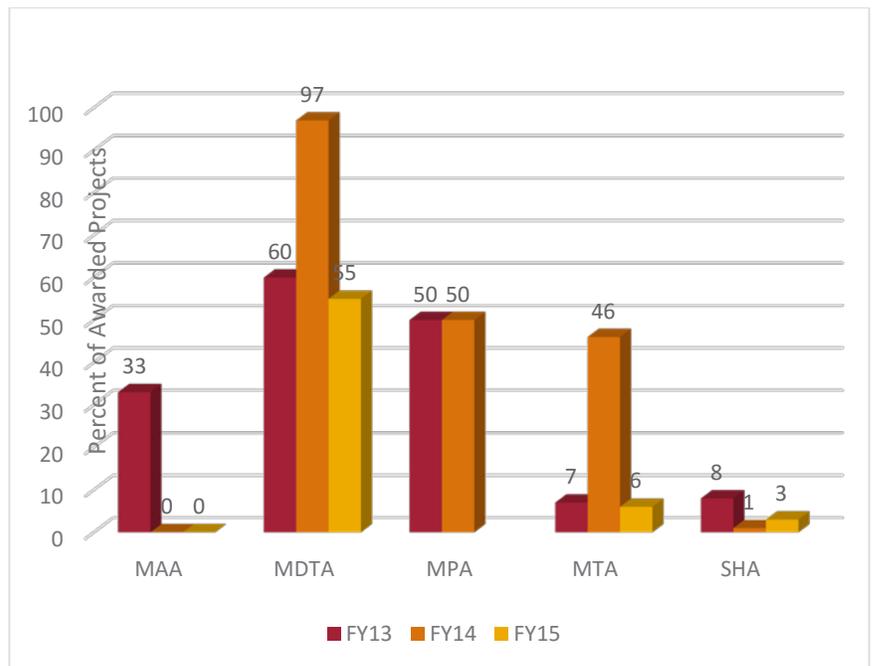
**PERFORMANCE MEASURE 4.3C**

**Percent of Awarded Projects with Value Analysis**

Value analysis is a systematic and critical assessment of every aspect of a project to ensure that its cost is no greater than is necessary to carry out its functions. Because MDOT strives to deliver the best possible projects for the least amount of cost, it is important for projects to be reviewed during the design phase with a critical eye. This is to confirm that every included element is necessary, appropriate and designed to be constructed in a cost-effective manner. MDOT uses value analysis to make sure the public receives great value for every tax dollar invested in Maryland's transportation system.

MDOT uses a wide range of value analysis techniques, selecting the appropriate tool based on the project's scale and scope, including value engineering, practical design, peer review, program management and partnering.

**Percent of Awarded Projects with Value Analysis**



# Deliver Transportation Solutions and Services of Great Value

**TANGIBLE RESULT DRIVER:**

Jason Ridgway  
State Highway Administration (SHA)

**PERFORMANCE MEASURE DRIVER:**

Bill Appold  
Maryland Department of Transportation (MDOT)

**PURPOSE OF MEASURE:**

Are we estimating the total numbers of days necessary to complete a project accurately?

**FREQUENCY:**

Annually

**DATA COLLECTION METHODOLOGY:**

Information will be provided by the MDOT Offices of Construction, Planning and Finance

**NATIONAL BENCHMARK:**

N/A

**PERFORMANCE MEASURE 4.4**

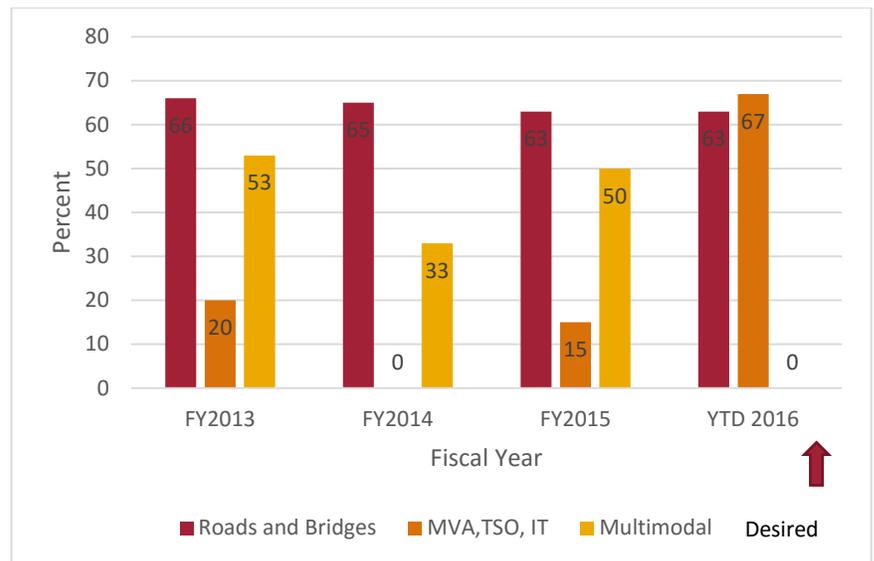
**On-time Services and Solutions**

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 for MDOT’s stakeholders.

The purpose of performance measure 4.4 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 or not these factors be mitigated.

This measure will help guide MDOT in future decision-making by providing insight on what are realistic timeframes for the completion of contracts and services. Also, it will highlight reasons for delays which will allow MDOT to reduce them in the future.

**Percent of Projects Completed by Original Contract Date**



Source: TBU Offices of Construction, Planning and Finance

# Deliver Transportation Solutions and Services of Great Value

## TANGIBLE RESULT DRIVER:

Jason Ridgway  
*State Highway Administration (SHA)*

## PERFORMANCE MEASURE DRIVER:

Pat Keller  
*Maryland Transit Administration (MTA)*

## PURPOSE OF MEASURE:

The measure tracks the average cost of common transportation services and solutions. The costs are analyzed and solutions to reduce costs where appropriate will be undertaken

## FREQUENCY:

Annually

## DATA COLLECTION METHODOLOGY:

Through the Capital Program Management System (CPMS) ;

The Consolidated Transportation Plan (CTP) &

MDOT Capital Budget, Finance and Procurement Offices

## BENCHMARK:

Benchmarks are based upon trends to reduce costs and have been provided for each graph.

## PERFORMANCE MEASURE 4.5

### Average Cost of Common Transportation Solutions and Services

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

The purpose of this measure is to track, assess, analyze and then provide solutions for reducing the cost of transportation services. There are certain measures that are identifiable between TBUs such as paving, decking, bridge replacement, etc. Tracking these measures will allow some comparison across TBUs and also allow individual business units to track, analyze and provide solutions to reduce cost of services unique to the TBU, which all provide greater value to the public.

Performance measure 4.5 has nine separate measurements. These measurements include minor and major road resurfacing cost, interstate road resurfacing cost, bridge replacement cost and major bridge redecking cost. MTA's measurements include Operating Cost Per Passenger Trip, Operating Cost Per Revenue Vehicle Mile, Passenger Trips Per Revenue Vehicle Mile and Farebox Recovery while MVA measures by using Cost Per Transaction.

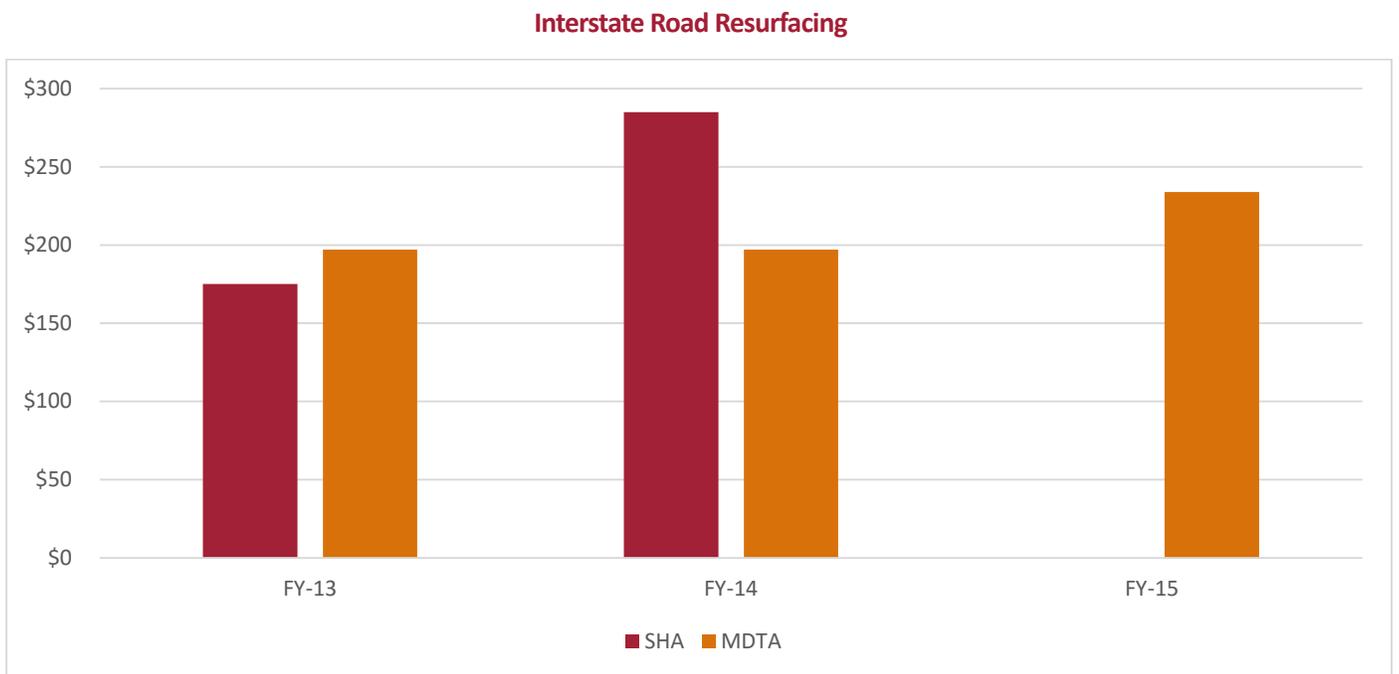
Tracking of these measures is based upon actual costs associated with contracts issued for various road and bridge projects. Because data for these projects is tracked annually, in any given year there may not be an award for this type of project as can be seen from some of the MDTA data. Regardless,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

Benchmarks are based upon year to year comparisons and, regarding cost measures, the goal is to trend towards reducing cost while providing exceptional service. Benchmarks have been provided for each of the measures.

# Deliver Transportation Solutions and Services of Great Value

## PERFORMANCE MEASURE 4.5

### Average Cost of Common Transportation Solutions and Services



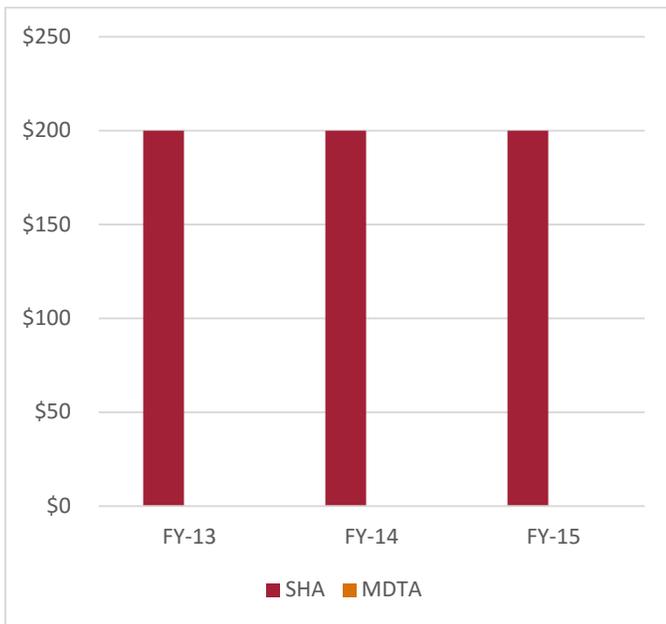
Fiscal Year, Cost Per Square Foot. Benchmark, desired trend is preferred to reduce square footage costs.

# Deliver Transportation Solutions and Services of Great Value

## PERFORMANCE MEASURE 4.5

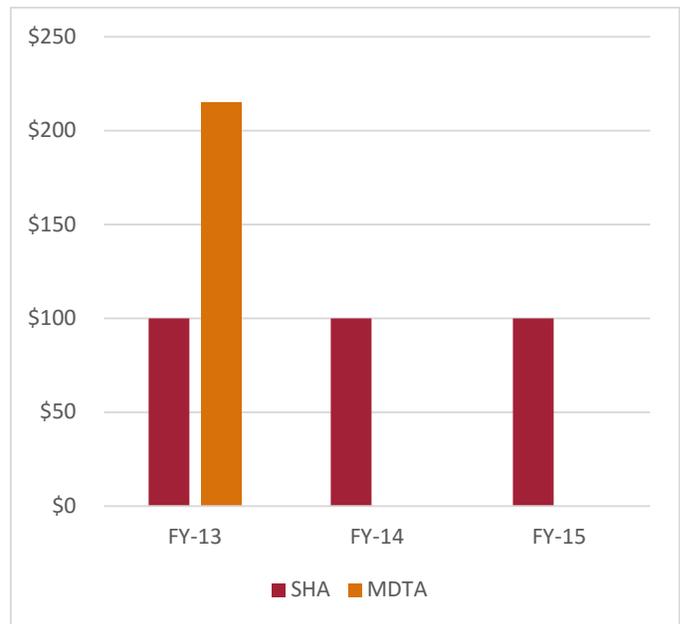
### Average Cost of Common Transportation Solutions and Services

Average Bridge Replacement Costs



Cost Per Square Foot by Fiscal Year. Benchmark, desired trend is preferred to reduce square footage costs.

Average Bridge Redecking Costs



Cost Per Square Foot by Fiscal Year. Benchmark, desired trend is to reduce square footage costs.

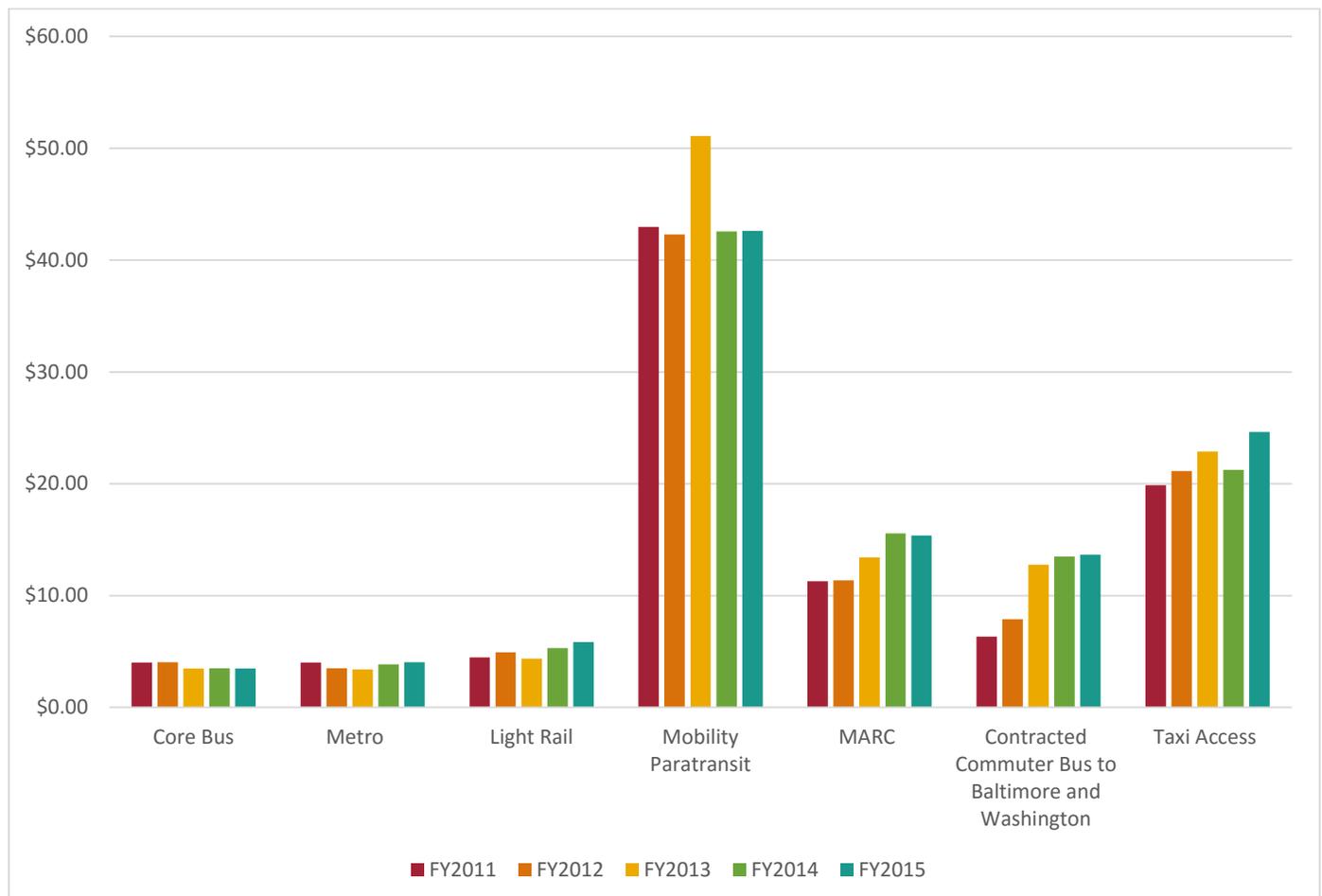
Average Bridge Redecking Costs measure costs per square feet in order to track the SHA and MDTA business units cost per square foot of Bridge Redecking projects. In FY 2013, FY2014, and FY2015 MDTA did not award any projects, therefore data is not available. Note that although the MDTA number is higher, it includes costs that are all inclusive such as maintenance of traffic, contractor mobilization, approach roadway adjustments, etc.

# Deliver Transportation Solutions and Services of Great Value

## PERFORMANCE MEASURE 4.5

### Average Cost of Common Transportation Solutions and Services

Operating Cost Per Passenger Trip By Mode By Fiscal Year



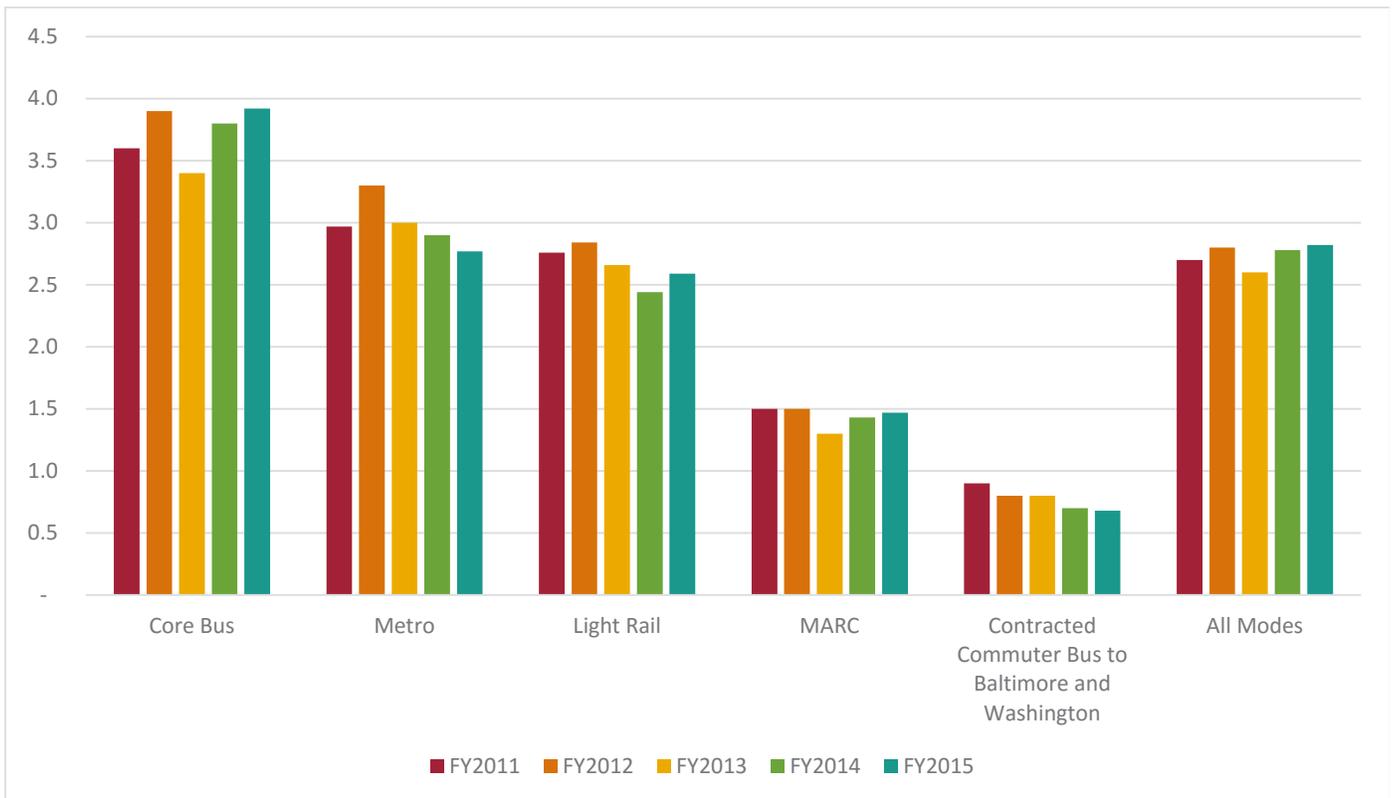
Benchmark, desired trend is to reduce operating cost per passenger trip.

# Deliver Transportation Solutions and Services of Great Value

## PERFORMANCE MEASURE 4.5

### Average Cost of Common Transportation Solutions and Services

Passenger Trips Per Revenue Vehicle By Mode



Benchmark, desired trend is to increase passenger trips per revenue vehicle mile

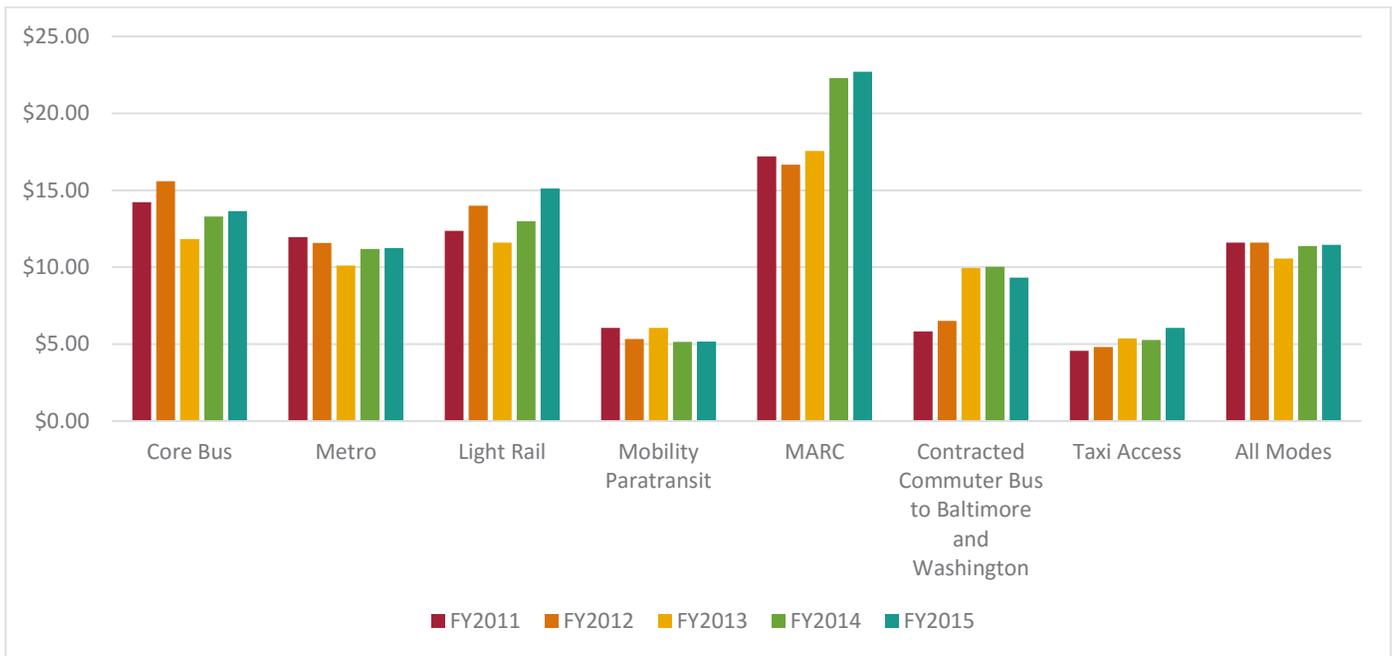


# Deliver Transportation Solutions and Services of Great Value

## PERFORMANCE MEASURE 4.5

### Average Cost of Common Transportation Solutions and Services

Operating Cost Per Revenue Vehicle Mile



Operating Cost Per Revenue Vehicle By Mode By Fiscal Year  
 Benchmark, desired trend is to reduce operating cost per revenue vehicle mile.

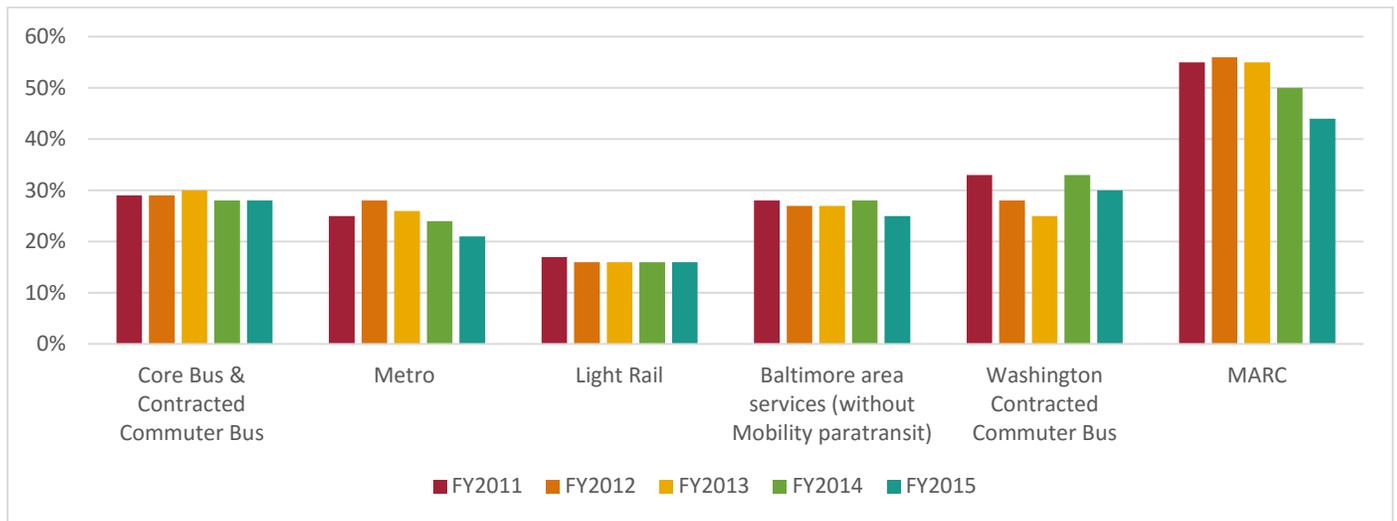


# Deliver Transportation Solutions and Services of Great Value

## PERFORMANCE MEASURE 4.5

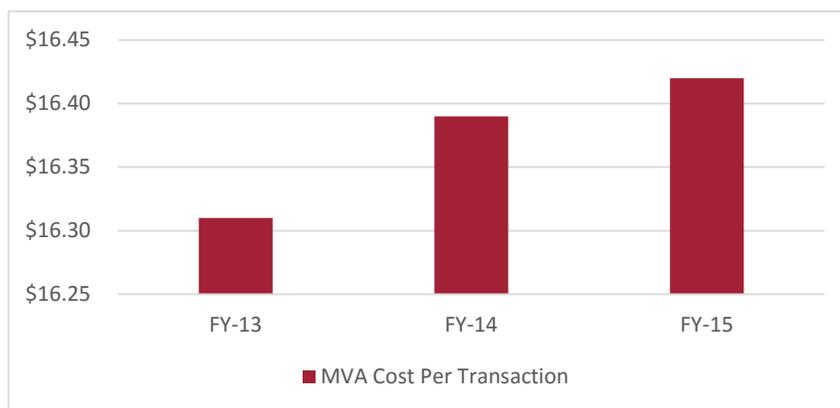
### Average Cost of Common Transportation Solutions and Services

Percent of Farebox Recovery By Mode By Fiscal Year



Benchmark, State Required 35% farebox recovery will be used for all modes excluding Mobility and Washington DC, Commuter Bus. Benchmark, trend is to increase farebox recovery.

MVA Cost Per Transaction



Average Cost of Transaction By Fiscal Year

Benchmark, desired trend is to reduce the average cost of transaction.