

Maximize2045 – Status / Due Dates

Public Advisory Committee
April 4, 2018



Maximize2045 – Major Milestones

- Nov 2016 to Feb 2017 – Develop/Adopt Regional Goals and Strategies – **Done (Resolution #17-18)**
- Feb 2017 to Dec 2018 – Develop/Adopt Regional Performance Measures and Targets – **In Process**
9 down (TAM and highway safety) – 16 to go
- Sept 2017 to June 2018 – Develop/Adopt Financial Forecast – **In Process**
- Oct 2017 to July 2018 – Develop/Adopt Population and Employment Forecasts – **In Process**
- Dec 2017 to May 2018 – Develop/Adopt Project Evaluation Criteria – **In Process**



Maximize2045 – Major Milestones

- June to Aug 2018 – Call for Candidate Projects
- Aug to Nov 2018 – Evaluate Candidate Projects / Select Tentative Set of Major Programs and Projects
- Nov 2018 to Feb 2019 – Model and Analyze Tentative Set of Major Programs and Projects
- Feb to May 2019 – Develop Draft Plan
- June to July 2019 – Develop and Adopt Final Plan



Performance-Based Approach

- Established in MAP-21; continued in FAST Act
- For 2015 plan, BRTB took a “hybrid” approach, depending on status of U.S. DOT regulations:
 - Followed published draft regs (highway system safety)
 - Anticipated other draft regs (highway system condition)
 - Used MDOT Attainment Report measures for less certain areas (highway system performance, transit safety, TAM)
 - Added accessibility measures (not required)
 - Federal agencies commended BRTB for being proactive



Performance Measures – 2015

2015 Plan – Measures adopted for *Maximize2040: A Performance-Based Transportation Plan* – holdovers from 2011 Plan noted

System Safety – Roadways (all modes)

1. Serious injuries per 100 million vehicle miles traveled (VMT)
2. Fatalities per 100 million VMT
3. Number of serious injuries
4. **Number of fatalities – also in 2011 Plan**

System Safety – Transit

5. Preventable crashes per 100,000 revenue vehicle miles

System Condition – Roadways

6. % of roadway miles with acceptable ride quality
7. **% of structurally deficient bridges – also in 2011 Plan**



Performance Measures – 2015

2015 Plan – Measures adopted for *Maximize2040: A Performance-Based Transportation Plan* – holdovers from 2011 Plan noted

System Condition – Transit

8. *Average age of local bus fleets (MTA/LOTS agencies) – also in 2011 Plan*

System Performance

9. % of VMT in congested conditions on arterials (PM peak)
10. Average truck turnaround time at Seagirt Marine Terminal
11. *Levels of VOC, NOx, PM2.5, and CO emissions – also in 2011 Plan*

Accessibility Measures (beyond federal requirements)

12. *% of roadway miles with sidewalks – also in 2011 Plan*
13. Bicycle/walk-to-work mode share
14. *Average weekday transit ridership (MTA/LOTS agencies) – also in 2011 Plan*



Performance Measures – 2019

- For 2019 Plan: More certainty now; FHWA and FTA have published almost all final regulations
- From FAST Act regulations: “Each MPO shall establish performance targets that address performance measures”
 - **To “track progress toward attainment of critical outcomes for the region”**
- “Selection of targets shall be coordinated with State and public transportation providers to ensure consistency, to the maximum extent practicable.”



For 2019 Plan, BRTB Needs To:

- **Set measures and targets** for *Maximize2045: A Performance-Based Transportation Plan*
- **Coordinate with MDOT** (two options):
 1. Adopt state measures and targets OR
 2. Set regional measures and targets
- MDOT's performance measure website: <http://arcg.is/1r04uH>
- Consider how to incorporate measures and targets into the Transportation Improvement Program (TIP) – will apply to all TIPs and TIP amendments adopted after May 20, 2019



FTA – TAM Measures

- Four measures to assess condition:

1. % of non-revenue service vehicles that have either met or exceeded their Useful Life Benchmarks (ULBs)
2. % of revenue vehicles within an asset class that have either met or exceeded their ULBs
3. Infrastructure (rail fixed-guideway, track, signals, systems): % of track segments with performance restrictions
4. % of facilities within an asset class rated below condition 3 on the TERM scale *

Transit Asset Management – final rules released October 1, 2016; January 1, 2017 deadline for transit operators to set targets – MPO targets 180 days later

* – FTA uses the Transit Economic Requirements Model (TERM) to develop values to determine its transit state of good repair (SGR) backlog.



TAM Targets

BRTB adopted these targets (Resolution 17-27) in June 2017

Baltimore Region LOTS Agencies – Tier 2 Baseline and Targets

Asset Class (National Transit Database)	Statewide LOTS Agencies – Baseline % Past Useful Life	Initial Statewide LOTS Target	Baltimore Regional LOTS
Bus (Heavy-Duty)	23.8%	23.8%	7.1%
Bus (Medium-Duty)	17.0%	17.0%	16.2%
Bus (Light-Duty) / Cutaway Bus	59.5%	59.5%	58.1%
Automobile (Revenue)	50.0%	50.0%	27.3%
Van (Revenue)	69.1%	69.1%	66.7%
Trucks (Non-Revenue)	31.3%	31.3%	66.7%
Other Rubber Tire Vehicles (Service / Non-Revenue)	59.5%	59.5%	40.0%



TAM Targets

MTA has submitted these targets to FTA

Maryland Transit Administration – Tier 1 Baseline and Targets

Mode	Asset Class	Baseline % Past Useful Life	MTA Target
Bus	Bus (60-ft. Articulated)	0%	0%
Bus	Bus (40-ft.)	4.7%	4.7%
Metro	Heavy Rail	88.9%	88.9%
Light Rail	Light Rail	0%	0%
MARC	Locomotive	0%	0%
MARC	Passenger Coach	0%	0%
Mobility	Cutaway	0%	0%
Mobility	Automobile	4.4%	4.4%
Mobility	Van	0%	0%



FTA – Transit Safety Measures

Four safety measures (reported by mode):

1. Number of reportable fatalities and rate per total vehicle revenue miles
2. Number of reportable injuries and rate per total vehicle revenue miles
3. Number of reportable safety events and rate per total vehicle revenue miles
4. Mean distance between major mechanical failures

Transit Safety –
final rule not yet
published

Once the final rule has been published, transit agencies will have 1 year to set transit safety performance targets; MPOs will have 1 year + 180 days



FHWA – Performance Areas

1. Serious injuries per vehicle miles traveled (VMT)
 2. Fatalities per VMT
 3. Number of serious injuries
 4. Number of fatalities
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System Safety (PM1) –
final rules released
March 15, 2016

5. Pavement condition on the Interstate System
 6. Pavement condition on the non-Interstate NHS
 7. Bridge condition on the NHS
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System Condition (PM2) – final rules released May 20, 2017

8. Performance of the Interstate System
9. Performance of the non-Interstate NHS
10. Freight movement on the Interstate System
11. Traffic congestion
12. On-road mobile source emissions

System Performance (PM3) – final rules released May 20, 2017



System Safety Measures

- Five measures to assess safety performance:
 1. Number of fatalities
 2. Rate of fatalities per 100 million VMT
 3. Number of serious injuries
 4. Rate of serious injuries per 100 million VMT
 5. Number of non-motorized fatalities + non-motorized serious injuries – pedestrian and bicycle – **NEW**



System Safety Targets – Due Dates

- MDOT
 - Set targets for Highway Safety Improvement Plan
 - **August 31, 2017**: Due date to submit to FHWA
- BRTB
 - Set targets (either adopt state targets or set regional targets)
 - **February 27, 2018**: Due date for targets
- Repeat process each year

System Safety Data

- Maintain commitment to “Toward Zero Deaths”
- Baltimore Region – 5-Year Rolling Averages

Performance Measure	2008-2012	2009-2013	2010-2014	2011-2015	2012-2016
Number of Fatalities	225	216	202	204	210
Number of Serious Injuries	1,508	1,358	1,284	1,236	1,235
Fatality Rate per 100 Million VMT	0.87	0.83	0.77	0.78	0.79
Serious Injury Rate per 100 Million VMT	5.82	5.23	4.93	4.73	4.66
Number of Non-motorized Fatalities & Serious Injuries	254	245	248	243	259



System Safety Targets

- Resolution #18-8 – **adopted on January 26, 2018**
- Baltimore Region Targets

Performance Measure	2016	2017	2018	2019	2020
Number of Fatalities	188	182	176	171	166
Number of Serious Injuries	1,224	1,200	1,176	1,153	1,130
Fatality Rate per 100 Million VMT	0.72	0.70	0.68	0.66	0.64
Serious Injury Rate per 100 Million VMT	4.46	4.31	4.18	4.05	3.92
Number of Non-motorized Fatalities & Serious Injuries	216	209	202	195	188



Pavement/Bridge Measures

- Four measures to assess pavement condition:
 1. % of pavement on Interstate System in Good condition
 2. % of pavement on Interstate System in Poor condition
 3. % of pavement on NHS (excluding the Interstate System) in Good condition – state/local
 4. % of pavement on NHS (excluding the Interstate System) in Poor condition – state/local
- Two measures to assess bridge condition:
 1. % of NHS bridges by deck area classified as in Good condition
 2. % of NHS bridges by deck area classified as in Poor condition



Pavement/Bridge Condition Targets – Due Dates

- MDOT
 - Set 2-year and 4-year targets
 - **May 20, 2018**: Due date for first set of targets
 - **October 1, 2018**: Report targets to FHWA
- BRTB
 - Set 4-year targets (either adopt MDOT targets or set regional targets)
 - **November 16, 2018**: Due date for targets



System Performance Measures – Reliability

- Two measures to assess performance of the NHS under the National Highway Performance Program
- Level of Travel Time Reliability (LOTTTR)*:
 1. % of Person-Miles Traveled on Interstate System that are reliable (Interstate Travel Time Reliability measure)
 2. % of Person-Miles Traveled on Non-Interstate NHS that are reliable (Non-Interstate NHS Travel Time Reliability measure)

* – Defined as the ratio of the 80th percentile travel time to a “normal” travel time (50th percentile).



System Performance Measures – Freight Movement

- One measure to assess freight movement on the Interstate System:
 1. % of Interstate System Mileage providing for Reliable Truck Travel Times (Truck Travel Time Reliability Index – TTTR)

System Performance Measures – CMAQ Program

- For all projects funded by CMAQ funds
- Two measures to assess traffic congestion:
 1. Annual Hours of Peak-Hour Excessive Delay Per Capita (PHED measure)
 2. % of Non-SOV (single-occupancy vehicle) Travel



System Performance Measures – CMAQ Program

- For all projects funded by CMAQ funds
- One measure to assess on-road mobile source emissions:
 1. Total Emissions Reduction: 2-year and 4-year cumulative reported emission reductions of each criteria pollutant and applicable precursors (PM_{2.5}, PM₁₀, CO, VOC, and NO_x) for which the area is designated nonattainment or maintenance – **BRTB region: only ozone**

System Performance Measures – CO₂ Emissions

- Delayed – FHWA has proposed repealing measure
- One measure for Total Emissions Reduction of CO₂:
 1. Percent Change in Tailpipe CO₂ Emissions on NHS from CY 2017

System Performance – Due Dates

- MDOT
 - For Travel Time Reliability and Freight Reliability measures: Set 2- and 4-year statewide targets
 - For PHED, non-SOV travel, and emissions measures: Work with BRTB to set unified targets for urbanized area
 - **May 20, 2018**: Due date for first set of targets
 - **October 1, 2018**: Report these targets to FHWA
 - **October 1, 2018**: Due date for CMAQ Performance Plan



System Performance – Due Dates

- BRTB
 - For Travel Time Reliability and Freight Reliability measures: Set 4-year targets
 - Adopt MDOT targets or set regional targets
 - For PHED, non-SOV travel, and emissions measures: Work with MDOT to set unified targets for urbanized area
 - **November 16, 2018**: Due date for targets



Measures/Targets – What's Next?

- MDOT will present statewide targets for performance measures to Technical Committee as targets are set
- BRTB will set measures/targets for *Maximize2045*
 - May 20, 2018 due date for highway system performance targets related to CMAQ program (Baltimore urbanized area)
 - annual hours of peak-hour excessive delay per capita
 - percent of non-SOV travel
 - total emissions reduction
 - November 16, 2018 due date for highway system condition and for remaining highway system performance targets



What's Next?

- What about measures beyond federal requirements that were in the 2015 plan?
 - % of roadway miles with sidewalks – also in 2011 Plan
 - Bicycle/walk-to-work mode share
 - Average weekday transit ridership (MTA/LOTS agencies) – also in 2011 Plan
- BRTB must incorporate measures/targets into any Transportation Improvement Program (TIP) adopted after May 2019

