

Update on Performance Measures and Targets – Status / Due Dates

**Technical Committee
September 5, 2017**



Performance-Based Approach

- Performance-based approach established in MAP-21; continued in FAST Act
- BRTB took a “hybrid” approach for 2015 Plan, depending on status of U.S. DOT regulations:
 - Followed published draft regs (highway system safety)
 - Anticipated other draft regs (highway system condition)
 - Used 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 vehicle miles traveled (VMT)
2. Fatalities per VMT
3. Number of serious injuries
4. **Number of fatalities – also in 2011 Plan**

System Safety – Transit

5. Preventable crashes per 100,000 vehicle miles

System Condition – Roadways

6. Percentage of roadway miles with acceptable ride quality
7. **Percentage 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. *Age of local bus fleets – also in 2011 Plan*

System Performance

9. Percentage of VMT in congested conditions on arterials
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. *Percentage of roadway miles with sidewalks – also in 2011 Plan*
13. Bicycle/walk-to-work mode share
14. *Average weekday transit ridership – 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
- Eventually incorporate measures and targets into the Transportation Improvement Program (TIP)



FTA – TAM Measures

- Four measures to assess condition:

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

**Transit Asset
Management –**
final rules released
October 1, 2016

* – 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

**National Public
Transportation
Safety Plan** – final
released January
2017

Need targets and due dates



FHWA – Performance Areas

1. Serious injuries per vehicle miles traveled (VMT)
2. Fatalities per VMT
3. Number of serious injuries
4. Number of fatalities

System Safety –
final rules released
March 15, 2016

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5. Pavement condition on the Interstate System
 6. Pavement condition on the non-Interstate NHS
 7. Bridge condition on the NHS

System Condition –
final rules released
May 20, 2017

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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 –
final rules released
May 20, 2017



System Safety Measures

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



System Safety Targets – Due Dates

- MDOT
 - Set 2014-2018 HSIP targets
 - **August 31, 2017**: Due date to submit to FHWA
- BRTB
 - Set 2014-2018 HSIP targets (either adopt state targets or set regional targets)
 - **February 27, 2018**: Due date for targets
- Repeat process for 2015-2019 targets



Pavement Condition Measures

- Four measures to assess pavement condition:
 1. Percentage of pavement on Interstate System in Good condition
 2. Percentage of pavement on Interstate System in Poor condition
 3. Percentage of pavement on NHS (excluding the Interstate System) in Good condition – state/local
 4. Percentage of pavement on NHS (excluding the Interstate System) in Poor condition – state/local



Bridge Condition Measures

- Two measures to assess bridge condition:
 1. Percentage of NHS bridges classified as in Good condition
 2. Percentage of NHS bridges 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 20, 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 (LOTTR)*:
 1. Percent of Person-Miles Traveled on Interstate System that are reliable (Interstate Travel Time Reliability measure)
 2. Percent 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. Percentage of Interstate System Mileage providing for Reliable Truck Travel Times (Truck Travel Time Reliability Index – TTTR)



System Performance Measures – CMAQ (Traffic Congestion)

- Two measures to assess traffic congestion:
 1. Annual Hours of Peak-Hour Excessive Delay Per Capita (PHED measure)
 2. Percent of Non-SOV (single-occupancy vehicle) Travel



System Performance – Due Dates

- MDOT
 - For Travel Time Reliability and Freight Reliability measures: Set 2-year and 4-year targets
 - For PHED and non-SOV travel measures: Set a single, unified target for entire urbanized area
 - **May 20, 2018**: Due date for first set of targets
 - **October 1, 2018**: Report targets to FHWA



System Performance – Due Dates

- BRTB
 - For Travel Time Reliability and Freight Reliability measures: Set 4-year targets
 - For PHED and non-SOV travel measures: Set a single, unified target for entire urbanized area
 - In both cases, either adopt MDOT targets or set regional targets
 - **November 20, 2018**: Due date for targets



System Performance Measures – Greenhouse Gases – **On Hold**

- One measure for Total Emissions Reduction of CO₂ :
 1. Percent Change in Tailpipe CO₂ Emissions on NHS from CY 2017
- FHWA has delayed indefinitely the effective date of the portions of the final rule pertaining to the greenhouse gas measure
- FHWA is preparing guidance on how to implement all rules pertaining to on-road mobile source emissions



What's Next?

- MDOT / SHA will present state highway safety targets to Technical Committee on October 3, 2017
- MDOT will present targets for other performance measures to Technical Committee as targets are set
- BRTB will set measures/targets for *Maximize2045: A Performance-Based Transportation Plan*
- BRTB eventually will incorporate measures/targets into the Transportation Improvement Program (TIP)

