

# **Update on Performance Measures and Targets – Status / Due Dates**

**Public Advisory Committee  
October 4, 2017**



**Baltimore Metropolitan Council**



# 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

**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. 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 and non-motorized serious injuries – pedestrian and bicycle



# System Safety Targets – Due Dates

- MDOT
  - Set 2014-2018 targets for Highway Safety Improvement Plan
  - **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 each year (e.g., for 2015-2019 targets)



# Pavement Condition 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



# Bridge Condition Measures

- 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 20, 2018**: Due date for targets

States can make adjustments during this period; MPO due date 180 days after final adjustment





# 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. % 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 (Traffic Congestion)

- 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 – CO<sub>2</sub> Emissions

- One measure for Total Emissions Reduction of CO<sub>2</sub>:
  1. Percent Change in Tailpipe CO<sub>2</sub> Emissions on NHS from CY 2017
- **Effective date – September 28, 2017**
- FHWA is preparing guidance on how to implement all rules pertaining to on-road mobile source emissions



# System Performance – Due Dates

- MDOT

- For Travel Time Reliability and Freight Reliability measures: Set 2- and 4-year statewide targets
- For PHED and non-SOV travel measures: Work with BRTB to set a single, unified target 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

States can make adjustments during this period; MPO due date 180 days after final adjustment



# 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 and non-SOV travel measures: Work with MDOT to set a single, unified target for urbanized area
  - **November 20, 2018**: Due date for targets (or 180 days after final MDOT adjustment)



# What's Next?

- MDOT will present targets for performance measures to Technical Committee as targets are set
- BRTB will set measures/targets for *Maximize2045: A Performance-Based Transportation Plan*
  - February 27, 2018 due date for MPO highway safety targets
  - November 20, 2018 due date for MPO highway system condition and highway system performance targets
- BRTB eventually will incorporate measures/targets into the Transportation Improvement Program (TIP)

