

OVERVIEW OF THE MAP-21 PERFORMANCE MEASURES

Eric Randall, TPB Transportation Engineer

TPB Technical Committee
June 3, 2016



Presentation Items

- Performance Provisions Rulemaking Schedule
- Metropolitan and Statewide Planning Rule
- Performance Measures Overview
 - Highway Safety
 - Highway Conditions: Pavement and Bridges
 - System Performance (NHS, Freight, CMAQ)
 - Transit
 - Safety
 - Asset Management



Rulemaking Schedule

	Planning Rules <i>USDOT Significant Rulemaking Report, as of May 2016</i>	Proposed Rulemaking	Final Rulemaking
Planning	<ul style="list-style-type: none"> Statewide and Metropolitan and Non-metropolitan Planning Rule 	June 2014	May 27, 2016
Highway Safety	<ul style="list-style-type: none"> Safety Performance Measure Rule Highway Safety Improvement Program (HSIP) 	March 2014	March 15, 2016
Highway Conditions	<ul style="list-style-type: none"> Pavement and Bridges Performance Measurement Asset Management Plan 	January/February 2015	November 2016
Congestion / System performance	<ul style="list-style-type: none"> System Performance Measures Rule (Congestion, Air Quality, and Freight) 	April 22, 2016	?
Transit	<ul style="list-style-type: none"> Transit Asset Management National Public Transportation Safety Plan Public Transportation Agency Safety Plan 	September 2015 (Transit Asset) February 5, 2016 (Transit Safety)	July 2016 (Transit Asset) September 2016 (Transit Safety)



Metropolitan and Statewide Planning Rule

On May 27, 2016, the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) jointly published a final rule on **Statewide and Nonmetropolitan Transportation Planning; Metropolitan Transportation Planning**.

- Updates federal surface transportation regulations with changes adopted in the Moving Ahead for Progress in the 21st Century Act (MAP-21) and the Fixing America's Surface Transportation (FAST) Act.
 - MPO board composition to include representation by providers of public transportation
 - Added two federal planning factors: a) improve resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts; and b) enhance travel and tourism
 - Add intermodal facilities and inclusion of intercity bus and commuter vanpool providers to planning process
 - Use of planning products in environmental review process



Performance Based Planning and Programming

“Transition to a performance-driven, outcome-based program that provides for a greater level of transparency and accountability, improved project decision-making, and more efficient investment of Federal transportation funds.”

- States, MPOs, and providers of public transportation must link investment priorities to the achievement of performance targets in:
 - Highway Safety
 - Highway Asset : Pavement and Bridge Condition
 - System Performance (National Highway System, Freight, CMAQ)
 - Transit Safety
 - Transit Asset



MPO Planning and Performance Target-Setting

- The Transportation Improvement Program (TIP) and the Metropolitan Transportation Plan (MTP) must consider programming of projects in each area and how they affect performance.
 - Describe progress toward achieving targets in each update
- MPO(s), the State(s), and the providers of public transportation must **jointly agree upon and document in writing** the coordinated processes for:
 - Collection of performance data (and describe the roles and responsibilities for the collection of data for the NHS)
 - Selection of performance targets for the metropolitan area
 - Reporting of metropolitan area targets
 - Reporting of actual system performance (related to those targets)



Calendar for Performance Actions

- | | |
|----------|---|
| May 2016 | Metropolitan and Statewide Planning Final Rule <ul style="list-style-type: none">• Two years to implement |
| Jul 2016 | Transit Asset Management Final Rule <ul style="list-style-type: none">• Transit agencies must set targets 90 days after final rule• MPOs set Transit Asset targets within 180 days |
| Sep 2016 | State DOTs submit initial System Performance (Highway, Freight, CMAQ) report |
| Aug 2017 | State DOTs submit Highway Safety (HSIP) reports, including targets <ul style="list-style-type: none">• MPOs set Highway Safety targets within 180 days |
| Feb 2018 | State DOTs submit Highway 2-year and 4-year targets <ul style="list-style-type: none">• MPOs set targets within 180 days |
| May 2018 | Metropolitan Transportation Plan and TIP requirements for performance measures, targets and projects |
| Sep 2018 | State DOTs submit baseline Highway Condition and System Performance reports <ul style="list-style-type: none">• MPOs submit report (implied that same time as DOTs) |



Highway Safety Performance Measures

Performance Measure	Description	Data Source
Number of Fatalities (5 year rolling average)	Total number of fatalities during a calendar year	FARS ¹
Rate of Fatalities per 100 million VMT (5 year rolling average)	Ratio of total fatalities to VMT	FARS and HPMS ² (or MPO estimate)
Number of Serious Injuries (5 year rolling average)	Total number of serious injuries during a calendar year	State reported serious injury data ³
Rate of Serious Injuries per 100 million VMT (5 year rolling average)	Ratio of total serious injuries to VMT	State reported serious injury data ³ and HPMS
Number of Non-Motorized Fatalities and Serious Injuries (5 year rolling average)	Total number of fatalities and serious injuries during a calendar year	FARS and State serious injury data ³

¹ FARS: Fatality Analysis Reporting System

² HPMS: Highway Performance Monitoring System

³ for the first 36 months – after that States must adopt the Model Minimum Uniform Crash Criteria (MMUCC) definition of serious injury



Highway Condition Performance Measures

Performance Measure	Data
(1) Percentage of pavements on the Interstate System in Good condition	<i>four metrics:</i> <ol style="list-style-type: none"> 1. IRI (International Roughness Index) 2. Cracking_Percent 3. Rutting (<i>asphalt only</i>) 4. Faulting (<i>jointed concrete only</i>)
(2) Percentage of pavements on the Interstate System in Poor condition	
(3) Percentage of pavements on the NHS (excl. Interstate System) in Good condition	
(4) a Percentage of pavements on the NHS (excl. Interstate System) in Poor condition.	
	<i>three types of pavements:</i> <ol style="list-style-type: none"> 1. Asphalt pavements 2. Continuously Reinforced Concrete Pavement (CRCP) 3. Jointed Concrete Pavements
(5) Percentage of NHS Bridges Classified as in Good Condition	<i>four condition ratings:</i> <ol style="list-style-type: none"> 1. Deck 2. Superstructure 3. Substructure 4. Culverts
(6) Percentage of NHS Bridges Classified as in Poor Condition	

- Pavement data submitted to Highway Performance Monitoring System (HPMS)
- Bridge ratings submitted to National Bridge Inventory (NBI)

System Performance Measures (Congestion, Air Quality, and Freight)

	Performance Measure	Data
Performance of the NHS	(1/2) Percent of the Interstate System / non-Interstate NHS providing for Reliable Travel Times	Level of Travel Time Reliability (LOTTR)
	(3/4) Percent of the Interstate System / non-Interstate NHS where Peak Hour Travel Times meet expectations	Peak Hour Travel Time Ratio (PHTTR)
Freight Movement	(5) Percent of the Interstate System Mileage providing for Reliable Truck Travel Times	Truck Travel Time Reliability (TTTR)
	(6) Percent of the Interstate System Mileage Uncongested	Average Truck Speed
CMAQ Traffic Congestion	(7) Annual Hours of Excessive Delay Per Capita	Total Excessive Delay
CMAQ On-Road Mobile Source Emissions	(8) 2- and 4-year Total Emission Reductions for each applicable criteria pollutant and precursor	Annual Tons of Emission Reductions by project for each applicable criteria pollutant and precursor



Transit Safety Performance Measures

	Performance Measure	Data
Fatalities	<ol style="list-style-type: none"> 1) Customer 2) Employee 3) Public 	total number of reportable fatalities and rate per total unlinked passenger trips by mode
Injuries	<ol style="list-style-type: none"> 1) Customer 2) Employee 3) Public 	total number of reportable injuries and rate per total unlinked passenger trips by mode
Safety Events	<ol style="list-style-type: none"> 1) Derailments 2) Collisions 3) Fires 4) Evacuations for life safety 	total number of reportable events and rate per total vehicle miles, by mode
System Reliability	<ol style="list-style-type: none"> 1) Major Mechanical System Failures 2) Other Mechanical System Failures 	mean distance between failures by mode



Transit Asset Performance Measures

	Performance Measure	Assets
Rolling stock (Age)	Percentage of revenue vehicles within a particular asset class that have met or exceeded useful life benchmark ULB.	40 foot bus, 60 foot bus, vans, cutaways, locomotives, rail vehicles
Equipment - (non-revenue) service vehicles (Age)	Percentage of vehicles that have met or exceeded their useful life benchmark (ULB).	Cranes, prime movers, vehicle lifts, tow trucks
Infrastructure-rail fixed-guideway track, signals, and systems (Condition)	The percentage of track segments, signal, and systems with performance restrictions.	Signal or relay house, interlockings, catenary, mechanical, electrical and IT systems
Stations/ Facilities (Condition)	The percentage of facilities within an asset class, rated below condition 3 on the TERM scale.	Maintenance, Administration, Depots, Terminals, Parking Garages



Eric Randall

TPB Transportation Engineer

(202) 962-3254

erandall@mwkog.org

mwkog.org/tpb

Metropolitan Washington Council of Governments

777 North Capitol Street NE, Suite 300

Washington, DC 20002



National Capital Region
Transportation Planning Board