

ITEM 12 – Information
January 18, 2017
Performance Based Planning and Programming

Staff

Recommendation: Briefing

Issues: None

Background: The board will be briefed on the federal requirements for Performance Based Planning and Programming, the first in a series of presentations to inform the board of the new federal requirements.



MEMORANDUM

TO: Transportation Planning Board
FROM: Kanti Srikanth, TPB Staff Director,
Eric Randall, TPB Transportation Engineer
SUBJECT: Overview of Federal Requirements for Performance Based Planning and Programming
DATE: January 11, 2017

Under the Moving Ahead for Progress in the 21st Century Act (MAP-21) and reinforced in the Fixing America's Surface Transportation (FAST) Act, federal surface transportation regulations require the implementation of performance management requirements through which States and metropolitan planning organizations (MPOs) will "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."

The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) have been gradually issuing a set of rulemakings, initially proposed and subsequently final, for the implementation of this performance based planning and programming (PBPP) process. Each rulemaking lays out the goals of performance for a particular area of transportation, establishes the measures for evaluating performance, specifies the data to be used to calculate the measures, and then sets requirements for the setting of targets.

FEDERAL TRANSPORTATION PERFORMANCE REQUIREMENTS

Over the next 18 months, the TPB will be required to take action on setting targets for a variety of prescribed performance measures. Under the PBPP process, States, MPOs, and providers of public transportation must link investment priorities to the achievement of performance targets in the following areas. Table 1 lists the federally prescribed performance measures to be used to set targets and monitoring and reporting.

1. Highway Safety
2. Highway Assets: Pavement and Bridge Condition
3. System Performance (Interstate and National Highway System, Freight Movement on the Interstate System, and the Congestion Mitigation and Air Quality Improvement Program)
4. Transit Safety and Transit Asset Condition

The final Statewide and Metropolitan Planning Rule, published May 27, 2016, provides direction and guidance on requirements for implementation of PBPP, including specified measures and data sources, forecasting performance, target-setting, documentation in the statewide and metropolitan long-range transportation plans and Transportation Improvement Programs (TIPs), and reporting requirements.

States will typically measure performance and set targets on a statewide basis, and providers of public transportation will measure performance and set targets for their transit system. Depending upon the area of performance, targets may be set annually, biennially, or every four years. States

and providers of public transportation must also develop supporting strategic plans for monitoring and improving performance in order to achieve their selected targets. In addition to quantitative targets, periodic narrative reports on performance will also be required. Target-setting is intended to be based on an agency's strategic plan and science-based methodology for forecasting performance based on measured trends and the funding available and programmed for projects that will affect performance.

The MPO is responsible for agglomerating this information to calculate measures and set targets for the metropolitan planning area as appropriate. MPOs have up to 180 days to adopt targets following the targets being set by State DOTs or providers of public transportation. MPOs must coordinate with the State DOTs and providers of public transportation in setting the metropolitan area targets, which should be based on the strategic plans and funded projects of the cognizant agencies.

TPB staff has begun discussions and collaborating with DDOT, MDOT, and VDOT, as well as with WMATA and other providers of public transportation, on the process for measuring metropolitan planning data and the methodology that will be used to forecast performance for the purposes of target-setting.

The planning regulations add that MPOs, State DOTs, other road agencies, and the providers of public transportation must jointly agree upon and document in writing the coordinated performance management 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).

NEXT STEPS

In coming months, the board will receive detailed briefings on the various areas of PBPP as State DOTs, transit providers, and MPOs prepare to report on measured performance and set targets for future performance.

The following table shows the extent of the performance measures and the current dates for initially setting targets by the cognizant agencies.

TABLE 1: PERFORMANCE BASED PLANNING AND PROGRAMMING PERFORMANCE MEASURES

Table of entire list of Performance Measures

PBPP Areas	Agencies	DOT / Providers set Targets	MPO sets Targets
1. Planning Rules			
Agreement on sharing Data, selecting Targets, and Reporting Progress	DOTs, MPOs, Providers	6/27/2018	6/27/2018
Date of conforming CLRP and TIP	MPOs	6/27/2018	6/27/2018
Date of implementation of MPO Coordination Rule	MPOs	2024	2024
2. Highway Safety (5 measures)			
Number of Fatalities	DOTs, MPOs	8/31/2017	2/27/2018
Rate of Fatalities per 100 million VMT	DOTs, MPOs	8/31/2017	2/27/2018
Number of Serious Injuries	DOTs, MPOs	8/31/2017	2/27/2018
Rate of Serious Injuries per 100 million VMT	DOTs, MPOs	8/31/2017	2/27/2018
Number of Non-Motorized Fatalities and Serious Injuries	DOTs, MPOs	8/31/2017	2/27/2018
3. Highway Asset Condition (6 measures)			
<u>Interstate system</u> : Percentage of pavement in Good condition	DOTs, MPOs	2/11/2018	8/10/2018
<u>Interstate system</u> : Percentage of pavement in Poor condition	DOTs, MPOs	2/11/2018	8/10/2018
<u>NHS (non-Interstate)</u> : Percentage of pavement in Good condition	DOTs, MPOs, NHS Owners	2/11/2018	8/10/2018
<u>NHS (non-Interstate)</u> : Percentage of pavement in Poor condition	DOTs, MPOs, NHS Owners	2/11/2018	8/10/2018
<u>NHS</u> : Percentage of Bridges in Good Condition	DOTs, MPOs, NHS Owners	2/11/2018	8/10/2018
<u>NHS</u> : Percentage of Bridges in Poor Condition	DOTs, MPOs, NHS Owners	2/11/2018	8/10/2018
4. System Performance Measures: Highway (3 measures)			
<u>Interstate system</u> : Percentage of Person-Miles Traveled that are Reliable	DOTs, MPOs	2/11/2018	8/10/2018
<u>NHS (non-Interstate)</u> : Percentage of Person-Miles Traveled that are Reliable	DOTs, MPOs	2/11/2018	8/10/2018
<u>NHS</u> : Percent Change in Tailpipe CO2 Emissions	DOTs, MPOs	2/11/2018	8/10/2018
5. System Performance Measures: Freight Movement (1 measure)			
<u>Interstate system</u> : Percentage of Mileage providing for Reliable Truck Travel Times	DOTs, MPOs	2/11/2018	8/10/2018
6. System Performance Measures: Congestion Mitigation and Air Quality Program (3 measures)			
<u>NHS</u> : Annual Hours of Peak Hour Excessive Delay Per Capita	DOTs, MPOs	2/11/2018	8/10/2018
<u>NHS</u> : Percentage of Non- SOV Travel	DOTs, MPOs	2/11/2018	8/10/2018
<u>CMAQ Program Emissions</u> : Total Emission Reductions for each applicable criteria pollutant and precursor	DOTs, MPOs	2/11/2018	8/10/2018
7. Transit Asset Management (4 measures)			
<u>Rolling stock (Age)</u> : Percentage of revenue vehicles that have met or exceeded useful life	Providers, MPOs	1/1/2017	6/30/2017
<u>Equipment (non-revenue) service vehicles (Age)</u> : Percentage of vehicles that have met or exceeded useful life	Providers, MPOs	1/1/2017	6/30/2017
<u>Rail fixed-guideway (Condition)</u> : percentage of track segments, signal, and systems with performance restrictions	Providers, MPOs	1/1/2017	6/30/2017
<u>Stations/ Facilities (Condition)</u> : The percentage rated below condition 3 on the TERM scale.	Providers, MPOs	1/1/2017	6/30/2017
8. Transit Safety (4 measures) Proposed			
<u>Fatalities</u> : total number of reportable fatalities and rate	Providers, MPOs	TBD	TBD
<u>Injuries</u> : total number of reportable injuries and rate	Providers, MPOs	TBD	TBD
<u>Safety Events</u> : total number of reportable Derailments, Collisions, Fires, and Evacuations and rate	Providers, MPOs	TBD	TBD
<u>System Reliability</u> : mean distance between Major and Other Mechanical System Failures	Providers, MPOs	TBD	TBD



FEDERAL-REQUIREMENTS FOR PERFORMANCE BASED PLANNING & PROGRAMMING

An Overview

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Transportation Planning Board
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PBPP – Briefing Topics

- What Is It
- Why This Approach
- What is Involved
- Performance Goals – Overview
- Performance Process
- Performance Measures



What is Performance Based Planning and Programming (PBPP)

- Application of performance management within the planning and programming process to achieve desired performance outcomes for the multimodal transportation system.
- Includes a range of activities and products.
 - Development of long range transportation plans (e.g., CLRP)
 - Federally-required plans and processes -- such as Strategic Highway Safety Plans (SHSPs), Asset Management Plans, the Congestion Management Process (CMP), Transit Agency Asset Management Plans, and Transit Agency Safety Plans
 - Programming documents, including State and metropolitan Transportation Improvement Programs (STIPs and TIPs)
 - Other plans



Why a PBPP approach

- **Federally required** for MPOs and DOTs – MAP-21 and FAST Acts
- Improved Outcomes
 - Improved investment decision-making
 - Improved return on investments and resource allocation
 - Improved system performance
 - Increased accountability and transparency
- Demonstrates link between funding and performance
- Common themes within a PBPP Process:
 - Cooperation and coordination
 - Data and tools
 - Linkages across performance-based planning activities
 - Feedback mechanisms
 - Public and stakeholder involvement



What is Involved in PBPP



Federally Prescribed Goals

	GOAL AREAS	NATIONAL GOALS
1	SAFETY	Achieve significant reduction in traffic fatalities and serious injuries on all public roads
2	INFRASTRUCTURE CONDITION	Maintain highway system in a state of good repair
3	CONGESTION REDUCTION	Achieve significant reduction in congestion on the National Highway System
4	SYSTEM RELIABILITY	Improve efficiency of surface transportation system
5	FREIGHT MOVEMENT AND ECONOMIC VITALITY	Improve Freight Network; Support regional economic development; Rural communities access to national and international markets
6	ENVIRONMENTAL SUSTAINABILITY	Enhanced transportation system performance while protecting and enhancing natural environment
7	REDUCED PROJECT DELIVERY DELAYS	Elimination of delays on project development and delivery



Federally Prescribed Performance Measures

	GOAL AREAS	PERFORMANCE MEASURES
1	SAFETY	<ul style="list-style-type: none"> • Highway – Traffic Fatalities and Serious Injuries • Transit – Fatalities and Injuries; Derailments; Collisions; Fires; Evacuations for life safety
2	INFRASTRUCTURE (ASSET) CONDITION	<ul style="list-style-type: none"> • Highway – Pavement and Bridges • Transit – Revenue vehicles, Non revenue equipment, Track infrastructure, and Facilities/Stations
3	CONGESTION REDUCTION	<ul style="list-style-type: none"> • Highway – Excessive Delay per capita – Percent non-SOV travel
4	SYSTEM RELIABILITY	<ul style="list-style-type: none"> • Highway – Reliable Travel Times • Transit – Major / Other Mechanical System Failures
5	FREIGHT MOVEMENT AND ECONOMIC VITALITY	<ul style="list-style-type: none"> • Highway – Reliable Truck Travel Times
6	ENVIRONMENTAL SUSTAINABILITY	<ul style="list-style-type: none"> • Highway – Percent Change in Tailpipe CO2 Emissions, CMAQ Program Emissions Reduced



The PBPP process

- The TPB must work with State DOTs, providers of public transportation, and other implementing agencies to:
 - Collect transportation performance data
 - Determine current performance and forecast future performance
 - Using science-based methodology and taking into account funding availability and transportation priorities
 - Set performance targets
 - One, two, and/or four years, depending on the area and measure
 - Submit reports on performance and incorporate into strategic plans, long-range transportation plans and STIPs/TIPs.
- Achievement of performance targets
 - Federal funding is not tied to performance or target achievement. (Two exceptions: state safety and state highway preservation funds may have to be reallocated if certain levels or targets are not met.)



Highway Safety Performance Measures

	Performance Measures	Description
1	Number of Fatalities <i>(5 year rolling average)</i>	Total number of fatalities during a calendar year
2	Rate of Fatalities per 100 million VMT <i>(5 year rolling average)</i>	Ratio of total fatalities to VMT
3	Number of Serious Injuries <i>(5 year rolling average)</i>	Total number of serious injuries during a calendar year
4	Rate of Serious Injuries per 100 million VMT <i>(5 year rolling average)</i>	Ratio of total serious injuries to VMT
5	Number of Non-Motorized Fatalities and Serious Injuries <i>(5 year rolling average)</i>	Total number of fatalities and serious injuries during a calendar year

- Implementing Agency (State DOT) – set Targets in August 2017
- TPB (MPO) – set Targets by February 2018



Transit Safety Performance Measures (*Proposed*)

	Performance Measures	Description
Fatalities	a) Customer b) Employee c) Public	total number of reportable fatalities and rate per total unlinked passenger trips by mode
Injuries	a) Customer b) Employee c) Public	total number of reportable injuries and rate per total unlinked passenger trips by mode
Safety Events	a) Derailments b) Collisions c) Fires d) Evacuations for life safety	total number of reportable events and rate per total vehicle miles, by mode
System Reliability	a) Major Mechanical System Failures b) Other Mechanical System Failures	mean distance between failures by mode

- Implementing Agency (Transit Providers) – set Targets TBD
- TPB (MPO) – set Targets within 180 days following



Infrastructure (Asset) Condition - Pavement and Bridges

	Performance Measures
Pavement Condition	(1) Percentage of pavements on the Interstate System in Good condition
	(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) Percentage of pavements on the NHS (excl. Interstate System) in Poor condition.
Bridge Condition	(5) Percentage of NHS Bridges Classified as in Good Condition
	(6) Percentage of NHS Bridges Classified as in Poor Condition

- Implementing Agency (State DOT, NHS Owners) – set Targets by February 11, 2018
- TPB (MPO) – set Targets by August 10, 2018



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 ULB.	Cranes, prime movers, vehicle lifts, tow trucks
Infrastructure - rail track, signals, and systems (Condition)	The percentage of track segments, signal, and systems with performance restrictions.	Signals, interlockings, catenary, mechanical, electrical and IT systems
Stations/ Facilities (Condition)	The percentage of facilities, within an asset class, rated below 3 on the TERM scale.	Maintenance, Admin, Depots, Terminals, Parking Garages

- Implementing Agency (Transit Providers) – set Targets by January 1, 2017
- TPB (MPO) – set Targets by June 2017 (within 180 days)



System Performance: Highway and Freight

	Performance Measures
Highway	(1) Percent of the Interstate System providing for Reliable Travel Times
	(2) Percent of the NHS (non-Interstate) providing for Reliable Travel Times
	(3) Percent Change in Tailpipe CO2 Emissions on the NHS

	Performance Measures
Freight Movement	(4) Percent of the Interstate System Mileage providing for Reliable Truck Travel Times

- Implementing Agency (State DOT) – set Targets by February 11, 2018
- TPB (MPO) – set Targets by August 10, 2018



System Performance: CMAQ Program (Congestion Mitigation and Air Quality)

	Performance Measures
CMAQ Program: Traffic Congestion	(5) Annual Hours of Excessive Delay Per Capita
	(6) Percent of non-SOV Travel on the NHS
CMAQ Program: Emissions Reduction	(7) CMAQ-funded projects on-road mobile source Total Emission Reductions for each applicable criteria pollutant and precursor

- Implementing Agency (State DOT) – set Targets by February 11, 2018
- TPB (MPO) – set Targets by August 10, 2018



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