



Memo

To: IRTC Committees
From: Jennifer Dunn
Date: 7/20/2018
Re: PM-2 (Pavement and Bridge Condition) and PM-3 (System Performance) Measures and Targets

This memorandum presents the Pavement and Bridge Condition Performance Measures (PM-2) and the System Performance/Freight/CMAQ Performance Measures (PM-3) and their respective Targets.

Pavement and Bridge Performance Measures (PM-2)

The National Performance Management Measures; Assessing Pavement Condition for the National Highway Performance Program and Bridge Condition for the National Highway Performance Program [Final Rule](#) addresses requirements established by the Moving Ahead for Progress in the 21st Century Act (MAP-21) and reflects passage of the Fixing America’s Surface Transportation (FAST) Act. The rule is effective May 20, 2017.

Performance Measures	
✓	% of Interstate pavements in Good condition
✓	% of Interstate pavements in Poor condition
✓	% of non-Interstate NHS pavements in Good condition
✓	% of non-Interstate NHS pavements in Poor condition

Good Condition: Suggests no major investment is needed.

Poor Condition: Suggests major reconstruction is needed.

Target Setting

State DOTs:

- Must establish targets, regardless of ownership, for the full extent of the Interstate and non-Interstate NHS.
- Must establish statewide 2- and 4-year targets for the non-Interstate NHS and 4-year targets for the Interstate by May 20, 2018, and report by October 1, 2018
- May adjust targets at the Mid Performance Period Progress Report (October 1, 2020).

MPOs:

- Support the relevant State DOT(s) 4- year target or establish their own by 180 days after the State DOT(s) target is established (11/16/2018)

Staff Recommendations

Indianapolis MPO staff recommends supporting the INDOT targets for pavement and bridges. Statewide pavement and bridge data is presented in the tables below. The INDOT targets are realistic and conservative and INDOT feels they have a high probability of meeting these targets. The numbers are based on INDOT's current planned projects and use their model to consider degradation and weather factors.

INDOT Pavement Targets (numbers in red are the targets that require approval)

Overall Rating Interstates

Rating	Miles	2017 (Baseline)	2019 (2 Yr Target)	2021 (4 Yr Target)
Good	2739.882	99.20%	99.20%	99.20%
Poor	22.038	0.80%	0.80%	0.80%
Not Rated	260.294			

Overall Rating Non-Interstate NHS

Rating	Miles	2017(Baseline)	2019 (2 Yr Target)	2021 (4 Yr Target)
Good	4743.037	96.90%	96.90%	96.90%
Poor	151.618	3.10%	3.10%	3.10%
Not Rated	197.227			

INDOT Bridge Targets (numbers in red are the targets that require approval)

FHWA Condition by Deck Area

Condition	Sum of Deck Area (meters)	2017 (Baseline)	2019 (2 Yr Target)	2021 (4 Yr Target)
Good	42,549,731.10	97.37%	97.37%	97.37%
Poor	1,149,523.02	2.63%	2.63%	2.63%
Grand Total	43,699,254.11	100.00%		

System Performance/Freight/CMAQ Performance Measures (PM-3)

National Performance Management Measures; Assessing Performance of the National Highway System, Freight Movement on the Interstate System, and Congestion Mitigation and Air Quality Improvement Program [Final Rule](#) is the third and last in a series on Three related rulemakings that together establishes a set of performance measures for State DOTs and MPOs to use as required by the Moving Ahead for Progress in the 21st century Act (MAP-21) and the Fixing America's Surface Transportation (FAST) Act.

These measures are used to assess the performance of the Interstate and non-Interstate National Highway System (NHS) for the purpose of carrying out the National Highway Performance Program (NHPP); to assess freight movement on the Interstate System; and to assess traffic congestion and on-road mobile source emissions for the purpose of carrying out the Congestion Mitigation and Air Quality Improvement (CMAQ) Program.

PM-3 Contains 6 Measures

#1 and #2. Level of Travel Time Reliability on the Interstate System (#1) and Level of Travel Time Reliability on the non-Interstate NHS (#2)

- State DOTs must establish 2- and 4- year targets for the Interstate, but only a 4-year target for the non-Interstate NHS, by May 20, 2018. Those targets will be reported in the State's baseline performance period report due by October 1, 2018.
- The State DOTs have the option to adjust 4-year targets in their mid performance period progress report, due October 1, 2020.
- For the first performance period only, there is no requirement for States to report baseline condition/performance or 2-year targets for the non-Interstate NHS before the mid performance period progress report. This will allow State DOTs to consider more complete data. The process will align for both Interstate and non-Interstate measures with the beginning of the second performance period on January 1, 2022.
- MPOs must either support the State target or establish their own quantifiable 4- year targets within 180 days of the State target establishment.
- Calculated using FHWA's National Performance Management Research Data Set (NPMRDS)

#3. Truck Travel Time Reliability on the Interstate System

- State DOTs must establish 2- and 4-year targets by May 20, 2018.

- Those targets will be reported in the State’s baseline performance period report due by October 1, 2018.
- The State DOTs have the option to adjust 4-year targets in their mid performance period progress report, due October 1, 2020.
- MPOs must either support the State target or establish their own quantifiable 4- year targets within 180 days of the State target establishment.
- Calculated using FHWA’s National Performance Management Research Data Set (NPMRDS)

#4. Peak Hour Excessive Delay (PHED) for the NHS

- Applicable State DOTs and MPOs collectively establish a single target for each applicable urbanized area for the first performance period by May 20, 2018.
- As part of a phased implementation approach, only 4-year targets will be reported in the State’s baseline performance period report due by October 1, 2018.
- There is no requirement for States to report 2-year targets or baseline condition for this specific measure in that report for the first performance period. With the first mid performance period progress report, due October 1, 2020, 4-year targets may be adjusted, and 2-year condition/performance will be reported as baselines.
- Calculated using FHWA’s National Performance Management Research Data Set (NPMRDS)

#5. Non-Single Occupancy Vehicle (SOV) Travel

- Only applies to specific urbanized areas (including Indianapolis)
- Applicable State DOTs and MPOs must collectively establish a single, unified 2-year and 4-year targets for each applicable urbanized area for the first performance period by May 20, 2018
- Calculated using American Community Survey (ACS) Commuting (Journey to Work) data from the U.S. Census Bureau

#6. On Road Mobile Source Emissions (CMAQ Project Emissions Reduction)

- State DOTs whose geographic boundaries include any part of a nonattainment or maintenance area for ozone, carbon monoxide, or particulate matter will establish separate targets for each of these applicable criteria pollutants and precursors.
- MPOs must either support the State target or establish their own quantifiable targets within 180 days of the State target establishment. MPOs with a population more than 1 million population and with designated nonattainment and maintenance areas must develop both 2-year and 4-year quantifiable targets.
- The Indianapolis MPO must establish 2 and 4 year targets for carbon monoxide
- Calculated using CO emissions benefits from approved CMAQ projects

Separate and Unified Targets

For measures 1,2,3, and 6 we can either support INDOT’s targets or we can establish our own by 11/16/2018. For measure #4 and #5 we need to have single unified targets in agreement with INDOT. Indianapolis MPO staff member served on committees with INDOT staff to come up with the unified targets.

Staff recommendations

Indianapolis MPO staff recommends supporting the INDOT targets for the PM-3 Statewide Travel Time Reliability measures (#1,2,3). The data and targets are presented in the table below.

For Peak hour excessive delay (#4), Non-Single Occupancy Vehicle (#5), and On Road Mobile Source Emissions (#6) Indianapolis MPO staff served on committees with INDOT staff to calculate and agree upon single unified targets. This data and targets are presented in the table below.

These targets are realistic and conservative and INDOT, along with Indianapolis MPO staff, feel we have a high probability of meeting these targets.

INDOT and Indianapolis MPO PM-3 Targets ((numbers in red are the targets that require approval)

PM-3 Performance Measures	Measure Units	2017 Baseline Performance	INDOT-MPO Target Relationship	2-Year Target (2018-2019)	4-Year Target (2018-2021)
#1: Level of Travel Time Reliability (LOTTR) for Interstates - Statewide	% of person-miles reliable	93.90%	Unified or Separate	90.50%	92.80%
#2: LOTTR for Non-Interstate NHS - Statewide	% of person-miles reliable	91.90%	Unified or Separate	N/A	89.80%
#3: Truck Travel Time Reliability (TTTR) for Interstates - Statewide	TTTR Index	1.23	Unified or Separate	1.27	1.24
#4: Peak Hour Excessive Delay (PHED) for NHS - Indianapolis Urbanized Area	Annual hour of PHED per capita	10.13	Unified	N/A	5.73
#5: Non-Single Occupancy Vehicle (SOV) Travel - Indianapolis Urbanized Area	% of non-SOV travel	16.30%	Unified	16.30%	16.30%

PM-3 CMAQ Performance Measures	Measure Units	2018 Base Year Forecast	2-Yr Forecast	4 Yr Forecast	INDOT-MPO Target Relationship	2-Yr Target (2018-2019)	4-Yr Target (2018-2021)
#6: CMAQ Project Emissions Reduction - Statewide for CO	Emissions reduction (kg)	14.63	199.8	383.24	Unified or Separate	200.00	400.00
#6: CMAQ Project Emissions Reduction - Indianapolis MPO for CO	Emissions reduction (kg)	3.88	197.96	379.62	Unified	150.00	350.00