
CIPGA Brown Bag Presentation

**Performance Management:
What are the Feds asking for?**

Dave Kuhn: Overview

Why Are We Doing Performance Management?

- Provide the **most efficient investment** of Federal transportation funds
- Refocus on **national transportation goals**
- Increase **accountability and transparency**
- **Improve decision-making** through performance-based planning and programming

National Performance Goals

- Safety** - To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.
- Infrastructure Condition** - To maintain the highway infrastructure asset system in a state of good repair.
- Congestion Reduction** - To achieve a significant reduction in congestion on the National Highway System.
- System Reliability** - To improve the efficiency of the surface transportation system.
- Freight Movement and Economic Vitality** - To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.



National Performance Goals

- Environmental Sustainability** - To enhance the performance of the transportation system while protecting and enhancing the natural environment.
- Reduced Project Delivery Delays** - To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices

<https://www.fhwa.dot.gov/tpm/about/goals.cfm>



FHWA TPM Rulemaking: Status

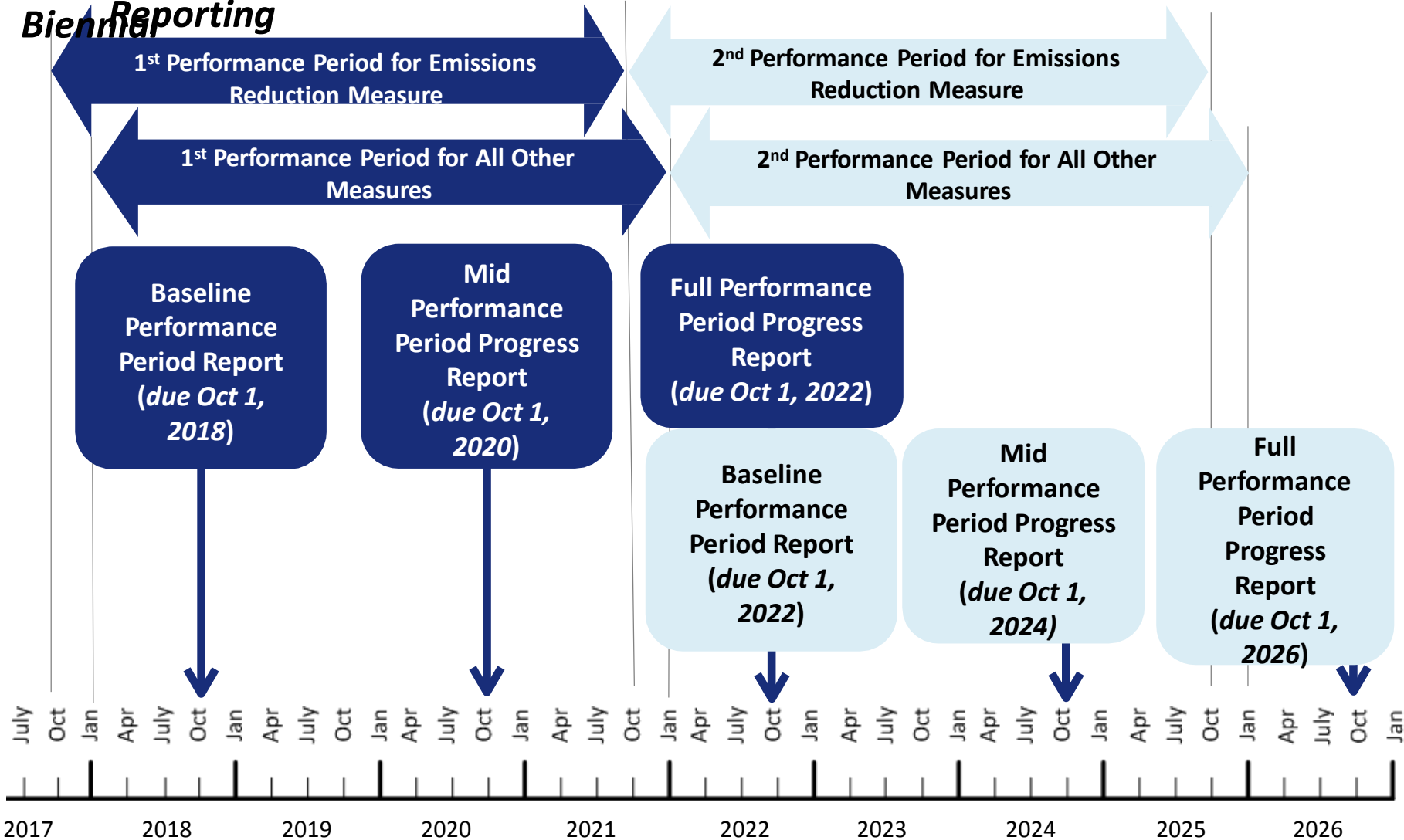
TPM Related Rules	Final Rule Published	Rule Effective Date
Safety Performance Measures	March 15, 2016	April 14, 2016
Highway Safety Improvement Program	March 15, 2016	April 14, 2016
Statewide and Non-Metropolitan Planning; Metropolitan Planning	May 27, 2016	June 27, 2016
Highway Asset Management Plans for NHS	October 24, 2016	October 2, 2017
Pavement and Bridge Condition Measures	January 18, 2017	May 20, 2017
Performance of the NHS, Freight, and CMAQ Measures	January 18, 2017	May 20, 2017*

* Except for portions of the rule related to the percent change in CO2 emissions from 2017 (GHG measure). Those portions are delayed and FHWA will be publishing an NPRM in the Federal Register pertaining to this measure.





§ 490.105 & 490.107 Timeline for Performance Periods and State DOT Biennial Reporting



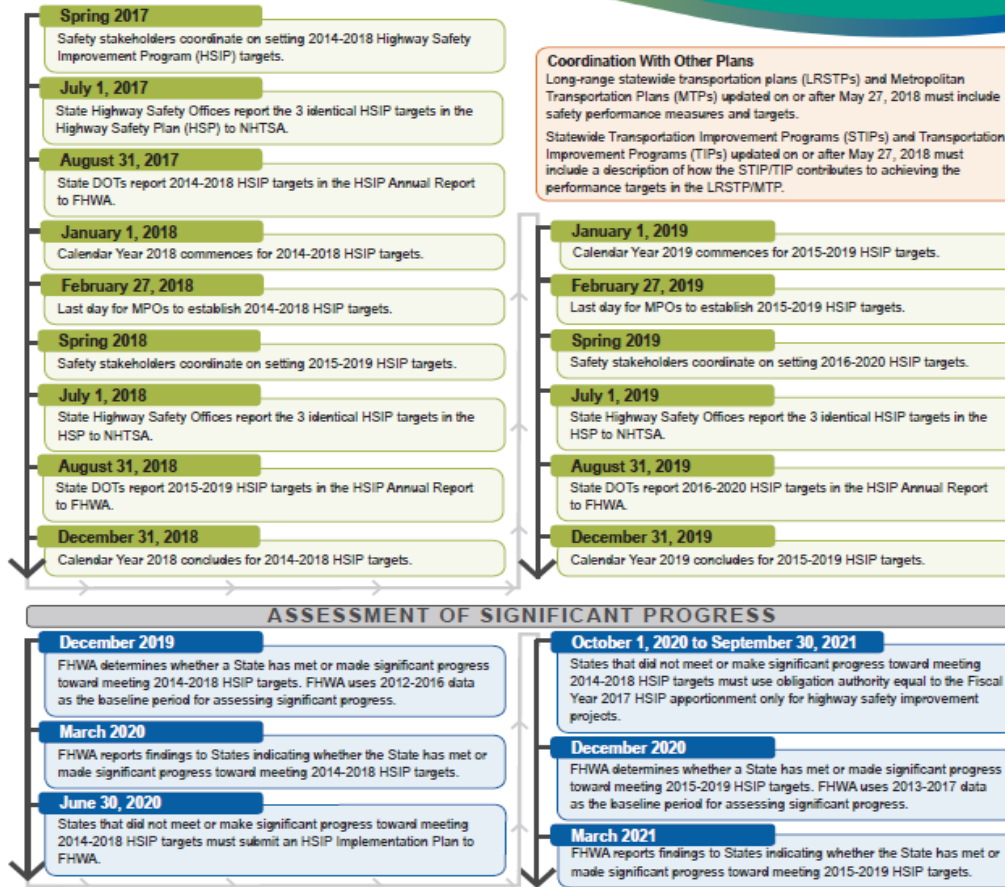
Sophia Azam: Safety

Safety Target Setting

USDOT issued final rulemakings in March 2016 on Safety Performance Management (Safety PM) and the Highway Safety Improvement Program (HSIP). The Safety PM rule detailed the requirements for safety target setting. Annual safety targets are required for five performance measures, expressed as a five-year rolling average, and applicable to all public roads:


1. Number of fatalities.
2. Rate of fatalities per 100 million vehicle miles traveled (VMT).
3. Number of serious injuries.
4. Rate of serious injuries per 100 million VMT.
5. Number of nonmotorized fatalities and nonmotorized serious injuries.

2018–2019 HSIP SAFETY PERFORMANCE TARGETS TIMELINE



NJ'S Safety Target Setting

Five Performance Measures	
✓	Number of Fatalities
✓	Rate of Fatalities
✓	Number of Serious Injuries
✓	Rate of Serious Injuries per Million VMT
✓	Number of Non-Motorized and Non-motorist Injuries


State of New Jersey
 DEPARTMENT OF TRANSPORTATION
 P.O. Box 600
 Trenton, New Jersey 08625-0600

CHRIS CHRISTIE
 Governor
 KIM GUADAGNO
 Lt. Governor

May 3, 2017

Robert Clark, Division Administrator
 Federal Highway Administration, New Jersey Division
 840 Bear Tavern Road, Suite 202
 West Trenton, NJ 08628

Dear Mr. Clark:

I am pleased to provide New Jersey's 2018 Safety Performance Targets required to be reported for the Highway Safety Improvement Program. The New Jersey Department of Transportation (NJDOT) intends to include these targets in New Jersey's Annual Safety Report this year. These targets were established after careful consideration of previous trends, recently built projects and the current socioeconomic environment.

To satisfy 23 CFR 924.15(a)(1)(ii)(B) requirements, the following are the targets set by New Jersey Department of Transportation for 2018 Safety Performance Measures:


PERFORMANCE MEASURE	TARGET	2014-2018 5 YEAR ROLLING AVERAGE	BASELINE 5 YEAR ROLLING AVERAGE	2012-2016 5 YEAR ROLLING AVERAGE
NUMBER OF FATALITIES	565.0			571.0
FATALITY RATE	0.778			0.762
NUMBER OF SERIOUS INJURIES	1,105.0			1,191.0
SERIOUS INJURY RATE	1.467			1.516
NUMBER OF NON-MOTORIZED FATALITIES AND SERIOUS INJURIES	385.5			390.3

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RICHARD T. HAMMER
 Commissioner

NJDOT's target setting process included coordination with NJ's three metropolitan planning organizations, FHWA's NJ Division Office Safety Engineer along with NJ's Division of Highway Traffic Safety to ensure a consistent approach for target setting. The identified targets reflect coordination and collaboration with NJ's Governor's Highway Safety Representative. The selected targets for number of fatalities, fatality rates, and number of serious injuries are consistent with the targets which will be reported in NJ's Highway Safety Plan by the Division of Highway Traffic Safety.

If you have any questions, please contact my office.

Sincerely,

 Richard T. Hammer
 Commissioner

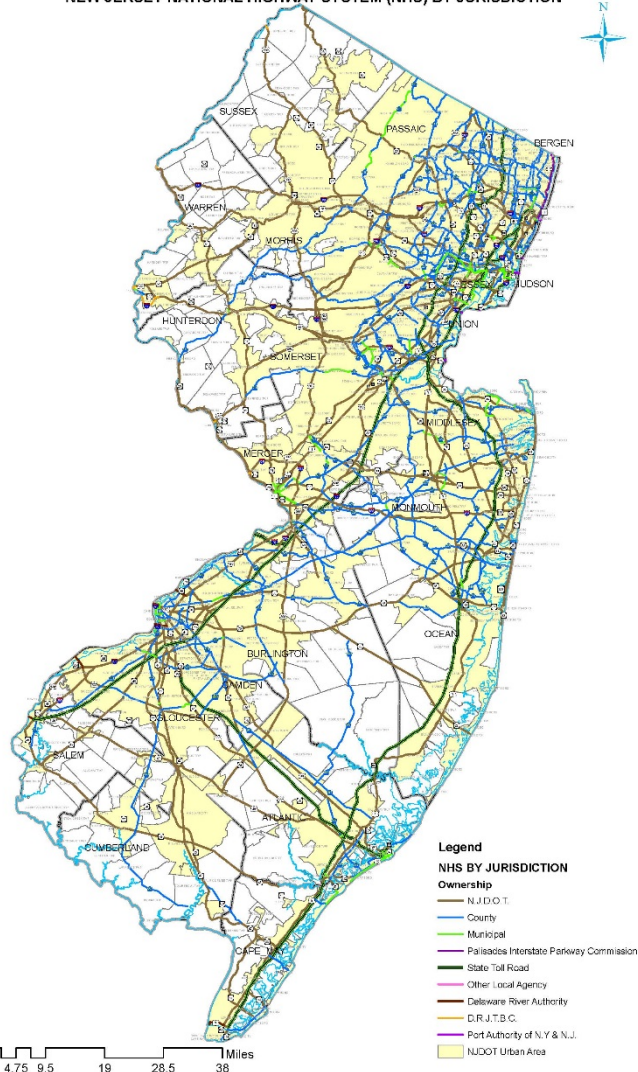


Danielle Graves: Infrastructure

***National Performance Management
Measures: Pavement and Bridge Condition to
Assess the National Highway Performance
Program***



NEW JERSEY NATIONAL HIGHWAY SYSTEM (NHS) BY JURISDICTION



NHS in New Jersey

New Jersey NHS Mileage by Jurisdiction 2015

County	Total County NHS Mileage	JURISDICTION										
		Municipal	County	NJ Turnpike Authority	South Jersey Transportation Authority	NJDOT	Port Authority NJ/NY	Burlington County Bridge Commission	Delaware River Port Authority	Delaware River Joint Toll Bridge Commission	Delaware River and Bay Authority	Palisades Interstate Parkway Commission
Atlantic	166.43	5.970	19.330	21.180	34.460	85.490	0.000	0.000	0.000	0.000	0.000	0.000
Bergen	293.31	4.660	143.375	27.370	0.000	105.135	1.290	0.000	0.000	0.000	0.000	11.480
Burlington	230.381	0.260	44.821	36.610	0.000	147.760	0.000	0.930	0.000	0.000	0.000	0.000
Camden	181.971	3.160	51.501	8.870	13.600	99.530	0.000	0.000	5.310	0.000	0.000	0.000
Cape May	60.09	3.050	8.430	27.770	0.000	18.010	0.000	0.000	0.000	0.000	2.830	0.000
Cumberland	46.15	0.000	5.630	0.000	0.000	40.520	0.000	0.000	0.000	0.000	0.000	0.000
Essex	168.539	23.339	69.055	19.350	0.000	56.795	0.000	0.000	0.000	0.000	0.000	0.000
Gloucester	137.368	4.370	17.288	16.710	1.090	95.690	0.000	0.000	2.220	0.000	0.000	0.000
Hudson	84.79	5.790	24.645	17.370	0.000	33.475	3.510	0.000	0.000	0.000	0.000	0.000
Hunterdon	71.15	0.000	0.000	0.000	0.000	70.800	0.000	0.000	0.000	0.350	0.000	0.000
Mercer	149.315	12.320	9.380	12.430	0.000	114.385	0.000	0.000	0.000	0.800	0.000	0.000
Middlesex	236.192	5.970	60.727	41.490	0.000	126.835	1.170	0.000	0.000	0.000	0.000	0.000
Monmouth	237.285	4.930	12.500	27.040	0.000	192.815	0.000	0.000	0.000	0.000	0.000	0.000
Morris	166.835	1.730	15.065	0.000	0.000	150.040	0.000	0.000	0.000	0.000	0.000	0.000
Ocean	201.42	2.790	35.560	38.590	0.000	124.480	0.000	0.000	0.000	0.000	0.000	0.000
Passaic	118.91	5.930	55.250	4.500	0.000	53.230	0.000	0.000	0.000	0.000	0.000	0.000
Salem	58.84	0.000	0.000	8.110	0.000	49.780	0.000	0.000	0.000	0.000	0.950	0.000
Somerset	103.648	0.000	3.533	0.000	0.000	100.115	0.000	0.000	0.000	0.000	0.000	0.000
Sussex	70.72	0.000	0.000	0.000	0.000	70.230	0.000	0.000	0.000	0.490	0.000	0.000
Union	106.636	4.111	19.140	16.220	0.000	66.065	1.100	0.000	0.000	0.000	0.000	0.000
Warren	80.22	0.550	1.720	0.000	0.000	72.900	0.000	0.000	0.000	5.050	0.000	0.000
NJ NHS Totals by Jurisdiction		88.93	596.950	323.610	49.150	1,874.08	7.07	0.93	7.53	6.69	3.78	11.48
Total NHS Miles		2,970.20										



Final Measures: Pavement and Bridge Condition

Measure Area	Performance Measures
National Performance Management Measures to Assess Pavement Condition (Subpart C)	<ul style="list-style-type: none">• Percentage of pavements of the Interstate System in Good condition• Percentage of pavements of the Interstate System in Poor condition• Percentage of pavements of the non-Interstate NHS in Good condition• Percentage of pavements of the non-Interstate NHS in Poor condition
National Performance Management Measures to Assess Bridge Condition (Subpart D)	<ul style="list-style-type: none">• Percentage of NHS bridges classified as in Good condition• Percentage of NHS bridges classified as in Poor condition

Note: These measures contribute to assessing the National Highway Performance Program (NHPP)





§ 490.307 Performance Measures

Pavement Condition Measures	
Interstate System	Non-Interstate NHS
Percentage of pavements of the Interstate System in Good condition	Percentage of pavements of the non-Interstate NHS in Good condition
Percentage of pavements of the Interstate System in Poor condition	Percentage of pavements of the non-Interstate NHS in Poor condition



§490.303 Applicability and §490.305 Definitions

- Applicable network – NHS
 - State DOTs are required to establish targets representing the full extent, regardless of ownership
- Mainline highways only
 - Includes through travel lanes only
 - Excludes ramps, shoulders, turn lanes, crossovers, rest areas





§ 490.311 Metric Thresholds in Final Rule

Rating	Good	Fair	Poor
IRI (inches/mile)	<95	95-170	>170
PSR* (0.0-5.0 value)	≥4.0	2.0-4.0	≤2.0
Cracking Percent (%)	<5	<i>CRCP: 5-10</i> <i>Jointed: 5-15</i> <i>Asphalt: 5-20</i>	<i>>10</i> <i>>15</i> <i>>20</i>
Rutting (inches)	<0.20	0.20-0.40	>0.40
Faulting (inches)	<0.10	0.10-0.15	>0.15

*PSR may be used only on routes with posted speed limit < 40mph.





§ 490.407 National Performance Management Measures for Assessing Bridge

Bridge Condition Measures

All NHS Bridges

Percentage of NHS bridges classified as in **Good** condition

Percentage of NHS bridges classified as in **Poor** condition





§ 490.403 Applicability

- Applicable bridges:
 - Bridges carrying the NHS
 - Includes highway bridges on on- and off-ramps connected to the NHS
 - Includes bridges that cross State borders





§ 490.409 Metric Thresholds

NBI Rating Scale
(from 0 – 9)

9	8	7	6	5	4	3	2	1	0
Good			Fair		Poor				

Deck (Item 58)	≥ 7	5 or 6	≤ 4
Superstructure (Item 59)	≥ 7	5 or 6	≤ 4
Substructure (Item 60)	≥ 7	5 or 6	≤ 4
Culvert (Item 62)	≥ 7	5 or 6	≤ 4





***Highway Asset Management Plans for NHS
(23 CFR Part 515)***

***Statewide and Non-Metropolitan Planning;
Metropolitan Planning
(23 CFR Part 450)***

Andy Swords: System Performance



Final Measures: System Performance and Freight

Measure Area	Performance Measures
Performance of the National Highway System (Subpart E)	<ul style="list-style-type: none">• Interstate Travel Time Reliability Measure: Percent of person-miles traveled on the Interstate that are reliable• Non-Interstate Travel Time Reliability Measure: Percent of person-miles traveled on the non-Interstate NHS that are reliable
Freight Movement on the Interstate System (Subpart F)	<ul style="list-style-type: none">• Freight Reliability Measure: Truck Travel Time Reliability (TTTR) Index

Note: These measures contribute to assessing the National Highway Performance Program (NHPP) and National Highway Freight Program (NHFP)



Final Measures: CMAQ Program

Measure Area	Performance Measures
Measures to Assess the CMAQ Program – Traffic Congestion (Subpart G)	<ul style="list-style-type: none"> • Peak Hour Excessive Delay(PHED) Measure: Annual Hours of Peak Hour Excessive Delay (PHED) Per Capita • Non-Single Occupancy Vehicle Travel (SOV) Measure: Percent of Non-Single Occupancy Vehicle (SOV) Travel
Measure to Assess the CMAQ Program – On-Road Mobile Source Emissions (Subpart H)	<ul style="list-style-type: none"> • Emissions Measure: Total Emissions Reduction



Subpart E

National Performance Management Measures to Assess
Performance of the National Highway System





§ 490.511 Level of Travel Time Reliability (LOTTR) Metric (Example)

$$\frac{\text{Longer Travel Time (80th)}}{\text{Normal Travel Time (50th)}} = \frac{\# \text{ seconds}}{\# \text{ seconds}} = \text{Level of Travel Time Reliability Ratio}$$

Level of Travel Time Reliability (LOTTR) *(Single Segment, Interstate Highway System)*

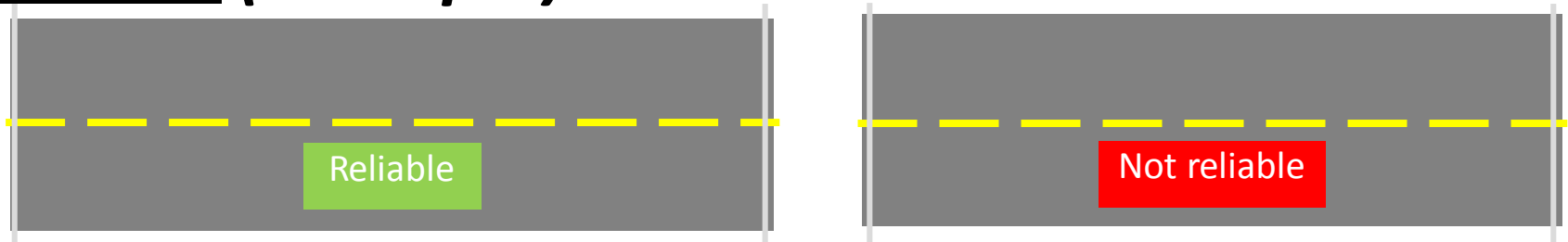
Monday – Friday	6am – 10am	LOTTR = $\frac{44 \text{ sec}}{35 \text{ sec}} = 1.26$
	10am – 4pm	LOTTR = 1.39
	4pm – 8pm	LOTTR = 1.54
Weekends	6am – 8pm	LOTTR = 1.31
Must exhibit LOTTR below 1.50 during <u>all</u> of the time periods		Segment <u>is not</u> reliable

HPMS Submittal: *Starting in 2018, State DOTs report LOTTR metrics and the corresponding 80th and 50th percentile times for each time period and directional AADT for each reporting segment by June 15 of each year, for the previous year's measures*





§ 490.513 Calculating Travel Time Reliability Measures (Example)



Length	1.000 mi.	0.750 mi.
Annual Traffic Volume	2,000,000	3,500,000
Occupancy Factor	1.3 persons/vehicle	1.7 persons/vehicle
Segment Total	Reliable: 2,600,000 person-miles	Unreliable: 4,462,500 person-miles
$\frac{\Sigma (\text{Reliable person-miles})}{\Sigma (\text{Total person-miles})}$		

Measure: % of person-miles reliable, for full extent of the system



Subpart F

National Performance Management Measure for Freight
Movement on the Interstate





Subpart F Measure

- **Freight Reliability Measure: Truck Travel Time Reliability (TTTR) Index**
 - The sum of maximum TTTR for each reporting segment, divided by the total Interstate system miles



Subpart G

National Performance Management Measures for Congestion Mitigation and Air Quality Improvement (CMAQ) Program – Traffic Congestion





Subpart G Measures

- **PHED Measure:** Annual Hours of Peak Hour Excessive Delay (PHED) Per Capita
- **Non-SOV Travel Measure:** Percent of Non-Single Occupancy Vehicle (SOV) Travel



§ 490.703 Applicability: PHED and Non-SOV Travel Measures

- Areas with the following criteria:

Area Characteristics

- Designated urbanized area,
- Contains NHS mileage, **AND**
- Population over 200,000*



Nonattainment or Maintenance Area

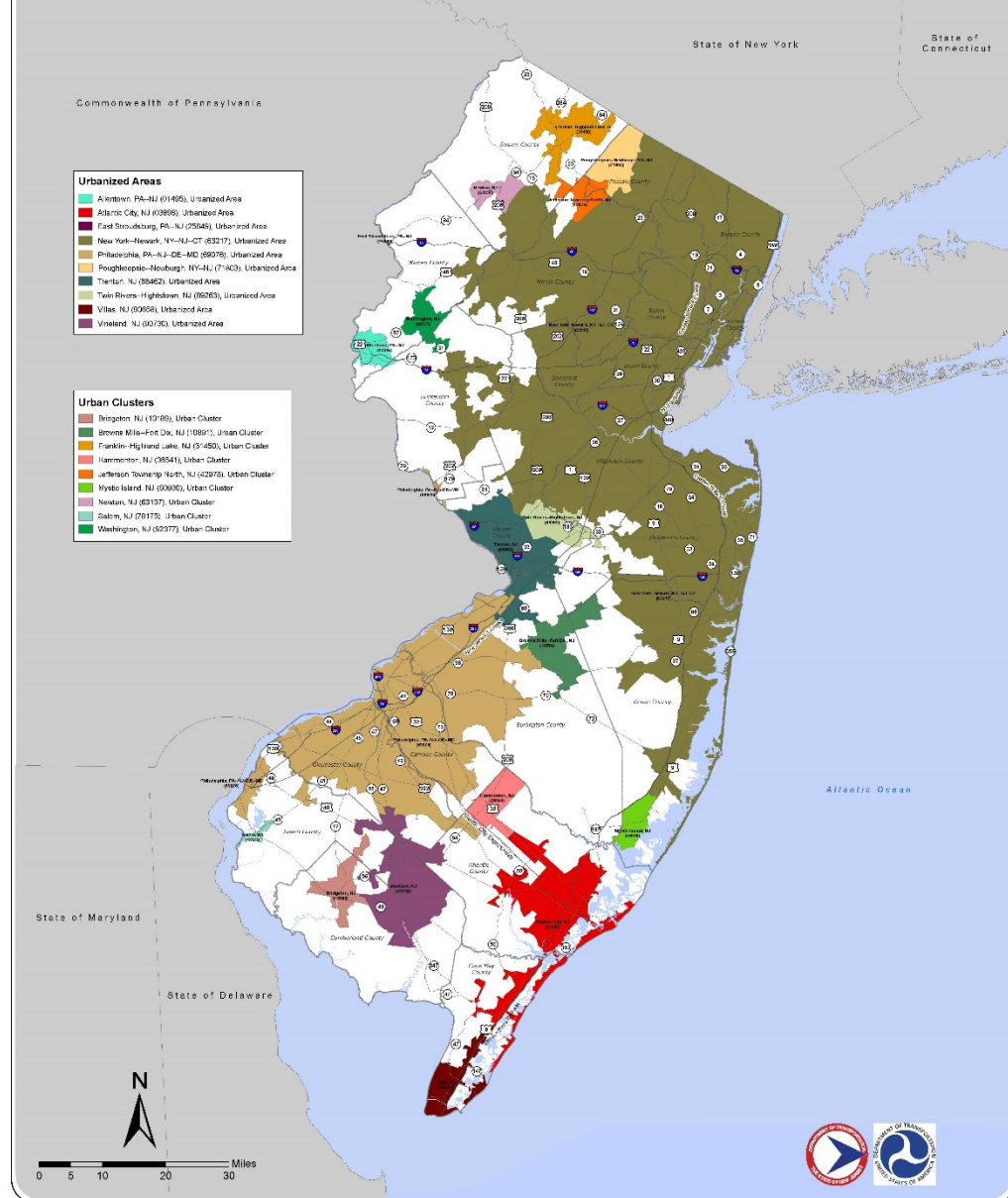
- ozone (O₃),
- carbon monoxide (CO), **OR**
- particulate matter (PM₁₀ or PM_{2.5})

- **All MPOs and State DOTs** that have NHS mileage that overlaps with an applicable urbanized area must coordinate on a **single, unified target** and report on the measures

** Phase In: For the first performance period only, the population criteria applies to urbanized areas with populations over 1 million.*

2010 URBANIZED AREAS AND URBAN CLUSTERS STATE OF NEW JERSEY

February 28, 2017



§ 490.707 Non-SOV Travel Measure

	Criteria		Result
Not Applicable	<u>NO METRIC</u>	<u>NO THRESHOLD</u>	Not applicable
Urbanized Area	<u>MEASURE</u> Percent of non-SOV travel for an entire urbanized area	<u>TARGET</u> % of non-SOV travel in each urbanized area	States report on progress towards targets

§ 490.709 Data Requirements: Non-SOV Travel

Option	Relevant Data	Source
Method A	<ul style="list-style-type: none"> 5 Year Estimate for “Commuting to Work” totaled by mode, as of August 15 of year Performance Report is due 	<ul style="list-style-type: none"> American Community Survey (Table DP03)
Method B	<ul style="list-style-type: none"> Travel mode choices gathered within 2 years of the start of the Performance Period 	<ul style="list-style-type: none"> Local Survey
Method C	<ul style="list-style-type: none"> Sample or continuous count of travelers using different modes 	<ul style="list-style-type: none"> Modal Counts

Subpart H

National Performance Management Measure to Assess the
CMAQ Program – On-Road Mobile Source Emissions





Subpart H Measure

- Measure: Total Emissions Reduction
- Calculation: Cumulative 2-year and 4-year Emissions Reduction (kg/day) for CMAQ funded projects of reduced emissions for:
 - Nitrogen Oxide (NO_x),
 - Volatile Organic Compounds (VOCs)
 - Carbon Monoxide (CO), or
 - Particulate Matter (PM₁₀ and PM_{2.5})





§ 490.809 Data Requirements: Emissions Reduction

Relevant Data	Source
<ul style="list-style-type: none">• Nonattainment or maintenance areas	<ul style="list-style-type: none">• Determination based on 40 CFR part 81 or EPA's Greenbook
<ul style="list-style-type: none">• Applicable States and MPOs	<ul style="list-style-type: none">• FHWA will post on website
<ul style="list-style-type: none">• Emissions reduction estimated for each CMAQ funded project by pollutant and precursor	<ul style="list-style-type: none">• CMAQ Public Access System*

****Data Submittal:** State DOTs shall enter project information into the CMAQ project tracking system for each CMAQ project funded in the previous fiscal year by March 1 of the following fiscal year.*





§ 490.813 Calculating Emissions Measure (Example)

Project	Fiscal Year of CMAQ Obligation	NO _x Benefit (kg/day)	VOC Benefit (kg/day)	CO Benefit (kg/day)
1. Ozone area transit	2018	10.500	7.830	
2. Ozone area traffic flow improvement	2019	0.953	0.487	
3. CO area bike/ped	2018			2.127
4. CO area traffic flow improvement	2019			2.335
5. CO area transit project	2020			49.900

Measure Calculation

2-Year Total (2018-2019)	11.453	8.317	4.462
4-Year Total (2018-2021)	11.453	8.317	54.362



Final Rule: Target Establishment and Reporting



U.S. Department of Transportation
Federal Highway Administration

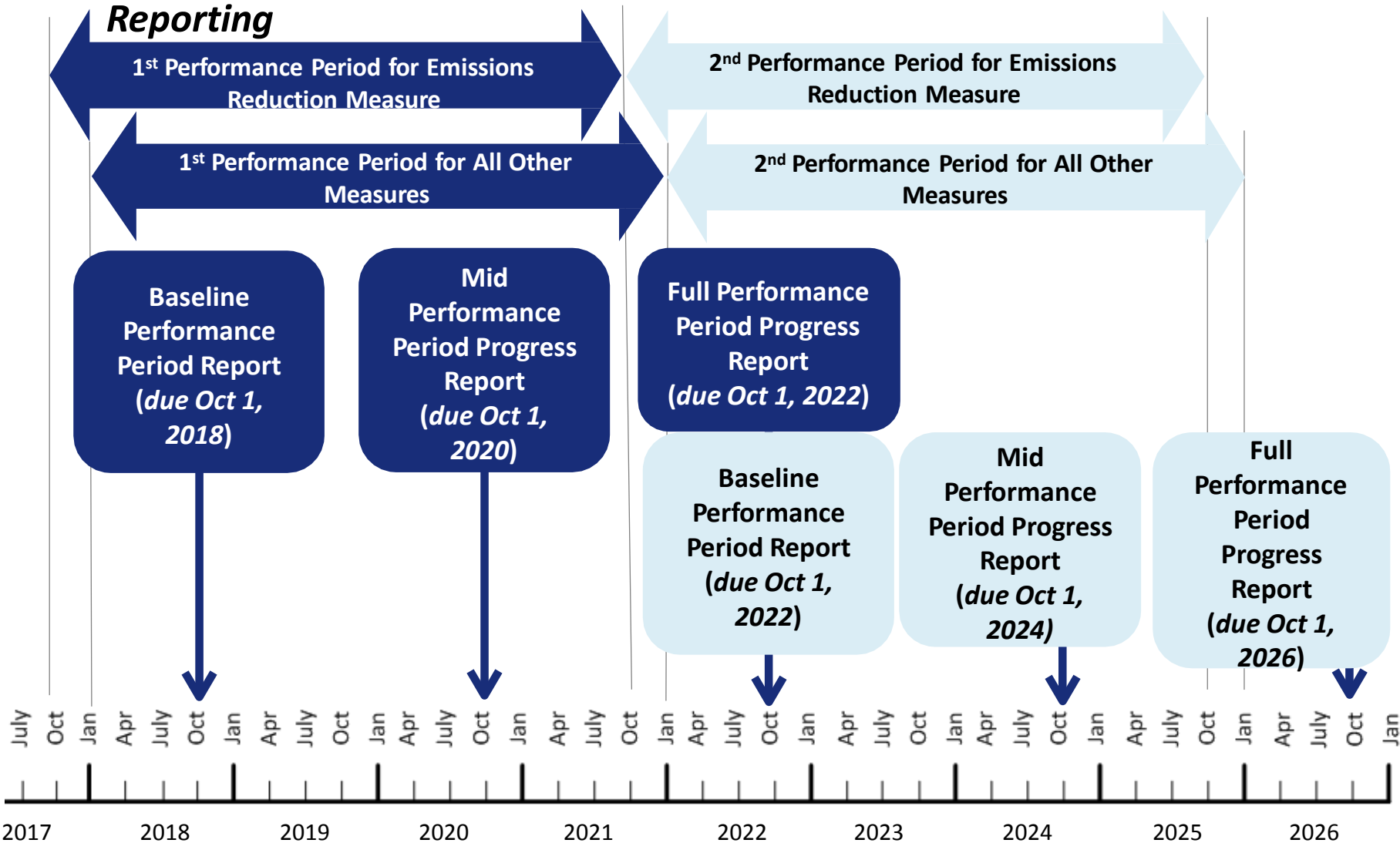


§ 490.105 Establishing Targets – State DOTs

- Establish 2-year and 4-year targets for each performance period
 - First set of targets within 1 year of the effective date of the final rule: May 20, 2018 (23 USC 150(d))
 - Targets must be reported to FHWA by October 1, 2018.
 - For the 1st Performance Period Only - 2-year target is NOT required for non-Interstate NHS Travel Time Reliability measure - phase-in requirements
- Establish a single, unified target (both 2-year and 4-year) for entire urbanized area for PHED and non-SOV Travel measures:
 - For the 1st Performance Period – applicable to State DOTs with NHS in the urbanized area with a population greater than 1 million containing any part of a nonattainment or maintenance area (For the 1st Performance Period Only - 2-year target is NOT required for PHED measure - phase-in requirements)
 - Beginning with the 2nd Performance Period and beyond – applicable to State DOTs with NHS in the urbanized area with a population greater than 200,000 containing any part of a nonattainment or maintenance area
- Adjustment of 4-year target allowed at the mid-point of performance period



Reporting



Questions?

TPM Rulemaking:

<https://www.fhwa.dot.gov/tpm/rule.cfm>