

## TPM Implementation Workshop

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# *Welcome FHWA TPM and AM Technical Implementation Workshops*

Francine Shaw Whitson  
Office of Infrastructure  
Phoenix, AZ

September 13 and 14, 2017



U.S. Department of Transportation  
Federal Highway Administration



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# *Implementation Workshops*

- Regional locations
  - Mid America: Kansas City, MO- **completed**
  - South: Raleigh, NC, July 11-14-**completed**
  - North: Cambridge, MA, Aug. 22-25- **completed**
  - West: Phoenix, AZ, Sept. 12 -15-**underway**
- 3 separate workshops in each location
  - Asset Management Plan
  - Pavement & Bridge
  - System Performance
- Website: [www.fhwa.dot.gov/tpm/workshop/](http://www.fhwa.dot.gov/tpm/workshop/)



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## ***Workshop Schedule: Cambridge, MA***

- Tuesday: focus on Asset Management
- Wednesday: focus on measures in the second performance management measure rule; 2 concurrent sessions
  - Pavement
  - Bridge
- Thursday and Friday morning: focus on measures in the third performance management measures rules. 3 concurrent sessions, repeated
  - Truck Travel Time Reliability Index
  - NHS Travel Time Reliability & Peak Hour Excessive Delay
  - CMAQ On-road Mobile Emissions and Non-SOV



## *Purpose*

- Learn the rule requirements from subject matter experts
  - Measures
  - Metrics
  - Data Needs
  - Reporting
  - Plans



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## ***Subject Matter Experts: Asset Management, Pavement & Bridge Workshop (PM2)***

- Headquarters Staff
  - Asset Management Team: Nastaran Saadatmand and Steve Gaj
  - Bridges and Structures: Derek Constable and Doug Blades
  - Pavements: Max Grogg and Tom Van
  - Transportation Performance Management: Chris Chang, Alexis Kuklenski and Susanna Hughes Reck
  - Planning: Harlan Miller and Corbin Davis
- Your Local Division Office
- Resource Center

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# ***Subject Matter Experts: System Performance Workshop***

- Headquarters Staff
  - Office of Operations: Rich Taylor (System Performance) and Jeff Purdy (Freight)
  - Office of Natural Environment: Cecilia Ho (CMAQ Emissions)
  - Transportation Performance Management: Chris Chang, Alexis Kuklenski and Susanna Hughes Reck
  - Planning : Harlan Miller and Corbin Davis
- Your Local Division Office
- Resource Center



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## ***Presentations***

- Download all workshop slides at:  
<https://www.fhwa.dot.gov/tpm/workshop/>



# *Putting the Pieces Together*

## *TPM and What It Means For You*



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# *TPM Overview*

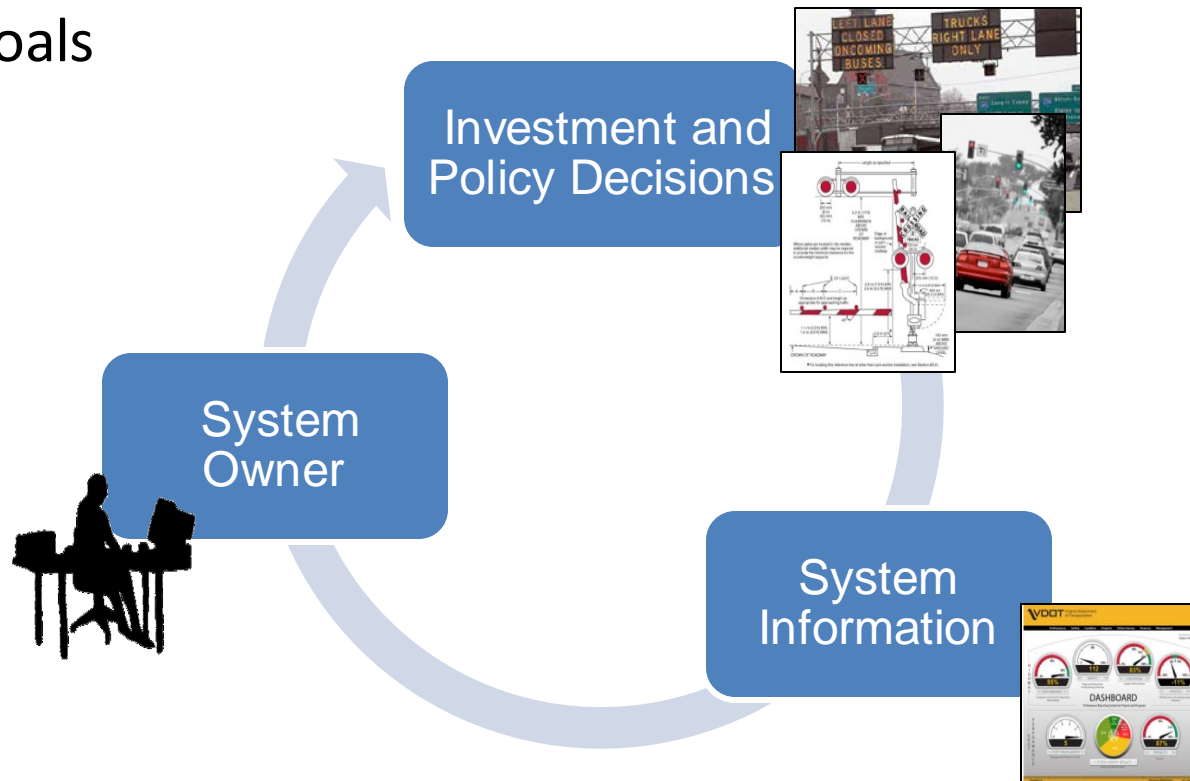


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# What Is Transportation Performance Management (TPM)?

A strategic approach that uses system information to make investment and policy decisions to achieve transportation system performance goals



# TPM Elements



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## ***National Goal Areas***

- Safety
- Infrastructure condition
- Congestion reduction
- System reliability
- Freight movement and economic vitality
- Environmental sustainability
- Reduced project delivery delays

# Targets & Measures

Established by:	
FHWA	State DOTs & MPOs
<p style="text-align: center;"><b>MEASURE</b></p> <p style="text-align: center;">An expression used to establish targets and to assess progress toward achieving the established target</p>	<p style="text-align: center;"><b>TARGET</b></p> <p style="text-align: center;">A quantifiable level of performance or condition, as a value for a measure, to be achieved within a time period required by FHWA</p>
<p style="text-align: center;"><b>Percent of trucks with reliable arrival times</b></p>	<p style="text-align: center;">Target: 80.0% On Time Actual: 83.7% On Time ✓ <b>Target Achieved</b></p>

**Example**

# Metrics, Thresholds & Measures

Each Reporting Segment

Entire Applicable Network

## METRIC

A quantifiable indicator of performance or condition

## THRESHOLD

As used in the rule, the level for a specific reporting segment that would determine its inclusion in the measure

## MEASURE

An expression based on a metric, used to establish targets and to assess progress toward achieving the established target

Example

Average truck speed =  
**52.30 mph**

Uncongested =  
**Avg truck speed >  
50.00 mph**

2,510 uncongested miles  
3,000 total miles =  
**83.7% uncongested**



# Required Plans

Multimodal Plans	State/MPO Long Range Transportation Plans State/MPO Transportation Improvement Programs
Safety	Strategic Highway Safety Plan (SHSP) Highway Safety Improvement Program (HSIP)
Infrastructure Condition	Transportation Asset Management Plan (TAMP)
Congestion/ Air Quality	CMAQ Performance Plan
Freight	State Freight Plan
Transit	Transit Safety Plan Transit Asset Management Plan



# ***Accountability and Transparency in Performance Management***

- Reporting requirements for the performance targets
- Significant progress expectations:
  - Highway Safety Improvement Program\*
  - National Highway Performance Program (NHPP)
  - National Highway Freight Program (NHFP)
- Minimum standards are included for:
  - Interstate pavements
  - National Highway System (NHS) Bridges

\*not covered in these workshops





# *Putting the Pieces Together*



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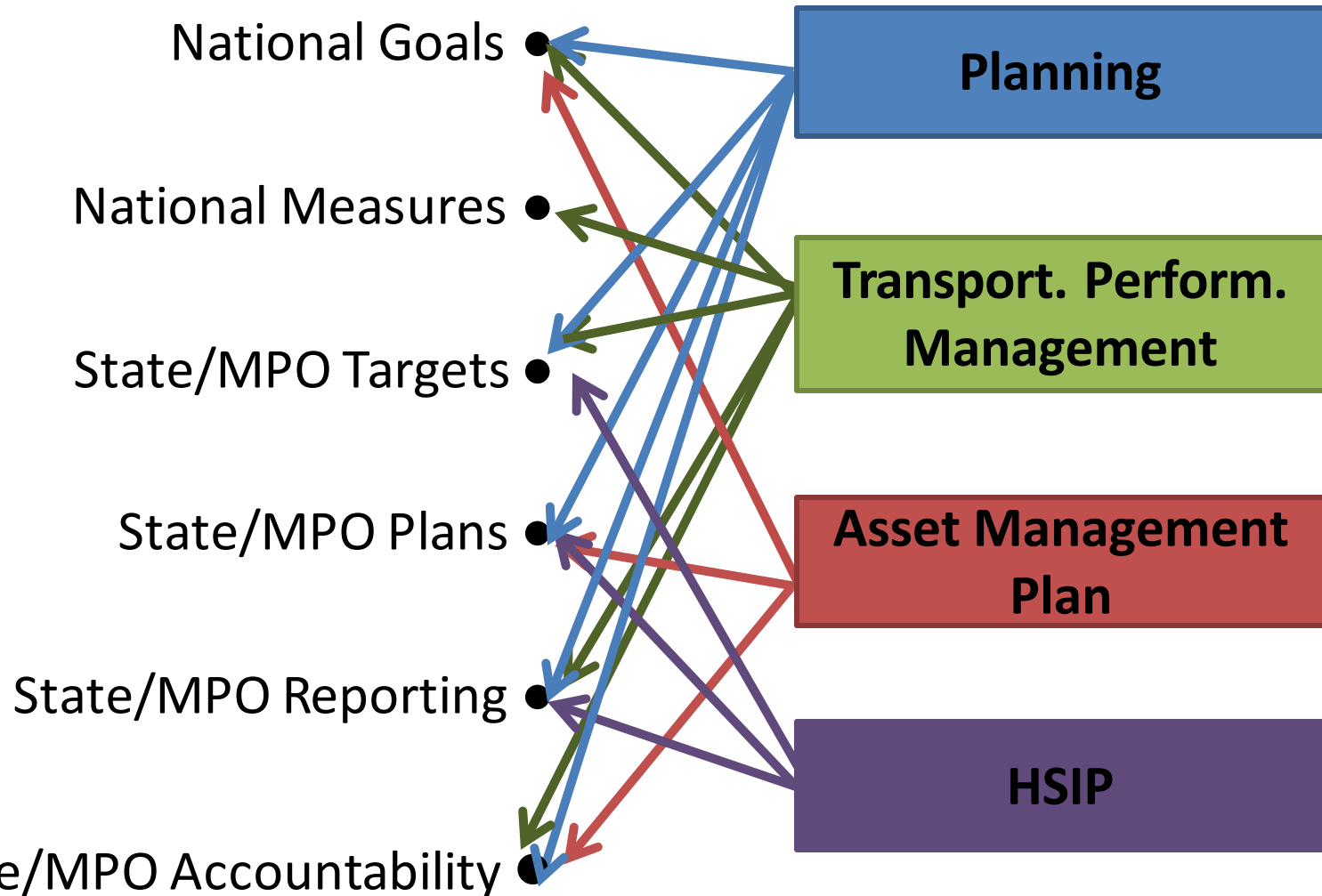
# Rulemakings

TPM-Related Rules	Rule Effective Date	Regulatory Chapter
Safety Performance Measures (PM1)	April 14, 2016	23 CFR 490 (Subpart A & B)
Highway Safety Improvement Program (HSIP)	April 14, 2016	23 CFR 924
Statewide and Non-Metropolitan Planning; Metropolitan Planning	June 27, 2016	23 CFR 450
Highway Asset Management Plans for NHS	October 2, 2017	23 CFR 515 & 667
Pavement and Bridge Condition Measures (PM2)	May 20, 2017	23 CFR 490 (Subpart A, C & D)
Performance of the NHS, Freight, and CMAQ Measures (PM3)*	May 20, 2017	23 CFR 490 (Sub. A, E, F, G, H)



\* 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.

# MAP-21 & FAST Act Performance Elements and TPM Rules



# MAP-21 & FAST Act Performance Elements and TPM Rules

TPM Elements	Elements Addressed by Rule			
	Planning	PM 1, 2 & 3	AMP	HSIP
National Goals	✓	✓	✓	
National Measures		✓		
State/MPO Targets	✓	✓		✓
State/MPO Plans	✓		✓	✓
State/MPO Reporting	✓	✓		✓
State/MPO Accountability	✓	✓	✓	



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## *Planning Rule*

### **Requirements of performance management**

Updates or amendments to TIPs and STIPs and plans adopted or amended two years after the effective date of the performance management rules must comply.

Which means....May 20, 2019!



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## ***Planning Rule: Performance-Based Elements of the Metropolitan Transportation Plan***

- Performance measures and targets
- System performance report
- Planning process includes integration of other performance-based plans
- As part of process, agreement between MPOs, State and public transit providers on performance data collection, targets and reporting for metropolitan area

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## ***Planning Rule: Performance-Based Elements of the Statewide LRTP***

Must include:

- Performance measures and targets
- System performance report
- Planning process includes integration of other performance-based plans

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# ***Asset Management Plan Processes***

- State DOTs must establish a set of processes for developing an asset management plan
- FHWA will certify a DOT's processes in reviewing its ***initial*** asset management plan
- Also established minimum requirements for pavement and bridge management systems, which must be used to develop the asset management plan



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## *Asset Management Plan Rule*

- State DOTs must develop a risk-based initial asset management plans for the NHS by April 30, 2018
  - Fully compliant plan not later than June 30, 2019
- TAMP must cover a 10-year period

## 23 CFR Part 490

- 17 Measures
- Describes the applicability of the measures
- Tells what data needed to support measures
- Includes target due dates
  - **State DOTs:** 1 year from the effective date of the final rule---May 20, 2018
  - **MPOs:** 180 days after the State DOT
- Describes performance period, reporting requirements and timeline
- Defines the significant progress determination

process



## *Measures: Safety (PM1)*

Measure Area	Performance Measures
Safety	<ul style="list-style-type: none"><li>• Number of fatalities</li><li>• Fatalities per million vehicle miles traveled</li><li>• Number of serious injuries</li><li>• Serious injuries per million vehicle miles traveled</li><li>• Number of non-motorized fatalities and non-motorized serious injuries</li></ul>

The Office of Safety has a website dedicated to this rule:

<https://safety.fhwa.dot.gov/hsip/spm/>



# Measures: Pavement & Bridge Condition (PM2)

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



# *Measures: System Performance & Freight (PM3)*

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

## Measures: CMAQ Program (PM3)

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

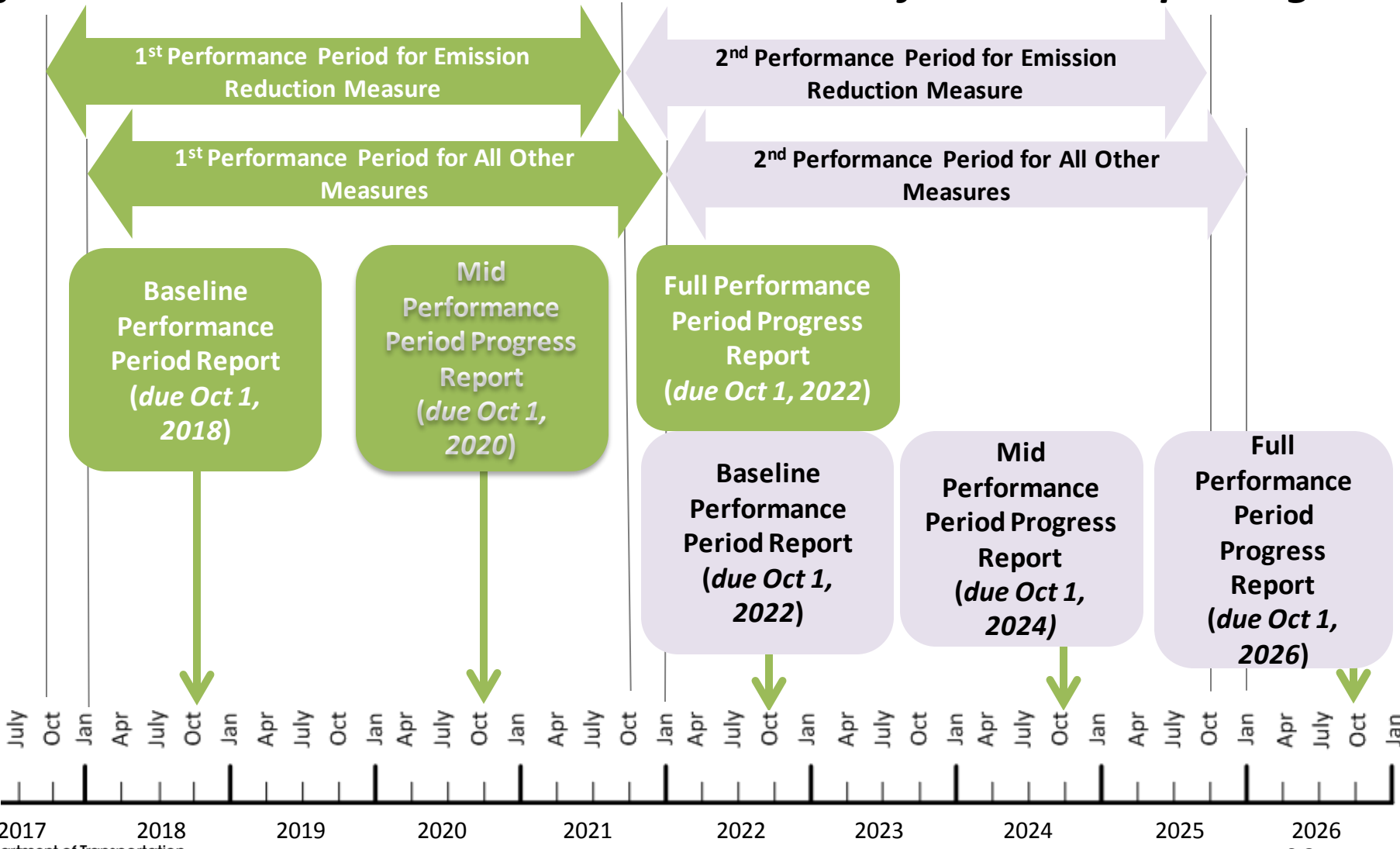
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## *PM2 and PM3 Reporting Requirements*

- Performance Period is 4 years.
- Biennial Reports
  - Baseline Performance Period Report
  - Mid Performance Period Progress Report
  - Full Performance Period Progress Report
- State and MPO reports on performance measures and targets
- USDOT Report to Congress



# Performance Period and State DOT Biennial Performance Reporting





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# *Accountability and Transparency in Performance Management-Reporting*

## Progress Toward Targets-Reported Every Two Years

- Baseline Performance Period Progress Report- first report due October 1, 2018
- Mid Performance Period Progress Report – first report due October 1 2020
- Full Performance Period Progress Report-first report due October 1, 2022

# *Accountability and Transparency in Performance Management*

## Significant Progress Determination

- FHWA assessment of State DOT target achievement (every 2 years)\*
- Applies to statewide NHPP and NHFP targets only
  - NHPP:
    - Pavement condition
    - Bridge condition
    - Interstate and non-Interstate NHS Travel Time Reliability measures
  - NHFP:
    - Freight Reliability measure

\*Safety is every year.



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# *Accountability and Transparency in Performance Management*

## Significant Progress Determination

- Consequences of not making significant progress
- Extenuating circumstances



# *Accountability and Transparency in Performance Management*

## Minimum Condition Requirements

- Pavement (Interstate only): Percentage in Poor condition: no more than 5.0 percent
- Bridges (NHS only):  $\leq 10.0$  percent of total deck area of bridges classified as structurally deficient



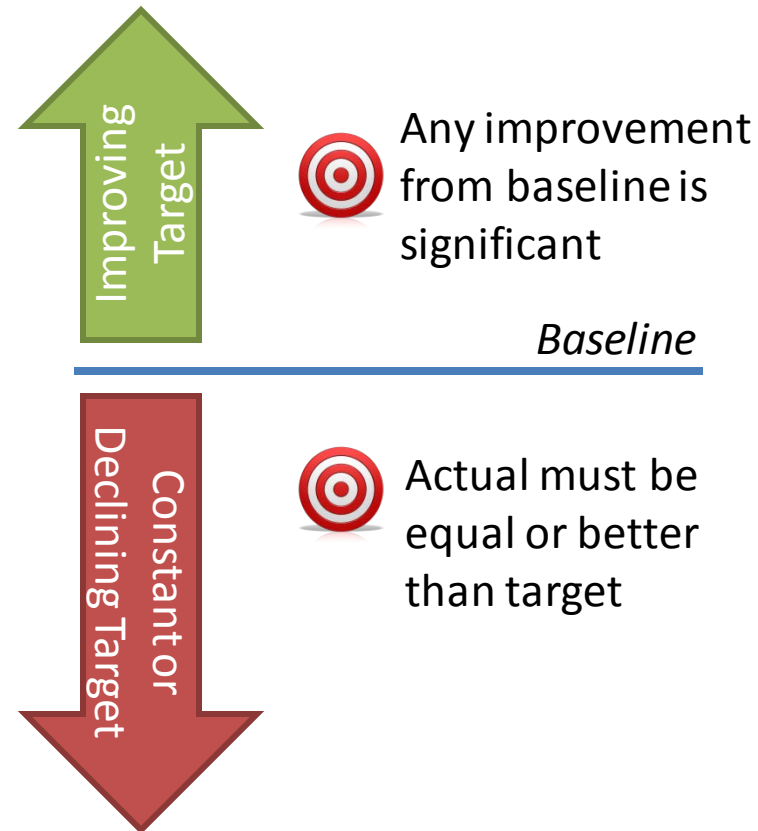
# Accountability and Transparency in Performance Management

## Significant Progress

- State Establishes Targets
  - Improving, Constant or Declining
- Determination
  - Is the actual equal or better than the established target?

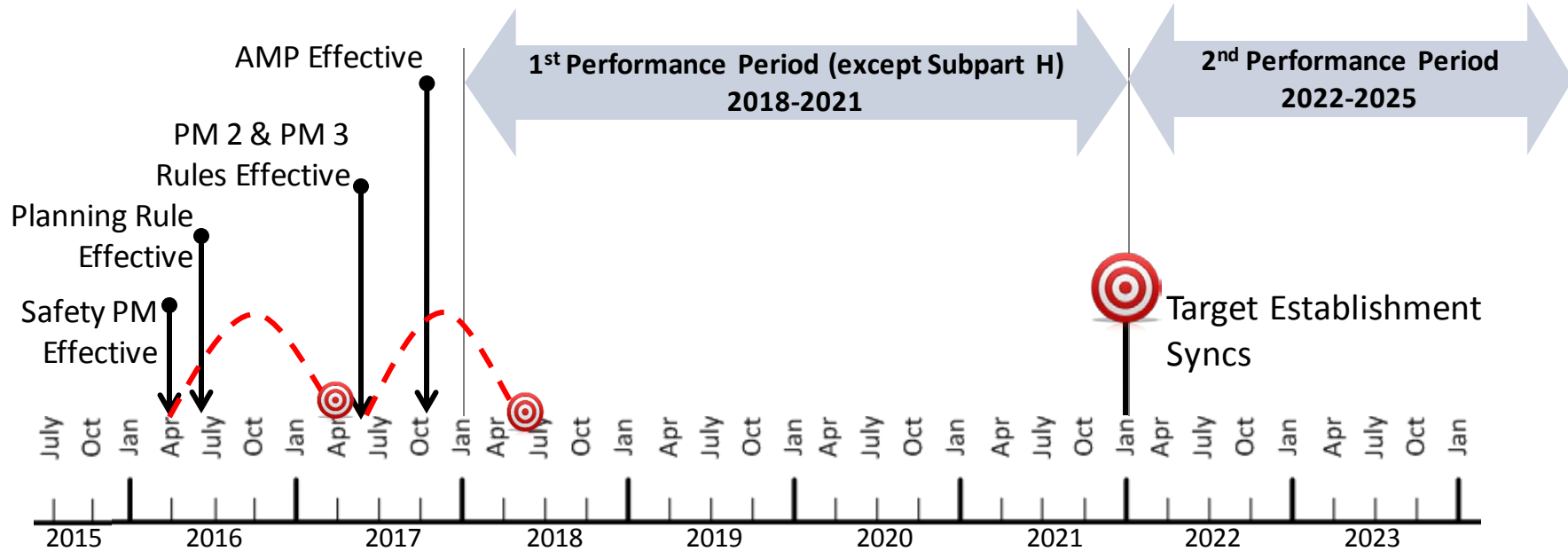
OR

  - Is the actual better than the baseline?

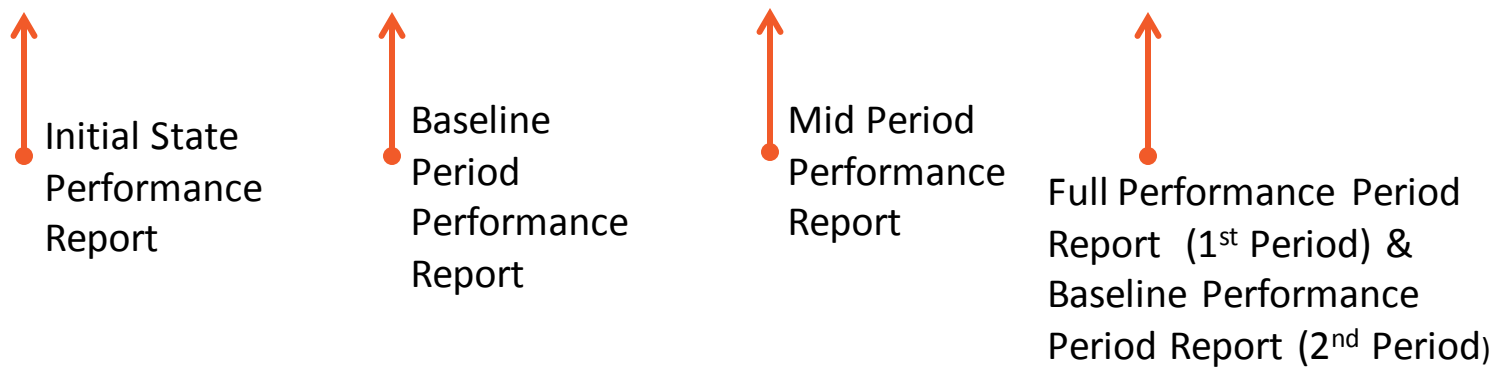


# Target Establishment and Reporting Periods

Effective Dates & Reporting Periods



PM Reporting



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# *Questions?*



# *What Does This Mean For You?*



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# *TPM Roles and Responsibilities*

- USDOT
  - Performance Measure Rules include:
    - Establish measures; identify data sources; define metrics
    - Report to Congress
    - Stewardship and oversight
- States and MPOs
  - Establish targets
  - Support national goals in the planning process and consider measures and targets in long range plans and programs
  - Report progress to USDOT (States)

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## ***FHWA Roles***

- FHWA is committed to your success!
  - Headquarters provides guidance and develops policies and tools
  - Divisions are responsible for program delivery
  - The Resource Center provides technical assistance and training



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## *State DOT and MPO Roles*

- Identify available and needed data
- Coordinate with other agencies
- Establish coordinated targets
- Collect and submit required data
- Report progress



# Your Go-To Resource

Visit <http://www.fhwa.dot.gov/tpm/>

- Informational Materials
- Training
- Technical Assistance
- Peer Exchange Info
- Effective Practices
- Videos
- MORE to come.....

The screenshot shows the homepage of the TPM Toolbox Beta Release Website. The header includes the U.S. Department of Transportation Federal Highway Administration logo and navigation links for 'About', 'Programs', 'Resources', 'Briefing Room', 'Contact', and 'Search FHWA'. The main content area is titled 'TPM Toolbox Beta Release Website' and features a circular graphic with a grid of colored boxes. Below the main content, there are four columns of links categorized under 'Implementation', 'Engagement', 'Resources', and 'Email Notification'. A 'Calendar' section is also visible on the right side of the main content area.

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## ***Contacts***

For questions or more information, please contact:

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*Questions?*



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