TPM Implementation Workshop

Welcome

FHWA TPM and AM Technical Implementation Workshops

Francine Shaw Whitson
Office of Infrastructure
Phoenix, AZ
September 13 and 14, 2017
Implementation Workshops

• Regional locations
  o Mid America: Kansas City, MO- **completed**
  o South: Raleigh, NC, July 11-14- **completed**
  o North: Cambridge, MA, Aug. 22-25- **completed**
  o West: Phoenix, AZ, Sept. 12 -15- **underway**

• 3 separate workshops in each location
  o Asset Management Plan
  o Pavement & Bridge
  o System Performance

• Website: [www.fhwa.dot.gov/tpm/workshop/](http://www.fhwa.dot.gov/tpm/workshop/)
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
  o Measures
  o Metrics
  o Data Needs
  o Reporting
  o Plans
Subject Matter Experts: Asset Management, Pavement & Bridge Workshop (PM2)

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

• Your Local Division Office

• Resource Center
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
Presentations

• Download all workshop slides at:
  https://www.fhwa.dot.gov/tpm/workshop/
Putting the Pieces Together
TPM and What It Means For You
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

1. National Goals
2. Measures
3. Targets
4. Plans
5. Reports
6. Accountability and Transparency
National Goal Areas

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

<table>
<thead>
<tr>
<th>MEASURE</th>
<th>TARGET</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of trucks with reliable arrival times</td>
<td>A quantifiable level of performance or condition, as a value for a measure, to be achieved within a time period required by FHWA</td>
</tr>
</tbody>
</table>

**Example**

- **Target:** 80.0% On Time
- **Actual:** 83.7% On Time
- ✓ **Target Achieved**

Established by:

- FHWA
- State DOTs & MPOs
Metrics, Thresholds & Measures

**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

<table>
<thead>
<tr>
<th>Each Reporting Segment</th>
<th>Entire Applicable Network</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>METRIC</strong></td>
<td><strong>THRESHOLD</strong></td>
</tr>
<tr>
<td>Average truck speed = 52.30 mph</td>
<td>Uncongested = Avg truck speed &gt; 50.00 mph</td>
</tr>
<tr>
<td><strong>MEASURE</strong></td>
<td></td>
</tr>
<tr>
<td>2,510 uncongested miles</td>
<td>3,000 total miles = 83.7% uncongested</td>
</tr>
</tbody>
</table>
# Required Plans

| Multimodal Plans | State/MPO Long Range Transportation Plans
<table>
<thead>
<tr>
<th></th>
<th>State/MPO Transportation Improvement Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety</td>
<td>Strategic Highway Safety Plan (SHSP)</td>
</tr>
<tr>
<td></td>
<td>Highway Safety Improvement Program (HSIP)</td>
</tr>
<tr>
<td>Infrastructure Condition</td>
<td>Transportation Asset Management Plan (TAMP)</td>
</tr>
<tr>
<td>Congestion/ Air Quality</td>
<td>CMAQ Performance Plan</td>
</tr>
<tr>
<td>Freight</td>
<td>State Freight Plan</td>
</tr>
<tr>
<td>Transit</td>
<td>Transit Safety Plan</td>
</tr>
<tr>
<td></td>
<td>Transit Asset Management Plan</td>
</tr>
</tbody>
</table>
Accountability and Transparency in Performance Management

• Reporting requirements for the performance targets

• Significant progress expectations:
  o Highway Safety Improvement Program*
  o National Highway Performance Program (NHPP)
  o National Highway Freight Program (NHFP)

• Minimum standards are included for:
  o Interstate pavements
  o National Highway System (NHS) Bridges

*not covered in these workshops
Putting the Pieces Together
## Rulemakings

<table>
<thead>
<tr>
<th>TPM-Related Rules</th>
<th>Rule Effective Date</th>
<th>Regulatory Chapter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety Performance Measures (PM1)</td>
<td>April 14, 2016</td>
<td>23 CFR 490 (Subpart A &amp; B)</td>
</tr>
<tr>
<td>Highway Safety Improvement Program (HSIP)</td>
<td>April 14, 2016</td>
<td>23 CFR 924</td>
</tr>
<tr>
<td>Statewide and Non-Metropolitan Planning; Metropolitan Planning</td>
<td>June 27, 2016</td>
<td>23 CFR 450</td>
</tr>
<tr>
<td>Pavement and Bridge Condition Measures (PM2)</td>
<td>May 20, 2017</td>
<td>23 CFR 490 (Subpart A, C &amp; D)</td>
</tr>
</tbody>
</table>

* 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

- National Goals
- National Measures
- State/MPO Targets
- State/MPO Plans
- State/MPO Reporting
- State/MPO Accountability

Planning
Transport. Perform. Management
Asset Management Plan
HSIP
### MAP-21 & FAST Act Performance Elements and TPM Rules

<table>
<thead>
<tr>
<th>TPM Elements</th>
<th>Elements Addressed by Rule</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Planning</td>
</tr>
<tr>
<td>National Goals</td>
<td>✓</td>
</tr>
<tr>
<td>National Measures</td>
<td></td>
</tr>
<tr>
<td>State/MPO Targets</td>
<td>✓</td>
</tr>
<tr>
<td>State/MPO Plans</td>
<td>✓</td>
</tr>
<tr>
<td>State/MPO Reporting</td>
<td>✓</td>
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<tr>
<td>State/MPO Accountability</td>
<td>✓</td>
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U.S. Department of Transportation
Federal Highway Administration
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!
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
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
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.
Asset Management Plan Rule

• State DOTs must develop a risk-based initial asset management plans for the NHS by April 30, 2018
  o 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
  o State DOTs: 1 year from the effective date of the final rule---May 20, 2018
  o MPOs: 180 days after the State DOT
• Describes performance period, reporting requirements and timeline
• Defines the significant progress determination process
### Measures: Safety (PM1)

<table>
<thead>
<tr>
<th>Measure Area</th>
<th>Performance Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety</td>
<td>• Number of fatalities</td>
</tr>
<tr>
<td></td>
<td>• Fatalities per million vehicle miles traveled</td>
</tr>
<tr>
<td></td>
<td>• Number of serious injuries</td>
</tr>
<tr>
<td></td>
<td>• Serious injuries per million vehicle miles traveled</td>
</tr>
<tr>
<td></td>
<td>• Number of non-motorized fatalities and non-motorized serious injuries</td>
</tr>
</tbody>
</table>

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

[https://safety.fhwa.dot.gov/hsip/spm/](https://safety.fhwa.dot.gov/hsip/spm/)
# Measures: Pavement & Bridge Condition (PM2)

<table>
<thead>
<tr>
<th>Measure Area</th>
<th>Performance Measures</th>
</tr>
</thead>
</table>
| National Performance Management Measures to Assess Pavement Condition | • 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 | • Percentage of NHS bridges classified as in Good condition  
• Percentage of NHS bridges classified as in Poor condition |
# Measures: System Performance & Freight (PM3)

<table>
<thead>
<tr>
<th>Measure Area</th>
<th>Performance Measures</th>
</tr>
</thead>
</table>
| Performance of the National Highway System (System Performance) | • *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          | • *Freight Reliability Measure*: Truck Travel Time Reliability (TTTR) Index            |
# Measures: CMAQ Program (PM3)

<table>
<thead>
<tr>
<th>Measure Area</th>
<th>Performance Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measures to Assess the CMAQ Program: <strong>Traffic Congestion</strong></td>
<td>• <strong>Peak Hour Excessive Delay (PHED) Measure:</strong> Annual Hours of Peak Hour Excessive Delay (PHED) Per Capita</td>
</tr>
<tr>
<td></td>
<td>• <strong>Non-Single Occupancy Vehicle Travel (SOV) Measure:</strong> Percent of Non-Single Occupancy Vehicle (SOV) Travel</td>
</tr>
<tr>
<td>Measure to Assess the CMAQ Program: <strong>On-Road Mobile Source Emissions</strong></td>
<td>• <strong>Emissions Measure:</strong> Total Emission Reductions</td>
</tr>
</tbody>
</table>
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

1st Performance Period for All Other Measures
- Baseline Performance Period Report (due Oct 1, 2018)
- Mid Performance Period Progress Report (due Oct 1, 2020)

1st Performance Period for Emission Reduction Measure
- Mid Performance Period Progress Report (due Oct 1, 2022)
- Full Performance Period Progress Report (due Oct 1, 2024)

2nd Performance Period for All Other Measures
- Mid Performance Period Progress Report (due Oct 1, 2022)
- Full Performance Period Progress Report (due Oct 1, 2024)

2nd Performance Period for Emission Reduction Measure
- Mid Performance Period Progress Report (due Oct 1, 2024)
- Full Performance Period Progress Report (due Oct 1, 2026)
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
Significant Progress Determination
• FHWA assessment of State DOT target achievement (every 2 years)*
• Applies to statewide NHPP and NHFP targets only
  o NHPP:
    ▪ Pavement condition
    ▪ Bridge condition
    ▪ Interstate and non-Interstate NHS Travel Time Reliability measures
  o NHFP:
    ▪ Freight Reliability measure

*Safety is every year.
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): ≤ 10.0 percent of total deck area of bridges classified as structurally deficient
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?

Any improvement from baseline is significant

Actual must be equal or better than target
Target Establishment and Reporting Periods

1st Performance Period (except Subpart H)
2018-2021

2nd Performance Period
2022-2025

- Initial State Performance Report
- Baseline Period Performance Report
- Mid Period Performance Report
- Full Performance Period Report (1st Period) & Baseline Performance Period Report (2nd Period)
Questions?
What Does This Mean For You?
TPM Roles and Responsibilities

• USDOT
  o Performance Measure Rules include:
    ▶ Establish measures; identify data sources; define metrics
    ▶ Report to Congress
    ▶ Stewardship and oversight

• States and MPOs
  o Establish targets
  o Support national goals in the planning process and consider measures and targets in long range plans and programs
  o Report progress to USDOT (States)
**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
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......
Contacts

For questions or more information, please contact:

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Susanna Hughes Reck, Susanna.Hughes-Reck@dot.gov, 202-366-1548
Questions?