TPM Technical Implementation Workshop

TPM Performance Reporting: Telling Our Story

Susanna Hughes Reck
Transportation Performance Management Team

Phoenix, AZ
September 13 and 14, 2017
Objectives

- 23 USC 150(e) Performance Report Requirements
- TPM Portal
- Performance Website Display
- Performance Storytelling
- Performance Dashboard
Performance Reporting & Portal
Acronyms

• NHPP: National Highway Performance Program
• NHFP: National Highway Freight Program
• HSIP: Highway Safety Improvement Program
• CMM: Capability Maturity Model
• PCB: Professional Capacity Building
Why Report on Performance?

- Evaluate the impact of federal-aid funds on the national goal areas
- Report to the public on pavement and bridge conditions, congestion/air quality, freight, significant progress and target achievement in each State
- Report to Congress on the condition and performance of the Federal-aid highway system
How Will States Report on Performance?

• Under 23 USC 150(e), a Biennial Report is required every two years that must include at a minimum:
  o NHS condition and performance
  o Progress in achieving performance targets
  o Effectiveness of the investment strategies in the State’s NHS asset management plan
  o How freight bottleneck congestion is being addressed
Performance Reporting: What’s Required

Reports:

• **Baseline** Report by Oct. 1 of the first performance year
• **Mid Period** Progress Report by Oct. 1 of the third performance year
• **Full Period** Progress Report by Oct. 1 of the fifth year following the performance period
## Performance Progress Report Includes
*(for all content requirements, see 23 CFR 490.107)*

<table>
<thead>
<tr>
<th>Contents</th>
<th>Baseline</th>
<th>Mid Period</th>
<th>Full Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-year targets</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-year targets</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basis for targets</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline conditions/truck freight bottlenecks</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ties to other plans</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actual conditions</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Progress discussion/truck freight bottlenecks</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Investment strategy discussion</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Adjusted four-year targets</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extenuating circumstances</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>NHPP/NHFP target achievement discussion</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
Performance Reporting

State DOT Progress Reporting Portal

Performance Storytelling

Performance Reports

U.S. Department of Transportation
Federal Highway Administration
Reporting Portal

• Under development
• Demonstrate in 2018
• Training will be offered
• Today’s discussion is illustrative only
Biennial Performance Reporting Process

• States will submit their performance reports through an online portal that FHWA is developing
• Among other things, States will be able to describe extenuating circumstances and reasons for meeting or not meeting targets
## Performance Management Sample Form

<table>
<thead>
<tr>
<th>State</th>
<th>Report Year</th>
<th>Report Type</th>
<th>Performance Period</th>
<th>Report Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delaware</td>
<td>2018</td>
<td>BASELINE PERFORMANCE PERIOD REPORT (BPR)</td>
<td>2018-2021</td>
<td>10/01/2018</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Overview</th>
<th>Attachment</th>
<th>Pavement</th>
<th>Bridge</th>
<th>Congestion</th>
<th>Peak Hour</th>
<th>Freight</th>
<th>Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emissions - Part I</td>
<td>Emissions - Part II</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

U.S. Department of Transportation  
Federal Highway Administration
## Bridge Performance Measures Sample Form

**B3** Please provide the current statewide percentage of deck area of bridges on the NHS classified as in Good condition.

*Note: The data submitted should cover the latest available conditions and performance as of the end of 2017 (§ 490.107(b)(1)(ii)(B)). For Example, enter 86.5% as 86.5.*

**B4** Please provide the 2-year target for the statewide percentage of deck area of bridges on the NHS classified as in Good condition that the State DOT has established for the 2018-2021 Performance Period.

*Note: This input is intended to be based on the expected condition/performance of this measure in the defined area at the end of 2019. For Example, enter 88.5% as 88.5.*
Reliability Sample Form

<table>
<thead>
<tr>
<th></th>
<th>Please provide the current percent of the statewide Interstate System providing for reliable travel times.</th>
</tr>
</thead>
<tbody>
<tr>
<td>R3</td>
<td>* Please provide the 2-year target for the percent of the statewide Interstate System providing for reliable travel times that the State DOT has established for the 2018-2021 Performance Period.</td>
</tr>
<tr>
<td></td>
<td>Note: The data submitted should cover the latest available conditions and performance as of the end of 2017 (§ 490.107(b)(1)(ii)(B)). For Example, enter 86.5% as 86.5</td>
</tr>
<tr>
<td></td>
<td>Enter a percentage value, for e</td>
</tr>
<tr>
<td></td>
<td>Please provide the 4-year target for the percent of the</td>
</tr>
<tr>
<td>R4</td>
<td>Note: This input is intended to be based on the expected condition/performance of this measure at the end of 2019. For Example, enter 86.5% as 86.5</td>
</tr>
<tr>
<td></td>
<td>Enter a percentage value, for e</td>
</tr>
</tbody>
</table>
Performance Website
Transparency

- Make performance elements regularly available to the public
  - Internal communications
  - External communications
  - Feedback loop

- USDOT will facilitate transparency through use of web-based dashboard to communicate aggregated performance results
ONEDOT Performance Website Purpose

- Display performance data received from States
- Display performance targets received from States
- Incorporate transit performance information
- Create a foundation for a multimodal performance reporting
- Include significant progress determination toward achieving NHPP, NHFP and HSIP targets
**Website Overview**

- **1\textsuperscript{st} Phase**
  - Transportation stories
  - Performance reporting area
  - Dashboard
  - Static content

- **2\textsuperscript{nd} Phase**
  - Dynamic content (data driven)
  - Embedded tools
  - Users create reports
Landing Page
**Performance Storytelling**

**Our Transportation Investment**

For decades, the Federal Highway Trust Fund has provided stable funding for the U.S. highway system, but that’s no longer the case. Inflation has depreciated the buying power of motor fuels tax revenues that support the trust fund, and at the same time, increasing fuel efficiency standards and changing travel patterns continue to erode the fund. New approaches are needed as the U.S. is no longer keeping up with its infrastructure needs.

**KEEPING US MOVING**

**Where Does Highway Funding Come From?**

Combined Highway Funding Sources (National, State, and Local)

- **Government Revenue**
  - Federal: 27%
  - State: 38%
  - Local: 15%

- **Motor-Fuel and Vehicle Taxes**
  - Federal: 6%
  - State: 14%

- **Investment Income**
  - Federal: 15%
  - State: 6%

- **Tolling**
  - Federal: 5%

- **Other Taxes and Fees**
  - Including tolls, property taxes, and assessments, and others.

The funding dedicated to our highway system is used to preserve and maintain our roadways and bridges, reduce congestion, improve safety, and invest in research that will lead to innovations and improvements in the future.

**Working as a Team**

**Total Annual Investment $223 Billion (2010 Data)**

- **Federal**
  - $47,099
  - Federal agencies provide their share.

- **Tolling**
  - $3,537
  - Tolling comes from both state and local sources, with over 80 percent of funds coming from states.

- **Local**
  - $15,320
  - Local revenue plays a key role.

Local, State, and Federal transportation agencies work together to keep us moving.
Performance Storytelling

Our Economic Well-Being

For decades, the Federal Highway Trust Fund has provided stable funding for the U.S. highway system, but that's no longer the case. Inflation has depreciated the buying power of lower fuels tax revenues that support the trust fund, and at the same time, increasing fuel efficiency standards and changing travel patterns continue to erode the fund. New approaches are needed as the U.S. is no longer keeping up with its infrastructure needs.

Businesses Depend on Our Transportation System

Industry Travel Costs

Transportation Cost for Every $1 of Product

Agriculture
Manufacturing
Mining

1-Week Delay in Container Movement in L.A.

Could Cost the U.S. Economy $455 Million to $1.05 Billion per Week

Shipping Costs

1 day of delay causes American President Line's eastbound trans-Pacific services to increase use of containers and chassis by 1,300

NIKE must spend an additional $4 Million per week to carry an extra 7 to 14 days inventory to compensate for shipping delays

Source: http://.ops.fhwa.dot.gov/highlight_analysis/highlight_story/index.htm
Source: http://ops.fhwa.dot.gov/highlight_analysis/highlight_story/index.htm
Performance Storytelling

For decades, the Federal Highway Trust Fund has provided stable funding for the U.S. highway system, but that's no longer the case. Inflation has eroded the buying power of motor fuel tax revenues that support the trust fund, and at the same time, increasing fuel efficiency standards and changing travel patterns continue to erode the fund. Now approaches are needed as the U.S. is no longer keeping up with its infrastructure needs.

**Our Mobile Lifestyle**

Many factors influence the planning, design, and operation of roadways in the 21st century. Modern street design must be adaptable to the needs of an aging population, improve public health and safety, manage congestion, reduce costs, create and maintain vibrant neighborhoods, and restore the nation’s transportation system to serve the needs of climate change. Complete Streets policies support safe access and travel for all users and strive to fulfill these goals.
Performance Reporting Area

• National and State dashboards show:
  o Trends and projections
  o Measure area performance reports on a national level
  o Individual State performance reports, including targets and significant progress determinations
  o Individual large urbanized area performance reports
National Dashboard

Number of Fatalities

33,210

FATALITIES - ANNUAL FIVE-YEAR AVERAGE

Desired trend
National Performance Area Reports

Number of Fatalities

33,210 Fatalities
Rolling 5-year Average

Projection
By 2018
States are projected to reduce fatalities below

28,000 Fatalities

Data: Annual Fatal Crashed from FARS; Data are from latest available year.
# State Performance Report

## How are we doing?
- The performance targets are met on this page and annualized and revised annually.
- To check on a state’s progress, visit the state’s website where updated data and additional measures may be reviewed.
- Additional details and reports are provided at the bottom of this page, where available.

### Are We Making Our Roads Safer?
Example State has implemented numerous countermeasures to reduce median cross over and other run-off-the-road crashes, a major source of fatalities in the State.

#### Data Annual Fatal Crashes from FARS, Data are from latest available year.

<table>
<thead>
<tr>
<th>Number of Fatalities</th>
<th>2018 Target</th>
<th>2018 Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>826</td>
<td>750</td>
<td></td>
</tr>
</tbody>
</table>

**2018 Total Fatalities:** 826

**2018 Target:** 750

**2018 Data:** 826

For more details, please refer to the state’s website for updated data.

### Number of Fatalities

<table>
<thead>
<tr>
<th>Year</th>
<th>Fatalities</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td></td>
</tr>
</tbody>
</table>

**2018 Target:** 750 or fewer fatalities

**2018 Data:** 826

**Desired trend:** 0

**2018 Target:** 750

**2018 Data:** 826

### Data Annual Fatal Crashes from FARS, Data are from latest available year.
Phased Development

1.0

- 33,210 Fatalities
- 28,000 Fatalities
- 1.14 Fatalities Per 100k Vehicle-Miles
- 1.0 Fatalities Per 100k Vehicle-Miles

2.0

- 2.5M Injuries
- 2.5M Injuries

transportation.gov

- Static pages
- Highway & Transit
- Determinations
- US, State, Transit

Dynamic content!
Timeline

Design and Build Out
- External Showcase Webinar
- Phase 1 Site Build Out
- Phase 2 Data Visualization and Analysis Tools
- Research/Testing
- Phase 1 Launch

Website Launch
- Phase 2 Launch
- Content Management and Maintenance

2018

2019
Resources
TPM Professional Capacity Building (PCB)

Create Resources to Support Implementation
- Regulations
- Guidance
- Support materials (factsheets, reports, tools, etc.)
- Survey and stakeholder input

Develop PCB Products
- Training course Materials
- Web-based training modules
- Webinar slides
- Video modules

Deliver Products to Staff and Stakeholders
- In-person training
- Webinars and virtual trainings
- Clearinghouses
- Conference presentations/workshops
- Discipline seminars
TPM Website

http://www.fhwa.dot.gov/tpm/
Materials in Development

• Technical Advisories Guidance
  o S/TIP Performance-Based Discussion
  o LRTP System Performance Report
  o Linking Targets to Long-Term Expectations

• Guidebooks and Effective Practices
  o Transportation Investment Strategy Analysis (Summer 2017)
  o TPM Target Setting Coordination (Summer 2017)
  o Analyzing Freight Bottlenecks for TPM (Winter 2017)
Let’s Talk Performance Series

- Recorded Sessions on Key TPM Topics
  - Asset Management (November 2016)
  - Safety Target Setting and Coordination (September 2016)
  - Basics of Target Setting (July 2016)
NHI In-Person Courses Available Now

- Overview of MAP-21 TPM (with FAST Act Updates)
- TPM for Safety
- Performance-based Planning and Programming
- Steps to Effective Target Setting
- The Role of Data in TPM
Formal Peer-to-Peer Technical Assistance

• Learn from DOT/MPO/Transit Peers

• Apply for:
  o FHWA TPM Professional Capacity Building Program
  o FHWA Transportation Planning Capacity Building Program
    □ FHWA Scenario Planning Peer Exchange Workshop

• Apply through Division Office
TPM Toolbox

- Visit [http://www.tpmtools.org](http://www.tpmtools.org)
  - Assess your agency’s level of TPM maturity
  - Use the practical tools to move your agency to the next level in a range of performance areas
TPM Capability Maturity Model (CMM)

CMM has 10 components w/ 26 Subcomponents

1. Strategic Framework
2. Target Setting
3. Performance-Based Planning
4. Performance-Based Programming
5. Monitoring & Assessment
6. Reporting & Communication

A. TPM Organization & Culture
B. External Collaboration
C. Data Usability & Analysis Capabilities
D. Data Management

CMM has 10 components w/ 26 Subcomponents:

- 1. Strategic Framework
- 2. Target Setting
- 3. Performance-Based Planning
- 4. Performance-Based Programming
- 5. Monitoring & Assessment
- 6. Reporting & Communication

A. TPM Organization & Culture
- A1 Leadership Team Support
  - A1.1 Goals & Objectives
  - A1.2 Performance Measures

B. External Collaboration
- B1 Planning & Programming
  - B1.1 Tools & Techniques

C. Data Usability & Analysis Capabilities
- C1 Data Exploration & Visualization
- C2 Performance Diagnostics
- C3 Predictive Capabilities

D. Data Management
- D1 Data Quality
- D2 Data Accessibility
- D3 Data Standardization & Integration
- D4 Data Collection Efficiency
- D5 Data Governance

Baseline Development & Target Setting
- 2.1 Technical Methodology
- 2.2 Business Process

Performance-Based Planning
- 3.1 Strategy Identification
- 3.2 Investment Tradeoffs & Strategy Prioritization

Performance-Based Programming
- 4.1 Within Performance Areas
- 4.2 Cross-Performance Area Tradeoffs

Monitoring & Adjustment
- 5.1 Program Delivery Monitoring
- 5.2 Performance Monitoring

Data Management
- D1 Data Quality
- D2 Data Accessibility
- D3 Data Standardization & Integration
- D4 Data Collection Efficiency
- D5 Data Governance

U.S. Department of Transportation
Federal Highway Administration
FHWA Website Resources

- Policy and Guidance Center
  - [https://www.fhwa.dot.gov/pgc/](https://www.fhwa.dot.gov/pgc/)
- TPM
  - [https://www.fhwa.dot.gov/TPM/index.cfm](https://www.fhwa.dot.gov/TPM/index.cfm)
- Asset Management
  - [https://www.fhwa.dot.gov/asset/](https://www.fhwa.dot.gov/asset/)
Contacts

For questions or more information, please contact:

Transportation Performance Management Team:

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