West Virginia Division of Highways
Transportation Asset Management

MPO/LTAP Conference
Partnering for a Better Future
April 19, 2018
Overview

• TAMP Requirements and Goals
• Project Status
• Agency Engagement & Keys to Success
• Transportation Performance Management (TPM)
TAMP Requirements and Goals

Source: WVDOT Website
Federal Requirements

MAP-21 and Fast Act Legislation

• Requires a risk-based asset management plan for pavements and bridges on the NHS that includes, at a minimum:
  • a summary listing of the pavement and bridge assets on the NHS in the State, including a description of the condition of those assets;
  • asset management objectives and measures;
  • performance gap identification and analysis;
  • lifecycle cost and risk management plans;
  • financial plan process; and
  • investment strategies.
Federal Requirements

MAP-21 and Fast Act Legislation

• For the ‘Initial TAMP’ due April 2018, the following are not required:
  • *Inclusion of condition targets is not required, but is encouraged:*
    • Either use any long term State targets that the DOT may have developed previously for use in its asset management analyses;
    • Or use temporary targets such as minimum condition requirements for NHS bridges and interstate pavements
  • Note that Targets are still due to FHWA by May 20, 2018.
  • *Life Cycle Planning: Process is required but not analysis.*
  • *Risk Management Plan: Process is required but not analysis.*
  • *Financial Plan: Process is required but not analysis.*

• All of these will be required in the ‘Complete TAMP’ due June 30, 2019.
Federal Requirements

Consequences for Non-Compliance

• If a State DOT has not developed and implemented a compliant asset management plan, the maximum Federal share on National Highway Performance Program (NHPP) projects and activities carried out by the State in that fiscal year shall be reduced to 65% for that fiscal year.

• If a State DOT has not developed and implemented an asset management plan consistent with requirements and has not established NHS pavements and bridges targets within 18 months of that rule’s effective date, the FHWA will not approve any further projects using NHPP funds until the State has done so.

The deadline may be extended if the FHWA determines the State has made a good-faith effort.
Table of Contents

1. A summary listing of the pavement and bridge assets on the National Highway System (NHS) in the State, including a description of the condition of those assets;
2. Asset management objectives and measures;
3. Performance gap identification;
4. Lifecycle cost and risk management analysis;
5. A financial plan; and
6. Investment strategies.
Implementing a Formal Asset Management Plan

Asset Management & MAP-21
• The risk based TAMP will require the use of data to drive decisions
• Accurate asset condition data will become more important
• Performance targets will become more important
• Funding strategies and tradeoff analysis will become more important
Implementing a Formal Asset Management Plan

Making the Most of Limited Resources

• Utilize TAMP to set policy for allocation of resources
• Move to a data driven decision making organization
• Consider risk at Agency, Program and Project Levels.
• Adjust program funding based on performance
Project Status
TAMP Schedule

Project Status

- Project Initiation: August 2017
- As Is Assessment Workshops: November 2017
- Risk Assessment Workshops: December 2017
- Gap Analysis Workshop: January 2018
- TAMP Development Workshop: March 2018
- Draft TAMP Delivered to FHWA: April 2018

- BMS Configuration Requirements Sessions: February 2018
- PMS Refinements Requirements Sessions: February 2018
- Systemwide Data and Plan Review: May 2018
- Work Plan Development: June 2018
Involvement at each Phase of Project

- TAMP Steering Committee (continuous)
- Self-Assessment Survey
- “As-is” Interviews (by functional area)
- “As-is” Workshops (by functional area)
- Gap Survey
- Risk Workshop
- Gap Workshop (by functional area)
- TAMP Development Workshop
Agency Engagement and Keys to Success

Source: WVDOT Flickr Photostream
TAMP Steering Committee

- Executive Champion-Greg Bailey
- Project Manager-Billy Varney
- Representatives from:
  - Maintenance Division
  - Budget and Finance
  - Planning and Programming
  - District(s)
  - FHWA
  - OASIS Team
Keys to Success

- Executive level support and expectation setting
- Agency Champions
- Steering Committee
- Internal Communication
- External Communication
- FHWA Engagement
- Agency-wide ownership and acceptance of TAMP
- An understanding that change is a necessary component of successful progress
Transportation Performance Management (TPM)
What is TPM?

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

• Condition-based Performance Measures and Targets for NHS Pavements and Bridges
• Potential Gaps affecting targets for condition of NHS Pavements and Bridges
• Initial “To Be” Business Process for achieving NHS Pavement and Bridge Targets
• Gaps between “As Is” and Draft “To Be” Business Process
• Discuss potential strategies for closing Gaps
Performance Based Planning Requirements

- Planning Rule
- HSIP & Safety Performance Management Final Rules (PM1)
- Pavement & Bridge Condition Performance Measures Final Rule (PM2)
- Asset Management Plan Final Rule (TAMP)
- System Performance/Freight/CMAQ Performance Measures Final Rule (PM3)
- Transit Asset Management Final Rule
- Public Transit Safety Program Final Rule

(Rules which include performance measures requirements are highlighted in red.)
# TPM – Target Setting

*Target: a quantifiable level of performance or condition to be achieved within a time period*

<table>
<thead>
<tr>
<th>Final Rules (FHWA – 23 CFR 490)</th>
<th>States Set Targets By</th>
<th>WVDOT Status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PM1 – Safety</strong> <em>(5 measures)</em></td>
<td>Aug. 31, 2017 (annually)</td>
<td><strong>Completed</strong> 2018 targets established in HSIP</td>
</tr>
<tr>
<td><strong>PM2 – Pavement / Bridge</strong> <em>(6 measures)</em></td>
<td>May 20, 2018</td>
<td><strong>Underway</strong> WVDOT will establish 2-year and/or 4-year targets</td>
</tr>
<tr>
<td><strong>PM3 – System Performance</strong> <em>(6 measures)</em></td>
<td>May 20, 2018</td>
<td><strong>Underway</strong> WVDOT will establish 2-year and 4-year targets (for eligible measures)</td>
</tr>
</tbody>
</table>
TPM Review – 17 Total Targets

**Performance Measure**: *an expression based on a metric used to establish targets and to assess progress toward targets*

<table>
<thead>
<tr>
<th>PM1 - Highway Safety Performance Measures</th>
<th>PM2 - Pavement/Bridge Performance Measures</th>
<th>PM3 - System Performance / Freight / CMAQ Performance Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Number of fatalities</td>
<td>6. % of pavements on the Interstate system in good condition</td>
<td>12. % of person miles on the Interstate system that are reliable</td>
</tr>
<tr>
<td>2. Fatality rate (per 100 million VMT)</td>
<td>7. % of pavements on the Interstate system in poor condition</td>
<td>13. % of person miles on the non-Interstate NHS that are reliable</td>
</tr>
<tr>
<td>3. Number of serious injuries</td>
<td>8. % of pavements on the non-Interstate NHS in good condition</td>
<td>14. % of Interstate mileage providing for reliable truck travel times</td>
</tr>
<tr>
<td>4. Serious injury rate (per 100 million VMT)</td>
<td>9. % of pavements on the non-Interstate NHS in poor condition</td>
<td></td>
</tr>
<tr>
<td>5. Number of non-motorized fatalities and serious injuries</td>
<td>10. % of NHS deck area classified as in good condition</td>
<td></td>
</tr>
<tr>
<td><strong>FY2018 targets adopted</strong></td>
<td><strong>N/A in first performance period</strong></td>
<td>15. Annual hours of peak-hour excessive vehicle travel (2018-2021) for WV</td>
</tr>
<tr>
<td><strong>Targets set annually</strong></td>
<td></td>
<td>16. Percent of freight vehicle travel (2018-2021) for WV</td>
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<td></td>
<td></td>
<td>17. Total emissions reduction (CMAQ projects)</td>
</tr>
</tbody>
</table>

Draft Targets: 4/16
MPO/Stakeholder Review: 4/30
FHWA submission: by 5/20
State DOTs must establish their targets for these measures no later than May 20, 2018*

Four-year targets may be adjusted at the mid-point of a Performance Period. 2-year targets may not be adjusted.

Targets should be reasonable, based on analysis of trends and projections of future efforts. Targets should be considered as interim condition/performance levels that lead toward the accomplishment of longer-term performance expectations in the State DOTs' and MPOs' transportation plans.

The FHWA strongly discourages the use of aspirational targets. Setting data-driven targets will enable decision makers to utilize resources in ways that will result in increased accountability and transparency by allowing the public to better understand expectations and expenditure results.
PM2 – Pavement & Bridge

**Targets due to FHWA - 5/20/2018**

- **Target timing**: Set 2 & 4 year targets; revisit every 4 years
- **Report timing**: Baseline report by Oct. 1, 2018, every two years thereafter
- **Adjust targets** at the Mid Performance Period Progress Report (Oct 1, 2020)
- **MPOs support State DOT 4-year target OR establish their own 180 days** after the State DOT(s) target is established

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**Condition Performance Measures: (Interstate & NHS)**

- Percentage of pavements in Good/Poor condition on the **Interstate System**
  - **4 Year Target**
- Percentage of pavements in Good/Poor condition on the **Non-Interstate NHS**
  - **2 & 4 Year Target**
- Percentage of **bridge deck area classified** as in Good/Poor condition
  - **2 & 4 Year Target**
Trends – Pavement Condition

**Interstate Pavement Condition**
- 2014: 74.58% GOOD, 23.36% FAIR, 2.06% POOR
- 2015: 80.56% GOOD, 15.10% FAIR, 1.21% POOR
- 2016: 85.20% GOOD, 14.67% FAIR, 0.20% POOR
- 2017: 73.41% GOOD, 23.76% FAIR, 0.05% POOR

**Non-Interstate NHS Pavement Condition**
- 2014: 54.62% GOOD, 42.58% FAIR, 2.80% POOR
- 2015: 44.09% GOOD, 52.80% FAIR, 3.11% POOR
- 2016: 49.72% GOOD, 49.06% FAIR, 1.20% POOR
- 2017: 40.87% GOOD, 55.84% FAIR, 3.30% POOR

Interstate poor pavement primarily associated with concrete cracking
Non-Interstate NHS poor pavement primarily associated with asphalt cracking and IRI
Trends – Bridge Condition

- Bridge deck and superstructure overall in better condition than substructure.
- Recent trend shows shift from good (7/8) to upper fair (6), fair to lower fair (6 to 5), and lower fair (5) to poor (4 or lower).

3-year trend challenge – TAMP includes strategies to help address.
# PM3 – System Performance

## Targets due to FHWA - 5/20/2018

- **Target timing**: Set 2 & 4 year targets; revisit every 4 years
- **Report timing**: Baseline report by Oct. 1, 2018, every two years thereafter
- **Adjust targets** at the Mid Performance Period Progress Report (Oct 1, 2020)
- **MPOs support State DOT 4-year target OR establish their own 180 days** after the State DOT(s) target is established

## System Performance Measures: (Interstate & NHS)

- Percent of person miles traveled that are reliable on the **Interstate system**
  - 2 & 4 Year Target

- Percent of person miles traveled that are reliable on the **Non-Interstate NHS**
  - 4 Year Target

- Truck Travel Time Reliability index on the **Interstate system**
  - 2 & 4 Year Target
Target Setting Approaches

- **Policy-driven** – established by executive management or a legislative body
- **Analysis-driven** – based on tools that provide information about performance
- **Consensus-based** – established through a collaborative planning process with input from stakeholders
- **Customer feedback-based** – direct feedback from customers through surveys and outreach methods
- **Benchmark-based** – through peer comparisons

Ultimate approach for each target may include a combination of these
Next Steps
Coordination through target submission

- **MPO / FHWA Coordination**
  - Conduct webinar to brief MPOs / FHWA on state targets and data sharing approach – 4/30

- **DOH official adoption and submission of targets**
  - Target numbers and justifications
  - Letter to FHWA
Thank You

Billy Varney
William.H.Varney@wv.gov
304-558-9490