DRAFT - Pavement & Bridge Condition Performance Measure Summary

This document represents PSRC’s draft summary of FHWA’s Notice of Proposed Rulemaking (NPRM) regarding 23 CR Part 490, National Performance Management Measures; Assessing Pavement Condition for the National Highway Performance Program and Bridge Condition for the National Highway Performance Program. Its purpose is to provide a high level summary of the proposed rule to assist local and regional stakeholders in understanding the contents of the NPRM and provide a foundation for comments to FHWA.

Performance Measures and Minimum Standards for States & MPOs

Performance Measures (6 Total)

- **Condition of pavements on the interstate system** – 2 measures - % of main line interstate lane miles in “good condition” and % of main line interstate lane miles in “poor condition”
- **Condition of pavement on the non-Interstate National Highway System (NHS)** – 2 measures - % of main line lane miles on the non-interstate NHS in “good condition” and % of main line lane miles on the non-interstate NHS in “poor condition”.
- **Condition of bridges on the NHS** – 2 measures - % of NHS deck area in “good” and “poor” condition.

Minimum Condition Standards

- **Interstate Pavement Minimum standard** – No more than 5% of interstate lane miles are classified in “poor” condition for two consecutive years. Note that the minimum condition standard only applies to interstate pavement condition, not the local NHS.
- **NHS Bridges Minimum standard** – No more than 10% of bridge deck area on the NHS is classified “structurally deficient”. Note that the condition standard applies to bridges on the full NHS.

Financial Penalty for Not Meeting Minimum Standards

- If the minimum interstate pavement condition standard has not been met for two consecutive years the state must obligate a portion of National Highway Performance Program (NHPP) funding for interstate maintenance and transfer funding from the state component of the STP program to the NHPP program. The amount of NHPP funding will be equal to the 2009 interstate Maintenance program and increase by 2% for each subsequent year the state fails to meet the minimum condition standard. The amount transferred from the state component of the STP program will be 10% of the 2009 statewide Interstate Maintenance apportionment.
- If the minimum NHS bridge condition standard has not been met for three consecutive years, the state must set aside and obligate a portion of NHPP funds for bridge projects on the NHS.
- As written, penalties apply to state funding, not regional or local apportionments or sub-allocations.
- Note that the penalty only applies to meeting the minimum condition standards. There is no financial penalty for not achieving performance targets.
State Target Setting

- States will set performance targets for each performance measure noted above (6 total). Note that this does not include the minimum condition standards.
- States must set targets within 1 year of the effective date of the rule and be coordinated with MPOs to ensure consistency between regional and state targets.
- Targets are to be established within the context of achieving long-term system performance goals outlined in the state long-range transportation plan and NHS Asset Management Plan.
- DOTs will set two- and four-year targets for a given four-year performance period, which begins on January 1 of the date in which the Baseline Performance Period Report is due.
  1. A four-year target may be adjusted during the mid-performance period report.
- Targets apply to all NHS facilities within the state (interstates, Non-interstate NHS, bridges on the NHS) – state must define/describe this network in the Baseline Performance Period Report.
- The state may also set additional targets for any number or combination of urbanized areas and the non-urbanized area of the state – each urbanized area or non-urbanized area target geography must be defined in the Baseline Performance Period Report and will remain consistent throughout the performance period.
  1. States must evaluate progress towards meeting all sub-state targets in the biennial progress report to FHWA, however these targets will not be subject to the “significant progress” determination by FHWA.

Data Collection Approach and Requirements - Pavements

- Condition of a pavement will be assessed by DOTs and FHWA based on the following index and specific distresses as reported in the Highway Performance Monitoring System (HPMS)
  1. International Roughness Index (IRI)
  2. Rutting (on asphalt pavements)
  3. Faulting (on jointed concrete pavements)
  4. Cracking Percent
- For the interstate, states will annually collect data on surface type, number of lanes, IRI, and all distresses from the full extent of the interstate in the rightmost travel lane, or the only through lane for the entire stretch of highway, in 1/10th mile increments. Data will be collected in both directions independently.
- For the non-interstate NHS, states are required to biennially collect data on surface type, number of lanes, IRI, and all distresses from the full extent of the non-interstate NHS in the rightmost travel lane, or the only through lane for the entire stretch of roadway, in 1/10th mile increments. Data will only be collected in one direction of travel. For the three detailed distresses DOTs may estimate based on samples until 2019, at which point the full collection will be required and sampling not permitted.
- Bridges are excluded from final calculations since they are evaluated separately.
- All tools and approaches used in data collection and calculation of pavement metrics must conform to AASHTO or HMPS standards based on distress and surface type.
Data Collection Approach and Requirements - Bridges

- Based on the National Bridge Inventory ratings for substructure, bridge deck, superstructure, and culverts
- Lowest rating will determine the classification of the bridge
- Percentages of facilities in “good”, “fair”, and “poor” condition will be based on the ratio of deck area in each condition to the total deck area of NHS bridges
### NBI Bridge Condition Rating Thresholds for NHS Bridges

#### NBI Rating Scale
(from 0 – 9)

<table>
<thead>
<tr>
<th>Rating</th>
<th>9</th>
<th>8</th>
<th>7</th>
<th>6</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Good</td>
<td>Fair</td>
<td>Poor</td>
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</tbody>
</table>

#### Bridge

- **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

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### Bridge Classification Example

**Example for bridge**

- **Item 58**  
  - Deck = 8
  - Good

- **Item 59**  
  - Superstructure = 8
  - Good

- **Item 60**  
  - Substructure = 4
  - Poor

**Overall Condition Classification = Poor**
## State Reporting

<table>
<thead>
<tr>
<th>Due</th>
<th>Baseline Performance Report</th>
<th>Mid-Performance Period Progress Report</th>
<th>Full-Performance Period Progress Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>By 10/1 after start of a four-year performance period</td>
<td>By 10/1 in 3rd year of four-year performance period</td>
<td>By 10/1 after end of a four-year performance period</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Targets</th>
<th>Baseline Performance Report</th>
<th>Mid-Performance Period Progress Report</th>
<th>Full-Performance Period Progress Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two- and four-year performance targets and the basis for each</td>
<td>Comparison of actual conditions with two-year targets. Discuss progress towards achieving targets, including accomplishments, planned activities for remainder of performance-period, and any differences between actuals and targets. If applicable, include extenuating circumstances that led to state not achieving targets.</td>
<td>Comparison of actual conditions with four-year targets. Discuss progress towards achieving targets, including accomplishments and any differences between actuals and targets. If applicable, include extenuating circumstances that led to state not achieving targets.</td>
<td></td>
</tr>
</tbody>
</table>

| Performance | Baseline conditions | N/A | Discussion of the effectiveness of investment strategies documented in State Asset Management Plan. If state misses targets for two consecutive biennial determinations, describe actions or approaches that will be taken to meet next target. |

| Investment Strategy | N/A | Discussion of the effectiveness of investment strategies documented in State Asset Management Plan. If state misses targets for two consecutive biennial determinations, describe actions or approaches that will be taken to meet next target. |

| Context | How the two- and four-year targets relate to long-term expectations of system conditions | If applicable, how new targets relates to long-term expectations of system conditions | N/A |

| Geographic Extent | Urbanized area definitions and population | N/A | N/A |

| Extent and characteristics of NHS within state | N/A | N/A |

Notes: States will report using an electronic template to be developed by FHWA and MPO targets must be made available upon request by FHWA.

For the first report, DOTs will establish a four-year performance target for each measure, however will not be required to develop a baseline condition assessment or provide two-year targets for INTERSTATE PAVEMENT CONDITION MEASURES ONLY. Bridge baseline and two-year targets must still be provided in this first report. Baseline conditions will be need to be provided in the mid-term performance progress report and in all future reports.

## Determining Significant Progress?

- Assessed on each target - determined at mid-point and end of each performance period after state has submitted applicable report. FHWA will notify state DOTs of the outcome.
- Data source for pavement targets and determination will be the HPMS (pulled 6/15 & 8/15 in years in which determinations are made).
- Data source for bridge targets and determinations will be the National Bridge Inventory System (pulled 6/15 in years in which determinations are made).
- Conditions equal to or better than conditions reported in the Baseline Performance Period report will constitute having made “significant progress” towards the achievement of two- and four-year targets.
  - In the case of a state establishing a declining target, the actual condition must be better than, or equal to, the target.
• If a state DOT is found to not have made significant progress on a target, it will be required to document actions that the DOT will take to achieve the next performance target in the upcoming biennial condition report as well as provide that information to FHWA within six months of the determination being made.
• If a state DOT does not provide sufficient data for FHWA to make a determination, a “failed to make sufficient progress” determination will automatically be made.

**MPO Target Setting**

- MPOs must set four-year performance targets for each performance measure within 180 days of the DOT. MPOs are NOT required to establish two-year targets.
- Targets apply to all NHS facilities in the region (interstates, Non-interstate NHS, Bridges on the NHS)
- Targets should be established within the context of achieving long-term system performance goals outlined in the Metropolitan Transportation Plan and state NHS asset management plan.
- Targets may directly support statewide targets or be independently set, but they must be coordinated with the state. MPO must adopt targets that either:
  1. support the state target, meaning the MPO agrees to plan and program projects so they contribute towards the accomplishment of the state DOT targets; or
  2. are independent and quantifiable.
- If an MPO established a target by supporting the state target, and the DOT changes that target during the mid-performance period progress report, the MPO has 180 days to recommit to the new state target or commit to a new quantifiable target for the metropolitan area.
- Independently quantifiable targets, should the MPO choose to adopt one, may be adjusted in a manner that is agreed upon by the state and MPO and outlined in the Metropolitan Planning Agreement.

**MPO Reporting**

- MPOs are required to report targets to the state, which will provide to FHWA upon request.
- Target reporting approach will be outlined in the DOT/MPO metropolitan planning agreement.
- MPO shall report baseline conditions and progress towards achieving targets in the “system performance report” that is required to be included in future updates to the MTP.
General Timeline for Pavement & Bridge Performance-Based Planning Process

- **2015**
- **2016**
  - October 2016 Baseline Performance Report to FHWA 2017 & 2019 Targets established
  - April 2017 (180 Days After DOT) MPO reports 2019 target to state
- **2017**
  - Rule Effective 10/1/15
- **2018**
  - October 2018 DOT Mid Term Progress Report to FHWA Discuss 2 year progress Report adjustments to 2019 target
- **2019**
  - October 2020 DOT Full Progress Report to FHWA Discuss 4 year progress 2021 & 2023 Targets established

- **Metrics Extracted by FHWA for Target Evaluation**
  - June 15th - NBI NHS Bridges
  - June 15th - HPMS Interstate Pavement
  - August 15th - HPMS NHS Pavement

- **Baseline & Targets**
  - Performance Period Baseline
  - Mid-Performance Period & Final
  - Performance Period Targets