

## AASHTO SCOPM MAP-21 Notice of Proposed Rule-Making Checklist (Pavement)

### Document Overview

MAP-21 legislation requires States to:

- Establish performance targets for pavement condition on Interstate highways and non-Interstate National Highway System roads – based on specific measures established by the Secretary of Transportation
- Submit biennial performance reports on the established measures and targets
- Meet minimum condition levels for Interstate Pavements established by the Secretary of Transportation
- Meet, or make significant progress toward meeting the State-established targets

The Notice of Proposed Rulemaking (NPRM) for implementing the provisions of the legislation is expected to include more specific implementation details on pavement condition measure definition, data sources, and calculation methods; and the processes for target-setting and performance reporting.

This document provides a set of checklists that can be used to assist in the review of the MAP-21 Highway Conditions NRPM provisions related to pavement performance measurement. The checklists may suggest areas where comments are warranted to ensure that the final rules (1) support current or desired state performance management processes and (2) can be implemented in a manner that minimizes burdens on limited state resources. The checklists were based on the recommendations developed through the AASHTO Standing Committee on Performance Management (SCOPM) Task Force on Performance Measure Development, Coordination and Reporting. These checklists reflect the input that was provided by the Task Force to FHWA on rules related to national performance measures and targets.

Each section of this document presents a summary of the relevant statutory provisions, a statement of what additional guidance may be provided in the NPRM, and a checklist of considerations that some States may wish to see reflected in the final rules.

# Performance Measure Definitions and Data Sources

**Summary of Statutory Provision:** §1203(c); 23 USC 150(c) The Secretary will establish measures for States to use to assess the condition of pavements on the Interstate system, and the condition of pavements on the National Highway System (excluding the Interstate.)

**Context:** To implement section 1203 of MAP-21, FHWA’s rulemaking will define specific pavement performance measures. In addition to specifying the measures, the rulemaking is expected to clarify the methods state DOTs will use for calculating the required measures, and detail procedures for collecting and processing the necessary data.

**Checklist:** The following checklist can be used as a guide for review of the NPRM; it may suggest areas where comments are warranted to ensure that the final rules support current or desired state performance management processes and can be implemented in a manner that minimizes burdens on limited state resources.

The pavement performance measures shown below reflect the statutory requirements and incorporate the recommendations of the Task Force on measure calculation and definition.

In developing these recommendations, the Task Force noted the following concerns: (1) for many states, condition monitoring processes are not in place for off system/local NHS roads and (2) in applying the measures it is important to use an asset management approach that takes a long term view, avoids driving “worst-first” investment decisions, and recognizes that target setting is part of a risk-based process involving tradeoffs across assets and program areas.

Task Force Recommended Measures	
<input type="checkbox"/>	<b>Interstate Pavement in Good, Fair and Poor Condition based on the International Roughness Index (IRI).</b> Percentage of 0.1 mile segments of Interstate pavement mileage in good, fair and poor condition based on the following criteria: good if IRI<95, fair if IRI is between 95 and 170, and poor if IRI is greater than 170.
<input type="checkbox"/>	<b>Non-Interstate NHS Pavement in Good, Fair and Poor Condition based on the International Roughness Index (IRI).</b> Percentage of 0.1 mile segments of non-Interstate NHS pavement mileage in good, fair and poor condition based on the following criteria: good if IRI<95, fair if IRI is between 95 and 170, and poor if IRI is greater than 170.
<input type="checkbox"/>	<b>Structural Health (Future).</b> In order to better reflect pavement structural condition, a Pavement Structural Health measure should be developed for future implementation: Percentage of pavement meeting minimum criteria for faulting, rutting and cracking. A 3-5 year time interval is needed to allow for technology development and standardization of measurement practices prior to implementation.

## Performance Measure Definitions and Data Sources (continued)

### Measure Definition, Sources and Calculation Methods

- IRI Measurement Issues on Urban Roads.** IRI testing is not appropriate at low traffic speeds and in urban environments. IRI may be adversely impacted by utilities. However, data from urban sections should be submitted, and used to set reasonable urban ride quality goals in the future.
- IRI Breakpoints for Good-Fair-Poor.** The Good-Fair-Poor breakpoints above are expected to apply to rural roadways. Following the first year of data submission, a study of the current breakpoints versus IRI on the ground should be conducted with the goal of reducing IRI on rural roadways and setting IRI breakpoints if possible for urban roadways
- IRI Data Source.** A state should be able to choose to submit HPMS data or data from their state database.
- IRI Data Processing – Short Segments.** Generally, HPMS data collection protocols should be required, deleting any segment that is less than 0.1 mile long. Portions of roadways that are under construction should be “skipped” in the current year of data collection and reporting
- IRI Data Collection Standards.** States should adhere to the most current version of AASHTO M328, R 56, R57, and R43.
- IRI Data Processing - PROVAL.** To improve consistency of IRI data between states, it is recommended that IRI data be processed using PROVAL, which is available at no cost.
- IRI Data Collection – Quality Assurance.** To ensure measurements are repeatable and reproducible, agencies should select a local site where a weekly data check is performed, and develop a control chart. No IRI determination should vary more than 5% from the control.

**Comments:**

# Minimum Condition Levels for Interstate Pavements

## Summary of Statutory Provisions:

§1203; 23 USC 150(c) The secretary will establish minimum levels for the condition of pavement on the Interstate System. These may vary by geographic region.

§1106; 23 USC 119(f) If, during 2 consecutive reporting periods, the condition of the Interstate System in a State falls below the minimum condition level, the following fiscal year an amount not less than the State's Interstate maintenance program apportionment in 2009 will be set aside from National Highway Performance Program (NHPP) funds to be used only for eligible projects on the Interstate System. The obligation requirement will remain in effect for each subsequent fiscal year until such time as the condition of the Interstate System in the State exceeds the minimum condition level.

**Context:** To implement these provisions, FHWA’s rulemaking will establish the minimum condition levels and provide further specification on how these levels may vary by region. The rulemaking may also provide further detail on how FHWA will determine failure to meet the minimum condition level and the specific process by which the obligation requirements will be applied.

**Checklist:** The following checklist can be used as a guide for comparison of the NPRM with Task Force recommendations; it may suggest areas where comments are warranted.

- Minimum Levels – Rural Interstates.** Minimum levels for the condition of Interstate pavements should be established only for rural Interstate segments, given the challenges of urban IRI measurement.
- Minimum Levels – Rural Interstates.** The minimum condition level for rural interstate segments should be set at less than or equal to 20% of segments rated poor based on IRI.

## Comments:

## Target Setting Method and Process

**Summary of Statutory Provisions:** §1203; 23 USC 150(d) States have 12 months from final rulemaking to set targets reflecting the established measures, with the option of setting different targets for rural and urbanized areas.

**Context:** Per section 1203 of MAP-21, States have flexibility in setting target values of the established national measures. However, rulemaking is likely to provide additional information on the process by which States establish targets. It may discuss factors that States should consider as they set targets (e.g. implications of setting aggressive versus easily-attainable targets.) Guidance may also be provided on the relationship between existing state performance targets and those targets established in response to MAP-21.

**Checklist:** The following checklist can be used as a guide for review of the NPRM; it may suggest areas where comments are warranted to ensure that the final rules support current or desired state performance management processes and can be implemented in a manner that minimizes burdens on limited state resources.

<input type="checkbox"/>	<b>Targets for Urban Sections.</b> Because IRI testing is not appropriate at low traffic speeds and may be adversely impacted by utilities, we do not recommend establishing targets for urban environments without further study.
<input type="checkbox"/>	<b>Focus on Federal Objectives.</b> MAP-21 performance measure and target-setting rules should focus on federal objectives and state support of these objectives. The rules should be focused on the ability of states, using available federal funds, to deliver the desired results – not on how states manage their own programs that do not use federal funds. (cross-cutting recommendation)
<input type="checkbox"/>	<b>State Flexibility.</b> States should have flexibility to set the target values for each of the required measures. State should not be required to set targets in a uniform way. Targets need to be set in the context of available funding and agency funding allocation decisions. (cross-cutting recommendation)
<input type="checkbox"/>	<b>Balancing Targets for Good Vs. Poor Pavements.</b> States should have flexibility to set targets to increase the % of rural road segments rated good and limit % of rural road segments rated poor. For example, a state may set a goal to increase the % good by 1%, while not allowing the % poor for rural roadways to exceed 20%. If a state has a very low percentage of road sections rated as poor, then a target maintaining current IRI should be acceptable.
<input type="checkbox"/>	<b>Allow Flat or Declining Performance Targets.</b> States should have the flexibility to choose to set targets that have performance holding steady, or in some situations declining. (cross-cutting recommendation)
<input type="checkbox"/>	<b>Allow States to Set Target Ranges.</b> The value of performance management is found in better decision-making, not target achievement. DOTs support the idea of allowing States to establish <i>ranges</i> of acceptable performance outcomes. Use of ranges can provide DOTs with a more nuanced way of discussing performance outcomes across multiple competing objectives. (cross-cutting recommendation)

## Target Setting Method and Process (continued)

- Long Term View.** Rule regarding target setting for pavement condition should support a long-term view, and help agencies to communicate long term impacts of setting a less aggressive target – with a higher need backlog
- Risk Based Approaches and Tradeoffs.** Allow flexibility for DOTs and MPOs to use a risk based target setting approach. Risk-based targets do not reflect optimal outcomes within a particular investment area; rather, risk-based targets represent strategic objectives within a plan to manage agency risks. Allowing states to approach target-setting for the entire set of national performance measures as a bundle accommodates states that have tradeoff processes across asset/program areas. (cross-cutting recommendation)
- Allow for Target Adjustments.** If a state wants to adjust targets dynamically (on an ongoing basis as conditions change), they should be allowed to do so.
- Targets for Trends Rather than Absolute Values.** Consider allowing targets in the form of percent change (slope or trend line rather than single number).
- Acknowledge Risks in Target Setting.** The rules should acknowledge that target setting has risks – an agency that doesn't meet the target they have established could face public criticism or other unintended consequences (cross-cutting recommendation)
- Provide Rationale.** Setting targets should be accompanied by a rationale for selecting the specific target value. (cross-cutting recommendation)
- Rational Schedule.** The time periods for the performance measure data collection, target setting assessment, and target adjustments need to consider the varying processes each state has for these activities. (cross-cutting recommendation)
- Target-Setting Timeline.** A state should have the flexibility to align their MAP-21 target-setting and performance reporting schedule with their TIP/STIP project cycle. (cross-cutting recommendation)
- Coordination of State and MPO Targets.** The development of state and MPO targets should be coordinated through a 3C (continuing, cooperative and comprehensive) planning process. This process should result in MPO targets that are attainable given the level of investment a DOT plans to make in a metropolitan planning area (MPA) over a particular time-horizon. Whenever possible, DOTs and MPOs should use consistent (i.e. equivalent) targets to assess the condition and performance of state highways within an MPA. (cross-cutting recommendation)

**Comments:**

## Performance Reporting and Progress Evaluation

**Summary of Statutory Provisions:** §1203; 23 USC 150(e) States have four years from the enactment of MAP-21 to submit a first biennial performance report addressing progress in achieving performance targets.

**Context:** Per section 1203, FHWA’s rulemaking is likely to define more specific requirements and processes for state performance reporting. Guidance may be provided on the format, structure, and submittal requirements of the Biennial Performance Reports. Rulemaking may also address the relationship between existing state performance reporting processes and products and the reporting requirements established through MAP-21.

**Checklist:** The following checklist can be used as a guide for review of the NPRM; it may suggest areas where comments are warranted to ensure that the final rules support current or desired state performance management processes and can be implemented in a manner that minimizes burdens on limited state resources.

<input type="checkbox"/>	<b>Performance Reporting Data Source.</b> A state should be able to choose to report based upon HPMS data or data from their state database. Progress towards meeting state-established targets should be assessed based on analysis of HPMS or state-reported data for the target year.
<input type="checkbox"/>	<b>Contextual Information.</b> States may wish to present their performance results in the context of funding, freight flow trends, population growth, weather, local jurisdiction action/inaction, customer survey results, assumptions vs. reality, etc.
<input type="checkbox"/>	<b>Explanation for Results.</b> When States and MPOs do not meet performance targets, they should describe what they have done to improve performance, how those actions impacted the performance, and why they have not met the target. (cross-cutting recommendation)
<input type="checkbox"/>	<b>Accountability Based on Control.</b> Only hold state DOTs and MPOs accountable for what they manage and control. Those who set targets should be those who manage and fund the system and are held responsible for compliance. Agencies should not be penalized for not meeting targets due to circumstances beyond their control. (cross-cutting recommendation)
<input type="checkbox"/>	<b>Self-Evaluation/Telling the Story.</b> States and MPOs should be allowed to self-evaluate in determining whether ‘significant progress’ has been made. This assessment should be based on quantitative and, if needed, qualitative data. In addition, determination of “significant progress” should be supported by narrative information if specific performance targets are not achieved. In this case, States and MPOs should provide narrative information and data to document the circumstances and assessment determination. (cross-cutting recommendation)
<input type="checkbox"/>	<b>Programmatic Approach:</b> The “significant progress” determination should be made based on a programmatic approach rather than based on separate evaluations for individual target areas. This approach would support States and MPOs in making balanced and sound investment decisions rather than trying to meet one target at the expense of another. (cross-cutting recommendation)

## Performance Reporting and Progress Evaluation (continued)

- Defining Significant Progress and Progress Agreements:** Consistent with current practice, States and their local FHWA Division offices should continue to work together and be empowered to consensually develop and determine what constitutes significant progress – at the program or performance measure level. Progress determination could be based on mutually agreed on templates and criteria. (cross-cutting recommendation)

**Comments:**