

OM-07: Pavement Management System

1-15 points

Goal: Leverage a pavement management system to balance activities that extend the life and function of pavements with impacts to the human and natural environment.

Sustainability Linkage

Maintaining and using a pavement management system supports the environmental and economic principles by optimizing the management of pavements, including preservation, restoration, and replacement, to maximize their lifetime. This reduces costs, the environmental impacts of construction, and raw material usage.



Background and Scoring Requirements

Background

The intent of this criterion is to leverage an agency's Pavement Management System (PMS) to incorporate sustainability considerations into decision-making, rather than to require that using the PMS will always result in the selection of a sustainable pavement solution.

Scoring Requirements

Requirement OM-07.1

1 point. Develop a Pavement Management System and Collect Data

The agency has a PMS. An effective PMS is a systematic process that provides information for use in implementing cost-effective pavement reconstruction, rehabilitation, and preventative maintenance programs, and results in pavements designed to accommodate current and forecasted traffic in a safe, durable, and cost-effective manner. There is no requirement that the PMS be a singular, computerized system; however, the PMS shall be a system of coordinated processes and tools that accomplish the functions of this criterion. The PMS should be based on the AASHTO *Pavement Management Guide, 2nd Edition*¹ and should include:

1. an up-to-date inventory;
2. a condition assessment;
3. yearly estimate of the annual budget needed to maintain and preserve the eligible infrastructure assets at the condition level established and disclosed by the government.
4. prioritization of projects needing maintenance and rehabilitation;
5. a method to determine the impact of funding decisions; and
6. a feedback process.

Note, the first three functions are requirements of [Statement 34 of the Governmental Accounting Standards Board \(GASB 34\)](#)². This information must be stored in a retrievable format and made available to the agency's PMS user.

One of the following scores applies:

0 points. The agency does not have a PMS that includes all six functions shown above.

1 point. The agency has a PMS that includes all six of the functions noted above and collects system-wide data.

Requirement OM-07.2

1-3 points. Track Pavement Network Performance

Points are assigned for tracking pavement network performance. Scoring is based on the following, cumulative requirements:

- **Requirement OM-07.2a**

1 point. Track Using Common Metrics

Track overall network condition using common metrics that supports GASB 34 requirements. At least one of the following common metrics should be used as a minimum: roughness (any commonly accepted measure is acceptable), cracking (or structural condition), rutting and faulting (for concrete pavements). The network condition should also state or show the fraction of the overall network the agency categorizes as “acceptable” and “deficient.” The specific definitions of these terms are left to the agency but they must be clearly identified in the PMS documentation.

- **Requirement OM-07.2b**

2 points. Measure Project Timeliness

Have measures related to project timeliness of rehabilitation, preservation, and maintenance activities. For example, an agency may identify projects and activities to be completed within 3 years that they can later assess to evaluate the timeliness of their actual implementation.

Requirement OM-07.3

2 points. Set Goals and Monitor Progress

Set pavement system performance goals and monitor progress toward goals.

One of the following scores applies:

0 points. Do not set quantifiable goals relating to both condition and timeliness as noted above; or set quantifiable goals relating to both condition and timeliness but do not monitor, or have not monitored progress towards goals for at least one year after goal establishment.

2 points: Set quantifiable goals relating to both condition and project timeliness as noted above, including when these goals are to be achieved, and monitor progress towards goals for at least one year after goal establishment.

Requirement OM-07.4

1-7 points. Leverage Data to Demonstrate Sustainable Outcomes

To earn credit for this scoring requirement, the agency must have a Pavement Management System as described in scoring requirement OM-07.1. Scoring is based on the following, cumulative requirements:

- **Requirement OM-07.4a**

2 points. Leverage PMS Data to Prioritize Projects

Prioritize projects based on system modeling, scenario analyses, trade-off analyses, and system optimization rather than a “worst-first” approach.

- **Requirement OM-07.4b**

2 points. Leverage LCCA to Predict Costs

Leverage life-cycle cost analysis (LCCA) techniques to predict costs and to perform short- and long-term budget forecasting.

- **Requirement OM-07.4c**

- 1 point. Include Pavement Preservation in Annual Plan**

Include routine pavement preservation needs in the annual UPWP or STIP/TIP that are based on the condition and timeliness goals set above.

- **Requirement OM-07.4d**

- 2 points. Link Pavement Repair, Preservation and Maintenance to Projects**

Leverage a PMS to link pavement repair, preservation, and maintenance projects to adjacent capital projects.

Requirement OM-07.5

1 or 2 points. Sustainable Specifications

To earn credit for this scoring requirement, the agency must have a Pavement Management System as described in scoring requirement OM-07.1. In addition to having and using a PMS, consider sustainable pavement solutions, including warm mix asphalt, long life pavement, recycled asphalt pavement, and others.

One of the following scores applies:

0 points. The agency is testing sustainable pavement solutions.

1 point. The agency has special provisions specific to at least one sustainable pavement solution that allow the use of this solution.

2 points. The agency has standard specifications and/or special provisions specific to at least one sustainable pavement solution and requires the consideration of sustainable pavements as a first solution.

Resources

The following resources are referenced in this criterion and consolidated here:

1. AASHTO, *Pavement Management Guide, 2nd Edition (2012)*
https://bookstore.transportation.org/Item_details.aspx?id=2024
2. Governmental Accounting Standard Series, *Statement 34 of the Governmental Accounting Standards Board* (June 1999), <http://www.gasb.org/cs/>
3. FHWA, *Towards Sustainable Pavement Systems: A Reference Document* (January 2015),
<https://www.fhwa.dot.gov/pavement/sustainability/hif15002/hif15002.pdf>

Scoring Sources

The program is considered to have met this criterion if the requirements above can be reasonably substantiated through the existence of one or more of the following documentation sources (or equal where not available):

1. Existence and use of a PMS.
2. If performance is measured, a chart, table, or spreadsheet that summarizes system performance.
3. Documentation of PMS goals including quantifiable objectives and timeframes.
4. If progress is monitored, a chart, table, or spreadsheet progression towards the above goal over time.
5. Standard specifications or special provisions.