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 the video



Transportation Performance Management Overview of TPM and HPMS

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TPM requirements for coordination among State Departments of Transportation, Metropolitan Planning Organizations, and operators of public transportation



Topics Covered in Video

- What is TPM?
- What is HPMS?
- How does TPM relate to HPMS?
- How Has HPMS Data Changed Under TPM?
- What New Data Items are Required?

Statutes & Regulations

- 23 CFR 490
- 23 CFR 490.207(a)
- 23 CFR 490.307(a)
- 23 CFR 490.309(a)
- 23 CFR 490.309(b)(1)(i)
- 23 CFR 490.309(b)(2)(i)
- 23 CFR 490.309(b)(2)(ii)
- 23 CFR 490.309(c)
- 23 CFR 490.309(b)(1)(i)(E)
- 23 CFR 490.309(b)(1)(ii)
- 23 CFR 490.309(b)(2)(i)(E)
- 23 CFR 490.309(b)(2)(i)(F)
- 23 CFR 490.309(b)(2)(ii)(F)
- 23 CFR 490.309(b)(3)
- 23 CFR 490.319(a)
- 23 CFR 490.319(b)
- 23 CFR 490.511(e)
- 23 CFR 490.611(b)
- 23 CFR 490.711(f)
- 23 USC 150

The Transportation Performance Management Topic Videos series, produced by the Federal Highway Administration (FHWA), provides State Departments of Transportation, Metropolitan Planning Organizations, operators of public transportation, and other interested parties guidance for implementing Transportation Performance Management (TPM).

State and local transportation agencies must fulfill a wide range of Federal data reporting requirements. These requirements enable FHWA to achieve its objective of ensuring the efficient operation of the nation's transportation system.

While you may be familiar with some of these requirements, new regulatory requirements that support national transportation performance goals require important adjustments to the data that is collected by the States and submitted to FHWA annually.

To help you understand these changes at a "big picture" level, in this video we'll answer the questions:

- What is TPM?
- What is HPMS?
- How does TPM relate to HPMS?
- How Has HPMS Data Changed Under TPM? and
- What New Data Items are Required?

What is TPM?

TPM, or Transportation Performance Management, is a strategic approach that uses system information to make investment and policy decisions to achieve transportation system performance goals.

A major element of TPM is the tracking and calculation of performance measures that Congress instructed USDOT to establish in the areas of safety, infrastructure condition, congestion reduction, system reliability, freight movement and economic vitality, environmental sustainability, and reducing project delivery delays.

What is HPMS?

HPMS stands for the Highway Performance Monitoring System, which is administered by the Federal Highway Administration. HPMS is the official Federal government system of record for data pertaining to the extent, condition, performance, use, and operating characteristics of the nation's highways. States submit a variety of roadway network information to FHWA via the HPMS on an annual basis.

Historically, HPMS data have been used to support a number of key objectives:

- To help determine apportionment of Federal-aid highway funds;
- As part of FHWA’s strategic planning process;
- As input to the analyses that support the biennial Conditions and Performance (C&P) Report to Congress;
- As the source for much of the annual Highway Statistics series and other FHWA publications; and
- For transportation research throughout government, business, academia, and the general public.



How does TPM relate to HPMS?

With the advent of TPM requirements, there are now additional uses for HPMS.

HPMS supports TPM safety, pavement condition, and system performance rules. The HPMS data is also used to calculate performance measures for system performance/congestion, and to perform significant progress determinations as applicable. Let’s take a closer look.

How Has HPMS Data Changed Under TPM?

TPM requirements for pavement condition measures have resulted in changes to the collection specifications, comprehensiveness, and submission timelines for some HPMS data items.

Data Collection Specifications

Under TPM regulations, pavement condition data, including International Roughness Index (IRI), Present Serviceability Rating (PSR), Rutting, Faulting, and Cracking Percent, must be collected in the following manner:

- In the rightmost lane;
- Continuously, to allow for reporting in 0.10 mile segments; and
- With devices and using methods that comply with prescribed American Association of State Highway and Transportation Officials (AASHTO) standards.

More details and exceptions to these requirements can be found in the enabling regulation and the HPMS Field Manual.

Comprehensiveness

Under the TPM regulations, both data collection extent and frequency have changed. In most States these changes increase the coverage of data required to be collected.

For most data items used in TPM, data must be collected for the full extent of the applicable network. For TPM purposes, collection of these data items on a sample section-basis is not permitted.

| Data Item | Roadway System | Pre-TPM2 | | | Post-TPM2 | | |
|------------------|-----------------|-------------|------------------|-----------|-------------|------------------|-----------|
| | | Extent | Collection Cycle | Direction | Extent | Collection Cycle | Direction |
| IRI | Interstate (IS) | Full Extent | Annual | Inventory | Full Extent | Annual | Inventory |
| | Non-IS | Full Extent | Annual | Inventory | Full Extent | Biennial | Inventory |
| Surface Type | Interstate (IS) | Sample | Biennial | Inventory | Full Extent | Annual | Inventory |
| | Non-IS NMS | Sample | Biennial | Inventory | Full Extent | Biennial | Inventory |
| Rutting | Interstate (IS) | Sample | Biennial | Inventory | Full Extent | Annual | Inventory |
| | Non-IS NMS | Sample | Biennial | Inventory | Full Extent | Biennial | Inventory |
| Faulting | Interstate (IS) | Sample | Biennial | Inventory | Full Extent | Annual | Inventory |
| | Non-IS NMS | Sample | Biennial | Inventory | Full Extent | Biennial | Inventory |
| Cracking Percent | Interstate (IS) | Sample | Biennial | Inventory | Full Extent | Annual | Inventory |
| | Non-IS NMS | Sample | Biennial | Inventory | Full Extent | Biennial | Inventory |

While IRI has been collected on the full extent of the National Highway System (NHS) for some time, collecting data on the full extent is a change for the other Pavement condition data items:

- Surface Type;
- Rutting;
- Faulting; and
- Cracking Percent.

Pavement data collection frequency has also increased for many data items. As a rule, any data required for Interstate pavement condition performance must be collected on an annual basis. This is an increase for all the pavement condition data items other than IRI.

Data for non-Interstate NHS pavement condition performance must be collected on a biennial basis.

This is a continuation of practice for most pavement condition items, but is actually a reduction in collection frequency for IRI on the non-Interstate NHS. Previously, that was collected annually.

Submission Timeline

Another significant change to HPMS under TPM started with the 2018 data collection cycle, requiring Interstate pavement and associated data to be submitted annually by April 15th. This is a change from the traditional submission date of June 15th for HPMS pavement data.

Non-Interstate NHS pavement and associated data, and all other HPMS data are still to be submitted by June 15th, with expanded pavement data collection requirements (for the non-Interstate NHS) taking effect for the 2020 collection year.

What New Data Items are Required?

The newest use of HPMS is serving as the repository for the metrics and related data used to calculate the three travel-time-based performance measures:

- Travel Time Reliability;
- Truck Freight Reliability; and
- Peak Hour Excessive Delay (PHED).

This Travel Time Metric Data will be calculated by States based on a travel time dataset outside of HPMS and must be submitted annually to HPMS by June 15th.



Working together, we can provide strategies to improve our nation and people's lives through great transportation planning.

Additional Resources

Extend your learning through more detailed resources and through interactive learning methods.

TPM Training:

<https://www.fhwa.dot.gov/tpm/resources/training.cfm>

General Portal for FHWA Resources:

<https://www.fhwa.dot.gov/research/library/>

HPMS Field Manual:

https://www.fhwa.dot.gov/policyinformation/hpms/fieldmanual/hpms_field_manual_dec2016.pdf

HPMS Field Manual Supplemental Guidance Travel Time Metric Data Reporting Requirements & Specification:

https://www.fhwa.dot.gov/tpm/guidance/pm3_hpms.pdf

National Highway Institute (NHI) Course Catalogue on Transportation Performance Management:

https://www.nhi.fhwa.dot.gov/downloads/catalog/transportation-performance-management_all-delivery-types_sorted-by-title.pdf

You may also learn more at:

<https://highways.dot.gov/research>

<http://www.facebook.com/FederalHighwayAdmin>

<http://www.flickr.com/photos/fhwa>

<http://www.linkedin.com/company/federal-highway-administration>

<http://www.twitter.com/USDOTFHWA>

<http://www.youtube.com/user/USDOTFHWA>

The content of this document is not a substitute for information obtained from State departments of transportation, appropriate FHWA Division Offices, and applicable laws. Scenarios have been simplified for emphasis and do not necessarily reflect the actual range of requirements applicable to the scenario or this topic.

This document was created under contract number DTFH61-13-D-0004 by the Federal Highway Administration, U.S. Department of Transportation, and is offered to the public to heighten and focus awareness of Federal-aid requirements within the local public agencies community and reinforces the importance of the necessary policies, procedures, and practices. This companion resource contains the script content for the video production of the same name.