



Check out  
 the video



## Transportation Performance Management How TPM and Asset Management Work Together

[www.fhwa.dot.gov/tpm/videos](http://www.fhwa.dot.gov/tpm/videos)

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



### Topics Covered in Video

- Role of the TAMP in implementing TPM
- Requirements for State DOTs to develop a TAMP and have it determined consistent with asset management requirements by FHWA

### Statutes & Regulations

- 23 CFR 490
- 23 CFR 515
- 23 CFR 515.13(a)
- 23 CFR 515.13(b)
- 23 CFR 515.13(b)(2)
- 23 CFR 515.13(b)(3)
- 23 CFR 515.5
- 23 CFR 515.7
- 23 CFR 515.7(a)
- 23 CFR 515.7(b)
- 23 CFR 515.7(e)
- 23 CFR 515.7(f)
- 23 CFR 515.7(g)
- 23 CFR 515.9(f)
- 23 CFR 515.9(f)(3)
- 23 CFR 515.9(f)(4)
- 23 CFR 515.9(g)
- 23 CFR 515.9(l)
- 23 USC 119
- 23 USC 119(e)(2)
- 23 USC 119(e)(6)
- 23 USC 150(b)
- 23 USC 150(d)

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).

Transportation Performance Management, or TPM, is an approach to managing transportation system performance outcomes. As defined in 23 CFR 515.5, asset management means a strategic and systematic process of operating, maintaining, and improving physical assets, with a focus on both engineering and economic analysis based upon quality information, to identify a structured sequence of maintenance, preservation, repair, rehabilitation, and replacement actions that will achieve and sustain a desired state of good repair over the life cycle of the assets at minimum practicable cost.

In sum, asset management is the application of TPM to manage the condition of the transportation infrastructure assets – assets like pavement and bridges. This infrastructure provides for mobility and safety on the nation's transportation system. In short, asset management is the engine that drives infrastructure performance.

Statewide, metropolitan, and local transportation agencies apply TPM principles in making decisions about where to invest resources. Those processes and investment strategies are documented in management

plans the agencies develop for the various program areas. All management plans, including the Transportation Asset Management Plan, or TAMP for short, are then integrated in the performance-based planning and programming process to make investment trade-off decisions.

To help explain asset management's relationship to TPM, this video covers: The role of the TAMP in implementing TPM; and the requirements for State DOTs to develop a TAMP and have it determined consistent with asset management requirements by FHWA.

### **Let's talk about the role of Transportation Asset Management Plans in TPM.**

The TAMP provides the framework for developing the investment strategies to address infrastructure condition targets, performance of the National Highway System, or NHS, and the progress toward national goals that have been identified in the Transportation Performance Management process.

TAMPs must also address risks that affect the condition and performance of transportation infrastructure while managing assets for their whole life at the lowest practicable cost.



It's important to consider analyses done during the development of a TAMP, and to fully utilize bridge and pavement management systems. That information can help State DOTs better understand the full scope of their needs, resources, and investment strategy outcomes.

### Now let's talk about the requirements for State DOTs with respect to the TAMPs.

Under new TPM related regulations, States are required to develop TAMPs. Statutes and regulations require FHWA to take two actions.

First, at least every four years, FHWA must certify that the State DOT's TAMP development processes meet applicable requirements. Under the regulations, State DOTs must meet the seven requirements for their TAMP process. State DOTs must have processes to:

1. Conduct a performance gap analysis that identifies deficiencies hindering the improvement or preservation of NHS and achieving and sustaining the desired state of good repair. At a minimum, this analysis must include:
  - State DOT targets for asset condition of NHS pavements and bridges;
  - Gaps, if any, in the performance of the NHS that affect NHS pavements and bridges; and
  - Strategies to address the gaps.
2. Conduct life-cycle planning to estimate the cost of managing an asset class or asset sub-group at the network level, as defined by the State DOT, over its whole life. This estimate must include consideration for minimizing cost while preserving or improving the asset condition. A life-cycle-planning process must, at a minimum, include the following:

- State DOT targets for asset condition;
  - Deterioration models;
  - Work types that should be undertaken to preserve or improve assets along with their relative unit cost; and
  - Strategies to manage assets while minimizing costs during the whole life of assets.
3. Complete a risk analysis and develop a risk management plan for NHS condition and performance. These risks include those associated with current and future environmental conditions, such as extreme weather events, climate change, seismic activity, and risks related to recurring damage from emergency events as identified by the evaluation carried out under 23 CFR Part 667. The process must produce a summary that discusses, at a minimum, the results related to the State's NHS existing pavements and bridges. If the State elects, it can include optional results for other NHS infrastructure assets or other public roads assets in the transportation asset management.
  4. Develop a financial plan that identifies annual costs, covering at least a 10-year period. This plan must identify the estimated cost of work to implement investment strategies in the TAMP, anticipated funding sources, and present a State DOT's estimates of projected available financial resources. This financial plan must also include an estimate of the value of these assets and the needed annual investments to maintain the value. A financial plan highlights how resources are expected to be allocated based on asset strategies, needs, shortfalls, and agency policies.



5. Develop investment strategies to meet the requirements in the regulations. The TAMP investment strategies must be influenced by:
  - Performance gap analysis;
  - Life-cycle planning;
  - Risk management analysis;
  - Available funding; and
  - Estimated cost of expected future work.
6. Obtain necessary data from other NHS owners in a collaborative and coordinated effort.
7. And, finally, a process that ensures the TAMP is developed with the best available data and that the State DOT used compliant bridge and pavement management systems to analyze NHS bridge and pavement condition data.



The second required FHWA action related to TAMPs is an annual consistency determination. That action evaluates whether the State DOT has developed and implemented a TAMP consistent with the Federal requirements.

Beginning October 1, 2019, and in each subsequent fiscal year, FHWA determines if a State DOT has developed and implemented a State TAMP consistent with the requirements established by the statute and regulations. Not later than July 31, FHWA will notify the State DOT in writing whether the State DOT has developed and implemented a TAMP consistent with statutory and regulatory requirements. FHWA will consider the most recent TAMP submitted by the State DOT, as well as any documentation submitted by the State DOT to demonstrate implementation of the plan.

The State DOT must submit its implementation documentation not fewer than 30 days before the deadline for the FHWA consistency determination. In the case of a negative determination, FHWA will specify the deficiencies the State DOT needs to address. The State DOT will have 30 days to correct such deficiencies or submit additional information showing that the FHWA negative determination was in error. The FHWA determination is not an approval of the State DOT's investment strategies or other decisions contained in the TAMP.

FHWA continues to work with our stakeholders to advance TPM principles and asset management best practices through training, webinars, and guidance. If you would like assistance, please contact your local FHWA Division office and visit <https://www.fhwa.dot.gov/asset/guidance/faqs.cfm>.

Working together, we can provide strategies to improve our nation and people's lives through effective 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>

TPM Website:

<http://www.fhwa.dot.gov/tpm/about/index.cfm>

General Portal for FHWA Resources:

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

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](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.