



MAP-21 & Asset Management Washington State

An overview of transportation asset management plan requirements for the Moving Ahead for Progress in the 21st Century Act

In February 2015, the U.S. Department of Transportation (USDOT) published a Notice of Proposed Rule Making (NPRM) in the Federal Register, to propose the establishment of a process for the development of a risk-based asset management plan as required by the Moving Ahead for Progress in the 21st Century Act (MAP-21). The transportation asset management plan (TAMP) will be the focus of this folio.

To date, the Federal Highway Administration (FHWA) has used the rule making process to collect input from national, state and local agencies on two MAP-21 national performance measures 1) safety and 2) bridge and pavement conditions. These performance measures are needed to meet the national transportation goals. An asset management plan is a key management tool for state DOTs to make decisions about where and when to invest state and federal funds in the transportation system. The objective is to achieve and sustain those national performance measures and goals throughout the lifecycle of the transportation assets at minimum practicable cost.

At a minimum, state DOTs are required to include a summary listing of the pavement and bridge assets on the NHS in the asset management

plan. However, state DOTs are encouraged to include all highway infrastructure assets within the right-of-way. In January 2015, the USDOT published a separate NPRM to propose performance management regulations related to assessing the condition of pavement and bridges on the NHS. Additional WSDOT folios address this NPRM.

What is a Transportation Asset Management Plan (TAMP)?

At WSDOT, the TAMP provides the framework for making management and investment decisions in support of our transportation goals, legislative direction (RCW 47.05) and MAP-21. Asset management is a strategic approach to cost-effectively and efficiently manage the physical assets of Washington's transportation system. Much as one manages a household budget; WSDOT uses transportation investment strategies to maintain and preserve our transportation system on an ongoing, systematic basis. Ultimately, preserving WSDOT assets saves money while maximizing performance across the transportation network.

Asset management is not a new concept to WSDOT, as several elements of asset management planning are currently used. Some assets have well developed and fairly robust processes while others need further refinement. For example, pavement management planning has been in place since 1980, while major electrical began asset management planning in early 2000. In fact, Goal I of Results WSDOT, the agency's strategic plan, includes an asset management strategy. Among the benefits of the MAP-21 TAMP requirements is that transportation assets will be viewed as a system or network, not independent assets.

The TAMP identifies WSDOT assets, the expected performance, the criteria to measure the performance and to identify the triggers for maintenance or preservation activities. In these tough economic times, limited funds present challenges to perform routine maintenance and preservation activities while our assets continue to age and deteriorate. Delay too long and it may require costly reconstruction or replacement.

The asset management approach considers these potential risks of failure along with historical asset performance evidence to analyze and prioritize any problem areas before they occur rather than wait for the asset to fail. Routine maintenance and preservation activities can extend the life of the asset. Any future reconstruction or replacement is therefore planned and prioritized within the highway construction program.

Summary of asset management requirements

The development and implementation of a transportation asset management plan is an important part of the overall MAP-21 framework for enhancing the management and performance of the transportation system. The TAMP is required to:

- Identify performance measures and targets,
- Identify existing assets and their condition,
- Identify the gaps between the existing condition and state targets,
- Perform life cycle cost analysis to achieve the desired condition at minimum practical cost,
- Identify, evaluate and prioritize risks that may affect the asset performance condition,
- Include a 10-year financial plan, and
- Describe the investment strategies to preserve the condition of the assets and performance of the National Highway System (NHS).

Penalties and certification

A state DOT will be penalized if it does not submit an asset management plan for certification within one year after the effective date of the final rule.

- Within 90 days of receiving the plan, FHWA is required to certify or notify the state in writing of the denial with a listing of the specific requirement deficiencies.
- After the effective date of the final rule, FHWA will notify state DOTs annually no later than August 31 if their most recent asset management plan is in compliance.
- Following initial certification, state DOTs shall update and resubmit their asset management plan for re-certification every four years.
- Beginning with the second fiscal year after the effective date of the final rule, if a state DOT has not developed and implemented an asset management plan, the maximum federal share for National Highway Performance Program (NHPP) projects will be reduced to 65% for that fiscal year.
- If a state DOT does not develop and implement an asset management plan and establish performance targets within 18 months after the effective date of the final rule, the FHWA will not approve any further projects using NHPP funds.
- The FHWA may extend the 18-month period if the state DOT has made a good faith effort to establish an asset management plan.

Metropolitan Planning Organizations (MPOs) and local agency coordination

Proposed rule making requires the asset management plan to include pavement and bridge assets on the NHS regardless of ownership. The FHWA believes the state DOTs should coordinate with the MPOs during development of the asset management plan. In addition, FHWA proposes the state DOTs coordinate these same activities with the owners of rural routes on the NHS that are not within the boundaries of an MPO.

In the transportation planning rule making, FHWA proposes that MPOs should integrate the performance measures and targets described in the state asset management plan within the metropolitan planning agreements.

What is transportation asset management?

Transportation assets are the physical elements, such as pavements, bridges, culverts, signs and other roadway features that comprise the highway transportation system. Transportation asset management is the process to maintain and preserve those transportation assets by strategically investing state, federal and local funds to obtain the best long term benefit.

Purpose of reporting requirements

In July 2012, the Moving Ahead for Progress in the 21st Century Act (MAP-21) became law. Included in the law was a Declaration of Policy: “Performance management will transform the Federal-aid highway program and provide a means to the most efficient investment of Federal transportation funds . . .”

The primary objectives of MAP-21 are to increase the transparency and accountability of states for their investment of federal taxpayer dollars into transportation infrastructure and services nationwide, and to ensure that states invest money in transportation projects that collectively make progress toward the achievement of national goals. The new rules will require reporting performance on the following areas: Safety; Pavement and Bridge; System Performance/Congestion; Freight, and Congestion Mitigation and Air Quality (CMAQ).

Limited funding presents challenges for WSDOT

State DOTs are facing increasing challenges in funding transportation needs. Through transportation investment strategies WSDOT maintains and preserves our transportation system in an ongoing, systematic basis, however limited funding presents challenges in achieving WSDOT’s strategic transportation goals.

To achieve these goals WSDOT developed maintenance and preservation practices to establish a consistent approach to identify transportation needs and deficiencies during all stages of an asset’s lifecycle. The goal is to maintain the performance of the asset before it drops below acceptable standards but not so soon that the remaining life of the asset is wasted.

Challenges

- Replacement of 50- to 60-year-old concrete panels
- Backlog of steel bridge painting
- Seismic rehabilitation/retrofit of sub-structures on high ground motion areas
- Backlog of hot mix asphalt (HMA) paving
- Maintaining and preserving drainage and culverts
- Making progress toward Target Zero

For more information

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