

# Asset Management Requirements in MAP-21

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# TOPICS TO BE COVERED

- *Asset Management*
  - *MAP-21*
- *Pavements Performance*
  - *Good – Fair - Poor*
- *Preservation*
  - *MAP-21*
- *Closing Remarks*

# *Asset Management*

- *Both AASHTO and FHWA started in 1999*
- *AASHTO Planning Subcommittee*
- *FHWA Office of Asset management*
  
- *Focus was on value of the asset, followed GASB-34*
- *Michigan was a leader*

# *Asset Management*

- *Produced guidance and provided technical assistance to inventory pavements and bridges*
- *Economic analysis*
- *But really lacked the strategic and systematic overview*
- *Little discussion about gap analysis*

# *Asset Management*

- *In 2003 new leadership – more focus on identifying assets and assessing condition*
- *Still no direct link to data being collected by FHWA: i.e. HPMS or NBI*
- *We saw increased use of automated collection tools, but we still lacked a strategic approach*

# *Asset Management*

- *40+ states had or were developing management systems – PMS, BMS, SMS*
- *But few used the data as part of a systematic decision-making tool. No direct link to STIP or TIP*
- *Many assumed Asset Management was in reality just maintenance*

# ***Asset Management***

- *2005 FHWA and FHWA conducted an international study on asset management*
- *8 countries – Europe and Australia*
- *International Infrastructure Maintenance Management Guide -*

# *Asset Management*

- *2007 a Domestic Scan*
- *Identified 5 states and one county as having key components and were practicing asset management*

Developed and published the AASHTO  
Guide for Asset Management – an  
assessment guide



# ***Asset Management***

- *We began to build off of those two efforts.*
- *In 2009 we asked NCHRP to craft a US version of the IIMM Guide*
- *Final Document published in 2011*
- *AASHTO Guide for Implementation of Asset Management*

# *Asset Management*

## **Five Core Questions**

1. What is the current state of my assets?
2. What is my required level of service/ performance?
3. Which assets are critical to sustained performance?
4. What are my best “Operations and Maintenance” and “Capital Improvement” investment strategies?
5. What is my best long-term funding strategy?

# ***Asset Management***

- *A tough sell until this past July.*
- *Concepts recommended by various Congressional Panels*
- *Most still focused on short term solutions*

# Asset Management

- Asset Management combines a focus on metrics and long-term system sustainability
  - By taking a *long term view* and anticipating *future conditions* (sustaining for long-term conditions)
  - By having *short term targets* to accomplish *the long term plan* and *maximize* future performance and condition of infrastructure

# MAP-21 National Goals

Focus the Federal-aid program on the following national goals:

- 1) *SAFETY*
- 2) *INFRASTRUCTURE CONDITION*
- 3) *CONGESTION REDUCTION*
- 4) *SYSTEM RELIABILITY*
- 5) *FREIGHT MOVEMENT AND ECONOMIC VITALITY*
- 6) *ENVIRONMENTAL SUSTAINABILITY*
- 7) *REDUCED PROJECT DELIVERY DELAYS*

# ***INFRASTRUCTURE CONDITION***

- *Maintain the highway infrastructure asset system in a state of good repair.*

# What is asset management?

- Asset management is a **strategic and systematic** process of operating, maintaining, and improving **physical assets**, with a focus on **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 lifecycle of the assets at minimum practicable cost. (23 U.S.C. 101(a)(2), MAP-21 § 1103)

# What requirements does MAP-21 have pertaining to asset management?

- Each State is **required** to develop a **risk-based asset management plan** for the National Highway System (NHS) to improve or preserve the condition of the assets and the performance of the system. (23 U.S.C. 119(e)(1), MAP-21 § 1106)
- USDOT is required to issue a regulation not later than 18 months after date of enactment, after consultation with the States and other stakeholders, which will establish the process to develop the State asset management plan for the NHS. ( 23 U.S.C. § 119(e)(8), MAP-21 § 1106)



# Asset Management Plans

- National Highway Performance Program
- Developed using process approved by USDOT
- Recertified every 4 years
  
- Other plans
- HSIP, CMAQ, Freight

# What are the scope and content of a risk-based asset management plan?

- Includes strategies that lead to a **program of projects** that would make progress toward achievement of the State targets for asset condition and performance of the NHS
- States must address pavements and bridges but are **encouraged to include all infrastructure assets** within the highway right-of-way in their risk-based asset management plan. (Also can include roads other than on the NHS.)

# Highway Asset Management Plan

- Plan Contents
  - A **Strategic and Systematic** approach
  - Pavement and bridge inventory and conditions on the NHS,
  - **Objectives** and measures,
  - Performance gap identification,
  - Lifecycle cost and **risk** management analysis,
  - A financial plan, and
  - **Investment strategies**
- (**preservation**)

# Highway Asset Management Plan

- USDOT, in consultation with State DOTs, will establish the process to develop the plan through a rulemaking no later than 18 months after 10/1/2012
- States must have a plan developed consistent with the process by the 2<sup>nd</sup> fiscal year, otherwise federal share for NHPP will be reduced to 65%
- Process certification
  - USDOT 90 days review period to determine certification
  - States have 90 days to cure deficiencies if not certified
  - Recertification required every 4 years

# Pavement Performance

- USDOT will establish a measure to assess the condition of pavements on the Interstate (Highway) System
- USDOT will establish a measure to assess the condition of pavements on the National Highway System (excluding the Interstate)
- USDOT will establish minimum condition levels for pavement on the Interstate System, for the purpose ....

# ***Pavement Performance***

- *Both AASHTO and FHWA are working on this pavement performance*
- *Trying to stay away from specific parameters*
  
- *Focus is on Good, Fair and Poor*

# *Pavement Performance*

- *Initial look is IRI*
- *But what are transportation agencies really using to assess condition and guide decision-making*
- *Composite index – IRI, rutting, cracking, faulting, pop-outs*

# ***Pavement Performance***

- *Minimum threshold for condition for Interstate*
- *No segment will have IRI greater than 200*
- *Or*
- *No segment will have rutting greater than 1/2 – inch*
- *More realistic maybe that the Interstate will not have more than 5% in poor condition*



# Management Systems

- USDOT will establish minimum standards for States to use in developing and operating:
  - Bridge management systems
  - Pavement management systems

# ***Preservation***

- *Now included in statute*
- *NHPP and STP*
- *Preservation listed as an eligible activity along with design and construction*
  
- *Must be included in the Asset Management Plan as well as the STIP and TIP*

# ***Pavement Preservation***

- *New definition for pavement preservation under 23 CFR116*
- *Adds an element of confusion*
- *More restrictive*

# *Closing Comments*

- Preserve our assets and minimize their whole life costs.
- Operate in a financially sustainable manner.
- Provides a framework to improve performance on a long-term basis

# *Closing Comments*

- *Our focus is still on pavement and bridge*
- *Other assets being added to the mix*
- *Houston and Humbolt County have broad inventories*
- *Asset Management has a clear home at the local level*
- *Real-time, a necessity, not a nice to have*

# Resources Are Available

- NHI Transportation Asset Management Training Course
- FHWA Asset Management Today website:  
<http://www.fhwa.dot.gov/asset/index.cfm>
- AASHTO Asset Management Guide – A Focus on Implementation
- FHWA Office of Asset Management
- AASHTO Asset Management Subcommittee
- TRB Asset Management Committee
- Other