The MAP-21 Charge *(23 USC 150(a) - Declaration of Policy)*

<table>
<thead>
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<th>Performance Management</th>
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<td><strong>Will:</strong></td>
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<td>• transform the Federal program</td>
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<td>• provide a means to the most efficient investment of funds</td>
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<td><strong>By:</strong></td>
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<td>• refocusing on national transportation goals,</td>
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<td>• increasing accountability &amp; transparency, and</td>
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<td>• improving project decision making</td>
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TPM: Putting the Pieces Together

- National Goals
- Measures
- Targets
- Plans
- Reports
- Accountability and Transparency
MAP-21 Background-Performance Requirements

- **National Goals** – Focuses the Federal aid program on 7 goals supported through the statewide and metropolitan planning process.

- **Measures** – USDOT to establish performance measures through rulemaking.

- **Targets** - All States, Metropolitan Planning Organizations (MPOs), and public transportation agencies required to establish targets for each of the measures established by USDOT.

- **Plans** – All States, MPOs, and public transportation agencies are required to develop plans to document strategies and investments to address performance needs and incorporate these into the transportation planning process.

- **Reports** – All States, MPOs, and public transportation agencies are required to report on progress toward the achievement of their targets.

- **Accountability/Transparency** – All States will be held accountable to making significant progress toward the achievement of their targets established for two apportioned programs and all elements will be transparent to the public.
Potential outcomes of new requirements

• Implementation of a performance framework
  o Measure performance consistently across the country
  o State/MPO expectations of outcomes established
  o Report on impact of transportation investments

• Implementation Opportunities
  o Optimized Investments
  o Improved Consistency
  o Increased Coordination
  o Greater Understanding of What Works
  o Improved Communication
Performance Measure Needs

DOT to develop measures through rulemaking,

To assess performance in the following areas:
- Safety – all public roads
- Bridges and Pavements – National Highway System
- System Performance – National Highway System
- Freight Movement - Interstate
- Congestion – non-attainment areas
- Emissions – non-attainment areas

To carry out:
- Highway Safety Improvement Program
- National Highway Performance Program
- National Highway Freight Program
- Congestion Mitigation and Air Quality Improvement Program
Summary of Required Measures

• Number and rate of fatalities and serious injuries
• Percentage of infrastructure in Good and Poor condition
• Percentage of users experiencing reliable travel times
• Overall freight travel time reliability
• Total cumulative annual delay during peak hours*
• Percentage of travel using non-SOV modes*
• Total reduction in CMAQ criteria pollutants

* Applies to large urban areas only
**Inspection and Monitoring**

- **Bridges**
  - 2 year frequency for routine inspections
  - Could be more frequent
  - Reported to national database – NBI
  - Fed bridges reported separately

- **Pavements**
  - Annual condition monitoring
  - 100% of network regardless of ownership
  - Reported to national database – HPMS

- **Reliability**
  - Travel times recorded at 15 minute intervals
  - Summarized by road section annually
  - Reported to national database - HPMS
Target Requirements

- All States and MPOs are required to establish targets for applicable measures
- Safety targets established annually
- All other targets established biennially
- State targets are reported to FHWA
- MPO targets are reported to States
- Targets consider all roadways regardless of ownership
- Target level is a State/MPO decision
Accountability

• Transparency:
  o States are required to report their progress to FHWA biennially

• Target Achievement:
  o States are required to make significant progress towards the achievement of their targets
  o Discussion of actions to improve required if non-compliant

• Minimum Condition:
  o States are required to additionally maintain:
    ▪ No more than 10% structurally deficient bridges on the NHS (by deck area)
    ▪ No more than 5% poor pavements* on the Interstate (by lane-miles)
  o Set-aside funding required if non-compliant

*10% for Alaska
Research Needs – Noted in Rules

• Serious Injury method and reporting
• Use of element level data
• Remaining service life method
• All thresholds
  o Manageable minimum conditions
  o Acceptable levels of performance
• Occupancy levels
• Multimodal travel
• Connectivity
• Outcome measure for emissions
• Strategy/Investment impacts
FHWA’s TPM Website

- Visit http://www.fhwa.dot.gov/tpm/ to find the latest resources:
  - Guidance
  - Training
  - TPM Toolbox
  - TPM Workshop request form
  - Webinar recordings, presentations, fact sheets, noteworthy practices, and more…
TPM Toolbox

- Visit [http://www.tpmtools.org](http://www.tpmtools.org)
  - Assess your agency’s level of TPM maturity
  - Use the practical tools to move your agency to the next level in a range of performance areas
Performance Reporting

State DOT Progress Reporting Portal

Performance Storytelling

System Performance

U.S. Department of Transportation
Federal Highway Administration
Contacts

For questions or more information, please contact:

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Asset Management Plans for the National Highway System

Summary of Requirements

Information Gathering Session
Future Interstate Study
August 9, 2017

Stephen Gaj
Leader, Asset Management Team
Asset Management Basics: Five Core Questions

1. What is the current state of the agency’s assets?
2. What is the required level of service/performance?
3. Which assets are critical to sustained performance?
4. What are the best “Operations and Maintenance” and “Capital Improvement” investment strategies?
5. What is the best long-term funding strategy?
Title 23 Statutory Requirement
Asset Management Plans

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 USC 119(e)(1), MAP-21 § 1106).
Asset Management Application

- Under 23 USC 119, State asset management plans to include NHS bridges and pavements:
  - Encouraged to include all infrastructure assets within the highway right-of-way.
  - Encouraged to include other public roads.
What is Asset Management?

From 23 USC 101(a)(2): “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.”
Asset Management Infrastructure Condition

- Goal: Maintain the highway infrastructure asset system in a state of good repair.
  - Manage your network for the long term at the minimum practicable cost to:
    - improve or preserve asset condition and system performance.
    - manage risk.
  - Short-term performance measures and targets are key indicators (Performance Management Program).
Risk-based Asset Management Plan

• Plan Contents:
  • Pavement and bridge inventory and conditions on the NHS.
  • Objectives and measures.
  • Performance gap identification.
  • Lifecycle planning
  • Risk management analysis.
  • Financial plan.
  • Investment strategies.
Definitions

Life-cycle planning means a process to estimate the cost of managing an asset class, or asset sub-group over its whole life with consideration for minimizing cost while preserving or improving the condition.
Definitions

Risk management means the processes and framework for managing potential risks, including identifying, analyzing, evaluating, and addressing the risks to assets and system performance.
The financial plan process must:

- Identify annual costs over a min. period of 10 yrs;
- Include the estimated cost of expected future work to implement investment strategies, by State fiscal year and work type;
- Estimate funding levels that are expected to be reasonably available, by fiscal year, to address the costs of future work types;
- Identify anticipated funding sources; and
- Estimate value of the agency’s NHS pavement and bridge assets and the needed investment on an annual basis to maintain the value of these assets.
Investment Strategy Development

Process must identify how strategies are influenced by the following:

- Performance gap analysis.
- Life-cycle planning for asset classes/sub-groups.
- Risk management analysis.
- Anticipated available funding and estimated cost of expected future work types associated with various candidate strategies based on the financial plan.
Investment Strategies Should Make or Support Progress toward:

- achieving and sustaining a desired state of good repair over the life cycle of the assets.
- improving or preserving the condition of the assets and the performance of the system relating to physical assets.
- achieving the State DOT targets for asset condition and performance of the NHS in accordance with 23 USC 150(d).
- achieving the national goals identified in 23 USC 150(b).
Management Systems

• Minimum standards for States to use in developing and operating bridge management systems and pavement management systems.

• State DOTs to use bridge and pavement management systems to analyze asset conditions to develop and implement Risk-based Asset Management Plans.
When are Asset Management Plans Due?

- Not later than **April 30, 2018**, the State DOT must submit to FHWA a State-approved initial TAMP.

- Not later than **June 30, 2019**, the State DOT must submit to FHWA a current State-approved (a “fully compliant”) TAMP that meets all the requirements of 23 USC 119 and 23 CFR Part 515.

- Not later than **August 31, 2019**, and **not later than July 31 in each year thereafter**, FHWA will notify the State DOT whether the State DOT has developed and implemented a TAMP consistent with 23 U.S.C. 119 and 23 CFR Part 515.
Resources

• FHWA Office of Asset Management
  http://www.fhwa.dot.gov/asset/index.cfm

• NHI Transportation Asset Management Training Course

• AASHTO Asset Management Guide – A Focus on Implementation

• AASHTO Asset Management Subcommittee

• TRB Asset Management Committee
Questions?

Stephen Gaj

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The Interstate System

Design and Access Requirements

Information Gathering Session
Future Interstate Study

Robert Mooney
Leader, Pre-Construction Team
Federal Interest

FHWA’s Charge:
It is in the national interest to preserve and enhance the Interstate System to meet the needs of the 21st Century by ensuring that it provides the highest level of service in terms of safety and mobility.
Interstate

• Interstate owned and operated by State
• Funding = 90% Federal + 10% State
• Federal role defined by 23 U.S.C. 111

• National System of Freeways
  o Support high-speed, long-distance travel
  o National Defense
  o Economic well-being
# Design Standards

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<th>SYSTEM</th>
<th>STANDARDS</th>
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<td>Interstate</td>
<td>AASHTO Interstate Design Standards &amp; Greenbook</td>
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<tr>
<td>National Highway System</td>
<td>AASHTO Greenbook</td>
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<tr>
<td>All Other Roadways</td>
<td>State Standards</td>
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Interstate Design Elements

• Limited Access
  o Key in preserving safety and operations
  o Spacing of interchanges:
    ▪ Urban = 1 mile minimum
    ▪ Rural = 3 miles minimum

• Interchanges:
  o Grade separated only
  o At select public roads
  o Provide for all possible movements
Design Exceptions

• Documented design exceptions required for projects on the NHS when the controlling criteria are not met

• FHWA approves design exceptions for the 10 controlling criteria on the Interstate (unless delegated to the State DOT)
Controlling Criteria

Interstate highways, other freeways, and roadways with design speed ≥ 50 mph (NHS):

- Design Speed*
- Lane Width
- Shoulder Width
- Horizontal Curve Radius
- Superelevation Rate
- Maximum Grade
- Stopping Sight Distance
- Cross Slope
- Vertical Clearance
- Design Loading Structural Capacity*

* Applies to all NHS roadways
Rest Areas
Rest Areas

• Provides a place for travelers to stop
  o relieve fatigue by resting or sleeping
  o Obtain refreshments and light nourishment
  o Check vehicle loads and/or minor mechanical problems
  o Use of toilet facilities
Rest Areas

• ROW must be owned exclusively by State DOT
• Prohibits Commercialization of Rest Areas
• No charge may be made to the traveling public except for pay phones and vending machines
• Access to Rest area only from Interstate
• Vending only – operated by the State DOT
Contacts

For questions or more information, please contact:

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