

The Supporting Statement

Risk-Based Asset Management Plan

Introduction:

Reason for the clearance: This is a new information collection request.

Name of the information collection: State DOT's Risk-Based Asset Management Plan and its processes for the National Highway System bridges and pavements.

1. Circumstances that make the collection of information necessary.

Section 1106 of the Moving Ahead for Progress in the 21st Century Act (MAP-21) requires States to develop Risked-Based Asset Management Plans for the National Highway System (NHS) to improve or preserve the condition of the assets and the performance of the NHS (23 U.S.C. 119(e)). MAP-21 also requires that one year after the publication of the final rule, each State DOT submit its processes for the development of its risk-based asset management to the Federal Highway Administration (FHWA) for initial certification and every four years following the year of initial certification (23 U.S.C. 119(e)(6)).

Risk-Based Asset Management Plans support most of U.S. DOT's strategic goals to one degree or another; however, its main focus is on infrastructure condition and state of good repair that ties directly to the DOT Strategic Goal for Mobility. Asset Management is widely accepted as a means to deliver a more efficient and effective approach to management of highway infrastructure assets that are vital to the nation's economy. The NHS carries 75 percent of heavy truck traffic, and 90 percent of tourist traffic. ⁽ⁱ⁾ The FHWA Freight Management and Operations Office estimates that the value of freight moved nationally is \$16.8 trillion with \$10.57 trillion of that, or 63 percent, moving by truck. ⁽ⁱⁱ⁾ If 75 percent of the heavy truck volume is on the NHS, then at least \$7 trillion worth of the nation's freight moves directly on the NHS network. Even this large number understates the impact because nearly every freight movement depends upon a truck for at least part of its logistics chain, for example from the docked ship to a railway or warehouse.

2. How, by whom, and for what purpose is the information to be used.

As highway assets become increasingly important to the economy, and as the assets age, the need to sustain them with limited resources becomes more acute. The importance of timely treatments to preserve asset values has been documented repeatedly.

U.S.C Title 23 Sec. 101 (a) (2) uses the following definition of asset management.

ⁱ Slater, Rodney, FHWA, The National Highway System: A Commitment to America's Future, accessed at <http://www.fhwa.dot.gov/publications/publicroads/96spring/p96sp2.cfm> on March 3, 2013

ⁱⁱ FHWA Office of Freight Operations and Management, Table 2-2 Value of Shipments by Transportation Mode 2007, 2011 and 2040, accessed at http://ops.fhwa.dot.gov/freight/freight_analysis/nat_freight_stats/docs/12factsfigures/table2_2.htm March 3, 2013

The term “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 lifecycle of the assets at minimum practicable cost.

Presently, many state transportation agencies are data rich but lack a performance and risk based approach to data-driven decision making. The gap that MAP-21 fills is to require a strategic approach through the transportation asset management plans to manage NHS assets strategically for the long term. MAP-21 requires that each state articulate a strategic process to achieve its infrastructure targets with available resources to advance toward achievement of the national infrastructure goals.

The plans will include:

- A summary listing of the pavement and bridge assets on the National Highway System in the State, including a description of the condition of those assets;
- Asset management objectives and measures;
- Performance gap identification;
- Lifecycle cost and risk management analysis;
- A financial plan; and
- Investment strategies.

The FHWA is required by MAP-21 to review and certify the processes included in these plans to determine if the investment strategies for the National Highway System are developed based on a thorough assessment of the NHS infrastructure operation, preservation, and improvement needs while minimizing the whole life cost of assets.

State DOTs, by developing Risked-Based Asset Management Plans, will improve their long-term investment decision making through the application of preservation treatments, preventive maintenance treatments, reactive maintenance treatments, rehabilitation and eventual replacement of assets. Decisions as to what types of treatments should be applied are made strategically to ensure that the whole-of-life costs are kept as low as reasonably possible while providing the public with safe and high performing assets. The antithesis of asset management is to build assets and to ignore them until they deteriorate to the point they require costly replacement.

3. Extent of automated information collection.

The risk-based asset management plans document the processes used by the State DOTs to analyze the NHS pavement and bridge data for decision making. State DOTs are required by law to submit their processes to the FHWA for certification. Risk-Based Asset Management Plans can be submitted entirely electronically.

4. Describe efforts to identify duplication.

Each State DOT has a decision making process in place which may or may not address some of the asset management processes mandated by the MAP-21. States whose decision making process complies with the MAP-21 requirements may submit their current plan and processes to the FHWA for certification. However, most States will have to modify their decision making process to one degree or another to accommodate the Map-21 requirements.

5. Efforts to minimize the burden on small businesses.

No. Small businesses are not involved. Only State DOT's are required to develop Risk-Based Asset Management Plans.

6. Impact of less frequent collection of information.

The processes for the development of the risk-based asset management plan must be submitted to the FHWA for initial certification and every four years following the year of initial certification (23 U.S.C. 119(e)(6)). The consequence of less frequent collection of information is that the State DOTs will not meet the certification requirements mandated by Map-21; therefore, they will be subject to a penalty imposed by law. This frequency should lead to the efficient and effective management of infrastructure assets that accounts for changes in infrastructure condition, performance and funding levels.

7. Special Circumstances.

There are no special circumstances that apply.

8. Compliance with 5 CFR 1320.8(d).

This collection is associated with a rulemaking, RIN:2125-AF57.

9. Payment or gifts to respondents.

This effort involves no payments or gifts to respondents

10. Assurance of confidentiality.

The submitted information to the FHWA is public information and not confidential.

11. Justification for collection of sensitive information.

No sensitive information is collected.

12. Estimate of burden hours for information requested.

1-Number of respondents: 52 State DOTs

2-Frequency of responses: Annually (reports on a 4 year cycle)

3- Total estimated burden hours: Annually: 884 burden hours per state. (884 x 4 years = 3536 burden hours per State per cycle)

Total Hours Annually = 45,968

The burden hours were estimated using the cost data included in the asset management plan notice of proposed rulemaking Regulatory Impact Analysis (RIA) required by E.O. 12866 and E.O. 13563. The RIA estimated that the total cost of developing the initial asset management plans for States not hiring contractors would amount to an average of \$170,000 per State.

Assuming the average salary of a State DOT asset manager is \$100,000 per year, for a total of 2,080 work hours, it would require approximately 3536 of burden hours per State to develop an initial asset management plan.

A portion of the RIA calculations is included in the following tables to briefly explain how the estimates were done:

To estimate the cost of developing a risk based asset management plan, nine States that were in the process of developing their asset management plans were asked to provide data on the cost of producing them. The first table summarizes the in-house costs of preparing the plans, and the second table summarizes the contract costs of preparing the plans.

Table 1. Asset Management Plan Cost Estimates and Summary for In-House Plans, June 2014

State	In-house Cost	Year Completed	System Coverage	Asset Coverage
South Dakota	\$125,000		NHS, and other State routes, excluding local roads	Bridge & pavement
Wyoming	\$85,000	2014	NHS, and other State routes, excluding local roads	Bridge & pavement
North Dakota	\$300,000	2014	NHS, and other State routes, excluding local roads	Bridge, pavement, signs, maintenance equipment & facilities
Average Cost per Plan	\$170,000			

Table 2. Asset Management Plan Cost Estimates and Summary for Contract-out Plans, June 2014

State	Total Cost	Year Completed	System Coverage	Asset Coverage
Utah	\$85,000	2014	NHS, and other State routes, excluding local roads	Bridge, pavement, IT system,
Vermont	\$408,000	2015	NHS, State routes, excluding local roads, Rail Network	Bridge, pavement
Ohio	\$450,000	No data	No data	No data

Minnesota	\$686,000	2014	NHS, and other State routes, excluding local roads	Bridge, pavement, tunnels, culverts, overhead signs and tower lights
Louisiana	\$467,000	2014	NHS, and other State routes, excluding local roads	Pavements and bridges
New York	\$266,000	2014	NHS, and other State routes, excluding local roads	Pavement & bridges
Average Cost per Plan	\$419,200			

The costs of preparing a transportation asset management plan does not seem to vary significantly with the size of the State, but instead varies primarily based on whether the State did the analysis in-house or contracted it out. The range of costs reported for an asset management plan is \$85,000 to \$686,000. For the high-cost States that have contracted out the work, significant costs are also incurred in-house to support the work for the plan. The State with the highest cost includes additional assets not typically included in other plans and not required by MAP-21.

The nine States break down with three, or one-third, planning to produce their plans in-house with an average estimated cost of \$170,000. Six of the nine States, or two-thirds of those contacted, planned to use in-house and consultant forces for plans averaging \$419,200. These estimates lead to Table 4 that produces the estimates for the first set of plans and future updates.

Table 4. Asset Management Plan Total Cost Calculations

Year	In-house	Contract-Out	Total Asset Management Plan Cost
Number of States	17	35	52
Asset Management Plan Initial Cost	\$2,890,000	\$14,672,000	\$17,562,000
Asset Management Plan Update Cost (Three Updates)	\$4,335,000	\$22,008,000	\$26,343,000
Total Cost	\$7,225,000	\$36,680,000	\$43,905,000

4-Estimated annualized cost to a State DOT for the hourly burdens:

Based on the RIA estimates, average in-house cost to develop an initial plan is about \$170,000 during a 4-year cycle per State. This would amount to \$42,500 per year per State.

13. Estimate of the total annual costs burden.

Using the RIA cost data, the total cost of developing the initial plan for all 52 States DOTs would be \$17.6 million (Table 4). This estimate may be conservative, since many agencies may already be developing planning documents that could feed into the asset management plans or be replaced by them, therefore saving some costs to the agencies. An additional cost of \$4 million to \$6 million in total is estimated for acquiring Pavement Management Systems for all non-complying agencies. All States already own Bridge Management Systems. However, based on responses received to a 2009 questionnaire sent to the FHWA Division Offices, it was determined that four States do not have formal Pavement Management Systems. Therefore, the total nationwide costs for States to develop their asset management plans and four State DOTs to acquire and install Pavement Management Systems rule would be about \$23.6 million at the most.

Cost to all States for the initial collection cycle	\$17.6 M+\$6 M= \$23.6 M
Cost to all States annually for the initial collection cycle	\$23.6 M/4=\$5.9 M

The maintenance of the risk-based asset management plans would include updating the plan by conducting the analysis based on updated condition data. The RIA cost data associated with updating plans would amount to \$26.3 million for three updates over 12 year period, on average \$8.8 million per each cycles.

Cost to all States per data collection cycle	\$ 8.8 M
Cost to all States annually	\$ 2.2 M

14. Estimates of costs to the Federal Government.

Initial submission: \$100,000
Subsequent submission for recertification: \$40,000

The U.S. DOT is required to review the processes used by the State DOTs to develop the submitted asset management plans. To thoroughly review a plan, it would probably take five days by a mid-level employee.

A total of 2080 burden hours are required by the Federal government to review the plans. Assuming the average salary of a State DOT asset manager is \$100,000 per year for a total of 2,080 work hours, it would cost the government \$100,000 to review all the plans.

Subsequent submissions would require 2 days to review for each plan which amounts to \$40,000 cost to the government.

15. Explanation of the program change or adjustments. .

This is a new IC.

16. Publication of results of data collection.

The results will not be published.

17. Approval for not displaying the expiration date of OMB approval. .

There are no reasons.

18. Exceptions to the certification statement.

FHWA is not seeking an exception to the certification statement.