

## Asset Management - Questions & Answers

(Q&As) June 7, 2017

### Introduction

**What is the purpose of these Q&A's?** Provide guidance on MAP-21 requirements related to developing and implementing a risk-based transportation asset management plan (TAMP) for the National Highway System (NHS). The recommendations and guidance in these Q&As are organized around the following categories:

- a. General
- b. FHWA Division Office's Roles and Responsibilities
- c. TAMP Development Processes Certification
- d. TAMP Development and Implementation Requirements
- e. Penalties
- f. Other Provisions

**Do these Q&A's supersede other Guidance documents?** No. Some issues raised in these Q&A's are related to proposed TAMP Development Processes Certification and Recertification, and TAMP Consistency Determination Guidance. The FHWA plans to issue drafts of those two guidance documents for notice and comment, and the Q&A's are subject to change based on the public comments received.

**What is the background of these Q&A's?** Section 1106 of MAP-21, most of which is codified in 23 U.S.C. 119, requires States to develop and implement risk-based TAMPs for the NHS to improve or preserve the condition of the assets and the performance of the system (23 U.S.C. 119(e)(1)). The final asset management rule (23 CFR Part 515) establishes TAMP requirements, including the processes that State departments of transportation (State DOTs) must use to develop their plans and meet Federal requirements.

### Questions and Answers

#### General

#### **Question 1: What is asset management?**

**Answer 1:** 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)).

**Question 2: What are the requirements in 23 U.S.C. 119 and 23 CFR Part 515 pertaining to asset management? Are there other requirements that affect asset management?**

- **Answer 2:** Each State DOT must develop a TAMP for the NHS to improve or preserve the condition of the assets and the performance of the NHS. The TAMP must include investment strategies leading to a program of projects that would make progress toward achievement of the State DOT targets for asset condition and performance of the NHS, and supporting progress toward achievement of the national goals identified in 23 U.S.C. 150(b). (23 U.S.C. 119(e)(2)). Implementing regulations appear in 23 CFR Part 515.
- The performance management statute (23 U.S.C. 150) governs national performance measures and State DOT targets. That statute also requires FHWA to establish minimum standards for State DOTs to use in developing and operating bridge and pavement management systems (23 U.S.C. 150(c)(3)(A)(i)). The standards are established in 23 CFR Part 515.17.
- The planning rule (23 CFR Part 450) and the TAMP rule contain complementary provisions concerning the relationship between the TAMP and the planning process. The TAMP provision at 23 CFR 515.9(h) requires the State DOT to integrate its asset management plan into its statewide transportation planning processes. The planning provision at 23 CFR 450.206(c)(4) requires the State DOT to integrate into the statewide transportation planning process, directly or indirectly, the goals, objectives, performance measures, and targets of other State transportation plans, such as the TAMP. These provisions mean that, in carrying out the transportation planning process, the State DOT must consider its TAMP, including the TAMP's investment strategies, as part of the decisionmaking process during planning.
- Also, discussed in the Federal Register notice for the final asset management rule (81 FR 73196, October 24, 2016), under new provisions in 23 CFR Part 667, State DOTs must conduct periodic evaluations to determine if reasonable alternatives exist to roads, highways, or bridges that repeatedly require repair and reconstruction activities. At a minimum, State DOTs must include summaries of the evaluations relating to NHS pavements and bridges in their TAMPs (23 CFR 515.7(c)(6)).

**Question 3: Is it possible for a State DOT to obtain a waiver from the requirements to develop and implement a TAMP?**

**Answer 3:** No, the statute (23 U.S.C. 119(e)) does not provide any authority to FHWA to waive TAMP requirements. Accordingly, the regulations in 23 CFR Part 515 have no waiver provision.

**Question 4: Who is responsible for TAMP development and implementation?**

**Answer 4:** At a minimum, State DOTs must develop and implement a TAMP for all NHS pavements and bridges in their respective States, regardless of ownership (23 U.S.C. 119(e)(1); 23 CFR 515.9(b) and (d)(3)).

**Question 5: Who should be the primary target audience for the TAMP?**

**Answer 5:** The primary target audiences for the TAMP are asset owners, and other decision makers and policy makers, who can use the TAMP to develop and document investment strategies. In addition, this document is a communication tool and must be made available to the public pursuant to 23 CFR 515.9(i).

**Question 6: What are risk and risk management?**

**Answer 6:** In general, risk is the positive or negative effects of uncertainty or variability upon agency objectives. In the context of asset management under 23 U.S.C. 119 and 23 CFR Part 515, the focus is identification and management of risks that can affect condition of NHS pavements and bridges and the performance of the NHS. Risk management is the processes and framework for managing potential risks, including identifying, analyzing, evaluating, and addressing the risks to assets and system performance.

**Question 7: What risks should be considered in a risk-based TAMP?**

**Answer 7:** A State DOT's process should identify risks that can affect the condition of NHS pavements and bridges and the performance of the NHS, including risks associated with current and future environmental conditions (such as extreme weather events, climate change, and seismic activity), financial risks (such as budget uncertainty), operational risks (such as asset failure), and strategic risks (such as environmental compliance) (23 CFR Part 515).

**Question 8: With regard to the asset management requirements, it appears FHWA must certify a State DOT's TAMP development processes, and the State DOT must develop a TAMP. Are these two separate documents?**

**Answer 8:** There will be one document. Beginning with the submission of the initial TAMP, as required under 23 CFR 515.11(b) the State DOT's TAMP must include the descriptions of the State DOT's TAMP development processes.

**Question 9: What are the important dates to know with regard to the asset management requirements?**

**Answer 9:**

**Certification of TAMP Development Processes:**

- **October 2, 2017**, is the effective date for the requirements in 23 CFR Part 515. As of this date, State DOTs can submit to FHWA a State-approved initial TAMP that includes descriptions of the State DOT's TAMP development processes, with a request for certification of their asset management plan development processes. The initial TAMP does not have to meet certain TAMP requirements, as specified in 23 CFR 515.11(b).
- Not later than **April 30, 2018**, the State DOT must submit to FHWA a State-approved initial TAMP that includes descriptions of the State DOT's TAMP development processes with a request for certification of those asset management processes (this is the deadline under 23 CFR 515.11(a)).
- A State DOT must update its TAMP and TAMP development processes **at least every 4 years, beginning on the date of the initial FHWA certification of the State DOT's TAMP development processes**. The State DOT must submit any process update(s) and plan amendments to FHWA for a new process certification and a plan consistency determination not later than 30 days before the deadline for the next FHWA consistency determination under 23 CFR 515.13(b). (23 CFR 515.13(c)).

#### **Determination that the State DOT has developed and implemented a fully compliant TAMP**

- Not later than **June 30, 2019**, the State DOT must submit to FHWA a current State-approved TAMP that meets all the requirements of 23 U.S.C. 119 and 23 CFR Part 515 (a "fully compliant" TAMP), together with documentation demonstrating State DOT implementation of the TAMP. In each year thereafter, when making the required consistency determination, the 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. Beginning in 2020, this documentation must be submitted to FHWA not later than June 30 each year (23 CFR 515.13(b)-(c)).
- 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.
- Beginning on **October 1, 2019**, and **in each fiscal year thereafter**, if a State DOT has not developed and implemented a TAMP consistent with the requirements of 23 U.S.C. 119 and 23 CFR Part 515, the maximum Federal share for NHPP projects and activities carried out by the State DOT in that fiscal year will be reduced to 65 percent for that fiscal year (23 U.S.C. 119(e)(5); 23 CFR 515.15(c)). The reduction remains in place for the entire fiscal year.
- Subject to extension provisions described in 23 CFR 515.15(b)(2), as of the date 18 months after the effective date of the performance management rule for NHS pavements and bridges, if a State DOT has not established its NHS pavement and bridges performance targets under 23 U.S.C. 150(d), and developed and implemented a TAMP that is consistent with 23 U.S.C. 119 and 23 CFR Part 515, then FHWA will not approve further projects using National Highway Performance Program Funds. Any suspension of funding will terminate once the State DOT has fulfilled both requirements. This funding provision is transitional, and once a State DOT has

achieved compliance with its requirement, the provision ceases to operate with respect to that State DOT.

**Question 10:** Must State DOTs make their TAMPS available to the public?

**Answer 10:** The State DOT must make the TAMP available to the public, and FHWA encourages the State DOT to do so in an easily accessible format (23 CFR 515.9(i)).

## FHWA Roles and Responsibilities

**Question 11: How should FHWA and FHWA Division Offices be involved in the development of a TAMP?**

**Answer 11:** The FHWA Division Offices have the role of TAMP process certification, recertification, and annual plan consistency review. In addition, FHWA Division Offices should communicate the requirements pertaining to the processes for developing a TAMP and discuss the TAMP certification guidance and expectations to the State DOT once the TAMP certification guidance is available. The FHWA is responsible for developing the implementing regulations and guidance related to Title 23, providing technical assistance, and developing and sharing information on good practices.

## TAMP Development Processes Certification

**Question 12: What does FHWA do if the TAMP development processes are deficient?**

**Answer 12:** The goal is to have all TAMPs meet the requirements so that FHWA can certify all State DOTs' TAMP development processes. The expectation is that State DOTs will first submit their TAMP development processes for certification as part of the initial TAMP that is due not later than April 30, 2018. Under 23 CFR 515.13(a), within 90 days of receiving the State DOT's processes for certification or recertification, the FHWA Division Office will decide whether the State DOT's processes for developing its TAMP meet the requirements. If the Division Office determines that the processes described by the State DOT for developing and maintaining the TAMP do not meet the requirements, the Division Office will send the State DOT a written notice of the denial of TAMP development process certification or recertification, including a listing of the specific deficiencies. The State DOT will have 90 days from receipt of the notice to address the deficiencies identified in the notice and resubmit the State DOT's TAMP development processes to the Division Office for review and certification. The Division Office may extend the State DOT's 90-day period to cure deficiencies upon request.

The Division Office may certify or recertify the State DOT's processes if the Division Office finds that the State DOT's TAMP development processes meet the requirements entirely, or with only minor deficiencies. In this case, the Division Office will issue a letter to the State DOT certifying the TAMP development processes are consistent with 23 U.S.C. 119 and 23 CFR Part 515. If the certification or recertification is conditional because of minor deficiencies, the letter will identify the actions needed to address the minor deficiencies. The State DOT must take actions to correct the minor deficiencies

within 90 days of receipt of the notification of certification (which FHWA may extend upon request). The State DOT must notify the Division Office, in writing, when the minor deficiencies are corrected. Once the Division Office verifies the corrections, it will issue a letter of full certification to the State DOT.

If a State DOT does not have FHWA-certified TAMP development processes or does not use them in developing the TAMP, the State DOT's TAMP will not comply with 23 U.S.C. 119 or 23 CFR Part 515.

**Question 13: What does the actual TAMP development process certification look like?**

**Answer 13:** Upon request for certification from the State DOT, the FHWA Division Office will review the State DOT's processes for developing its TAMP. If FHWA determines that the processes can be certified, the Division Administrator will issue a letter to the State DOT certifying that the TAMP development processes meet the requirements of 23 U.S.C. 119 and 23 CFR Part 515. The letter will identify any minor deficiencies, recommendations, and notable practices.

**Question 14: How often is certification required? What types of changes, require a recertification?**

**Answer 14:** A State DOT must update its TAMP and TAMP development processes at least every 4 years, beginning on the date of the initial FHWA certification of the State DOT's processes. Whenever the State DOT updates or otherwise amends its TAMP or its TAMP development processes, the State DOT must submit the amended plan or processes to FHWA for a new TAMP development process certification and consistency determination at least 30 days prior to the deadline for the next FHWA consistency determination under 23 CFR 515.13(b). Minor technical corrections and revisions with no foreseeable material impact on the accuracy and validity of the processes, analyses, or investment strategies in the plan do not constitute amendments and do not require submission to the FHWA Division Office.

## **TAMP Development and Implementation Requirements**

**Question 15: What are the requirements pertaining to development and implementation of a TAMP?**

**Answer 15:** The State DOT must develop and submit an initial TAMP not later than April 30, 2018. The initial TAMP need not meet all TAMP requirements, but must comply with the minimum provisions in 23 CFR 515.11(b). The FHWA does not make a TAMP consistency determination with respect to the initial plan.

Not later than June 30, 2019, the State DOT must submit to FHWA a State-approved TAMP that meets all the requirements of 23 U.S.C. 119 and 23 CFR Part 515, together with documentation demonstrating implementation of the TAMP. The FHWA will

determine whether the State DOT plan and implementation meet the requirements, as described in the consistency determination provisions in 23 CFR 515.13(b).

**Question 16: How often are a State DOT's TAMP and TAMP implementation reviewed for a determination of consistency with 23 U.S.C. 119 and 23 CFR Part 515?**

**Answer 16:** An annual determination of consistency is required beginning in 2019. 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 its TAMP consistent with 23 U.S.C. 119 and 23 CFR Part 515 (23 CFR 515.13(b)). The FHWA determination is only as to the consistency of the State DOT TAMP, and the State DOT implementation of that plan, with applicable requirements. The FHWA determination is not an approval or disapproval of strategies or other decisions contained in the plan.

**Question 17: What are the scope and content of a risk-based TAMP?**

**Answer 17:** In general, a State DOT's risk-based TAMP includes strategies that lead to a program of projects that would make progress toward achievement of the State DOT targets for asset condition and performance of the NHS in accordance with 23 U.S.C. 150(d) and supporting progress toward the achievement of the national goals identified in 23 U.S.C. 150(b). 23 U.S.C. 119(e)(2). State DOTs must address NHS pavements and bridges, but are encouraged to include all infrastructure assets within the highway right-of-way in their TAMP.

It is required that the TAMP include:

- a. A summary listing of the pavement and bridge assets on the NHS in the State regardless of ownership, including a description of the condition of those assets;
- b. Asset management objectives;
- c. Asset management measures and State DOT targets for asset condition;
- d. Performance gap identification;
- e. Life-cycle planning;
- f. Risk management analysis;
- g. Financial plan; and
- h. Investment strategies.

For details on these requirements, see 23 CFR 515.9. Further information including a generic workplan for developing an Asset Management Plan can be found at: <https://www.fhwa.dot.gov/asset/tamp/workplan.pdf>.

**Question 18: What should be the focus of a TAMP’s investment strategies?**

**Answer 18:** As provided in 23 CFR 515.9(f), TAMP investment strategies should collectively make or support progress toward the following:

- 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 NHS relating to physical assets;
- achieving the State DOT targets for asset condition and performance of the NHS in accordance with 23 U.S.C. 150(d); and
- achieving the national goals identified in 23 U.S.C. 150(b).

**Question 19: How are “NHS pavements and bridges” defined for TAMP purposes?**

**Answer 19:** The term “NHS pavements and bridges” is defined in 23 CFR 515.5 and refers to:

- Interstate System pavements (with ramps that are not part of the roadway normally traveled by through traffic being optional);
- NHS pavements (excluding the Interstate System; ramps that are not part of the roadway normally traveled by through traffic are optional); and
- NHS bridges carrying the NHS (including bridges that are part of ramps connecting to the NHS).

This definition is consistent with the network definition used for 23 U.S.C. 150(d) performance management targets for NHS pavements and bridges. The State DOTs must include those targets in their TAMPs.

Although many types of ramps are excluded under the adopted definition of NHS pavements and bridges, FHWA encourages State DOTs to include them in their TAMPs even though not required to do so.

**Question 20: Which type of assets should be included in a TAMP and who has the responsibility for acquiring the data?**

**Answer 20:** The State DOTs must include NHS pavements and bridges, and are encouraged to include other assets. For NHS pavements and bridges not owned by the



State DOT, the rule requires the State DOT to work collaboratively and cooperatively with the other owner(s) to obtain the data needed for the plan.

**Question 21: What other infrastructure assets within the highway right-of-way can be included in a TAMP?**

**Answer 21:** State DOTs must include pavements and bridges on the NHS in their risk-based TAMP (23 U.S.C. 119(e)(4)). In addition, State DOTs are encouraged to include all infrastructure assets within the highway right-of-way of their NHS (23 U.S.C. 119(e)(3)). Examples of such infrastructure assets include tunnels, retaining walls, pavement markings, culverts, guardrail, signs, traffic signals, lighting, Intelligent Transportation Systems (ITS) infrastructure, rest areas, and others.

**Question 22: How should State DOTs deal with missing data for the segments of NHS system not owned by the State?**

**Answer 22:** The FHWA expects State DOTs to undertake the necessary coordination to obtain necessary data from other owners of NHS pavements and bridges. This includes coordination with MPOs where appropriate. When evaluating whether to certify a State DOT's asset management development processes, FHWA will consider whether the State DOT included a process for obtaining the necessary data from other NHS owners in a collaborative and coordinated effort, as required by 23 CFR 515.7(f). If a State DOT, despite reasonable efforts, is unable to obtain data or reach agreement from another NHS owner on implementation of an investment strategy in the plan, the State DOT can provide an explanation in the documentation on TAMP implementation provided under 23 CFR 515.13(b).

**Question 23: What are the asset management requirements regarding assets other than NHS pavements and bridges?**

**Answer 23:** Such assets will be subject to more limited requirements as set out in 23 CFR 515.9(1). For assets that a State DOT voluntarily includes in its TAMP, the State DOT will perform the same types of analyses as for NHS pavements and bridges. However, a State DOT may use less rigorous analyses for discretionary assets, consistent with the State DOT's needs and resources. The State DOT's plan must provide the following:

- a summary listing of the discretionary assets, including a description of asset condition;
- the State DOT's performance measures and targets for the discretionary assets;
- performance gap analysis;
- life-cycle plan;
- risk management analysis;

- financial plan; and
- investment strategies for managing the discretionary assets.

**Question 24: Are the costs of developing a risk-based TAMP eligible for Federal funding?**

**Answer 24:** Yes, costs associated with development of a risk-based TAMP are eligible for Federal funding. Specifically, these costs are eligible for National Highway Performance Program (NHPP), and Surface Transportation Block Grant Program (STBG) funds pursuant to 23 U.S.C. 119(d)(2)(K) and 133(b)(8). Eligible activities include data collection, maintenance, and integration and the cost associated with obtaining, updating, and licensing software and equipment required for risk-based asset management and performance-based management (23 U.S.C. 119(d)(2)(K) and 23 U.S.C. 133(b)(8)). Generally, the cost of equipment with a useful life of more than 1 year, and which equals or exceeds the lesser of (1) the capitalization value established by the State DOT for financial statement purposes or (2) \$5000, is charged against Federal-aid funds annually on a depreciation basis consistent with 2 CFR 200.439 and 200.436. In compelling cases where the State DOT requests up-front participation in high-cost equipment related and allocable to asset management purposes, the request must be documented and reviewed by the FHWA Division Office, with Headquarters assistance as needed, prior to approval under the authority in 2 CFR 200.439(b).

State Planning and Research (SPR) funds may also be used for TAMPs and processes for the NHS (23 U.S.C. 505(a)(3)). Also, an MPO may use its Metropolitan Planning (PL) funds to collect data for non-State owned NHS assets within its metropolitan planning area.

**Question 25: Is the eligibility for risk-based asset management limited to the NHS? If a State DOT decides to develop a TAMP for its entire highway network what portion of the cost is eligible?**

**Answer 25:** State DOTs are encouraged, but not required, to include all NHS infrastructure assets within the right-of-way corridor and assets on other public roads in their TAMP. For public roads not on the NHS, costs are eligible in the manner described in Q&A 24 if the costs are incurred as part of the development of the TAMP required under 23 U.S.C. 119 and 23 CFR Part 515. The costs allocable to non-NHS segments should be allocated to STBG funds. In addition, separate from the required TAMP, State DOTs may use STBG funds for a performance-based management program for non-NHS public roads (23 U.S.C. 133(b)(8)). In such cases, the cost eligibilities and financial requirements described in Q&A 24 apply.

**Question 26: Can the TAMP reference other plans or documents?**

**Answer 26:** Yes, the TAMP can summarize information from other documents as long as the documents are publically available and the TAMP contains sufficient detail to be understood. The TAMP should be consistent with other planning processes and products such as the Statewide Plans and the STIP.

An exception to this general rule applies to the TAMP description of the processes that the State DOT uses to develop its TAMP. The process descriptions must explain each process in detail and cannot simply reference vendor documents or web pages.

**Question 27: How does the FHWA determine whether a State DOT has implemented a Section 119(e) TAMP?**

**Answer 27:** When making a consistency determination under 23 CFR 515.13(b), FHWA will evaluate whether the State DOT developed a TAMP that conforms to 23 U.S.C. 119 and 23 CFR Part 515. As indicated in 23 CFR 515.13, the State DOT also must demonstrate implementation of a TAMP that meets the requirements of the statute and implementing regulations. Each State DOT may determine the most suitable approach for demonstrating implementation of its TAMP, so long as the information is current, documented, and verifiable. The submission must show that the State DOT is using the investment strategies in its plan to make progress toward achievement of its targets for asset condition and performance of the NHS and to support progress toward the national goals identified in 23 U.S.C. 150(b). To permit adequate FHWA review and coordination with the State DOT, the State DOT's implementation documentation is due not less than 30 days prior to the deadline for the FHWA consistency determination. The FHWA consistency determination does not involve, or constitute, an approval of the State DOT's investment strategies, or of projects included in a STIP.

**Question 28: As FHWA undertakes the annual determination of consistency, one approach would be to determine if the funding allocations are reasonably consistent with the investment strategies in the State DOT's TAMP. The regulation (23 CFR 515.13(b)(2)(i)) recognizes this as the best evidence of implementation. What does "reasonably consistent" mean?**

**Answer 28:** The FHWA considers the best evidence of plan implementation to be that, for the 12 months preceding the consistency determination, the State DOT funding allocations are reasonably consistent with the investment strategies in the State DOT's TAMP. This demonstration takes into account the alignment between the actual and planned levels of investment for various work types as defined in 23 CFR 515.5 (i.e., initial construction, maintenance, preservation, rehabilitation and reconstruction) (23 CFR 515.13(b)(2)(i)). If the planned and actual levels of investment are reasonably close for each work type, then the alignment exists. In this context, the term "reasonably close" means that the deviation from the planned funding allocation is unlikely to substantially impact the achievement of the State DOT's targets for NHS asset condition and performance and the State DOT's progress toward the national goals identified in 23 U.S.C. 150(b). 23 CFR 515.13(b)(2).

While this is the best method for showing implementation, FHWA will consider State DOT submission of other types of credible and convincing evidence demonstrating TAMP implementation consistent with 23 U.S.C. 119 and 23 CFR Part 515. The FHWA may find that a State DOT has implemented its TAMP even if the State has deviated from the investment strategies included in the TAMP, if the State DOT shows the deviation was necessary due to extenuating circumstances beyond the State DOT's reasonable control (23 CFR 515.13(b)(2)(ii)).

## Penalties

### **Question 29: What happens if a State DOT does not develop and implement a TAMP meeting the requirements in 23 U.S.C. 119 and 23 CFR Part 515?**

**Answer 29:** There are two potential statutory penalties relating to TAMPs. The first penalty applies if FHWA determines that a State DOT has not developed and implemented a TAMP consistent with section 119 and 23 CFR Part 515. Under the penalty in 23 U.S.C. 119(e)(5), as described in 23 CFR 515.17(a), the Federal share for NHPP projects and activities in that fiscal year will be reduced to 65 percent (23 U.S.C. 119(e)(5)). The reduction remains in effect for the entire fiscal year.

The second penalty may apply if the State DOT has not developed and implemented a TAMP that is consistent with the requirements of 23 U.S.C. 119 and 23 CFR Part 515, and established the State DOT's performance targets for NHS pavements and bridges required under 23 U.S.C. 150(d) within 18 months after the effective date of the 23 U.S.C. 150(c) final rule for NHS pavements and bridges. Under the penalty in MAP-21 § 1106(b), as described in 23 CFR 515.15(b), FHWA will not approve any further projects using National Highway Performance Program funds. The FHWA may extend this deadline based on good faith efforts by the State DOT to meet the TAMP and target requirements. A suspension of funding approvals will terminate once the State DOT has developed and implemented a TAMP that is consistent with the requirements of 23 U.S.C. 119 and 23 CFR Part 515, and established its performance targets for NHS pavements and bridges required under 23 U.S.C. 150(d). This penalty is transitional in nature, and once the State DOT fulfills these two requirements, the penalty ceases to have any potential future effect against the State DOT.

## Other TAMP Provisions

### **Question 30: Does the TAMP identify the projects that a State DOT will construct?**

**Answer 30:** TAMPs do not have to identify project-specific investments under 23 CFR Part 515. Furthermore, 23 CFR Part 515 imposes no STIP requirements. Instead, 23 CFR 515.9(h) requires State DOTs to integrate their TAMPs into their transportation planning processes that lead to the STIP, to support efforts to achieve the goals described in 23 CFR 515.9(f).

**Question 31: Are State DOTs allowed to explicitly develop investment strategies that will result in declining conditions?**

**Answer 31:** The required risk-based TAMP is to improve or preserve the condition of assets and improve the performance of the NHS as it relates to physical assets (23 U.S.C. 119(e)(1); 23 CFR 515.9(a)). A TAMP must include investment strategies that would make progress toward achievement of the State targets for asset condition and performance of the NHS in accordance with section 150(d) and supporting the progress toward the achievement of the national goals identified in section 150(b). 23 U.S.C. 119(e)(2); 23 CFR 515.7(e) and 515.9(f). If a State DOT adopts investment strategies designed to slow the rate of decline in asset conditions, then FHWA will consider this as an improvement even though the condition of the asset has declined.

Under the performance management regulations in 23 CFR Part 490, a State DOT may adopt targets for NHS bridge and pavement conditions that reflect conditions that decline at faster rates than previously was the case. If a State DOT does adopt performance management targets that increase the rate of decline in asset conditions, then the State DOT will adopt investment strategies designed to ensure the State DOT achieves those targets. However, the State DOT also will need to develop TAMP investment strategies that overall, during the life of the long-term TAMP, are designed to support or make progress toward (1) achieving and sustaining a desired state of good repair over the life cycle of the assets, (2) improving or preserving the condition of the assets and the performance of the NHS system relating to physical assets, and (3) achieving the national goals identified in 23 U.S.C. 150(b).

**Question 32: Are the regulations pertaining to asset management, performance management for pavements and bridges, and transportation planning linked?**

**Answer 32:** Yes. A TAMP, as defined in 23 CFR 515.5, describes how the NHS will be managed to achieve system performance effectiveness and State DOT targets for asset condition, while managing the risks, in a financially responsible manner, at a minimal practicable cost over the life-cycle of its assets. The TAMP must specifically address the 23 U.S.C. 150 performance management targets for condition of pavements and bridges (23 CFR 515.9(d)(2)). The TAMP must also identify strategies to close identified performance gaps (23 CFR 515.7(a)(3)). Identified performance gaps include existing condition as compared to short-term targets and long-term performance goals for a state-of-good-repair. Also, the State DOT must integrate its TAMP into the State DOT's planning processes that lead to the STIP, to support the State DOT's efforts to achieve the goals in 23 CFR 515.9(f). (23 CFR 515.9(h)). Finally, the TAMP can be used to inform the required discussion, per 23 CFR Part 450, as to how the investments in the STIP will lead to the achievement of the targets.

**Question 33: Are State DOTs required to include tunnels on the NHS in their TAMPs?**

**Answer 33:** State DOTs are encouraged to include NHS tunnels in their TAMP; however, they are not required to do so.

**Question 34: What is the objective of the performance gap analysis in the TAMP, and what must be addressed?**

**Answer 34:** The objective of performance gap analysis is to track performance compared to short-term targets and long term performance goals for a state-of-good-repair. Also, the information from a gap analysis is applied to undertake life cycle and financial planning to develop alternative strategies to close or address the identified gaps to operate and improve or preserve the existing assets.

The TAMP's gap analysis requires, at a minimum, a comparison of the current condition of the State's NHS pavements and bridges, including those owned by others, with the State DOT's targets established pursuant to 23 USC 150(d). (23 CFR 515.9(d)). The gap analysis should also explain how the current conditions compare to the State DOT's long term performance goals for a state-of-good-repair.

Also, State DOTs are required to have a process for analyzing gaps in the performance of the NHS that affect NHS pavements and bridges regardless of their physical condition (23 CFR 515.7(a)(2)). Under this provision, State DOTs must address instances where the results or recommendations from other plans, including the State's Highway Safety Improvement Program, State Freight Plan, etc., may have an effect on NHS pavement and bridge assets. This could occur if the recommendations from the other plans call for additions or changes to the existing pavements, bridges, or other physical assets. For example, if a State DOT determines the needed solution to congestion is adding additional lanes, the long term additional costs associated with operating and maintaining this additional mileage should be included in the TAMP, because these costs need to be accounted for.

With regard to situations where additional assets are included in a TAMP at the discretion of the State DOT, such as tunnels, guardrail, pavement markings, traffic signals, ITS assets, etc., the State DOT should track these as it believes appropriate to compare the existing condition/performance to the desired condition/performance for these assets. This is important, as the inventory changes, expected life changes, technology advances, etc., to determine future costs for operating, maintaining, replacing, or upgrading these assets.

**Question 35: How must State DOTs coordinate with other owners of NHS pavements and bridges?**

**Answer 35:** State DOTs, per 23 CFR 515.7(f), must have a process to obtain necessary data from other NHS owners in a collaborative and coordinated effort. In addition, this

provision is consistent with 23 CFR 450.208(a)(7), “Coordination of planning process activities,” which requires State DOTs, in carrying out the statewide transportation planning process, to coordinate data collection and analysis with MPO’s and public transportation operators to support statewide transportation planning and programming priorities and decisions.

**Question 36: What is the timeline for the TAMP financial plan process?**

**Answer 36:** The State DOT’s TAMP must include a financial plan that identifies the annual costs to implement the TAMP over a minimum 10-year period (23 CFR 515.9(e)). The life-cycle of a bridge or pavement spans decades, and that requires strategic understanding of the asset’s life-cycle. A financial plan covering only 4- or 5-year periods would not allow for sufficient consideration of life-cycle costs. A long-term financial plan for the TAMP provides “advance warning” to decision-makers and allows them to plan years in advance for investments needed to improve or preserve assets. The long-term perspective of the TAMP financial plan allows legislators and other decision-makers long lead times to anticipate how to close financial gaps.

**Question 37: What are the work types that must be included as part of the TAMP financial plan process?**

**Answer 37:** The inclusion of work types, as defined in 23 CFR 515.5, in the TAMP financial plan is necessary to demonstrate the impact that underfunding or overfunding of one particular work type would have on short-term and long-term asset condition. This objective can be achieved using the five basic work types: initial construction, maintenance, preservation, rehabilitation, and reconstruction. This approach is consistent with a network-level approach to asset management.

**Question 38: What is the goal of asset valuation in the TAMP financial plan process?**

**Answer 38:** Asset valuation is an essential tool in long-term financial planning which helps to realistically capture the monetary gain or loss incurred as a result of investment decisions. In the case of infrastructure assets, applying timely maintenance and preservation treatments slows the rate of deterioration and extends the remaining useful life, while delayed preservation and maintenance accelerate the deterioration and reduces the value of the asset. Asset valuation also serves as an important tool for effectively communicating to the public, legislators, and other stakeholders the value of assets and the consequences of inadequate funding levels to maintain and preserve infrastructure assets.

**Question 39: What are the minimum analysis (network level analysis vs. project level analysis) requirements regarding bridge and pavement management systems?**

**Answer 39:** Although a TAMP involves a network-level analysis, the management systems are used to provide information and decision support at both the network level and the project level. The analyses performed by management systems can often be performed at both the network- and project-level, including multiyear needs determinations, and benefit-cost ratio over the life-cycle of assets. The bridge and pavement management systems must meet the standards in 23 CFR 515.17, which include the ability to analyze the outcome of different network-level investment strategies and also make project-level recommendations in accordance with the selected strategy, ability to forecast deterioration, identify short- and long-term budget needs, and recommend programs and implementation schedules.

**Question 40: How can State DOTs determine the appropriate level of modeling to establish funding needed to maintain their system in a state-of-good-repair?**

**Answer 40:** Pavement and bridge management systems meeting the requirements of 23 CFR 515.17, “Minimum standards for developing and operating bridge and pavement management systems”, include deterioration models based on the data that State DOTs have collected for their asset classes and sub-groups. These systems are capable of predicting future condition of pavements and bridges and the budgets required to maintain the assets in a state-of-good-repair.

The FHWA recognizes that some software systems may not currently have the capability for deterioration modeling. Some State DOTs may not be using these models fully even when available. Also, in some cases, historical condition, treatment, construction, and other data needed for analysis may not be reasonably available to the State DOT. State DOTs affected by these deterioration model issues can adopt procedures to meet the standards in 23 CFR 515.17 by means other than software programs. Pursuant to 23 CFR 515.7(g), State DOTs may use the best available data to develop their TAMP, and this applies to data needed for the operation of bridge and pavement management systems.

**Question 41: Must State DOTs use their bridge and pavement management systems as they develop their TAMPs?**

**Answer 41:** Yes, State DOTs must use bridge and pavement management systems meeting the requirements of 23 CFR 515.17 to analyze the condition of NHS pavements and bridges for the purpose of developing and implementing their TAMPs (23 CFR 515.7(g)).

**Question 42: Under 23 CFR 515.17, State DOTs must follow minimum standards for developing and operating bridge and pavement management systems. To what extent are these standards to be addressed in the TAMP?**



**Answer 42:** State DOTs must use the best available data and bridge and pavement management systems meeting the requirements of 23 CFR 515.17 to analyze the condition of NHS pavements and bridges for the purpose of developing and implementing the asset management plan (23 CFR 515.7(g)).

The FHWA recognizes that, as of the publication date of the final TAMP rule, State DOT bridge and pavement management systems had varying levels of capability. The expectation is that, over time, all State DOTs will develop a comprehensive system that has all the capabilities required under 23 CFR 515.17. However, initially some State DOTs may find it necessary to use additional means to provide required analyses or other information needed to meet all of the bridge and pavement management systems requirements in 23 CFR 515.17. In such cases, the State DOT should identify in its TAMP, enhancements needed and outline an action plan (with milestones and dates) that the State DOT plans to take to improve the efficiency and functionality of its bridge and pavement management systems (e.g., procuring software, developing decision trees, calculating benefit values, etc.). The TAMP also should describe the expected timeframes to achieve the enhancements to the bridge and pavement management systems.

States must use the best available data for the bridge and pavement management systems analyses (23 CFR 515.7(g)). If a State DOT does not have all the necessary data, the discussion of the analysis in the TAMP should include descriptions of the assumptions made in order to complete the analyses. An action plan (with milestones and dates) to remedy the data gap(s) should also be included.

**Question 43: How can State DOTs use their current STIPs when they develop their TAMPs?**

**Answer 43:** A TAMP developed in accordance with 23 U.S.C. 119(e) and 23 CFR Part 515 produces a “fresh look” at what is needed to achieve and sustain a state of good repair over the life cycle of the assets and to improve or preserve the condition of the NHS. The development of the TAMP investment strategies relies on use of specific analyses (i.e., performance gap analysis, risk analysis, the life-cycle planning, and financial plan analysis). In the transition period leading to the first complete TAMP, STIP information has limited usefulness in the TAMP development process because it will not reflect the results of the various analyses required for the TAMP. Accordingly, use of information from pre-TAMP STIPs is inappropriate unless it is used as background information for identifying projects that will likely proceed in the timeframe of the STIP and the projects either are documented as consistent with the TAMP investment strategies, or are otherwise justified in accordance with 23 CFR 515.13(b)(2). Note that STIP projects may only be used as a source of information, and cannot replace data analysis requirements in Part 515, or be used to override the results of the required independent analyses when developing investment strategies.

Once the State DOT has results from the required analyses for its TAMP and has identified likely investment strategies, the State DOT should re-examine the projects in

its STIP and determine if they are aligned with the State DOT's asset management and performance goals. The State DOT may decide to update or amend the STIP as necessary to better align STIP and TAMP, or (if applicable) to develop the needed justification under 23 CFR 515.13(b)(2) for pursuing projects that do not align with the State DOT's TAMP investment strategies.

**Question 44: How should MPOs and other NHS owners be involved in the development of TAMPs?**

**Answer 44:** The asset management provisions in 23 U.S.C. 119(e) do not distinguish between State-owned NHS facilities and NHS facilities owned by others. The FHWA understands that MPOs should be involved and encourages their involvement. However, because the asset management statute specifies the State as the responsible entity, it is the State's responsibility to develop the necessary relationships with other owners to permit the State to successfully develop its required TAMP. In the event that other NHS owners decide to develop their own TAMPs, the details of how these plans should be integrated into the State DOT's NHS TAMP should be developed by the involved entities.

**Question 45: What is the relationship between the TAMP and the National Performance Management Measures for NHS pavements and bridges?**

**Answer 45:** The relationship between a risk-based TAMP and the 23 U.S.C. 150 national performance measures for pavement and bridges is that the TAMP describes how the NHS will be managed to achieve system performance effectiveness and the State DOT's 23 U.S.C. 150 targets for asset condition, while managing the risks, in a financially responsible manner, at a minimum practicable cost over the life cycle of its assets (23 CFR 515.5). Under 23 CFR 515.9(d)(2), State DOT TAMPs must include a discussion of asset management measures and targets, including those established pursuant to 23 U.S.C. 150 for pavements and bridges on the NHS. The TAMP must include an evaluation addressing how investment strategies will affect achievement of the State DOT's targets for asset condition of NHS pavements and bridges. Through the TAMP financial plan, State DOTs can find the right balance amongst various investment strategies, so the targets are met. State DOTs should use their financial plans as a tool to decide if they need to make adjustments to their targets so that the funding distribution does not have an adverse impact on other assets.

**Question 46: How can State DOTs find the balance between various investment strategies for achieving their targets and their need to comply with the minimum condition requirements under the performance management regulations in 23 CFR Part 490?**

**Answer 46:** By applying the asset management framework, State DOTs will develop a good understanding of the existing gaps in system performance, of how assets should be

managed throughout their whole life, of how to mitigate the risks that pose a threat to asset condition and performance, and of how funding distribution and various trade off options could sway the overall system condition and performance. This will help the State DOT to find the right balance amongst various investment strategies so that the targets are met, risks minimized, and assets managed for their whole-life at the least practicable cost, while still meeting the minimum condition requirements for pavements and bridges. State DOTs should use their financial plan as a tool to decide if they need to make adjustments so that the funding distribution does not have an adverse impact on assets.

**Question 47: Do State DOTs have the flexibility to use and maintain their internal performance measures and targets?**

**Answer 47:** Even though some State DOTs have an existing approach to manage performance, including performance measures and targets, they are still required by 23 U.S.C. 150 to set targets for the national performance measures established in 23 CFR part 490. However, under the asset management rule, State DOTs have been given flexibility to include their own measures and targets as well those required under 23 U.S.C. 150. A State DOT is free to maintain and use its own measures in whatever way it wishes as long as the State DOT complies with the 23 CFR Part 515 and 23 CFR Part 490 requirements.

**Question 48: Does discussing NHS pavement and bridge condition targets in a TAMP fulfill the performance management reporting requirements?**

**Answer 48:** No, discussing NHS pavement and bridge condition targets in a TAMP does not fulfill performance management requirements. The performance management reporting requirements for NHS pavements and bridges are established in 23 CFR Part 490. That regulation incorporates the reporting requirements in 23 U.S.C. 119(e)(7) and (f) relating to required performance measures and targets, and reporting requirements in 23 U.S.C. 150(e) relating to the effectiveness of the TAMP's investment strategy document for the NHS.

**Question 49: What resources are available to a State DOT with regard to asset management and TAMPs?**

**Answer 49:** Please see the list below.

- Final Rule Recordings of Webinar pertaining to the Asset Management Final Rule on the FHWA Website:

- <http://www.fhwa.dot.gov/tpm/resources/presentations.cfm>

- FHWA Office of Asset Management Website  
(<http://www.fhwa.dot.gov/asset/index.cfm>)
  - Examples of TAMPs and templates
  - Generic work plan for developing a TAMP
  - Publications relative to risk management and financial planning
  - List of NHI asset management courses
- NHI Transportation Asset Management Training Courses:
  - <http://www.nhi.fhwa.dot.gov/home.aspx>
- AASHTO Asset Management Portal (Including Asset Management Plan Builder:
  - <http://www.tam-portal.com/>
- Asset Management Expert Task Group:
  - <http://www.tam-portal.com/tam-etg/>