

# Developing the TAMP Knowledge Book to Support Workforce Success

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## Abstract

Workforce continuity is one of the biggest challenges facing state transportation agencies today. High staff turnover, evolving responsibilities, and long planning cycles often result in the loss of critical institutional knowledge—especially for complex, infrequently updated processes like the Transportation Asset Management Plan (TAMP), which must be submitted to the Federal Highway Administration (FHWA) every four years.

To address this challenge, the New Mexico Department of Transportation (NMDOT) developed the TAMP Knowledge Book, an internal knowledge management resource designed to preserve expertise, streamline onboarding, and ensure that staff can confidently lead future TAMP updates. This initiative emerged in response to two key commitments in the 2022 TAMP: a priority action calling for improved knowledge reuse, and a top risk identifying staff attrition as a threat to continuity and compliance.

The Knowledge Book captures and organizes critical information from the 2022 TAMP—data sources, workflows, legislative references, and responsibilities—into a modular, easy-to-maintain format. It provides how-to guidance for every involved role and demystifies each step in the TAMP development process.

By capturing knowledge in a user-friendly format, the TAMP Knowledge Book supports workforce resilience, enables cross-training, and empowers new and existing staff to confidently lead and contribute to asset management efforts. It's a workforce-centered solution to a long-standing infrastructure planning challenge.

## Key Issues Addressed

### Knowledge Loss

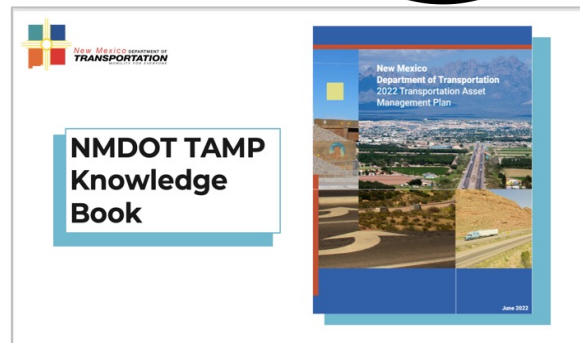
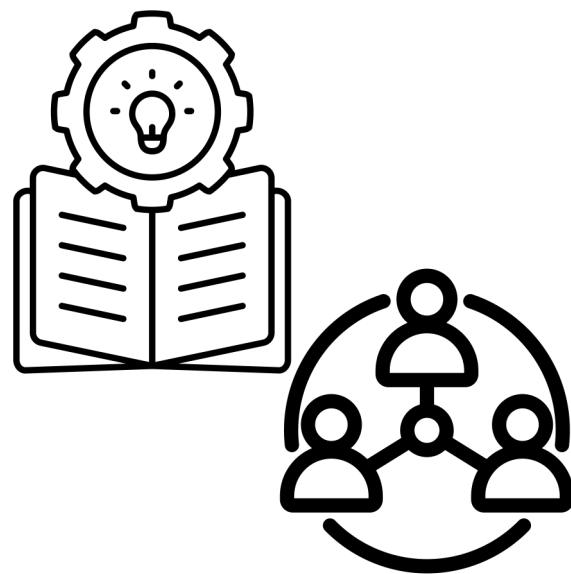
Key processes and data sources can be forgotten in the four years between TAMP development cycles. Without this knowledge, staff may go through time consuming processes to duplicate forgotten steps in TAMP production or search for lost information and data sources. The TAMP Knowledge Book documents the TAMP development process and helps streamline TAMP development in the future.

### Staff Turnover

As employees leave or change positions, they take their knowledge of key processes with them unless it's collected and documented while they're still around. This can similarly cause important data sources or production steps to be lost or require time consuming processes to find information. The TAMP Knowledge Book allows NMDOT to collect and retain key staff knowledge.

### New Staff

New employees often have trouble getting up to speed on the TAMP process. As asset management is a relatively new discipline, there are fewer educational / guidance resources available to staff. The TAMP Knowledge Book serves as the key resource for new staff supporting asset management at NMDOT.



Results

Following the completion of the 2022 TAMP, NMDOT identified and tagged elements within each chapter that would require updates in future TAMPs. An element could be a section of text, a figure, a table, or a vignette. Each element is labeled with a unique ID, a type, the business unit responsible for updating the element, location in the TAMP document, relevant regulations, key data sources, and additional notes. The elements make up the building blocks of the TAMP; the list of elements is the list of items that need updating every four years.

The Knowledge Book is organized using the TAMP organization; each chapter in the Knowledge Book corresponds to a chapter in the TAMP. After creating the overall structure of the Knowledge Book and an introductory section, the element level information was used to aggregate information by chapter such as relevant legislation and key data, workflows, and information sources.

A section was added for each chapter that reviews chapter elements and the process for updating them. Each chapter in the Knowledge Book includes the following sections: Overview, Policy Context, Workflow (by unit); Responsibilities (by unit); Data & Information Resources; TAMP Elements.

Key Lessons

- 1. Document the process when it is still fresh in your memory. Over the four-year TAMP cycle, it’s easy for knowledge to be forgotten or lost. Documenting data sources, key steps, and assumptions is best done while developing the TAMP or immediately afterwards.
- 2. Focus on the end user. The TAMP involves multiple assets and relies on the contributions of numerous business units. However, a given business unit or staff member may only participate in a small part of the overall TAMP development process. Structuring the Knowledge Book by role allows specific and targeted use by practitioners.
- 3. Review and refresh as needed. The Knowledge Book is a reflection of the TAMP development process and should be updated to align with any changes in the process.

References

You can find more information at the following links:

[NMDOT Asset Management Bureau](#)

[2022 NMDOT TAMP](#)

**Executive Summary Federal Legislative Context**

**Asset Management Plan Requirements**  
23 CFR § 515.9

The TAMP responds to federal regulatory requirements laid out in 23 CFR § 515.9.

**Pavement and Bridge Inventory**  
23 CFR § 515.9(b)

An asset management plan shall include, at a minimum, a summary listing of NHS pavement and bridge assets, regardless of ownership.

**Extended Inventory**  
23 CFR § 515.9(c)

State DOTs are encouraged to include all other NHS infrastructure assets in the asset management plan.

**Condition**  
23 CFR § 515.9(d)(3)

An asset management plan must include a summary description of the condition of NHS pavements and bridges, regardless of ownership.

**Chapter 2 Overall Workflow**

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graph TD
    A[Data Collection] --> B[Data Analysis]
    B --> C[Asset Inventory]
    C --> D[Condition Assessment]
    D --> E[Asset Management Plan]
    E --> F[Final Report]
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**Element 4.3, 4.4, 4.5 NHS Bridge Projections**

The Bridge Bureau updates

- Element 4.3, the text describing figures 4-1 and 4-2
- Element 4.4, the data for figure 4-1
- Element 4.5, the data for figure 4-2

Data Attributes to be included

- National Highway System (NHS)
- Prediction for condition breakdown by percentage of NHS bridges for next 10 years with current funding levels
- Prediction for condition breakdown by percentage of NHS bridges for next 10 years with desired funding level

Figure 4-1: NHS Bridge Projections - Current Funding Levels

Figure 4-2: NHS Bridge Projections - Desired Funding Levels

Data Source: TAMP Bridge Analysis