Transportation Asset Management Webinar Series

Webinar 69

Organization and People

Sponsored by FHWA and AASHTO

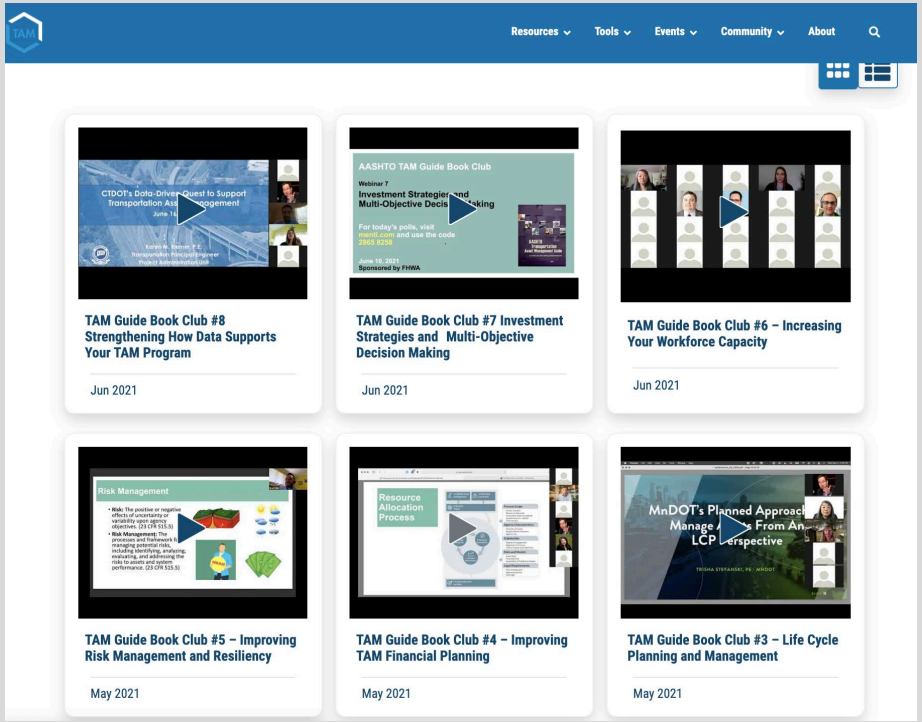
U.S. Department of Transportation
Federal Highway Administration

AASHTO
The Voice of Transportation

June 12, 2024

FHWA/AASHTO Asset Management Webinar Series

- This is the 69th in a webinar series that has been running since 2012
- Webinars are held every two months, on topics such as off-system assets, asset management plans, asset management and risk management, and more
  - Usually, the 3rd Wednesday of the month, 2PM Eastern
- We welcome ideas for future webinar topics and presentations
- Submit your questions using Zoom's chat feature



Welcome

FHWA and the AASHTO Sub-Committee on Asset Management are pleased to sponsor this webinar series

- Sharing knowledge is a critical component of advancing asset management practice
- FHWA Asset Management Hub: https://www.fhwa.dot.gov/asset/pubs.cfm

Webinar Objectives

- Learn about the TAM Guide Chapter 3 – Organization and People.
- Highlight practices from several state transportation agencies regarding TAM and change management, knowledge management, training and capability building.
- Review information on establishing TAM roles, responsibilities and competencies.

Webinar Agenda

2:00 **Welcome, Overview, and Agenda**
Anna McLaughlin, AASHTO
Tashia Clemons, FHWA
Hyun-A Park, Spy Pond Partners

2:10 **Topic Overview - Digital TAM Guide Chapter 3**
Hyun-A Park, Spy Pond Partners

2:25 **New Mexico DOT TAMP Knowledge Management**
Virginia Stubella, New Mexico DOT

2:40 **Michigan DOT TAM Program Assessment**
Bradley Sharlow, Michigan DOT

2:55 **Utah DOT TAM Organization and People**
Patrick Cowley and Chris Whipple, Utah DOT

3:10 **Q&A, Discussion and Next Steps**
Hyun-A Park, Spy Pond Partners
Anna McLaughlin, AASHTO

AASHTO Transportation Asset Management Guide

Organization and People

June 12, 2024

spy pond partners, llc

NCHRP 08-137

Updates to the Digital Edition of the AASHTO Transportation Asset Management Guide

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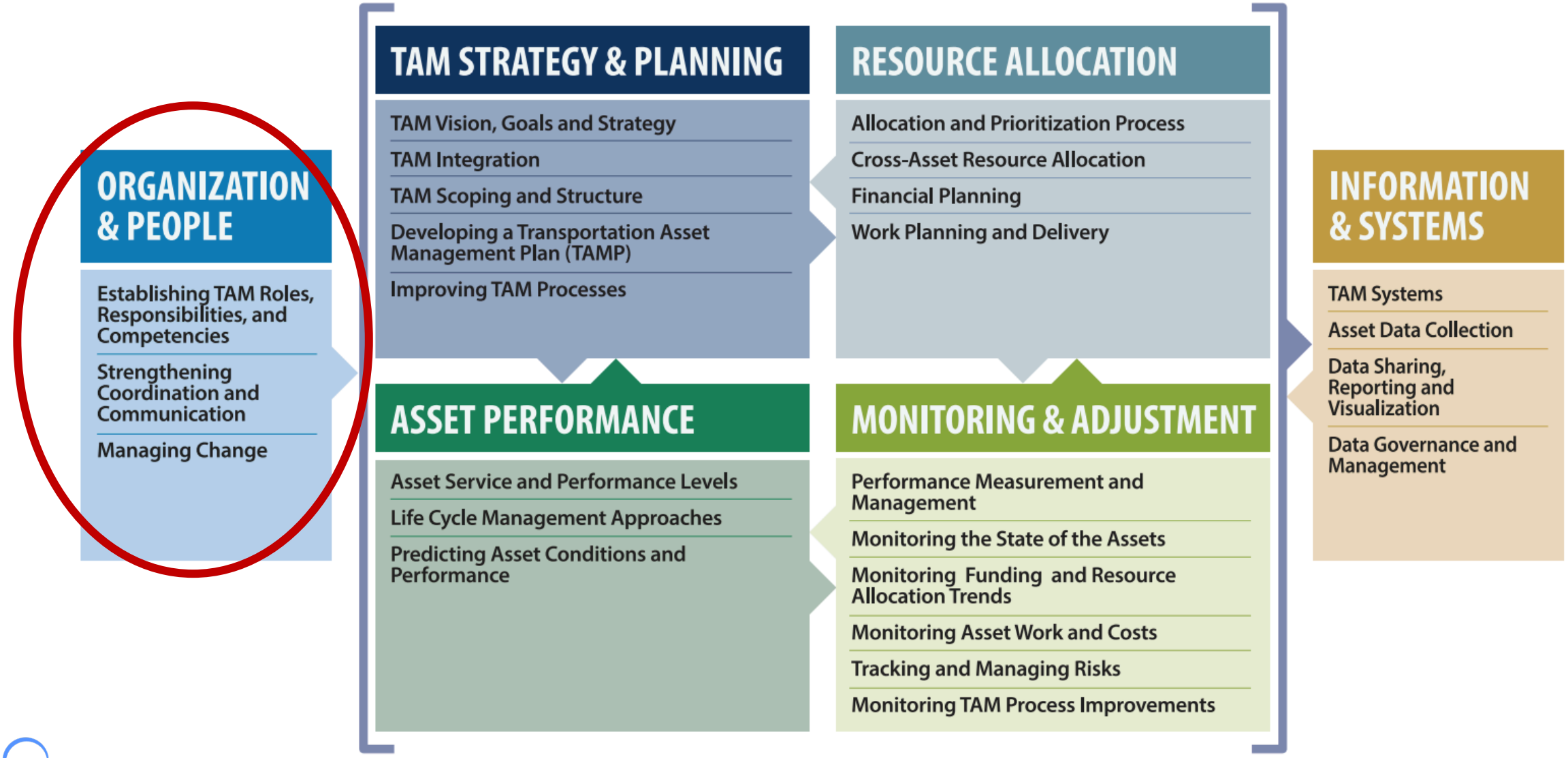
applied pavement TECHNOLOGY

wsp

TAM Guide Framework



Chapter Purpose

- **Asset Management is not possible without the people within the organization who commit to its success**
- **Improved understanding of the organizational models that support TAM can:**
  - Accelerate an agency's ability to add value through its TAM program
  - Sustain value into the future
- **Provide clear understanding of roles and responsibilities and their interaction in order to strengthen TAM implementation**

Chapter Sections

What's in the Updated TAM Guide?

- New Sections
- New Research
- New Practice Examples
- New Checklists
- New How To's
- New Videos
- New Audio
- New Knowledge Check
- New TAM Assessment

New Section: Workforce

Section 3.4 Outline | Read the Full Section

Section 3.4 NEW SECTION

Managing the TAM Workforce

The compounding effects of COVID-19 and the Baby Boomer generation leaving the workforce have contributed to the civilian labor force participation rate dropping to below 62.5% (January 2023) — the lowest rate in 45 years — and presenting challenges for DOTs to find workers. Those who remain active in the labor force have higher expectations of their employers in terms of salaries and working conditions, especially flexibility and the ability to work remotely. At the same time, demands on DOTs for personnel trained in asset

New Section: Workforce

Section 3.4 Home	3.4.1	3.4.2

This section has the following parts:

1. **TAM Workforce Development**. Emphasizes the importance of workforce planning and development in Transportation Asset Management (TAM). It suggests conducting skill assessments and gap analyses to address evolving needs, implementing effective recruitment and retention strategies, and leveraging technology through digital competency and data-driven decision-making.
2. **TAM Workforce Management**. Underscores the significance of collaboration, communication, and performance management in Transportation Asset Management (TAM) workforce success.

New Section: Knowledge Management

Section 3.5 Outline | Read the Full Section

Section 3.5 NEW SECTION

Knowledge Management for TAM

Knowledge management involves the systematic handling of information and resources to effectively support decision-making. This section explores strategies and practices for efficient and effective knowledge management in TAM.

There has been a lot of research related to knowledge management for state departments of transportation. The AASHTO Committee on Knowledge

New Section: Knowledge Management

Section 3.5 Home	3.5.1	3.5.2

This section has the following parts:

1. **Accumulating Knowledge**. Emphasizes the importance of establishing a Knowledge Management Framework for Transportation Asset Management (TAM) programs.
2. **Building on Knowledge**. Underscores the importance of capturing tacit knowledge in Transportation Asset Management (TAM) by regularly documenting insights and experiences of seasoned professionals.

New Research and Resources

How To Process Map: a Step by Step Guide
May 11, 2022 | Pipefy, Isabelle Salemme
Guide to process management. Describes best practices such as the Lean Six
explains how to create process maps (workflow diagrams).

External Link: https://www.pipefy.com/blog/process-mapping/

**Attracting, Retaining, and Developing the 2030 Transportation Workforce: Design, Co
Maintenance**
January 1, 2022 | Transportation Research Board
The TRB National Cooperative Highway Research Program's NCHRP Research Report 1008: Attracting, Retaining, and Developing the 2030 Transportation Workforce: Design, Construction, and Maintenance provides a guide with specific strategies and action plans to help agencies identify an
workforce needs through 2030 and beyond.

External Link: https://nap.nationalacademies.org/catalog/26768/attracting-retaining-a
the-2030-transportation-workforce-design-construction-and-maintenance

Transportation Workforce Planning and Development Strategies
March 12, 2021 | Transportation Research Board
The TRB National Cooperative Highway Research Program's NCHRP Synthesis 543: Transportation Workforce Planning and Development Strategies is a synthesis of the current state of practice associated with the implementation of transportation workforce planning and development strategies at state departments of transportation (DOTs) and associated local and tribal technical assistance programs (LTAPs/TTAPs).

External Link: https://www.trb.org/Publications/Blurbs/179878.aspx

Washington Workforce Development Toolkit - Talent Development
January 1, 2024 | Washington State DOT
This resource emphasizes talent development and continuous learning opportunities for the employees of the Washington State DOT. It covers various aspects, including leadership development, mandatory training, continuous improvement through lean practices, tuition reimbursement, and a comprehensive performance management program, aiming to enhance employee skills, engagement, and overall organizational effectiveness.

External Link: https://www.wsdot.wa.gov/employment/workforce-development/talent-development.htm

Assessing and Measuring the Business Value of Knowledge Management
June 13, 2023 | Transportation Research Board
Considering 40% of the workforce in most DOTs will be eligible for retirement within a few years, this report highlights how transportation agencies can benefit from knowledge management (KM) techniques and practices to help identify, capture, and transfer institutional knowledge and support continuous learning.

External Link: https://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=5002

and many more…

New Practice Examples

Integrating Equity in Transportation Decision-Making / MnDOT

Minnesota Department of Transportation (MnDOT) has integrated equity into transportation decision-making through its Advancing Transportation Equity Initiative, which seeks to enhance access and opportunities for underserved communities in the state. This initiative is based on community input and feedback received during the development of the 2017 Statewide Multimodal Transportation Plan. The plan identified the reduction of transportation disparities and the incorporation of equity into decision-making processes as high-priority objectives. The 2022 Statewide Multimodal Transportation Plan, along with its internal Strategic Plan, includes additional goals, strategies, and actions to further advance transportation equity. MnDOT is committed to creating an equitable transportation system.

Acknowledge Inequalities	Defining Transportation Equity:	Proposed Journey
MnDOT acknowledges historical injustices in transportation, where some communities were underserved and harmed by agency decisions. They recognize that past choices denied Black, Indigenous, and disabled communities full transportation benefits.	Transportation equity, as defined by MnDOT, seeks fairness and justice in the distribution of benefits and burdens within transportation systems, with a focus on empowering underserved communities, particularly Black, Indigenous, and People of Color, in decision-making processes.	MnDOT acknowledges that their journey toward transforming transportation systems and achieving equity requires ongoing listening, learning, adaptation, and implementation.

New Checklists

Using TAM Gap Analysis Results to Advance Practices

The results from the TAM gap analysis can help identify gaps between current and desired performance, but the greatest benefit may come from using the results to advance agency practices. Asset Management leaders can use this checklist to identify strategies for addressing any gaps that are discovered.

Did the analysis identify gaps related to:

☐ Policy Goals and Objectives? Consider:

- Developing strategies to better link agency goals with performance data.
- Using asset management data to set infrastructure performance goals.
- Monitoring performance towards goals more regularly.
- Establishing an asset management policy.
- Using asset management analysis tools to convey the consequences of investment options.

☐ Asset Management Practices? Consider:

- Developing strategies that ensure asset management decisions are driving investment decisions.

☐ Asset Management Practices? Consider:

- Developing strategies that ensure asset management decisions are driving investment decisions.
- Defining roles and responsibilities for asset managers that are endorsed by leadership.
- Creating a decision framework that considers risk, long-term investments, and trade-offs.
- Establishing a link to upper management through an Asset Management Steering Committee.
- Adding additional assets to your TAMP.

☐ Planning, Programming and Project Delivery? Consider:

- Aligning the planned TAMP investments with long-range plans and other planning documents.
- Relating available resources and project costs to expected levels of service or performance.
- Reviewing existing performance measures to verify they drive desired behavior.
- Monitoring and regular reporting of progress towards desired performance.
- Establishing a feedback loop to ensure consistency between plans and programs.

☐ Data Management? Consider:

- Aligning data capabilities with intended asset management approaches.
- Establishing a tiering system to prioritize data investments and practices for ancillary assets

New How To's

Onboarding New TAM Staff

There are many resources available to help onboard new TAM staff. Some resources may need to be adapted and/or curated in a way to make it easier for the person who has no TAM knowledge to digest the information. The following are steps that can be taken to maximize the learning and building readiness for the role.

1. **Understand the Roles and the Skills**

   There are many different TAM roles needed in your agency so clearly document what you think are the skills needed to be successful at the role. It's also important to clearly define the tasks that the role needs to carry out. One technique for defining a job role is to create a job book. There are several examples of job books at transportation agencies.

2. **Understand the New Staff and their Skills**

   When onboarding a new staff, it's also important to understand their background and know what skills they have already. One person may already be coming into the role with some TAM knowledge while another

3. **Inventory the TAM Resources Related to the Skill Needs for the Role**

   Build an inventory of TAM resources that will help a new TAM staff get started in their role. This library of resources should be maintained with each new employee who starts. It will include customized approaches for staff with different skills. It will include an online training course and other training materials. These resources will be useful with each new employee.

4. **Develop an Onboarding Plan for Each TAM Employee**

   Use the combination of the first three steps to develop an onboarding plan for each new employee. This onboarding plan will align each person's schedule with the sequence of material they should consume. It will be timed with trainings that are offered by others with the timing of the offerings.

5. **Direct New Employee to Specific Resources and Provide Guidance on How They Should Use It**

   Be clear with the new staff on why each resource is important to their job. Describe its importance and how they should be used to carry out their job tasks. Communicate that building knowledge about TAM is an

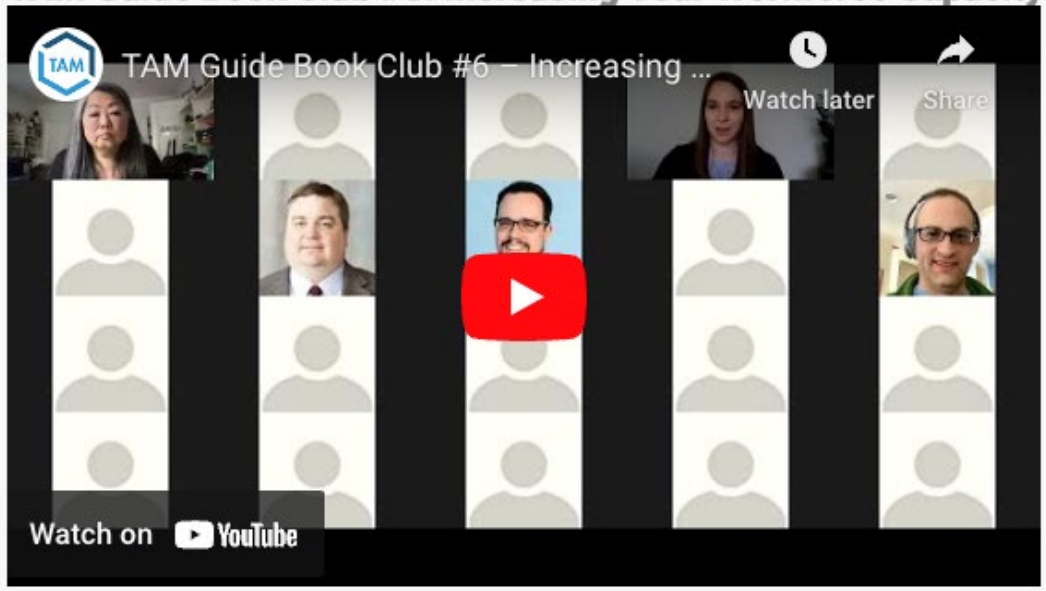
New Videos

TAM Communications

New Employee Training

TAM Webinar #37 - Communicating the TAMP and Stakeholder Engagement

TAM Guide Book Club #6: Increasing Your Workforce Capacity



New TAM Topics

Equity

This page features resources related to equity in TAM.

Overview:

Equity in transportation can be broadly defined as the equitable distribution of benefits and costs, considering whether this allocation is both fair and appropriate. Transportation planning decisions wield significant and diverse impacts on equity, as transportation agencies frequently encounter the challenge of trading off between candidate projects, each linked to multiple competing objectives while grappling with limited resources.

Workforce and Communications have been updated

New Audio

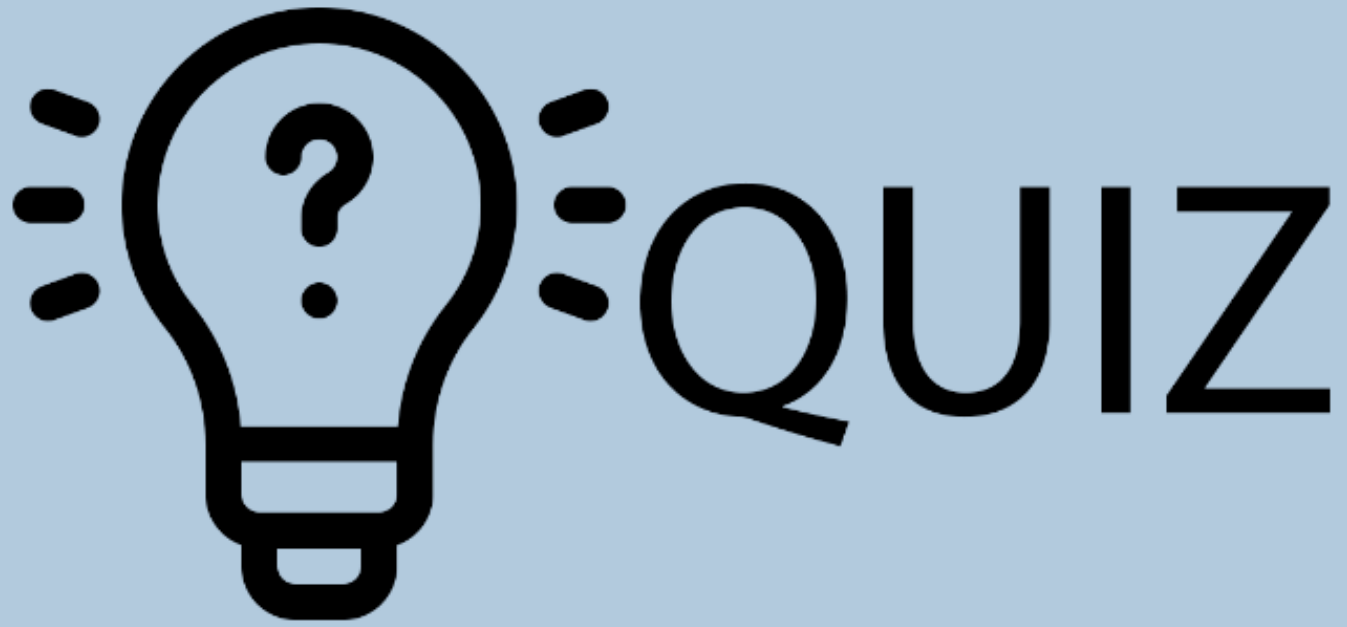
Chapter 3

Organization and People

Chapter 3 AASHTO Digital TAM Guide

New Knowledge Check

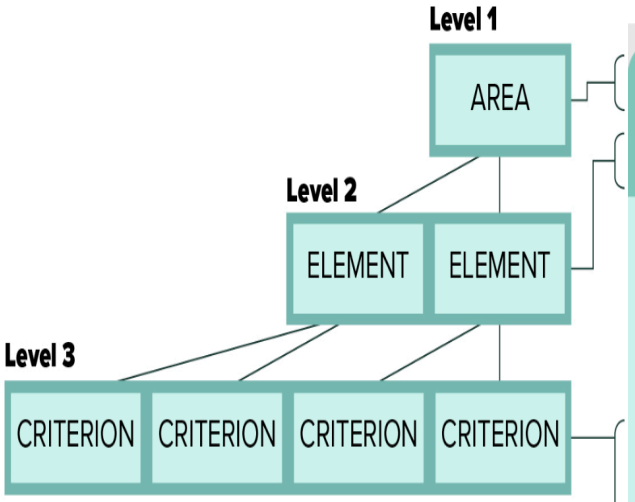
CHAPTER 3: ORGANIZATION AND PEOPLE



This is a chance to test your knowledge for Chapter 3. Take the quiz and send yourself a certificate of completion with your results.

Start

New TAM Assessment



B. Transportation Asset Management (TAM) Practices

A.2. TAM Framework | **A.3**

A.2. TAM Framework

B.1.	Asset management principles are recognized throughout the agency as the driving force for asset preservation investment decisions and resource allocations.	Current 1 2 3 4 5 / Target 1 2 3 4 5	Skip / YES
B.2.	Asset management strategies that reduce overall life cycle cost of asset preservation are used throughout the agency.	Current 1 2 3 4 5 / Target 1 2 3 4 5	Skip / YES
B.3.	Asset management practices are widespread within the agency and are...		
B.4.	Updates and revisions to the agency's asset management framework are...		
B.5.	The asset management framework has a process for considering risk,...		

Notes...

Notes...

Thank You

Hyun-A Park
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TAMP Knowledge Management

New Mexico DEPARTMENT OF TRANSPORTATION
MOBILITY FOR EVERYONE

1. Why KM for the TAMP?
2. TAMP KM Approach
3. Key Components
4. Value to NMDOT

Why Knowledge Management (KM) for the TAMP?

- **TAMP 2022 Priority Action #6: Strengthen TAM Knowledge Management**
  - Determine where there are the greatest opportunities with better reuse of information.
  - Develop an action plan to strengthen knowledge management for TAM.
- **TAMP 2022 Risk #5: The risk of inadequate training and knowledge in the workforce caused by staffing levels and the loss of expertise as staff retire or leave**
  - Mitigation strategies include: “Implement more knowledge management practices”
  - Mitigation actions include: “Encourage documentation and the development of how-to manuals for each agency position.”

Challenges and Opportunities

Challenges

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

Four year TAMP development cycle:

- Key steps and data sources can be forgotten in four years between TAMP development cycles

Opportunities

Collect and retain staff knowledge:

- TAMP KM initiative will demonstrate how this will work

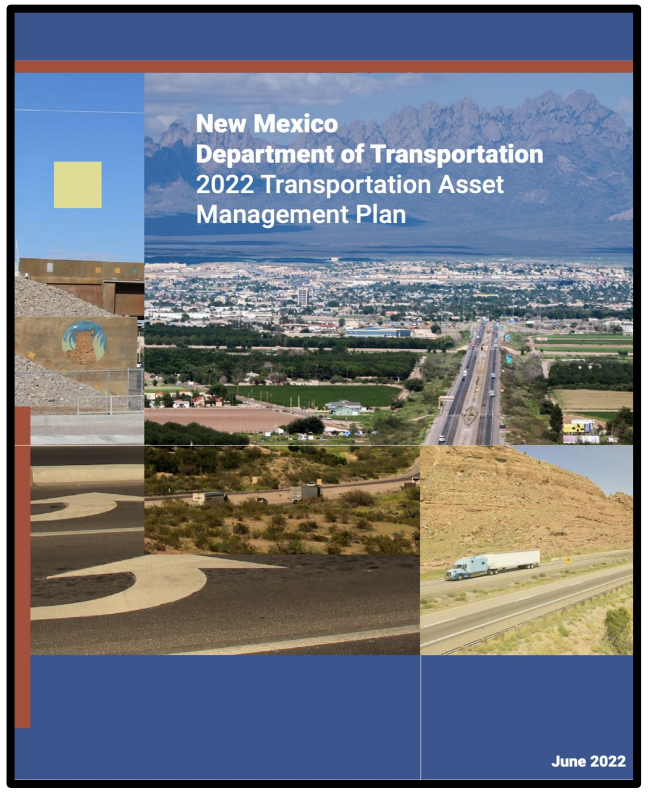
New staff can get up to speed quickly:

- Better documentation of how the TAMP is developed

Streamline the TAMP development process:

- Create a more sustainable process for the future

TAMP KM Approach



- Document how the TAMP is developed including who is involved, what tools are used, and who does what
- Explain why key sections are there
- Create modular guidance
- Identify all individual elements that require updating on a four year cycle
- Developed and applied taxonomy for categorizing TAMP elements
- Built master list of TAMP elements for updating
- Developing narrative descriptions of the document at the following levels:
  - Full document
  - Chapters
  - Elements

Chapter 2 – Inventory and Conditions Pilot

Overview

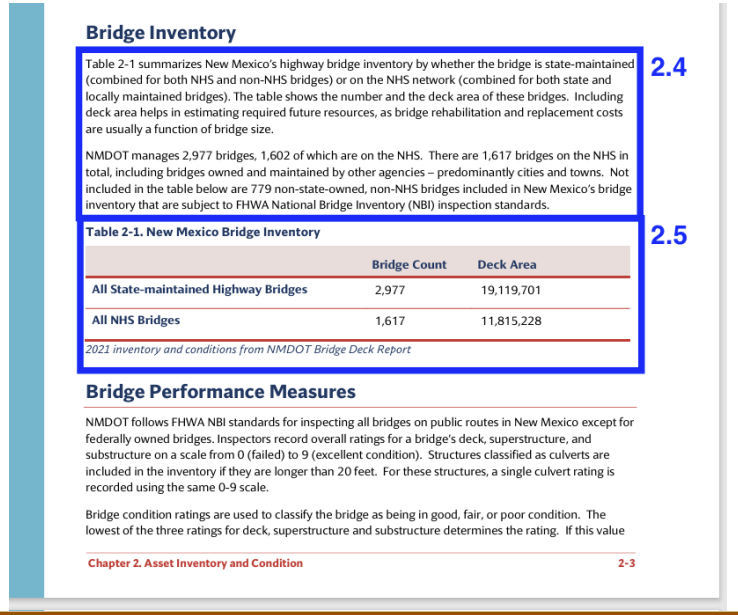
Chapter 2 summarizes the inventory and condition of NMDOT maintained NHS and non-NHS pavement and bridge assets as well as non-state-maintained NHS assets in New Mexico.

TAMP Elements

To support TAMP updates, parts of the 2022 TAMP were identified as unique elements. The elements help clarify the material in the TAMP that needs to be updated and who is responsible for the update. The list of elements can be found in the TAMP Data Requirements Workbook.

Elements are labeled by:

- **A unique Element ID.** This is comprised of the Chapter number and an assigned number in sequential order within the chapter. For example, the introduction is labeled 0 and the first element to be updated is 0.1, the second element to be updated in the introduction is labeled 0.2.
- **Type** (e.g., text, figure, table, vignette). For example, Element 2.4 Is the text for Table 2-1 New Mexico Bridge Inventory and Element 2.5 Table 2-1 New Mexico Bridge Inventory is the table itself.
- The **business unit**(s) responsible for each element
- **Page(s)** of the full TAMP where the element can be found.
- **Additional notes** about what needs to updated.
- **Associated federal regulations.**
- The **source of data** to address the TAMP element



Bridge Inventory

Table 2-1 summarizes New Mexico's highway bridge inventory by whether the bridge is state-maintained (combined for both NHS and non-NHS bridges) or on the NHS network (combined for both state and locally maintained bridges). The table shows the number and the deck area of these bridges. Including deck area helps in estimating required future resources, as bridge rehabilitation and replacement costs are usually a function of bridge size. 2.4

NMDOT manages 2,977 bridges, 1,602 of which are on the NHS. There are 1,617 bridges on the NHS in total, including bridges owned and maintained by other agencies – predominantly cities and towns. Not included in the table below are 779 non-state-owned, non-NHS bridges included in New Mexico's bridge inventory that are subject to FHWA National Bridge Inventory (NBI) inspection standards.

Table 2-1. New Mexico Bridge Inventory 2.5

	Bridge Count	Deck Area
All State-maintained Highway Bridges	2,977	19,119,701
All NHS Bridges	1,617	11,815,228

2021 inventory and conditions from NMDOT Bridge Deck Report

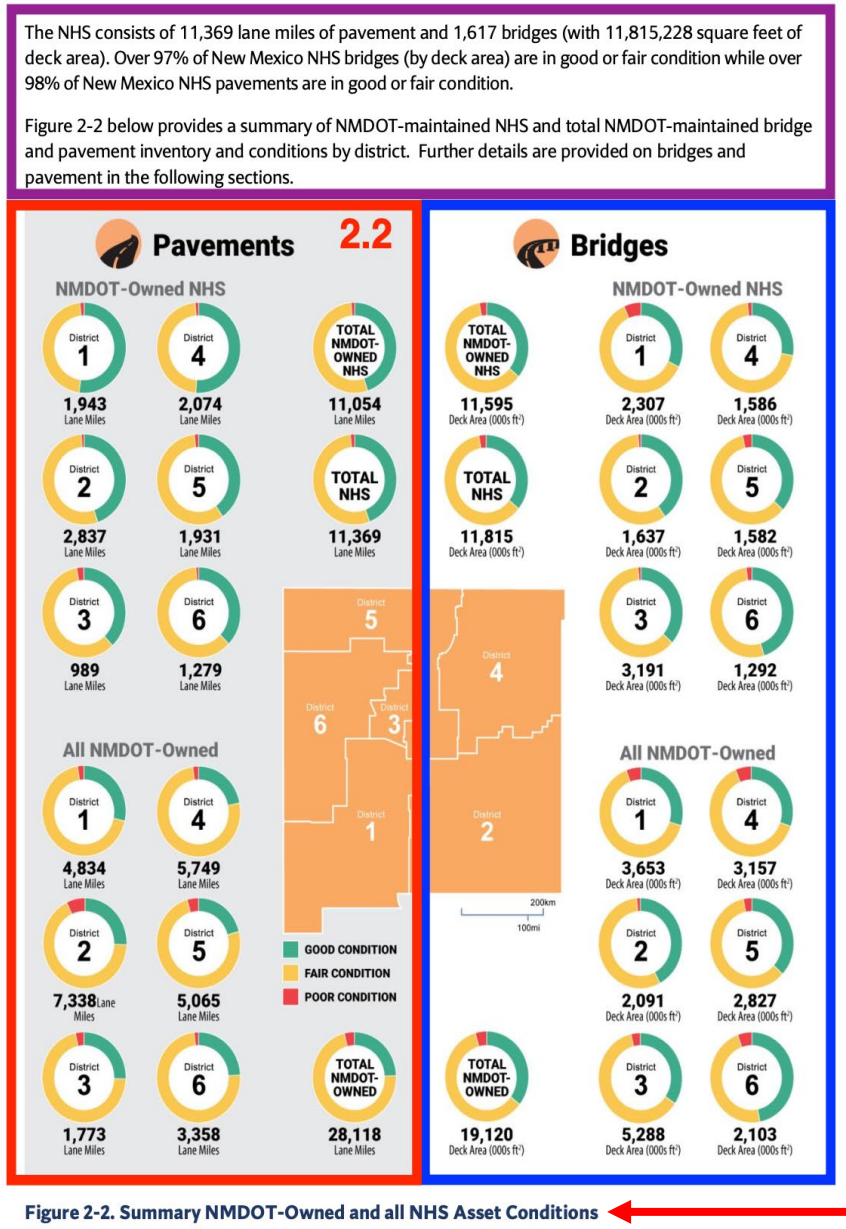
Bridge Performance Measures

NMDOT follows FHWA NBI standards for inspecting all bridges on public routes in New Mexico except for federally owned bridges. Inspectors record overall ratings for a bridge's deck, superstructure, and substructure on a scale from 0 (failed) to 9 (excellent condition). Structures classified as culverts are included in the inventory if they are longer than 20 feet. For these structures, a single culvert rating is recorded using the same 0-9 scale.

Bridge condition ratings are used to classify the bridge as being in good, fair, or poor condition. The lowest of the three ratings for deck, superstructure and substructure determines the rating. If this value

Chapter 2. Asset Inventory and Condition 2-3

TAMP PDF with Markups



- Element IDs: **2.1**, **2.2**, **2.3**
  - The colors represent the unit responsible
    - **Pavement**
    - **Bridge Bureau**
    - **Both Pavement and Bridge**
- The first digit of the Element ID represents the TAMP Chapter
  - This example is Chapter 2
- These 3 elements are the same elements as on the spreadsheet…
- Element: The title of the element, also found on the spreadsheet

Annotated TAMP Tagging Spreadsheet

Element ID:

Unique Identifier

Element:

Description or title of the element from TAMP

Page #:

Page on FULL PDF

Element Type:

Figure, Table, Content, or Vignette

C	D	E	F	G	H	I	J
Element ID	**Element**	**2022 TAMP Page Reference (Full PDF)**	**Element Type**	**Unit Responsible**	**Additional Notes**	**Federal Regulations Reference**	**Data source**
2.1	Figure 2-1. typical Roadway Assets	26-27	Content	Pvmt & Brdg	Update state-maintained highway system - lane miles, bridge #, total deck area, % of pavement in good condition Update NHS lane miles, # of bridges, deck area, % of good condition	515.9(d)(3)	NMDOT PMS 2021 data, 2022 reporting
2.2	Figure 2-2. Summary Pavement Asset Condition	27	Figure	Pavement	Update data in figure		NMDOT PMS 2021 data, 2022 reporting
2.3	Figure 2-2. Summary Bridge Asset Condition	27	Figure	Bridge Bureau	Update data in figure		Bridge Deck Report

Annotated TAMP Tagging Spreadsheet, cont.

Unit Responsible

Unit responsible for this element

Additional Notes:

Notes on what needs to be updated

Federal Regulations Reference

Which regulation requires this (if applicable

Data Source:

Where the data for this element can be found

C	D	E	F	G	H	I	J
Element ID	**Element**	**2022 TAMP Page Reference (Full PDF)**	**Element Type**	**Unit Responsible**	**Additional Notes**	**Federal Regulations Reference**	**Data source**
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2.2	Figure 2-2. Summary Pavement Asset Condition	27	Figure	Pavement	Update data in figure		NMDOT PMS 2021 data, 2022 reporting
2.3	Figure 2-2. Summary Bridge Asset Condition	27	Figure	Bridge Bureau	Update data in figure		Bridge Deck Report

List of Chapter 2 TAMP Elements with Titles

Element 2.1 Typical Roadway Assets

The Pavement Bureau and Bridge Bureau update the text that describes Figure 2-1 *Typical Roadway Assets.*

Data attributes included are:

- State-maintained highway system
  - Lane miles
  - Number of bridges
  - Total deck area
  - Percent of pavement in good condition
- National Highway System (NHS)
  - Lane miles
  - Number of bridges
  - Deck area of bridges
  - Percent of pavement in good condition.

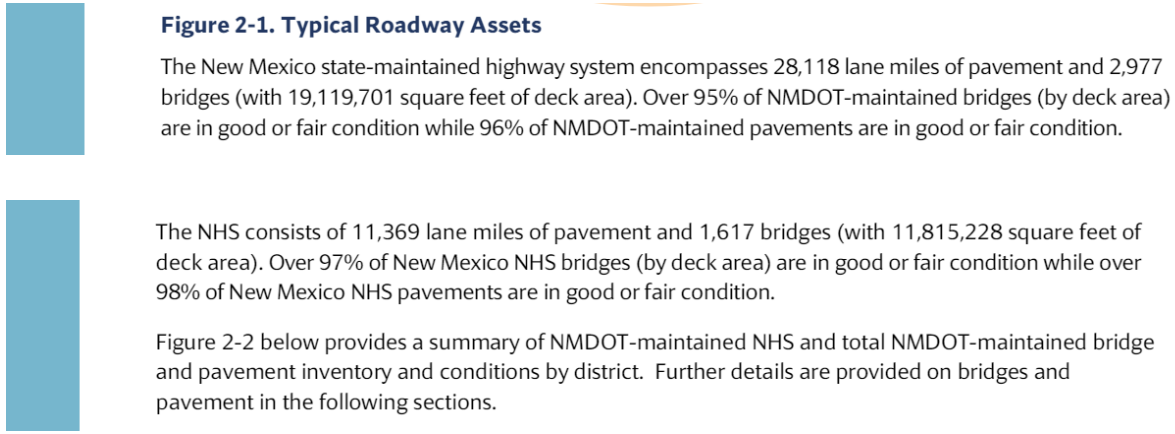


Figure 2-1. Typical Roadway Assets

The New Mexico state-maintained highway system encompasses 28,118 lane miles of pavement and 2,977 bridges (with 19,119,701 square feet of deck area). Over 95% of NMDOT-maintained bridges (by deck area) are in good or fair condition while 96% of NMDOT-maintained pavements are in good or fair condition.

The NHS consists of 11,369 lane miles of pavement and 1,617 bridges (with 11,815,228 square feet of deck area). Over 97% of New Mexico NHS bridges (by deck area) are in good or fair condition while over 98% of New Mexico NHS pavements are in good or fair condition.

Figure 2-2 below provides a summary of NMDOT-maintained NHS and total NMDOT-maintained bridge and pavement inventory and conditions by district. Further details are provided on bridges and pavement in the following sections.

- **Supporting Resources:**
  - Pavement Management System (PMS)
  - TAMP Analysis Procedures Guidance
  - TAMP Data Requirements Workbook
- **Relevant regulation: 23 CFR § 515.9 (d) (3)**

Element 2.2 Summary Pavement Asset Condition

The Pavement Bureau and Design Bureau updates the data for Figure 2-2 *Summary Pavement Asset Condition.*

Data is reported by owner.

Data attributes to be updated include:

- State-maintained highway system
  - Lane miles
  - Percent of pavement in good condition
- National Highway System (NHS)
  - Lane miles
  - Percent of pavement in good condition.
- Total NMDOT-owned lane miles

- **This data is found in the NMDOT Pavement Management System (PMS) 2021 data, 2022 reporting.**

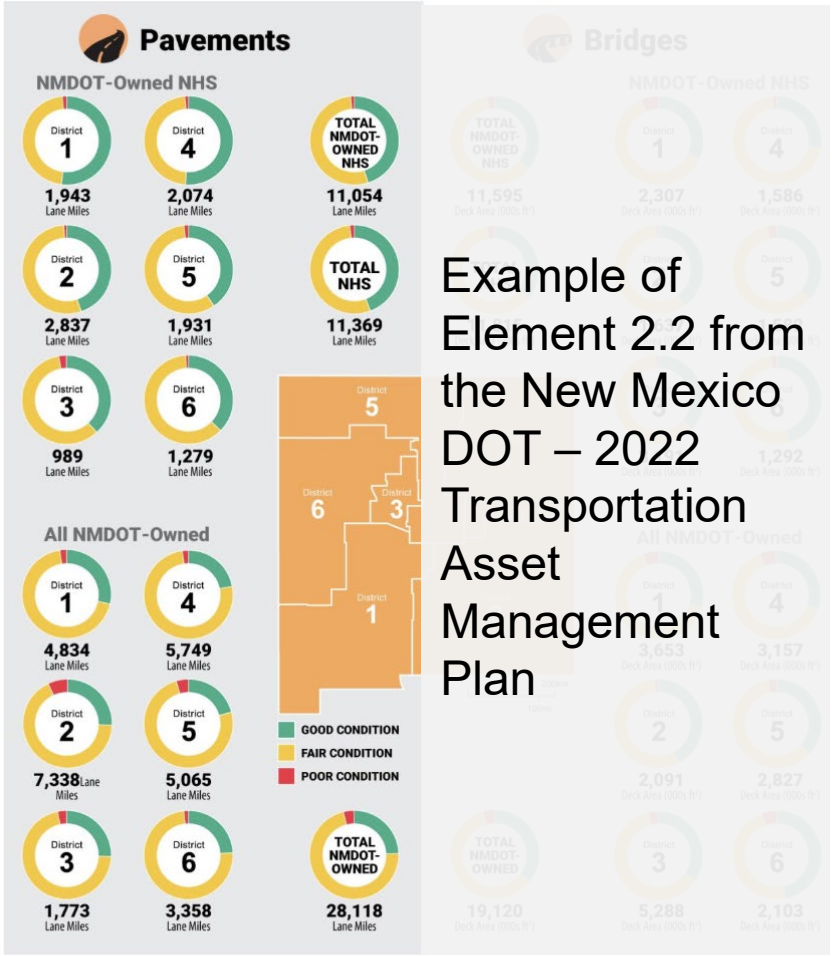


Figure 2-2. Summary NMDOT-Owned and all NHS Asset Conditions

Example of Element 2.2 from the New Mexico DOT – 2022 Transportation Asset Management Plan

Chapter Level Narrative

Chapter 2: Asset Inventory and Condition

1. Chapter Overview

PURPOSE	PARTICIPANTS	SUPPORT SYSTEMS & TOOLS
Summarizes the inventory and condition of NMDOT-owned and NHS pavements and bridges.	• Asset Management Bureau • Pavement Bureau • Bridge Bureau • AMESC	• Pavement Management System (PMS) • Bridge Management System (BMS) • TAMP Requirements Spreadsheet • TAMP Analysis Procedures

Chapter Development Process

Chapter 2 is produced via the following process:

1
Element Production
The individual tables, figures, and texts that make up the chapter are produced based on up-to-date data.

2
Chapter Production
The updated elements are compiled into a chapter format, supplemented by introductory text, element labels, etc.

3
Review & Finalization
The compiled chapter is reviewed, revised based on feedback, and finalized for inclusion in the TAMP.

Chapter 2 Update Information

Chapter 2 Policy Context

- Federal Legislative Context
- Policy Dependent Elements

Chapter 2 Workflow

- Overall process
- Bridge Bureau
- Pavement Management & Design Bureau

Organizational Responsibilities

- AMESC
- Asset Management Bureau
- Bridge Bureau
- Pavement Management & Design Bureau

Chapter 2 TAMP Elements

Elements Section
List of Chapter 2 Elements with Title

Element 2.1
Element 2.2
Element 2.3
Element 2.4
Element 2.5
Element 2.6
Element 2.7
Element 2.8
Element 2.9
Element 2.10

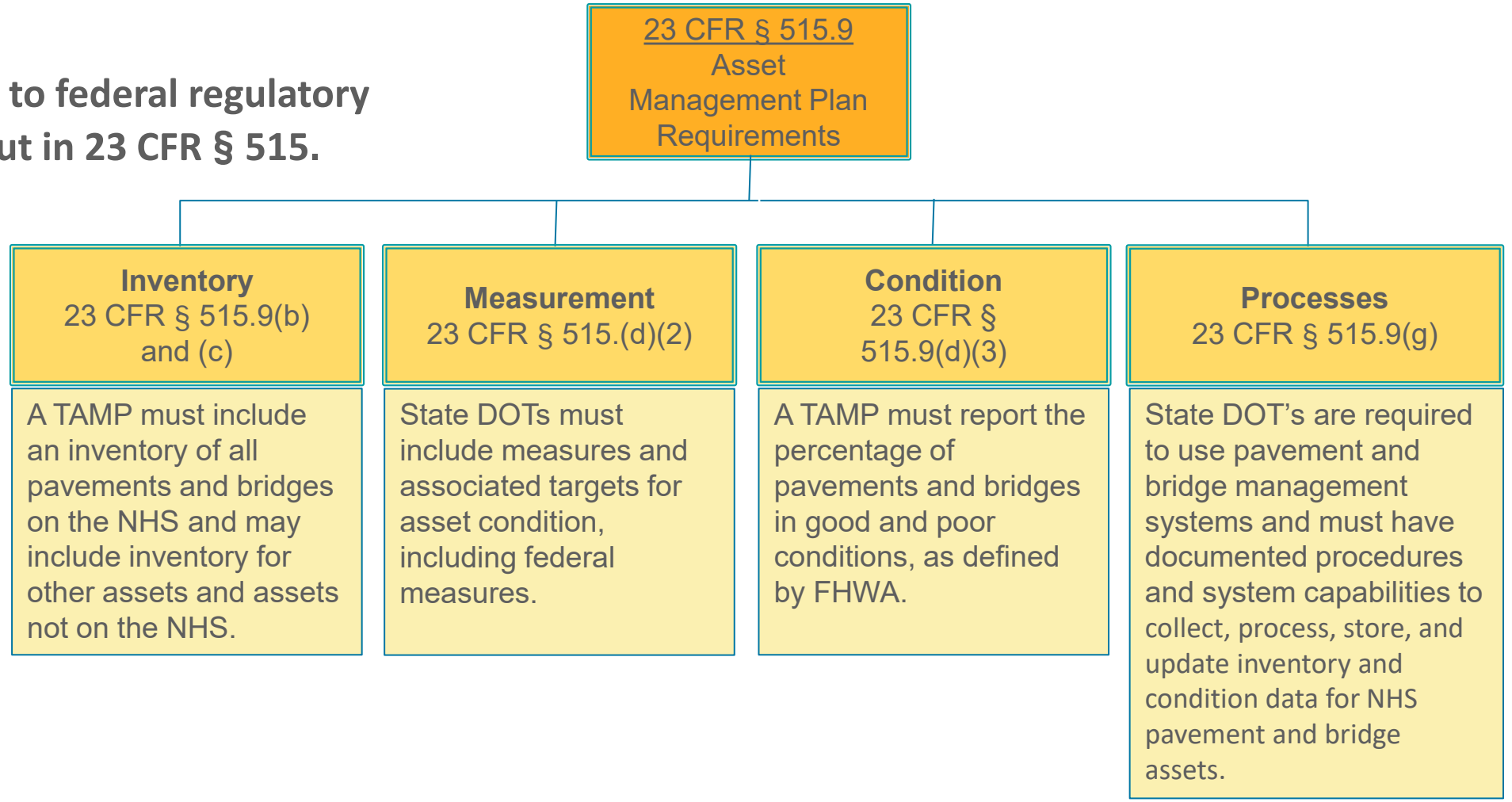
Element 2.11
Element 2.12
Element 2.13
Element 2.14
Element 2.15
Element 2.16
Element 2.17
Element 2.18
Element 2.19
Element 2.20

Resources to Support Chapter 2

- TAMP Data Requirements Workbook
- TAMP Analysis Procedures Guidance
- 2022 Annotated NMDOT TAMP
- Annotated TAMP Tagging Spreadsheet
- Bridge Management System (BrM)
- Bridge Deck Report
- TAMP Bridge Analysis Tool
- Pavement Management System (PMS)
- NMDOT TAM Analysis Pavement Tool
- NMDOT Optimization Support Tool

Chapter 2 Federal Legislative Context

The TAMP responds to federal regulatory requirements laid out in 23 CFR § 515.



Policy Dependent Elements – Chapter 2

Policy-dependent elements reflect state or federal policies and need to be updated only in the event of a policy change. The Asset Management Bureau is the lead on policy changes affecting the TAMP.

Policy-dependent elements and their underlying policies and definitions should also be reviewed at the time of the TAMP update.

As policy and/or definitions change, the Asset Management Bureau should update the relevant element.

FHWA Bridge Measures Element ID 2.6

National Performance Management Measures for Assessing Bridge Condition. 23 CFR 490

Text describing performance measures.

Federal Bridge Measure Criteria Element ID 2.14

National Performance Management Measures for Assessing Bridge Condition 23 CFR 490

% NHS bridges classified as in Good condition

% NHS bridges classified as in Poor condition

FHWA Pavement Measure Element ID 2.13

National Performance Management Measures for Assessing Pavement Condition. 23 CFR 490

Text describing performance measures.

Federal Pavement Measure Criteria Element ID 2.14

National Performance Management Measures for Assessing Pavement Condition 23 CFR 490

- % pavements on the Interstate System in
  - in Good condition
  - in Poor condition
- % pavements on the NHS, excluding the Interstate System
  - in Good condition
  - in Poor condition

NMDOT Pavement Measures Element ID 2.16

NMDOT Pavement Bureau

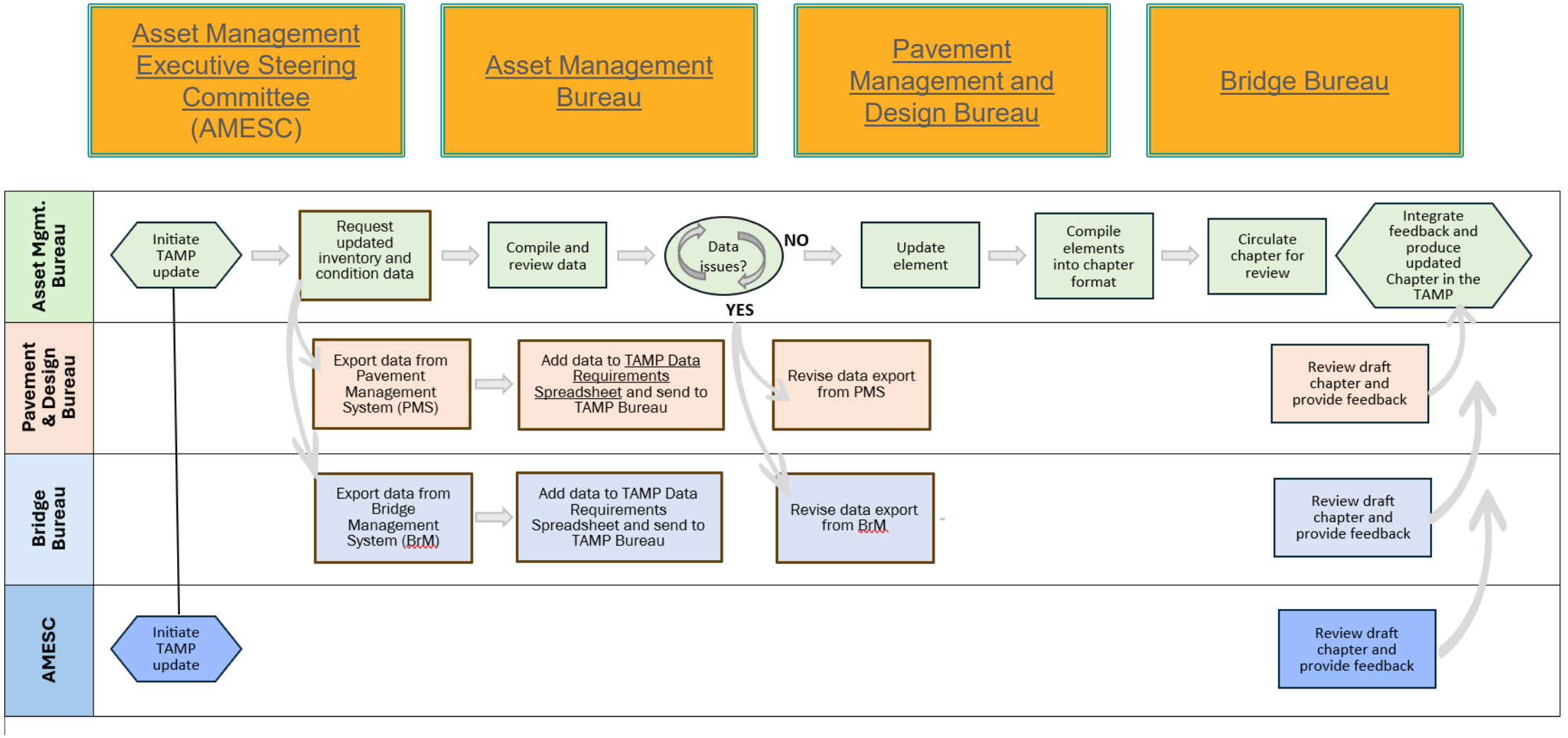
Text describing NMDOT's performance measures for pavements.

NMDOT Pavement Condition Rating (PCR) Ranges Element ID 2.17

NMDOT Pavement Bureau

Table 2.6 describing NMDOT's PCR Ranges.

Chapter 2 Overall Workflow



Information Resources for the TAMP Update

TAMP Data Requirements Workbook

Used to collect data for the TAMP update.

TAMP Analysis Procedures Guidance

Establishes the process and detailed procedures to gather data and perform analyses for updating the TAMP.

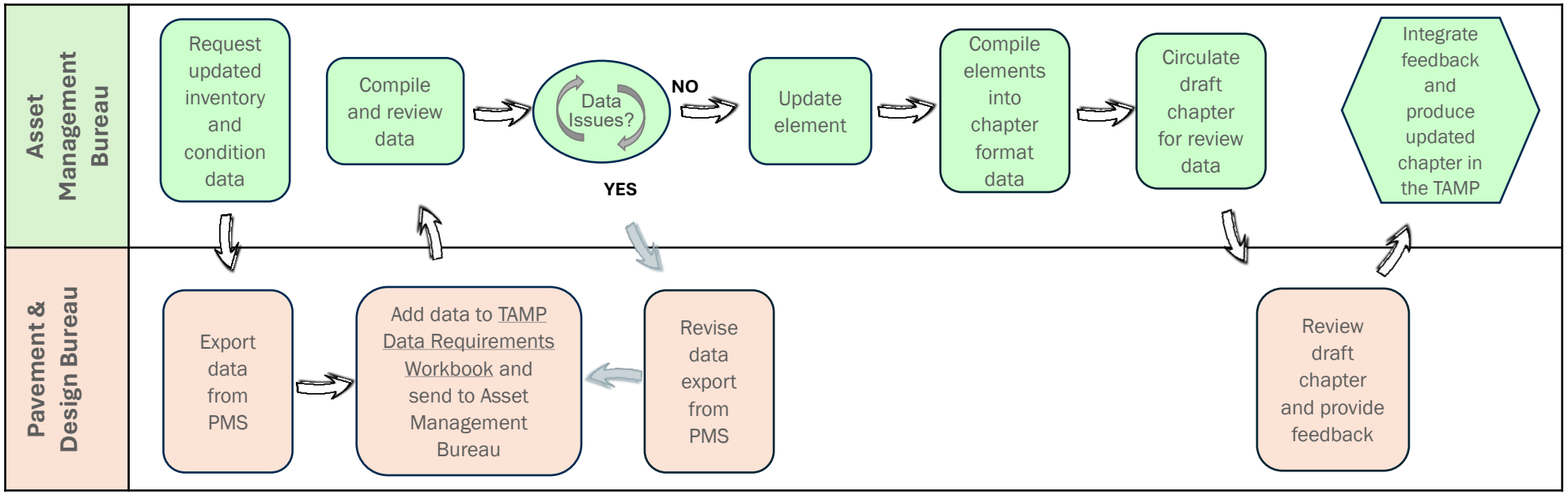
2022 Annotated NMDOT TAMP

Visually shows the TAMP Elements in the previous TAMP.

Annotated TAMP Tagging Spreadsheet

Describes each TAMP Element, organizations responsible, and resources used.

Pavement and Design Bureau – Chapter 2 Workflow



Developing Vignettes

Vignettes are narrative reflections from selected NMDOT staff and are used to highlight specific aspects of the TAMP.

Following selection of vignette topics and subject matter experts, the Asset Management Bureau:

- Interviews or similarly engages the vignette subject specialist
- Secures a visual to accompany the vignette (e.g., headshot)
- Compiles the key information and the subject's reflection in a narrative draft vignette
- Sends draft vignettes and associated visuals to the AMESC for review and feedback
- Uses the AMESC feedback to revise the draft vignettes
- Assembles the final vignette and associated visual in feature text box format

Telling the Story: Balancing Network Preservation Needs

Ben Najera, Engineer Manager, Bridge Bureau

With the average age of NMDOT's bridges being over 50 years, the Department faces a challenge in balancing its priorities between urban and rural routes and on roadway and bridge work. "NMDOT is currently below 5% of bridges identified as being in a poor condition. We would like to remain at the same level of condition or even further decrease our level of structurally deficient bridges," says Ben Najera, Bridge Management Engineer.

To help make it happen, the Department has set aside $13 million annually to develop bridge rehabilitation and bridge preventive maintenance projects. While federal regulations emphasize the performance of the NHS system, New Mexico's vast rural areas require an extensive roadway network connecting urban areas and providing access to the rural areas. Many of New Mexico's natural resource industries are found in outlying areas of the state.

"Being able to estimate our future bridge conditions and bridge needs is critical in prioritizing limited funding and limited resources", Ben says, "as the Department faces the challenge of determining where to spend these limited funds, more life cycle cost analysis will need to be performed to ensure that these funds are spent effectively and efficiently."

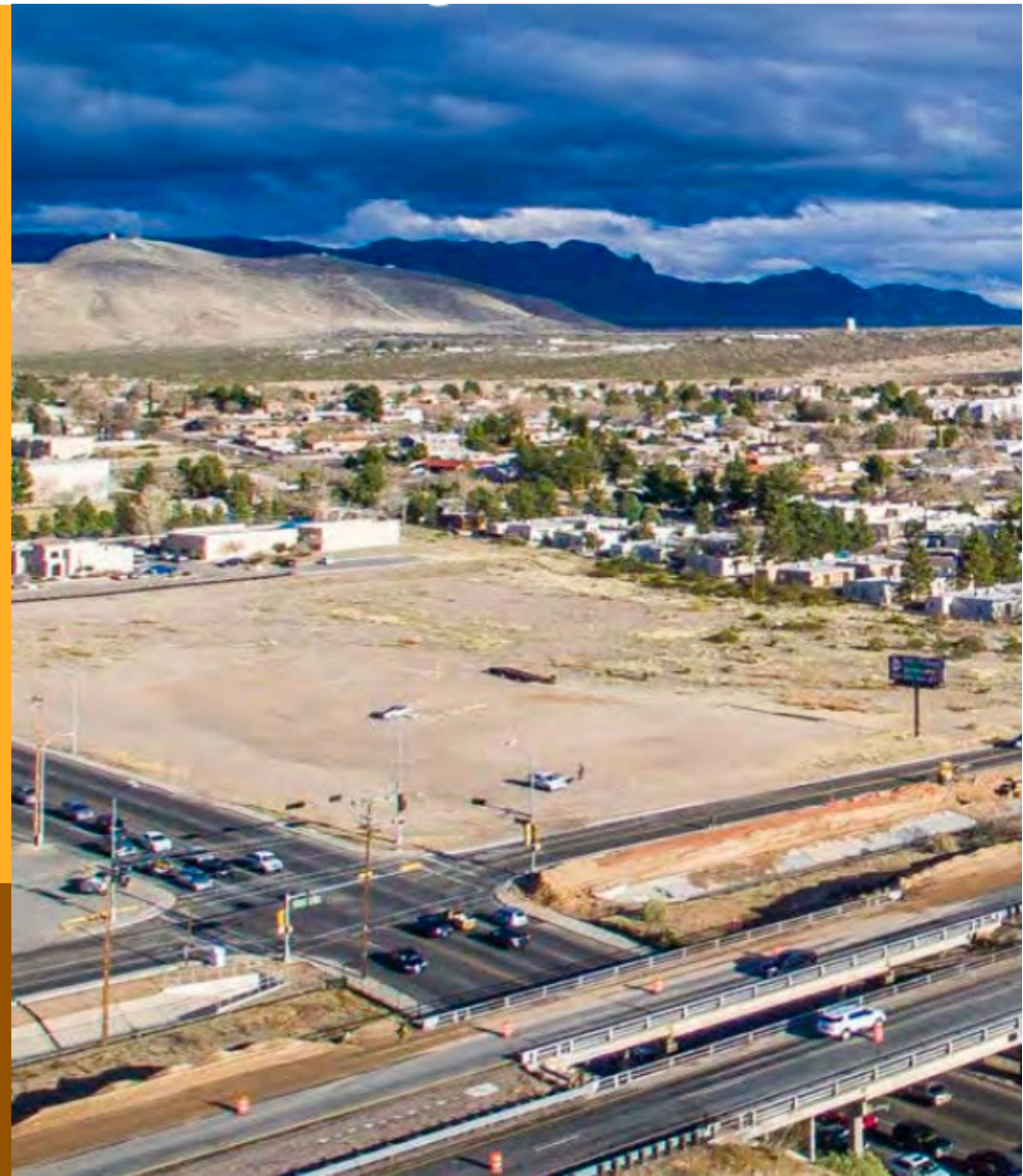
Example of vignette from the New Mexico DOT – 2022 Transportation Asset Management Plan

Value to NMDOT

- Captures knowledge built during the development of the 2022 TAMP
- Organizes information so that it's easier to build the TAMP in 2026
- Allows for new staff to better understand the roadmap to building the next TAMP
- Allows for current staff to refresh their memories
- Promotes reflection of the ways the 2022 TAMP was developed so that improvements can be made, if needed, in the 2026 TAMP

Virginia Stubella
Virginia.Stubella@dot.nm.gov

New Mexico DEPARTMENT OF TRANSPORTATION
MOBILITY FOR EVERYONE



TAM Webinar 69: Organization and People

Michigan Department of Transportation Asset Management Program Updates

Bradley M. Sharlow, AICP

Manager, Asset Management Section

Michigan Department of Transportation

Outline

- Asset Management Section – Who Are We and What are Our Responsibilities?
- Vision
- MiTAM
- TAM Data Assessment

Asset Management History

MDOT has had a strong history of implementing Asset Management Strategies for over 30 years

- Developed advanced methods for applying asset management as a cost-effective solution to promote preservation of our roads and bridges
- Became a core strategy towards MDOT's program and project prioritization processes
- Independently implement within several core asset areas (pavement, bridge, signs, signals, ancillary structures, etc.)

Asset Management Vision

Ensure the state transportation system is managed in a cost—effective and efficient manner.

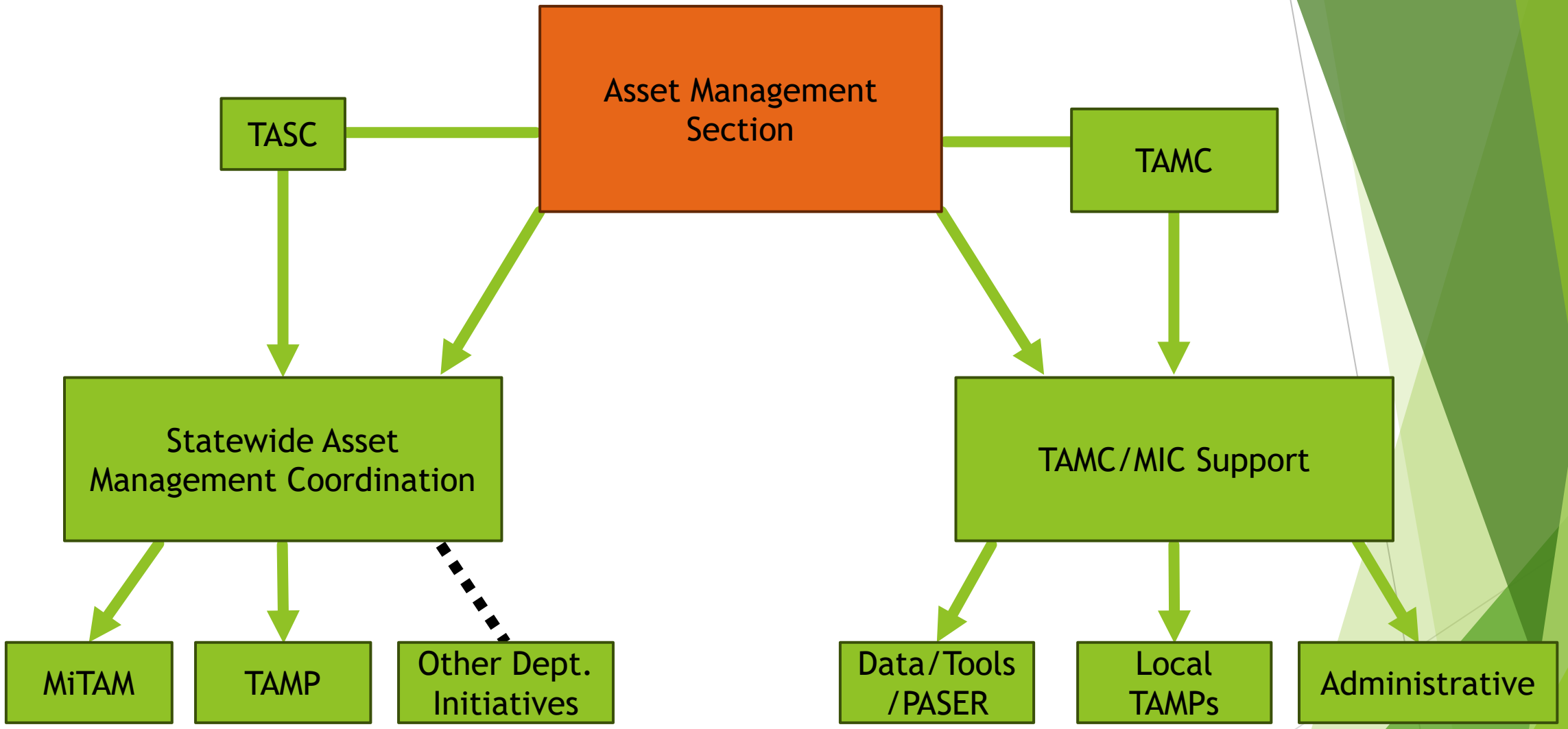
- Integrate AM into everyday business and operations
- Establish, achieve and sustain the desired level of service
- Manage risk at the lowest lifecycle cost.

Current focus is to integrate asset management practices across asset areas and with other initiatives.

Roles of Asset Management Section

Overall Coordination of Asset Management for MDOT

- Represent Asset Management Strategies and Principles for other Department Initiatives
- Expand Asset Management to its full capacity (all assets)
- Integrate with other Department Priorities – as a partner, not an obstacle or competitor
- Development and Implementation of TAMP
- Administer the Transportation Asset Management Council (TAMC)
- Develop an integrated enterprise asset management system via MiTAM initiative
  - Provide centralized data hub
  - Provide tools to make TAM more user-friendly for data-driven project prioritization


Asset Management Section
TASC
TAMC
Statewide Asset Management Coordination
TAMC/MIC Support
MiTAM
TAMP
Other Dept. Initiatives
Data/Tools /PASER
Local TAMPs
Administrative

Michigan Transportation Asset Management (MiTAM)

A strategic effort to bring asset management to the all remaining asset areas and business processes.

- Deliver the next generation of enterprise asset management
- Provide a one-stop shop to access to critical asset data (from all asset areas and systems) – e.g. location, type, quantity, condition, needs
- Support enterprise asset management data analysis and performance management needs

Note: MiTAM will not replace existing individual asset systems, but read information from them, so the customer can access from one place.

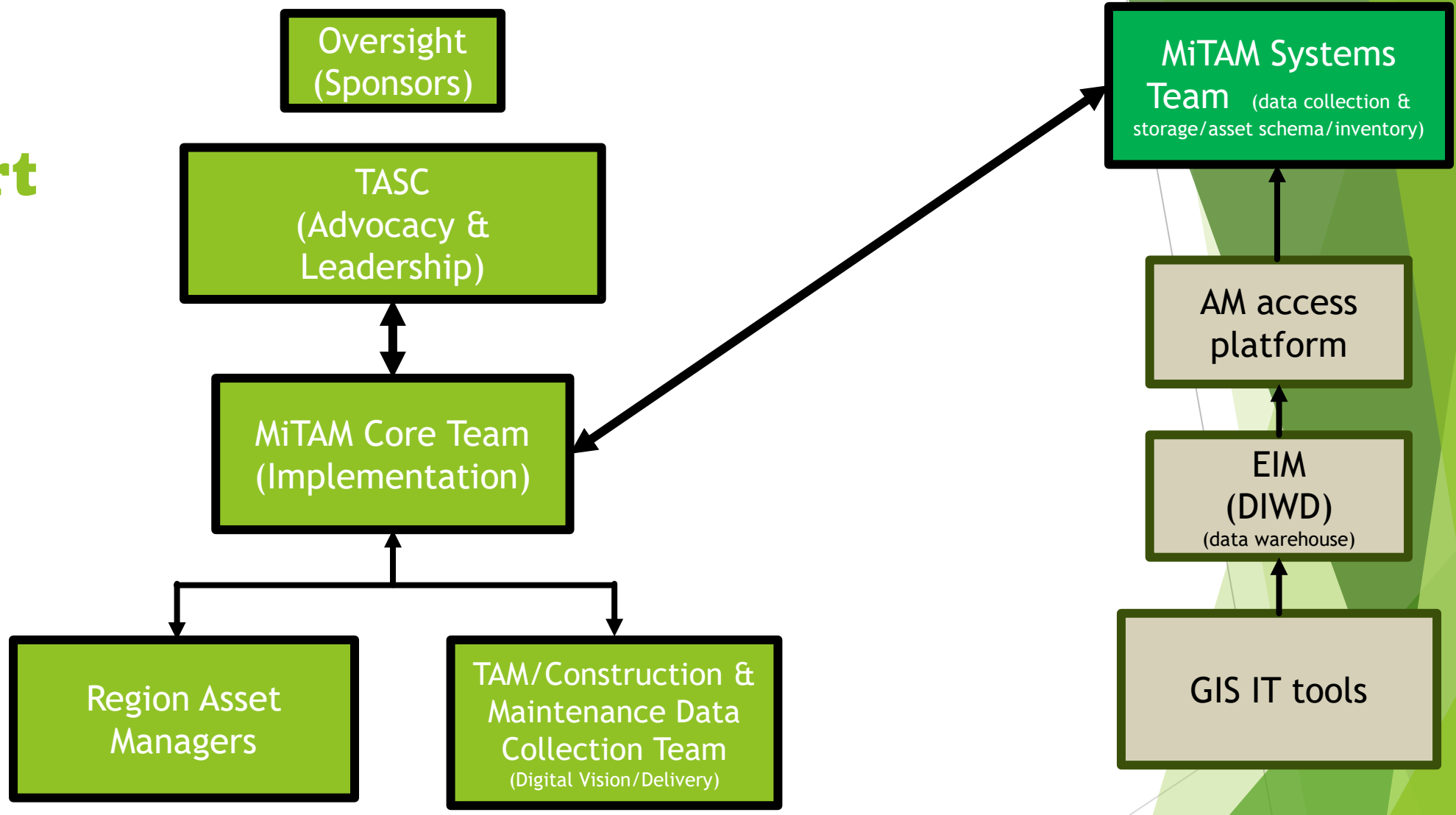
MDOT AM Governance

Answers how we are going to work together to make decisions as an organization and develop the right steps for AM.

Establishes Oversight.
Defines Roles & Responsibilities.

Role	Team/Committee
Oversight	Sponsors
Advocacy & Leadership	Transportation Asset Steering Committee (TASC)
Implementation	MiTAM Core Team
Collaboration & Support	RAM/EIM/JobNet/GIS

MiTAM Flowchart



Current MiTAM Activities

Refining Relationships and Supporting Knowledge and Information Sharing

Supporting Other Department Initiatives

- Digital As-Built Vision and Roadmap
- Multi-Objective Decision Analysis
- Pavement Management Process and Tool Improvement
- Bridge and Ancillary Structures migration to AASHTOWare-BrM
- Further integration of AM into MDOT Call for Projects

Delivering a TAM Data System Assessment

- Support MiTAM and advance organizational capabilities

TAM Data Assessment

Benchmarking current data and information system capabilities establishing desired state, and identifying potential improvements.

Working with AASHTO and SpyPond Partners (SPP) to leverage the AASHTO TAM Data Guide and TAM Data Assessment Tool

https://dataassessment.tam-portal.com/login

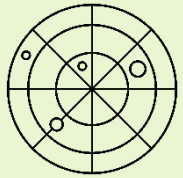
The AASHTO TAM Data Guide

Provides a structured approach to:

- Assess current practice
- Set a shared vision for advancement
- Improve the use of data for TAM

Developed though NCHRP Project 08-115 (Report 956)

Companion Digital Tool



Detailed Practice Benchmarking

Improvement Identification and Evaluation

Executive Communication Summaries

Implementation Support

Project Motivation

TAM is Data and Analysis Intensive

Michigan DOT is seeking to assess and improve how data is used to support the TAM program.

TAM Data Needs

Asset Inventory

Asset Condition & Performance

Location Referencing

Design Standards

Maintenance and Project Information

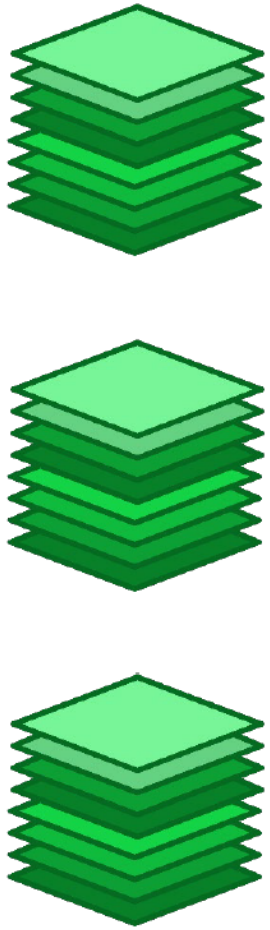
Agency Financials

Demand Forecasts

Environmental Data

Decision-Maker Priorities

Public Perception



TAM Data Uses

Optimize Maintenance, Rehabilitation, and Improvement Strategies

Prioritize TAM Resource Allocation

Support Agency Planning and Programming

Report Condition, Performance, and Accomplishments

Ensure Decision-Making Accountability and Transparency

Project Objectives

Complete data assessments across 12 asset program areas:

1) Pavements
2) Bridges
3) Ancillary Structures
4) Signals
5) Signs
6) ITS
7) Markings and Delineation
8) Underground Electric Conduits and Lighting
9) Rest Areas, Carpool Parking Lots, Roadside Parks
10) Pump Stations
11) Catch Basins, Curb and Gutter
12) Cable Barriers, Guard Rails

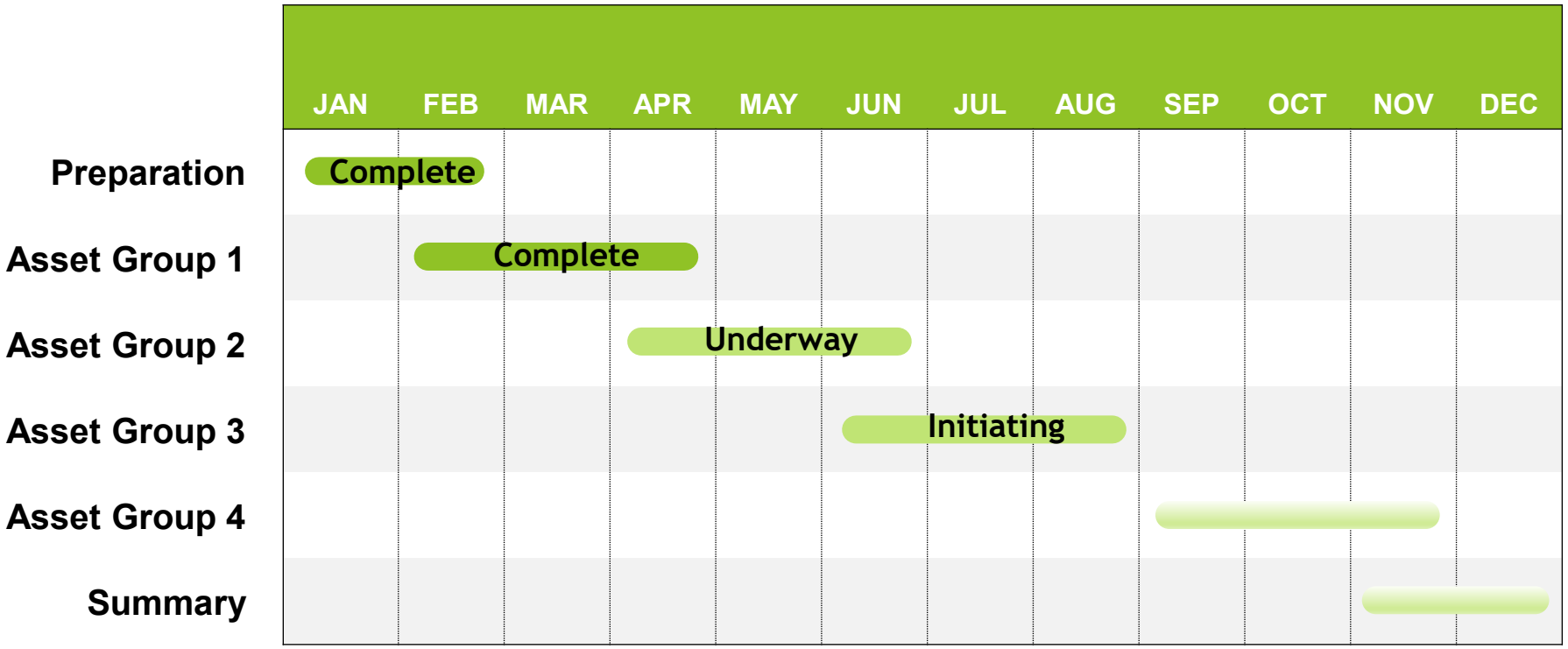
Project Approach

- Targeting completion of all assessments by November 2024
- Multiple concurrent assessments
- 1-2 month asset-specific assessment process
- Weekly meetings to support group consensus building

Participant Expectations

1. Kickoff Meeting
   - Set scope, schedule, participants, and expectations (60 min)
2. Benchmarking Meetings
   - Group Assessment Meeting 1 (90 min)
   - Group Assessment Meeting 2 (90 min)
   - Group Assessment Meeting 3 (90 min)
3. Offline Review and Feedback on Summary Materials

Tentative Assessment Schedule



Group 1
- Pavement
- Bridge
- Ancillary Structures

Group 2
- Signals
- ITS
- Conduits and Lighting

Group 3
- Delineation
- Signs

Group 4
- Rest Areas, Carpool Lots, Roadside Parks
- Pump Stations
- Basins, Curb & Gutter
- Cable and Guard Rails

Assessment Deliverables

Role	Team/Committee
Oversight	Sponsors
Advocacy & Leadership	Transportation Asset Steering Committee (TASC)
Implementation	MiTAM Core Team
Collaboration & Support	RAM/EIM/JobNet/GIS

Initial Assessment Preparation

- Project Work Plans
- Planning and Engagement Materials
- Asset Specific Assessment Schedules

Asset Program Assessments

- Spreadsheet data with element-specific current and desired states and supporting benchmarking and improvement notes

Assessment Summary

- Summary presentation material to support next steps –
  - Asset-specific takeaways
  - Enterprise Asset Management program action priorities

Thank You

Questions?

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Bureau of Transportation Planning

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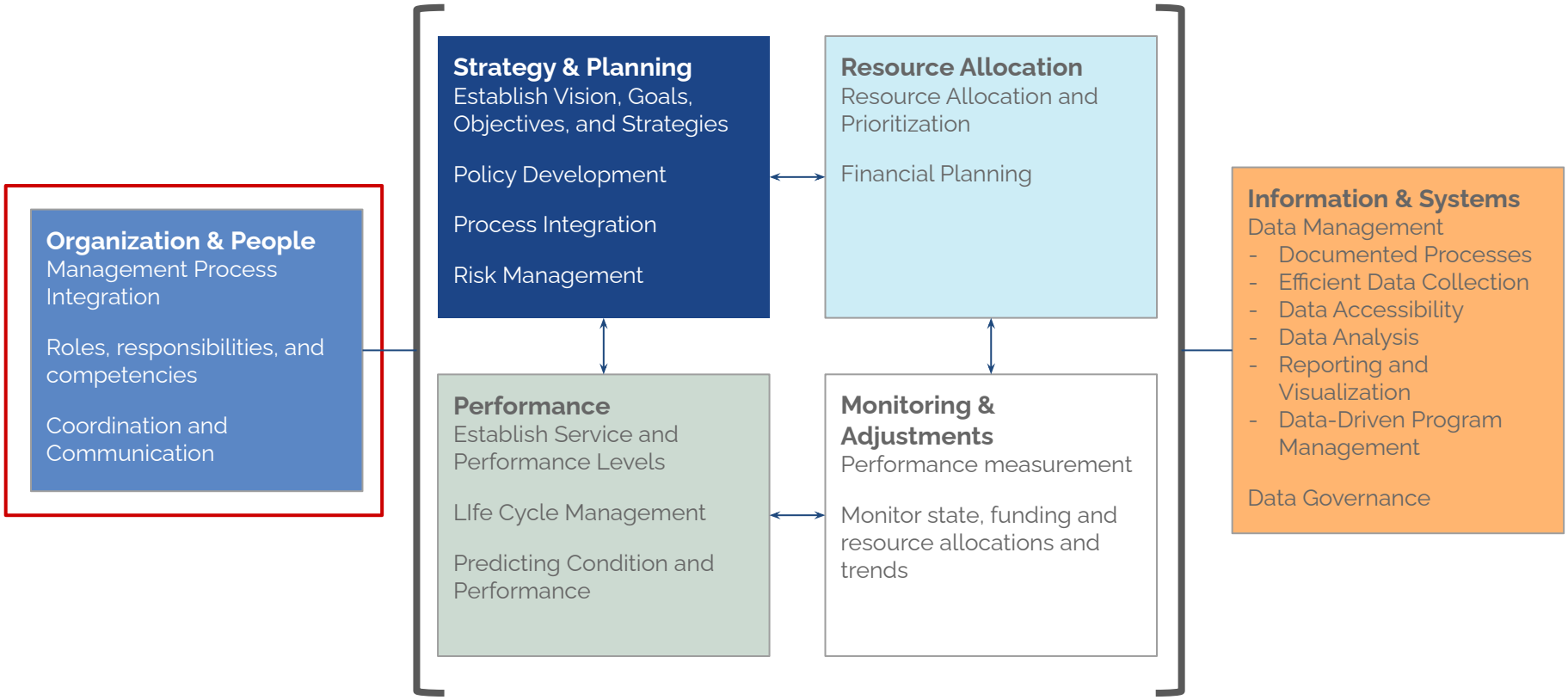
Phone: (517)-256-1731

TAM Organization and People

TAM Webinar 69 - June 12, 2024

transportation performance management (TPM) framework



(Integrated framework)

Organization & People

Management Process Integration

Roles, responsibilities, and competencies

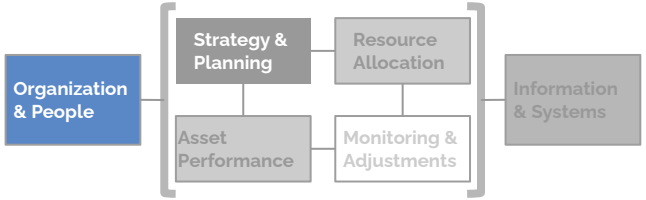
Coordination and Communication

UDOT's current state

UDOT asset management

TAM is a centralized model with a single TAM unit. We are **a planning function** with priorities focused on improving **investments to align with UDOT's strategic goals and value framework.**

- ☑ **TAM roles and responsibilities**
- ☑ **Data governance Initiative**
- ☑ **Personnel gaps identified**
- ☑ **TAM communication plan**
- ☑ **Value framework created**



Organization & People

Goals, Objectives, and Strategies

Management Process Integration

Baseline

Limited understanding of the scope of asset management.

Little connection of most actions or decisions in relation to the life-cycle of assets.

Objectives

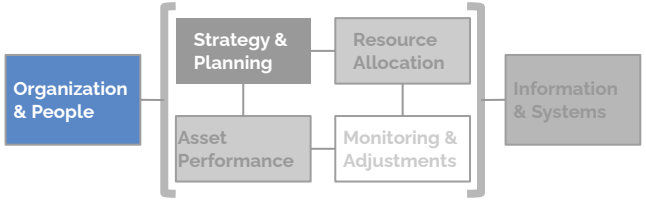
Establish an understanding and support of performance and asset management at all levels (Executive leadership, asset stewards, central and region staff).

Key Results

Utilize consultant staff augmentation to inform and educate (Summer-Fall 2024).

Create and distribute education and training materials beginning in the Regions (Districts) and at UDOT Conference (Oct 2024).

Create and present TPM Communications Plan to Exec Leadership by end of Oct 2024.



Organization & People

Goals, Objectives, and Strategies

Define Roles, Responsibilities, and Improve Competencies

Baseline

Many AM responsibilities have been defined, with some significant gaps.

Core group of technical experts will dwindle significantly in the next five years.

Limited knowledge management effort has started, but not established.

Objectives

Identify and close gaps in roles and responsibilities.

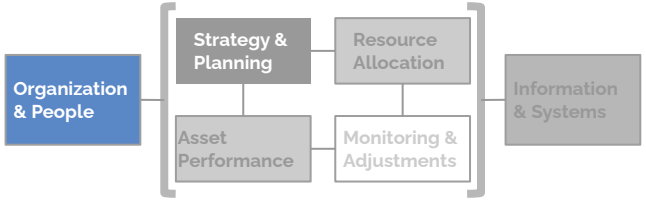
Knowledge management is integrated into data management across the department, beginning with assets.

Key Results

Define the gaps in roles and responsibilities. The resources necessary to close those gaps will be documented by Aug. 2024.

Each asset group has documented processes and data management by the end of 2024.

Replace existing data analytics position (attrition) with data analytics and communications/ program management.



Organization & People

Goals, Objectives, and Strategies

Coordination and Communication

Baseline

Tools for communicating are limited to weekly newsletter emails and periodic announcements from disparate groups.

There is a level of formal and informal communication between groups.

Objectives

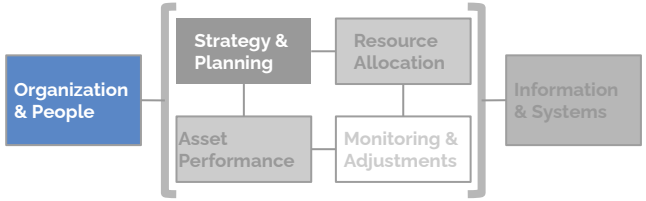
Establish an understanding and support of performance and asset management at all levels (Executive leadership, asset stewards, central and region staff).

Key Results

Utilize consultant staff augmentation to inform and educate (Summer-Fall 2024).

Create and distribute education and training materials beginning in the Regions (Districts) and at UDOT Conference (Oct 2024).

Implement TPM Strategic Communications Plan Oct 2024 to Dec 2025 beginning in the Regions (Districts).



Organization & People
Management Process Integration

Roles, responsibilities, and competencies

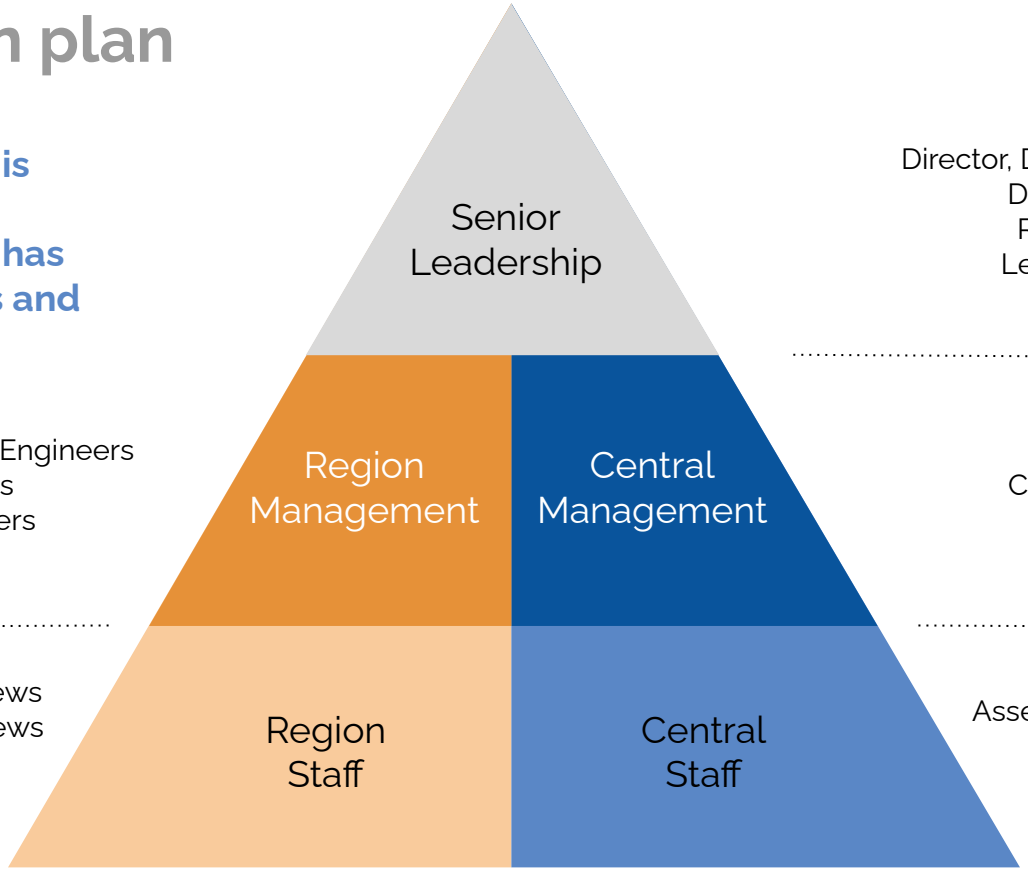
Coordination and Communication

- Begin implementation of the TPM Communications plan Oct 2024.
  Connect all aspects of TPM (Digital Delivery, Data Governance, Concepts, etc.) with the help of the consultant firm.
- Statewide education and training phases and implementation (included in Communications Plan) by Dec 2025.
- All asset groups have documented data management roles, processes by Dec 2024.

organization & people

communication plan

The Communication Plan is structured around five audiences, each of which has unique information needs and forms of communication.



Director, Deputy Directors,
Division Directors,
Region Directors,
Legislative Liaison

Preconstruction Engineers
District Engineers
Program Managers

Asset Advisory Committee (Asset Stewards)

Construction Crews
Maintenance Crews
Engineers
Surveyors

Asset Data Stewards
Asset Managers
Data Collectors

next steps

UDOT Keeping Utah Moving

next steps

process management

Affect change through the statewide asset management program and continued collaboration with leadership and asset owner groups.

The TAM Gap Assessment yielded 15 key gaps for UDOT consideration. With efforts underway to improve data management and analytical tools, many of UDOT's technical gaps are being addressed.

Which gaps remain?

- **Organization buy-in** for lifecycle planning, data-driven priorities, risk management and other asset management concepts during all stages of an asset's life cycle
- **Comprehensive documentation** of important processes that provide upstream or downstream support to statewide asset management
- **Consistent policies** across asset classes for how TAM practices should be considered in resource allocation at a program level

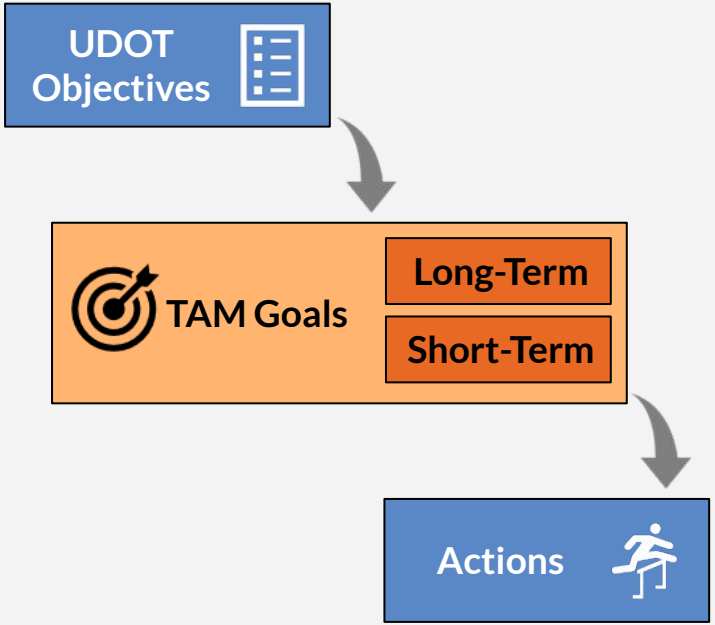
next steps

benchmarking

Build consensus and find opportunities for progress through results of the TAM Gap Assessment. Consider UDOT's short-term goals, long-term goals, and key gaps in statewide asset management. Continue to evaluate our program against other states and learn from peers.

How do we sustain progress?

- **Following through** on efforts currently underway with TAM and data management
- **Expanding relationships** with key decision-makers and stakeholders such as planning and programming
- **Organizing information** for existing business processes and decision support tools




UDOT
Keeping Utah Moving

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