

New Mexico DEPARTMENT OF
TRANSPORTATION
MOBILITY FOR EVERYONE

Transportation Asset Management & Highway Conditions

Transportation Infrastructure Revenue Subcommittee

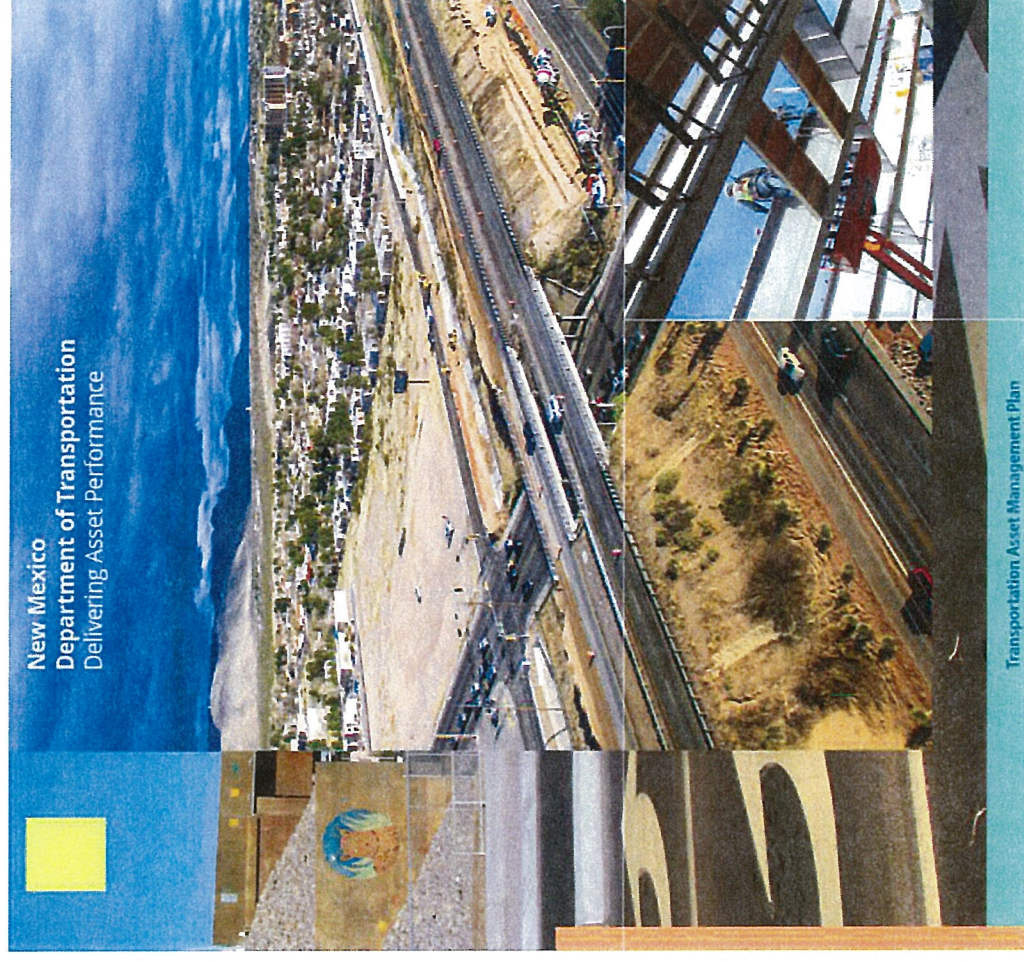
August 22, 2019

Tamara P. Haas, P.E.

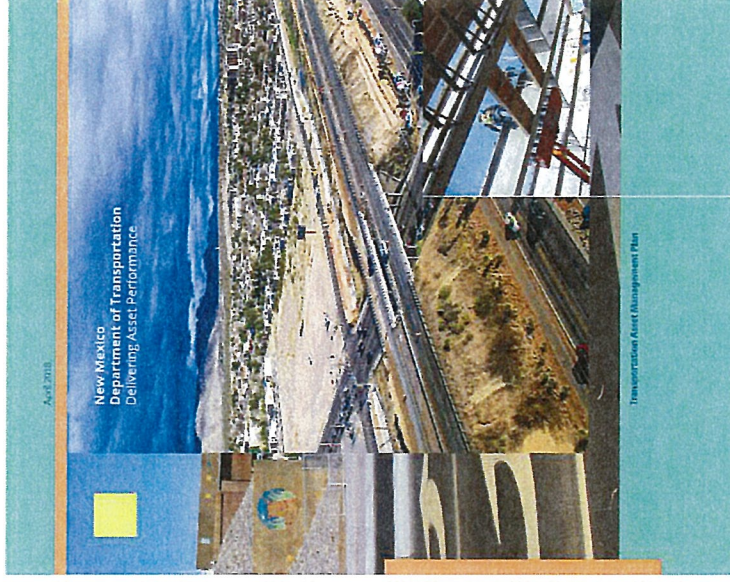
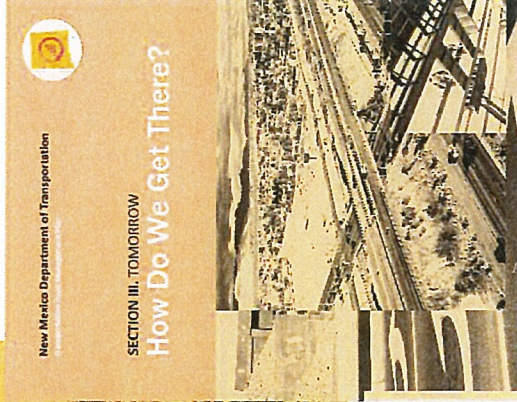
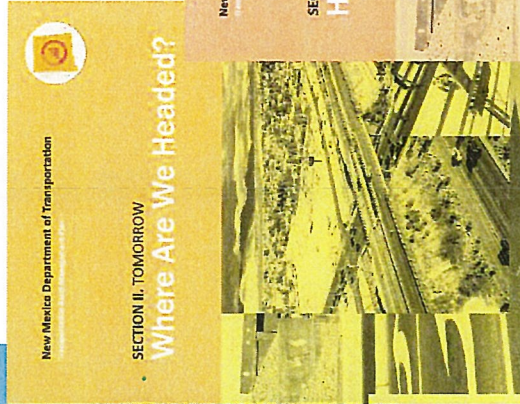
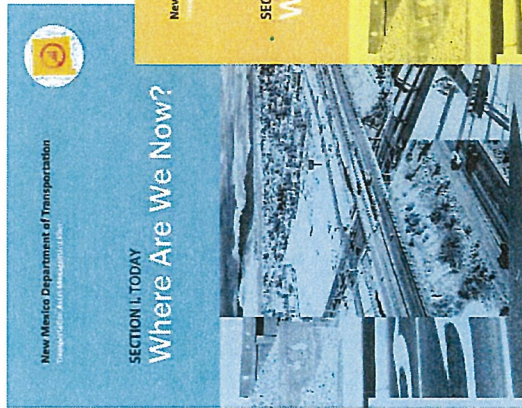
Capital Programs and Investments Division Director

Transportation Asset Management Plan

- Initial TAMP to FHWA 4/26/18
- FHWA Certified TAMP via letter 6/29/18
- Fully Compliant TAMP to FHWA 6/27/19
- June 2019 TAMP Posted on NMDOT website
- FHWA to issue consistency determination no later than August 31, 2019



The Structure of the NMDOT TAMP



The TAMP Document

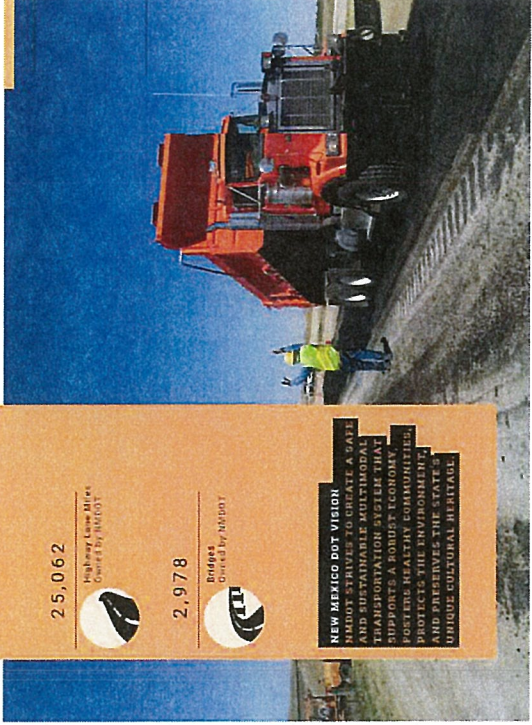
- Communicate the messages in a visual way wherever possible
- Content communicated in easy to understand ways
- Met federal requirements

NEW MEXICO TRANSPORTATION NETWORK AT A GLANCE

25,062 Highway Lane Miles Owned by NMDOT

2,978 Bridges Owned by NMDOT

NEW MEXICO DOT VISION
 PROMOTE SAFETY TO CREATE A STATE OF WELL-BEING
 SUPPORT A ROBUST ECONOMY
 PROTECT THE ENVIRONMENT
 AND PRESERVE THE STATE'S UNIQUE CULTURAL HERITAGE



TRANSPORTATION MANAGEMENT PLAN

ASSET MANAGEMENT - A strategic and systematic process of operating, maintaining, and improving physical assets effectively throughout their life cycles. Asset management involves assessing physical assets to identify their condition, and then developing and implementing strategies to optimize the use of limited resources and maximize performance.

NEW MEXICO DOT DELIVERING ASSET PERFORMANCE

New Mexico's Transportation Asset Management Plan (TAMP) establishes the condition of highway and bridge assets across the state and provides a strategy for efficiently maintaining these assets in good condition over the long term. This document provides an introduction to the key elements of the TAMP.

Transportation Asset Management (TAM) utilizes business, economic, and engineering practices to help guide data-driven decisions for resource allocation and project selection. For New Mexico DOT (NMDOT), TAM ensures better operation, increased maintenance, and overall improvement of physical assets across the state. TAM provides a systematic approach for locating and understanding performance gaps, prioritizing and programming asset needs, and streamlining business processes. In practice, these capabilities allow NMDOT to identify and execute the right projects in the right locations at the right time. TAM also provides a framework for NMDOT to maximize the use of limited public resources and strengthen the state's transportation infrastructure. Together with the right investment levels to maintain and improve bridge and pavement conditions, TAM helps ensure a healthy transportation network and economic development of New Mexico and all New Mexicans.

New Mexico's TAM is designed to help the state's highway and bridge assets perform better, last longer, and support a robust economy. TAM is a key element in the state's overall strategy for transportation infrastructure.

PAVEMENT AND BRIDGE ASSETS ON THE NHS

CURRENT CONDITION BY DISTRICT



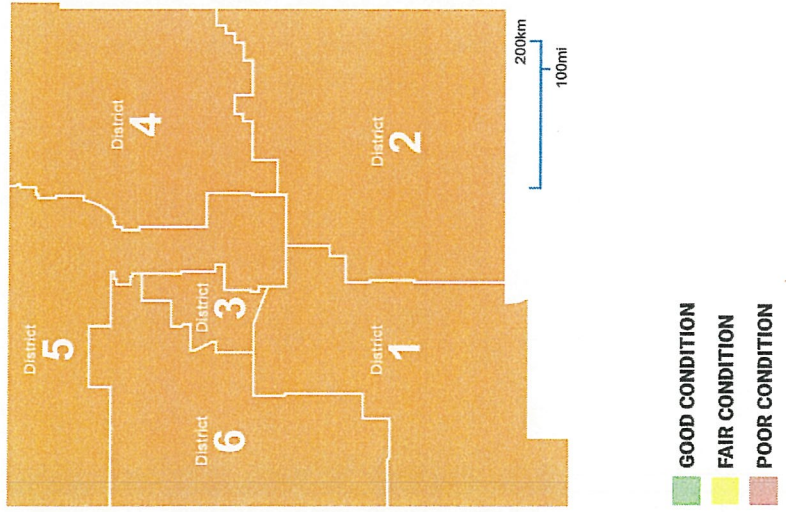
NHS PAVEMENT

Condition and total NMDOT-owned lane miles by district.



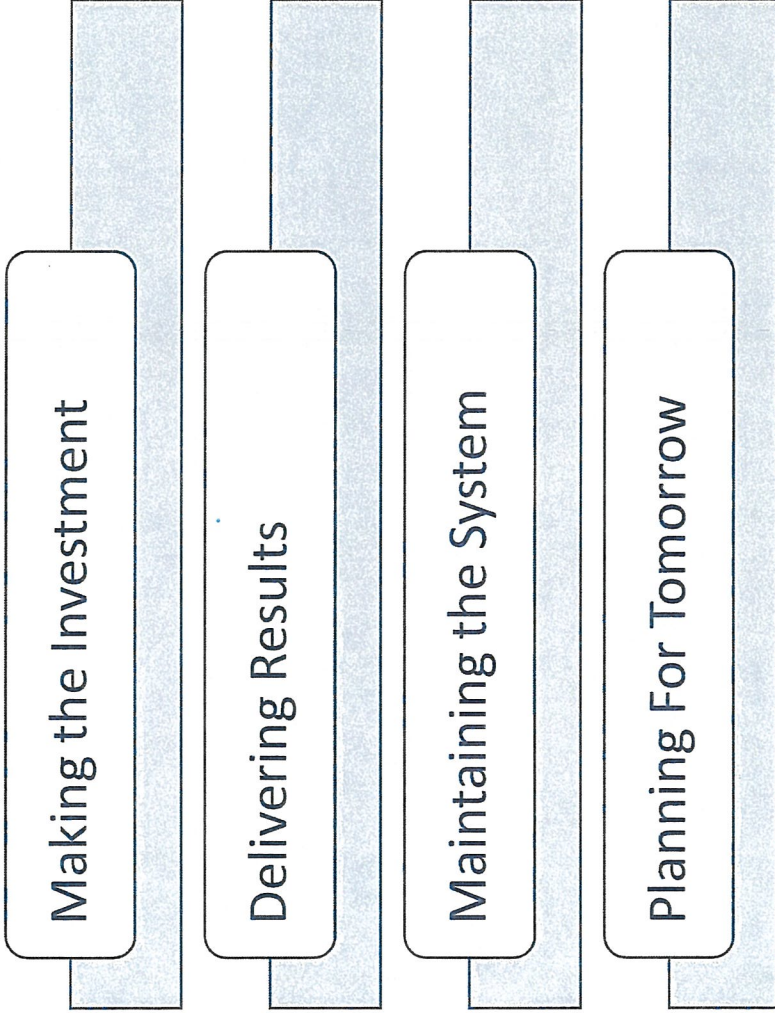
NHS BRIDGES

Condition and total NMDOT-owned bridge deck area by district



Pavement and Bridge Conditions are based on the FHWA measures in 23 CFR 490.

Delivering Asset Performace through Preserving the System



NHS BRIDGES

	2026		
	GOOD	FAIR	POOR
\$40M AVERAGE ANNUAL INVESTMENT	26%	69%	5%
\$24.5M AVERAGE ANNUAL INVESTMENT	19%	71%	10%
IMPACT OF ADDED INVESTMENT	+7%	-2%	-5%

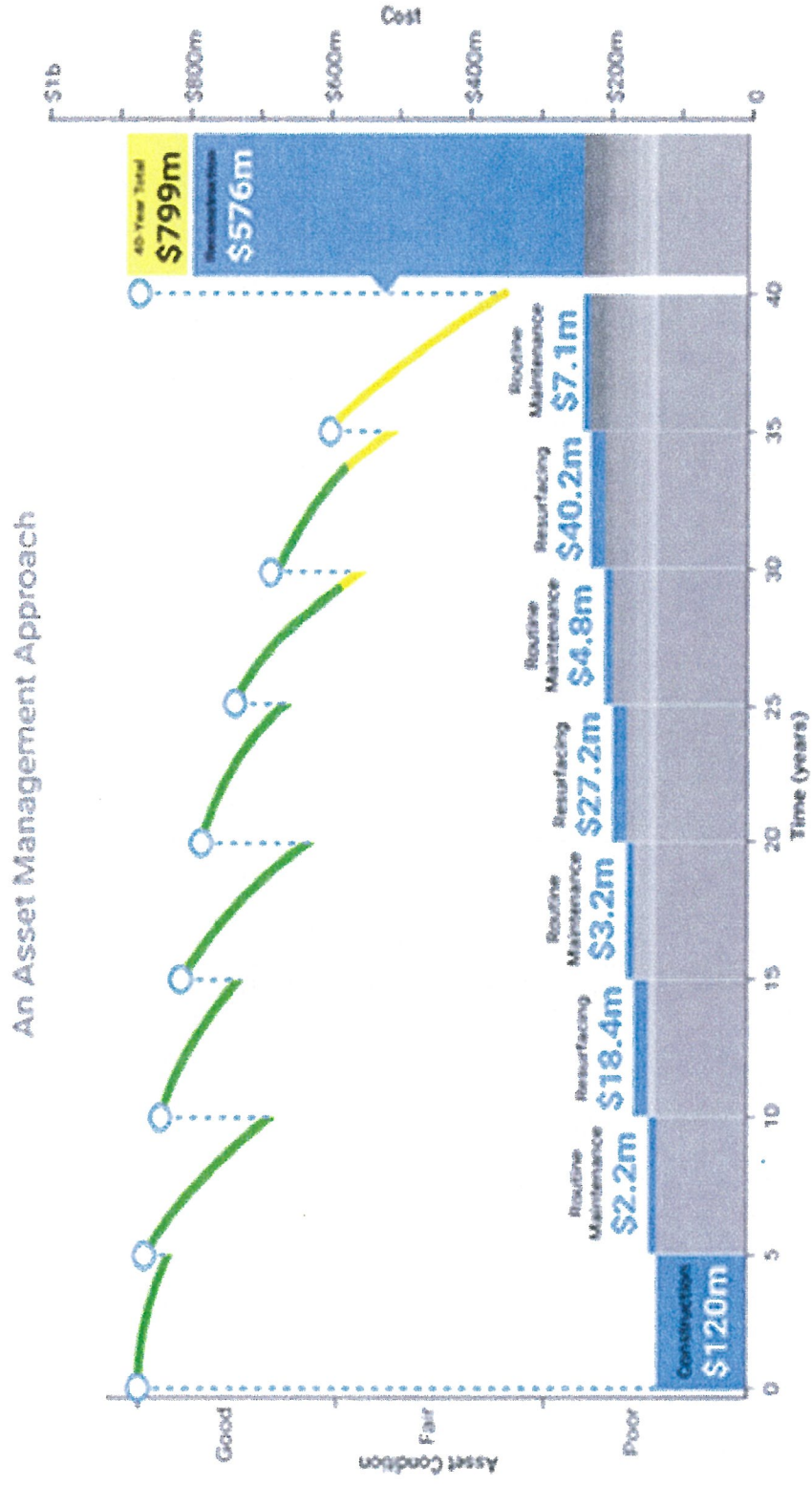
INTERSTATE PAVEMENTS

	2026		
	GOOD	FAIR	POOR
\$81.5M AVERAGE ANNUAL INVESTMENT	51%	47%	2%
\$62M AVERAGE ANNUAL INVESTMENT	60%	32%	8%
IMPACT OF ADDED INVESTMENT	-9%	+15%	-6%

NON-INTERSTATE NHS PAVEMENTS

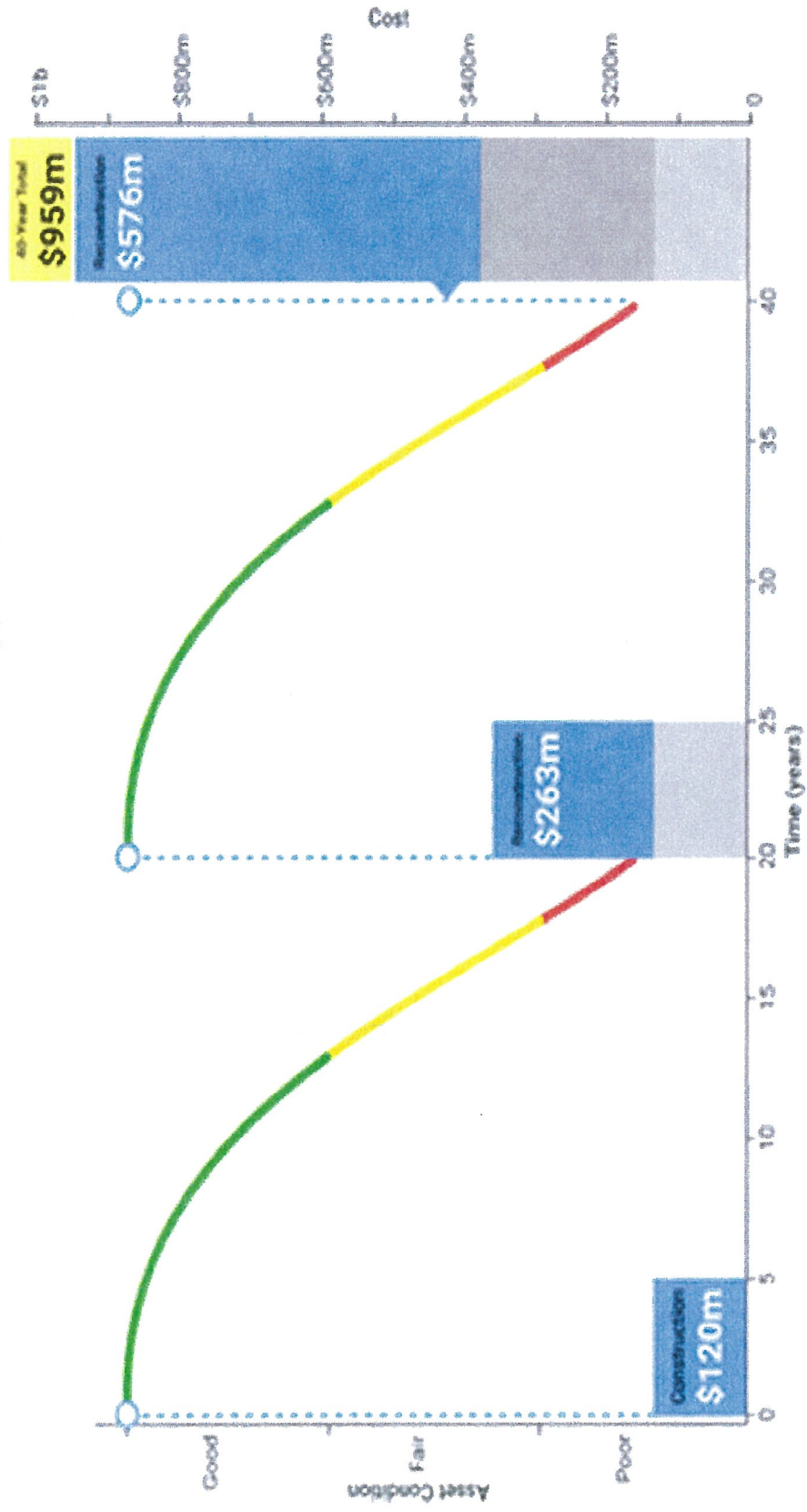
	2026		
	GOOD	FAIR	POOR
\$212.5M AVERAGE ANNUAL INVESTMENT	54%	42%	4%
\$68M AVERAGE ANNUAL INVESTMENT	34%	49%	17%
IMPACT OF ADDED INVESTMENT	+20%	-7%	-13%

TAM Approach w/LCP

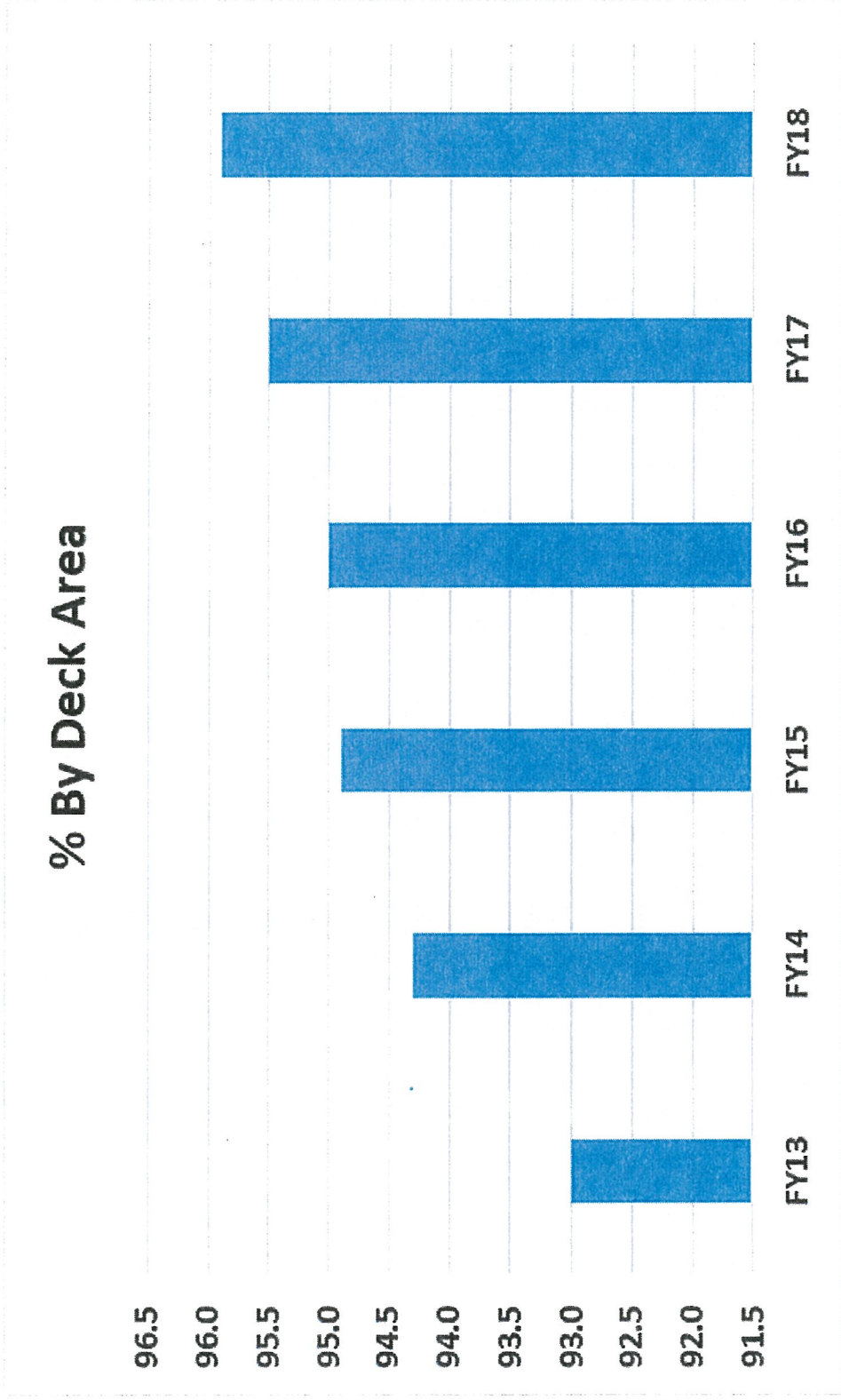


Reactive Approach

A Reactive Maintenance Approach



Bridge Condition – Fair or Better



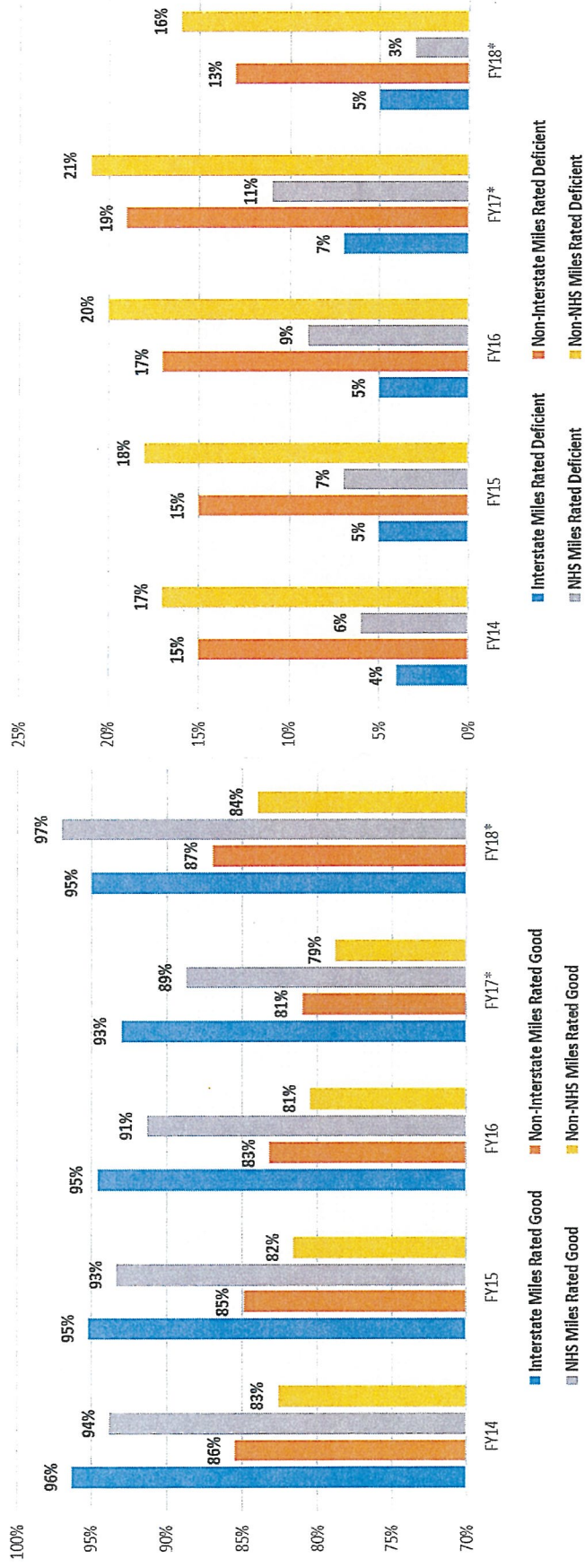
Pavement Condition % of system

Fair or Better

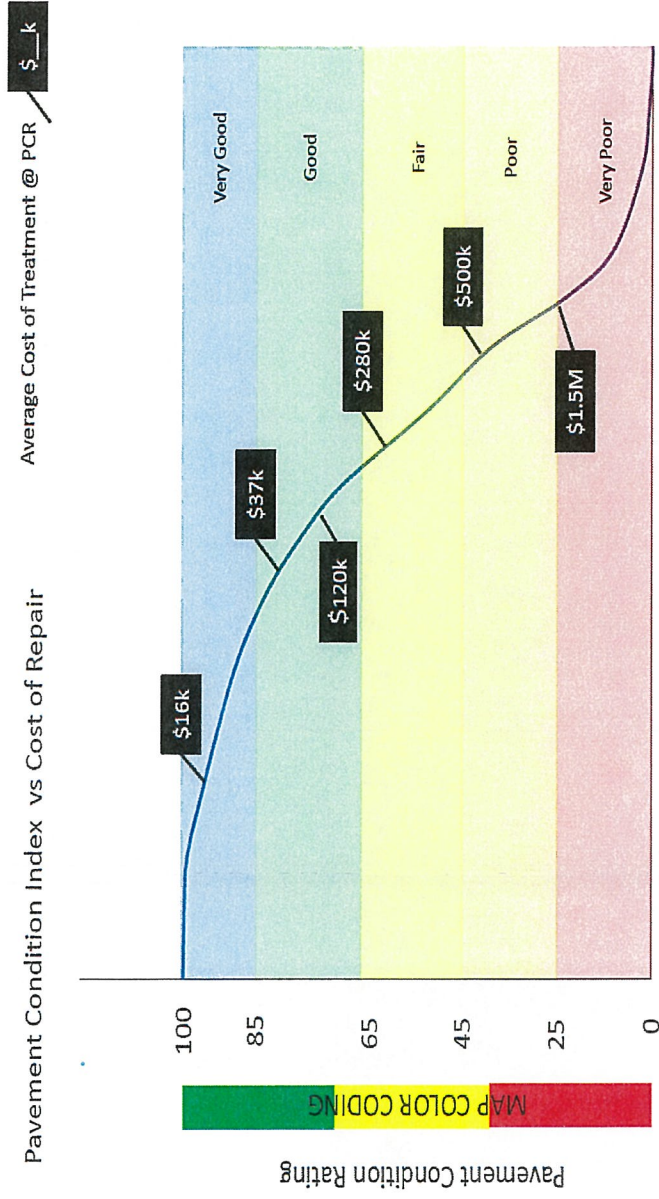
Poor

Miles Rated Fair or Better (Good)

Miles in Poor Condition (Poor)



Pavement Condition Rating (PCR)



PCR Range	Condition	Time in Service, Traffic Loads, etc	Suggested Treatment
100-86	Very Good		Monitor – Minor preservation: monitor, fog seals, surface coats, chip seal
85-66	Good		Major preservation: thin hot in-place recycling, thin mill and inlay
65-51	Fair		Minor – Major preservation: mill and inlay between, hot in-place recycling 2.5-4"
50-46	At Risk		Minor – Major rehabilitation
45-26	Poor		Major rehabilitation – 5 inches deep to PPC, FDR
25-0	Very Poor		Reconstruction

State of Good Repair (SOGR) for TAMP

Bridges

- The NMDOT defines the State of Good Repair for bridges to be at or above a condition rating (CR) of 6, and the goal is to maintain at least 75% of the bridges on a statewide basis at or above a CR of 6.

Pavements

- The NMDOT defines a State of Good Repair on **Interstate** pavements to be an Overall Condition Index (OCI) greater than or equal to a 70 and the goal is to maintain at least 65% of our **Interstate** Pavements at an OCI at or above 70.
- The NMDOT defines a State of Good Repair for **Non-Interstate National Highway System** (NHS) pavements to be an Overall Condition Index (OCI) of greater than or equal to 60 and the goal is to maintain at least 50% of our Non-Interstate NHS pavements at an OCI at or above 60.
- The NMDOT defines a State of Good Repair for **non-NHS** pavements to be an Overall Condition Index of greater than or equal to 50 and the goal is to maintain at least 35% of our **non-NHS** pavements at an OCI at or above 50

State of Good Repair (SOGR)

Bridges

- The NMDOT defines the State of Good Repair for bridges to be at or above a condition rating (CR) of 6, and the goal is to maintain at least 75% of the bridges on a statewide basis at or above a CR of 6.

Pavements

- The NMDOT defines a State of Good Repair on Interstate pavements to be an Overall Condition Index (OCI) greater than or equal to a 70 and the goal is to maintain at least 65% of our **Interstate** Pavements at an OCI at or above 70.
- The NMDOT defines a State of Good Repair on **US routes** to be an OCI greater than or equal to a 55 and the goal is to maintain at least 40% of our US Routes at an OCI at or above 55.
- The NMDOT defines a State of Good Repair on **NM routes** to be an OCI greater than or equal to a 50 and the goal is to maintain at least 40% of our NM Routes at an OCI at or above 50.

State of Good Repair Cost Interstate Pavements

Interstate SOGR 70 - 10 Years				
Year	Pavement Funding	Future OCI	Future PCR	
2019	\$27,232,990	66		68
2020	\$54,807,048	67		69
2021	\$81,614,438	68		70
2022	\$77,040,123	69		71
2023	\$82,794,832	70		72
2024	\$71,958,905	70		72
2025	\$102,223,710	70		72
2026	\$58,586,021	70		72
2027	\$75,638,361	70		72
2028	\$70,367,063	70		72
Sum	\$702,263,491			
Weighted Average	\$70,226,349			

The weighted average cost per year is just for pavement and to deliver a complete project would increase the cost by 30-50%. TAMP determined spending on interstate pavement projects was approximately \$62 million per year, non-interstate NHS was \$68 million

State of Good Repair Bridge Costs

- Average Condition Rating (CR) ≥ 7 After 10 Years
 - NHS: \$45,202,000/Year for Next 10 Years
 - Non-NHS: \$36,749,000/Year for Next 10 Years

Bridge Needs = \$0 or All BCR's Have Been Worked on

- NHS: \$50,316,142/Year for Next 10 Years
- Non-NHS: \$40,093,320/Year for Next 10 Years

TAMP determined average spending on bridges was approximately \$60 million per year

Questions?

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