Welcome

Transportation Performance Management Technical Advisory Program

December 13, 2016

Journey to Performance-Based Planning at NMDOT

Map-Based Information Portal

Customer-Oriented Web Portal

Integrated Asset Management Systems

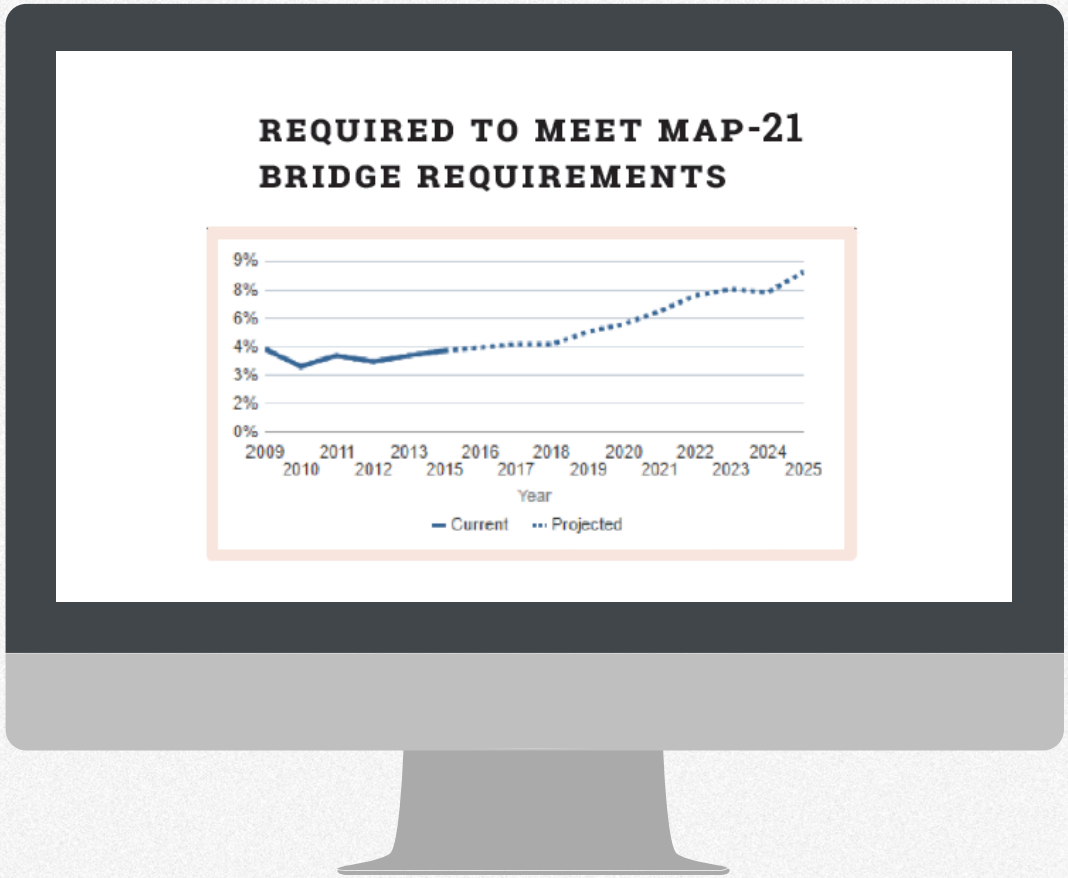
Self-Serve Data

Better Decisions, Better Relationships, Better Outcomes

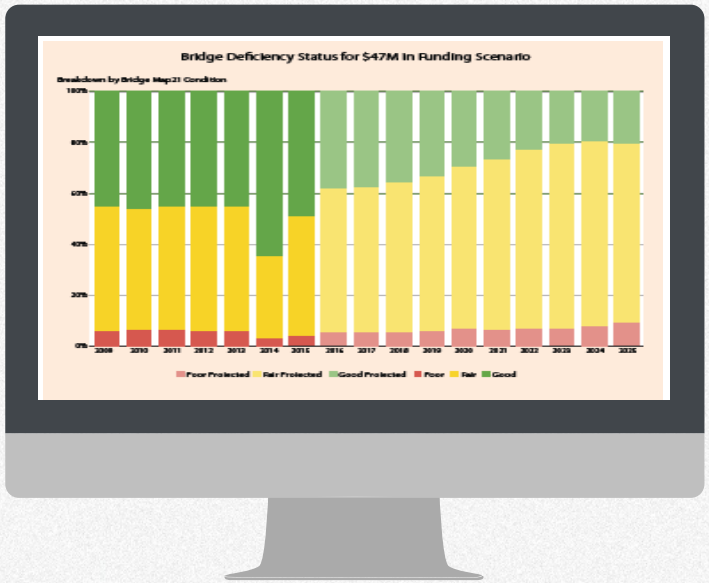
Integrated Asset Management System

Usable, Trustable, Accessible

- **Implement** Agile PMS and AASHTO BrM for bridges
- **Populate** with good data that districts and GO trusts
- **Develop** models that predict future performance based on investments
- **Make** sure that districts and GO trust the models
- **Check** models with actual condition and update models
- **Achieve** MAP-21 requirements



Integrated Asset Management System



Tradeoffs
District x District.
Program x Program

Conduct Tradeoffs Across Programs and Geography

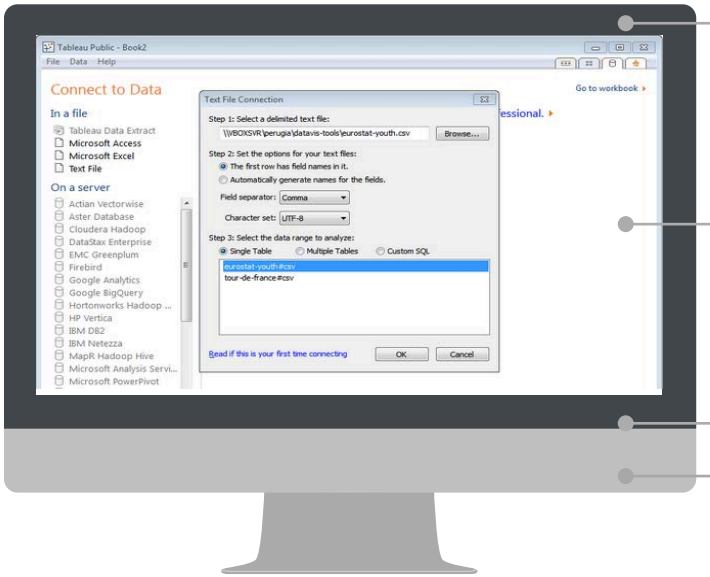
Where do we get the biggest bang for our buck?

Connect our strategic goals (long range plan) with resource allocation actions

Need to balance issues – geographic equity,
historical funding, risk, etc.

SELF-SERVE DATA

Making data available for:



1 Download when needed

2 Generating your own reports

3 Mapping

4 Graphing

SELF-SERVICE DATA

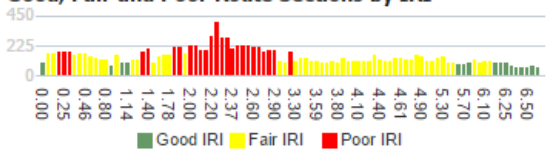
Route Details

Year: 2013
NHS: NHS Interstate;NHS I
District: (All Column Values)
ADT Range: (All Column Values)
Urban/Rural: (All Column Values)
MPO Boundary: (All Column Values)
Functional Class: (All Column Values)
Owner: (All Column Values)
Route Id: BL-13-P
Segment Begin MP: --Select Value--
Segment End MP: --Select Value--

Mon Apr 18 2016

Pavement Condition

Good, Fair and Poor Route Sections by IRI



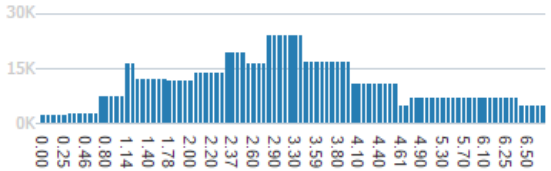
Road Accident Summary

Fatality Rate per 100 Million Vehicle Miles

No data found

Refresh

Average AADT



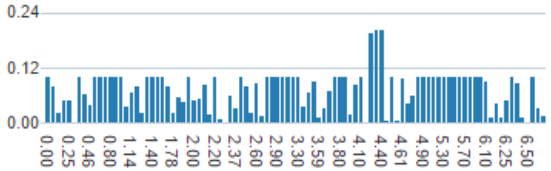
Asset Inventory

Barrier Length in Miles

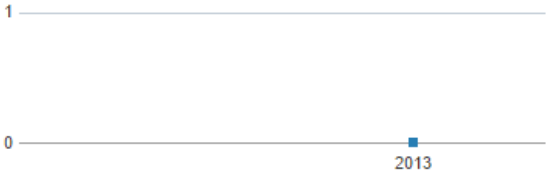
No data found

Refresh

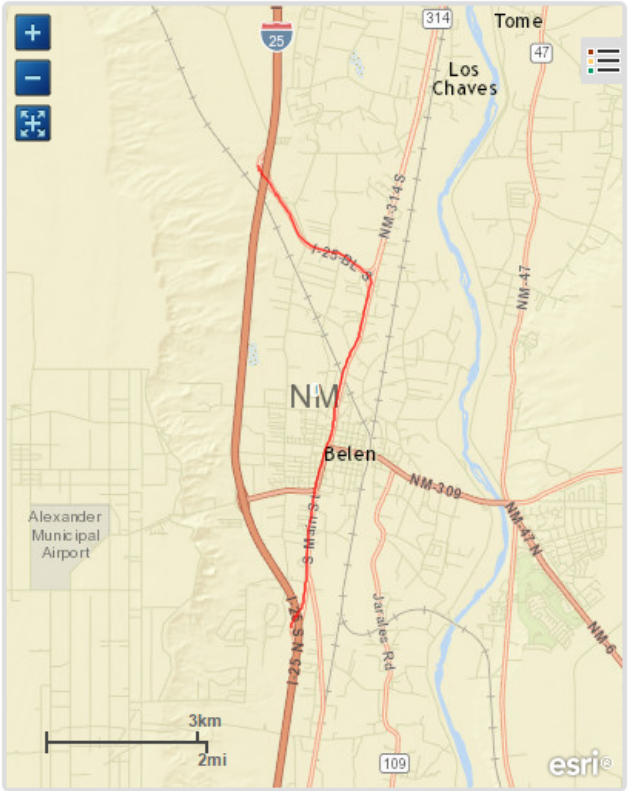
Cost Per Centreline Miles



Average Treatment Cost per Centreline Miles



Route



BRIDGE DASHBOARD

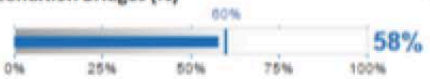
Bridges

Scenarios: Current | Year: 2015 | NHS: NHS Interstate;NHS I | District: (All Column Values) | ADT Range: (All Column Values) | Urban/Rural: (All Column Values) | MPO Boundary: (All Column Values) | Municipality: (All Column Values) | Functional Class: (All Column Values) | Route: (All Column Values)

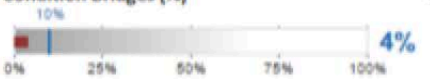
Bridge Performance Measures

Good Condition Bridges (%)

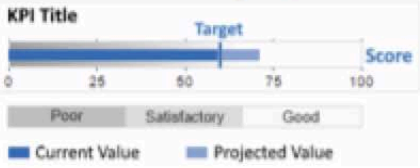
Fair Condition Bridges (%)



Poor Condition Bridges (%)



Legend

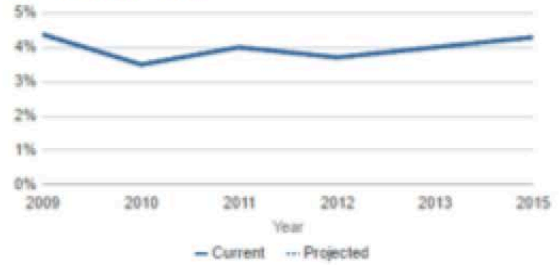


Scenario	Description
Current	Current or Historical data

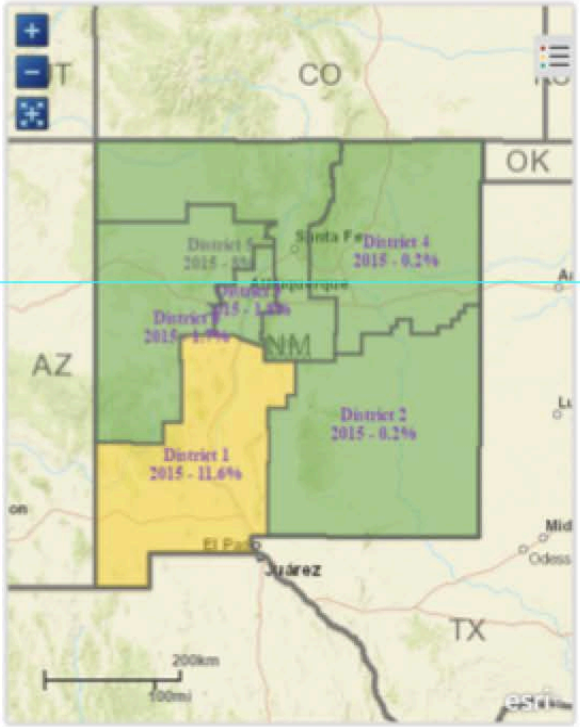
Bridge Deficiency Status

Breakdown by Bridge Map21 Condition

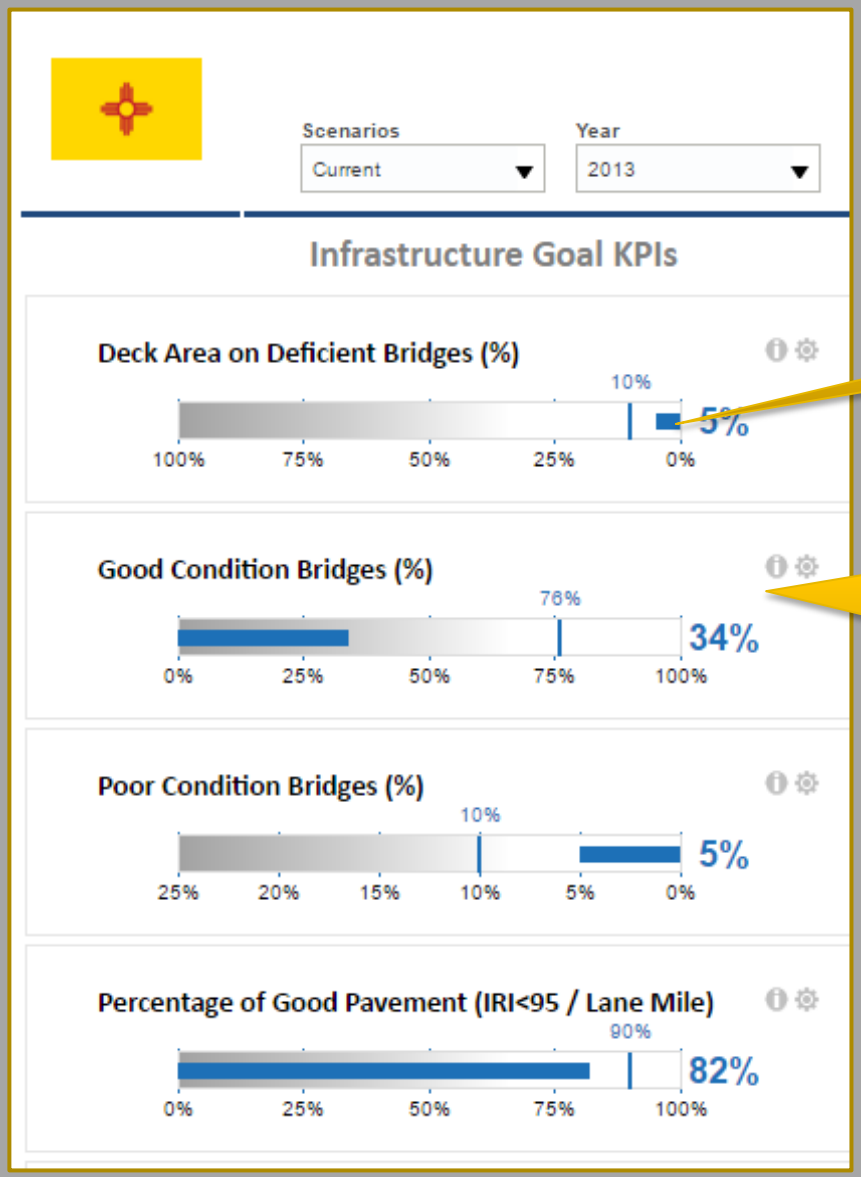
% Deck Area in Poor Condition



Percent of Deck Area Deficient



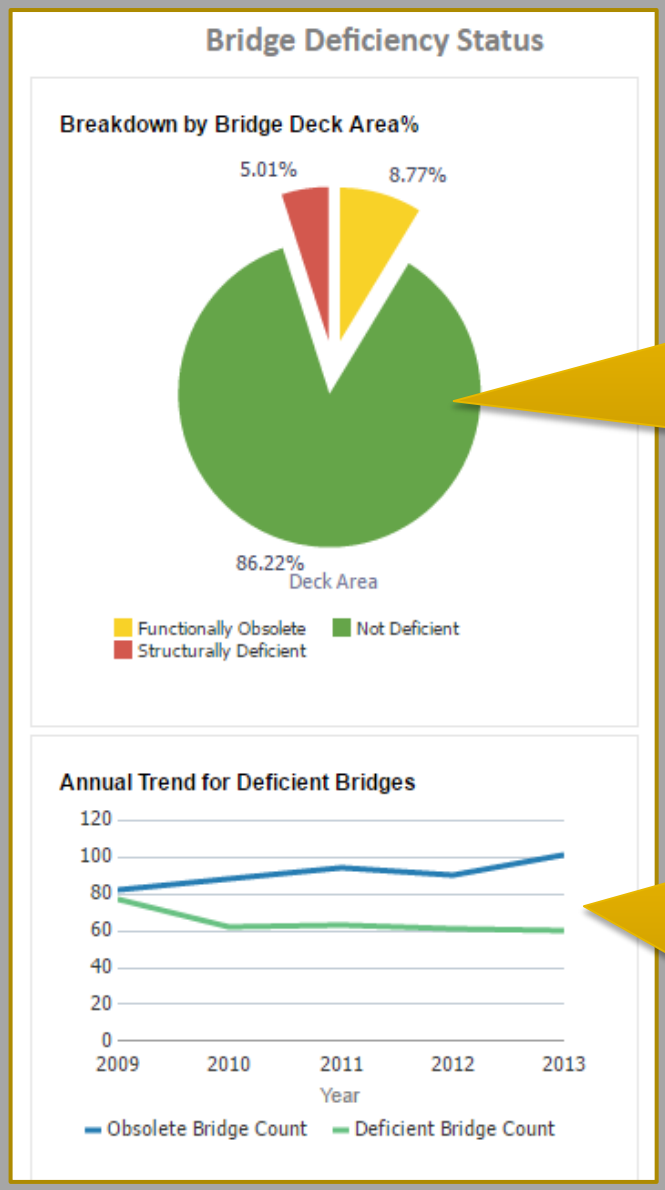
BRIDGE CONDITION



State Target

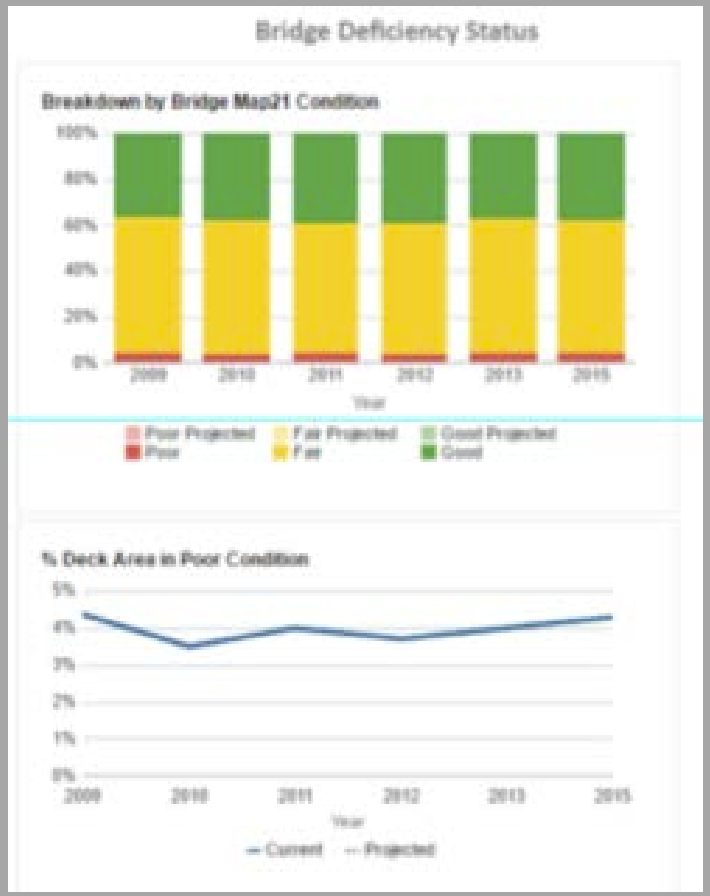
Current Condition Metric based on Applied Filters

BRIDGE DEFICIENCY

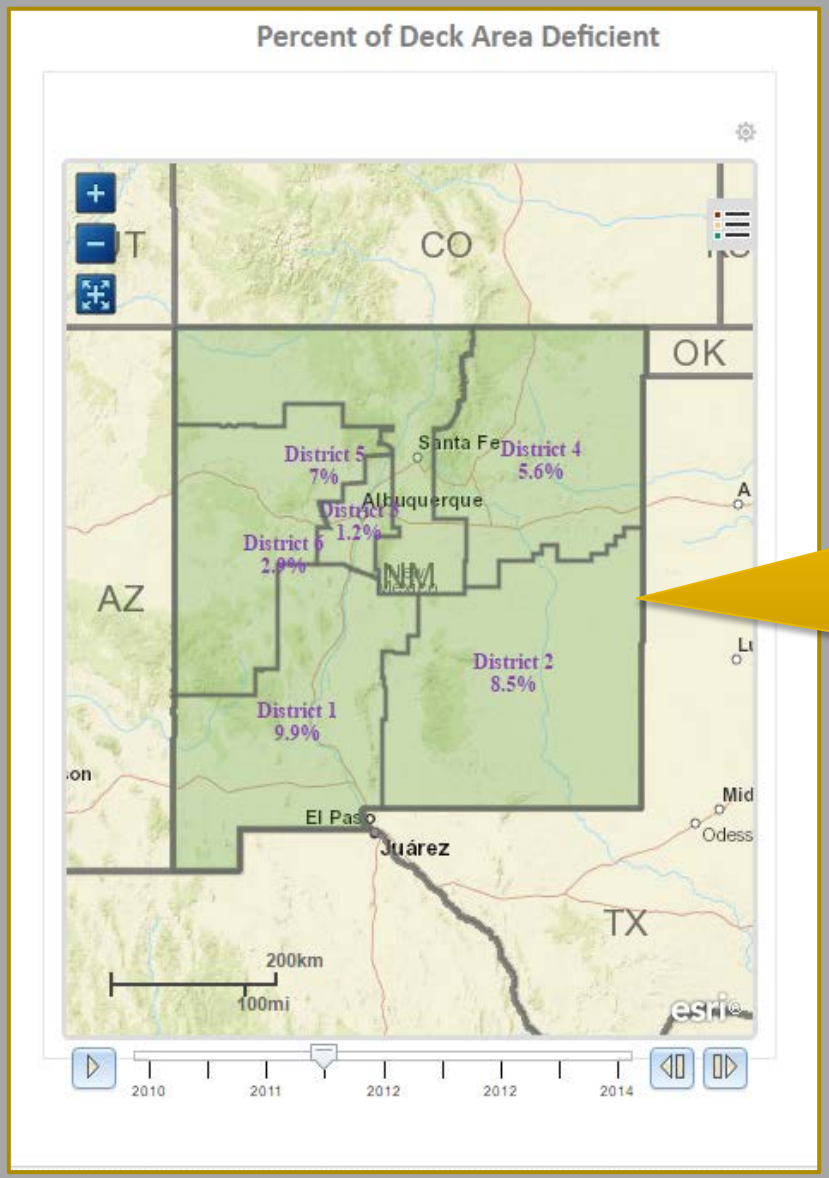


Breakdown by Structurally Deficient (SD) and Functionally Obsolete

Annual Trends and Projected Values

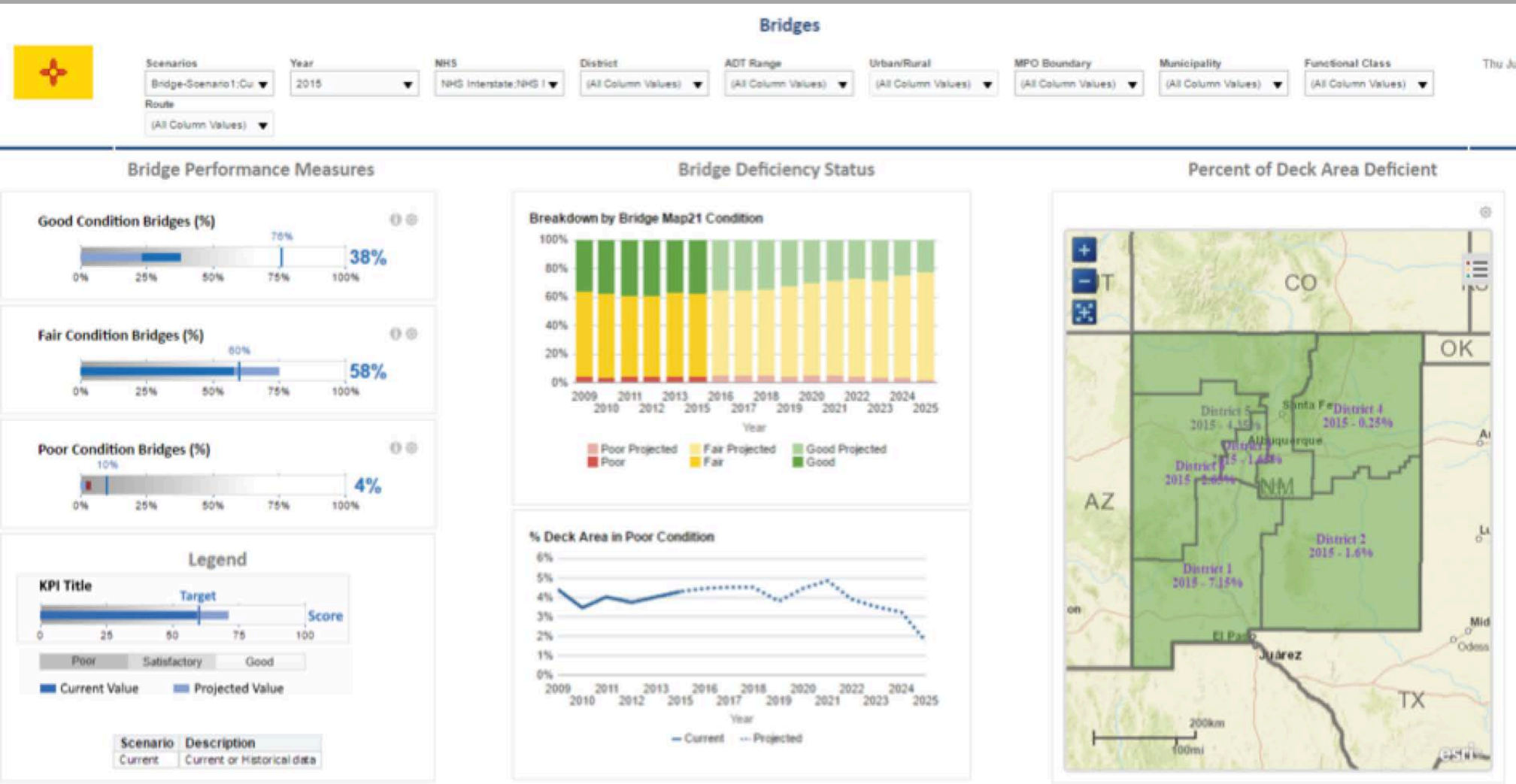


BRIDGE DEFICIENCY BY DISTRICT



Data can be visualized spatially at District, County, MPO or Route Level

INVESTMENT SCENARIO - $63M



Scenario 1: $63M Investment annually

INVESTMENT SCENARIO - $32M

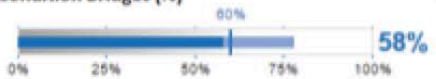
Bridges

Scenarios: ze-Scenario3:Current | Year: 2015 | NHS: NHS Interstate;NHS I | District: (All Column Values) | ADT Range: (All Column Values) | Urban/Rural: (All Column Values) | MPO Boundary: (All Column Values) | Municipality: (All Column Values) | Functional Class: (All Column Values) | Route: (All Column Values)

Bridge Performance Measures

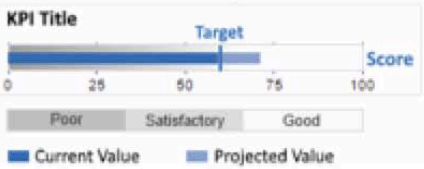
Good Condition Bridges (%)

Fair Condition Bridges (%)



Poor Condition Bridges (%)

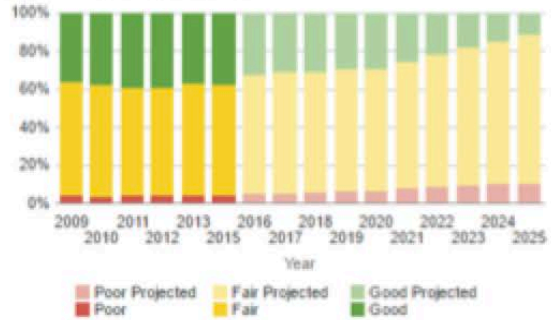
Legend



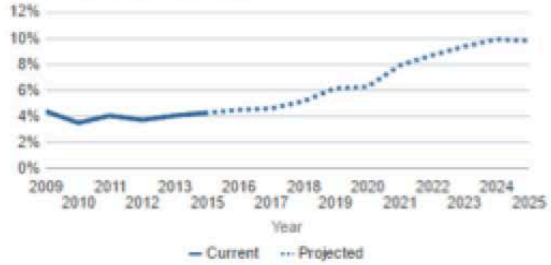
Scenario	Description
Current	Current or Historical data

Bridge Deficiency Status

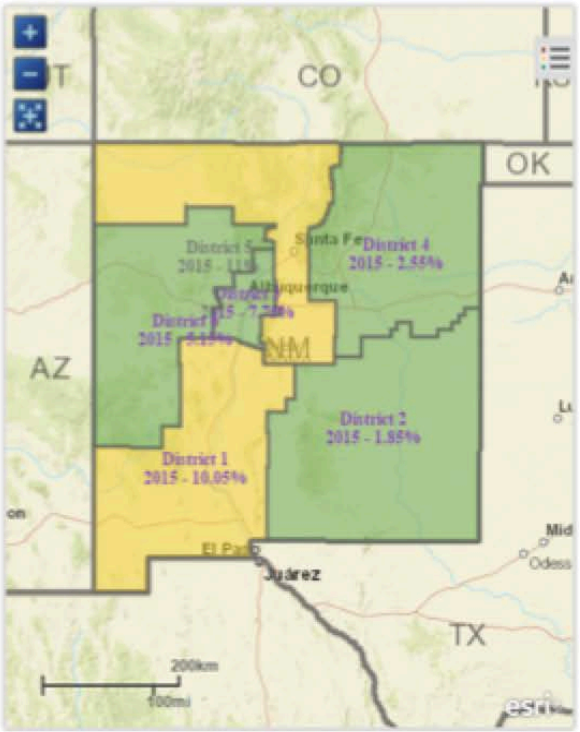
Breakdown by Bridge Map21 Condition



% Deck Area in Poor Condition



Percent of Deck Area Deficient



Scenario 3: $32M Investment annually

PAVEMENT DASHBOARD

Pavement Condition

Scenarios: Current | Year: 2013 | NHS: NHS Interstate,NHS I | District: (All Column Values) | ADT Range: (All Column Values) | Urban/Rural: (All Column Values) | MPO Boundary: (All Column Values) | Municipality: (All Column Values) | Functional Class: (All Column Values) | Route: (All Column Values)

Pavement Performance Measures

Percentage of Good Pavement

82%

0 25 50 75 100

Percentage of Poor Pavement

4%

100 75 50 25 0

Asset Book Value vs. Replacement Cost

No data found / available

0 25 50 75 100

Annual Improvement of 1% in Urban roads

1%

0%

0 5 10 15 20 25

Annual Improvement of 1% in Rural roads

1%

0%

0 5 10 15 20 25

Pavement Condition Trends

Pavement Breakdown

100% 80% 60% 40% 20% 0%

2011 2012 2013

Poor Projected, Poor, Fair Projected, Fair, Good Projected, Good

Percentage Of Poor Pavement

4% 3% 2% 1% 0%

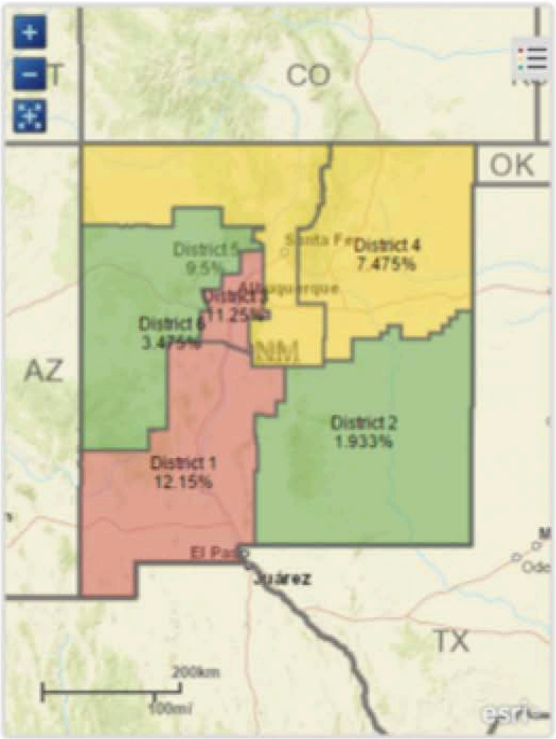
2011 2012 2013

Current, Projected

Legend

KPI Title | Target

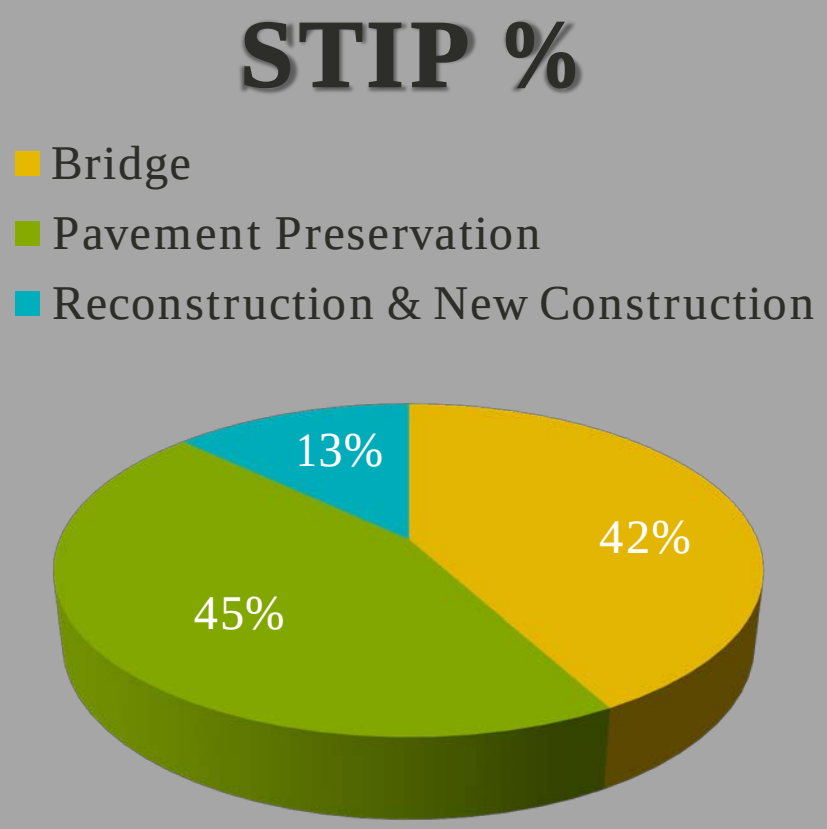
Percent of Pavement in Poor Condition



HISTORIC NMDOT ALLOCATIONS

Averaged FY13 and FY14 STIP

Divided reconstruction & new construction equally among Bridge, Pavement, and Other



ASSET CONDITION

at various 10-Year annual funding levels

Bridge % Poor

	Current	$0	$25	$50	$75	$100	$125
NHS	3.4%	26.5%	17.5%	8.4%	3.1%	.7%	.4%
Non-NHS	6.5%	34.2%	28.7%	15.1%	4.7%	.9%	.3%
All	5.1%	30.6%	23.5%	12.0%	3.9%	.8%	.4%

Pavement Condition

	Current	$110	$165	$220	$275	$330	$385
Interstate	58.6	43.3	50.0	51.5	59.3	63.6	66.3
Non-I NHS	56.7	42.4	47.5	49.7	59.5	64.6	65.3
Non-NHS	51.1	37.6	44.2	49.8	54.3	57.8	60.9
All	53.3	39.4	45.6	51.4	56.1	60.1	63.4

SUSTAINABILITY INDEX IN NM

To Sustain Current Condition of NMDOT Bridges and Highways
($ millions)

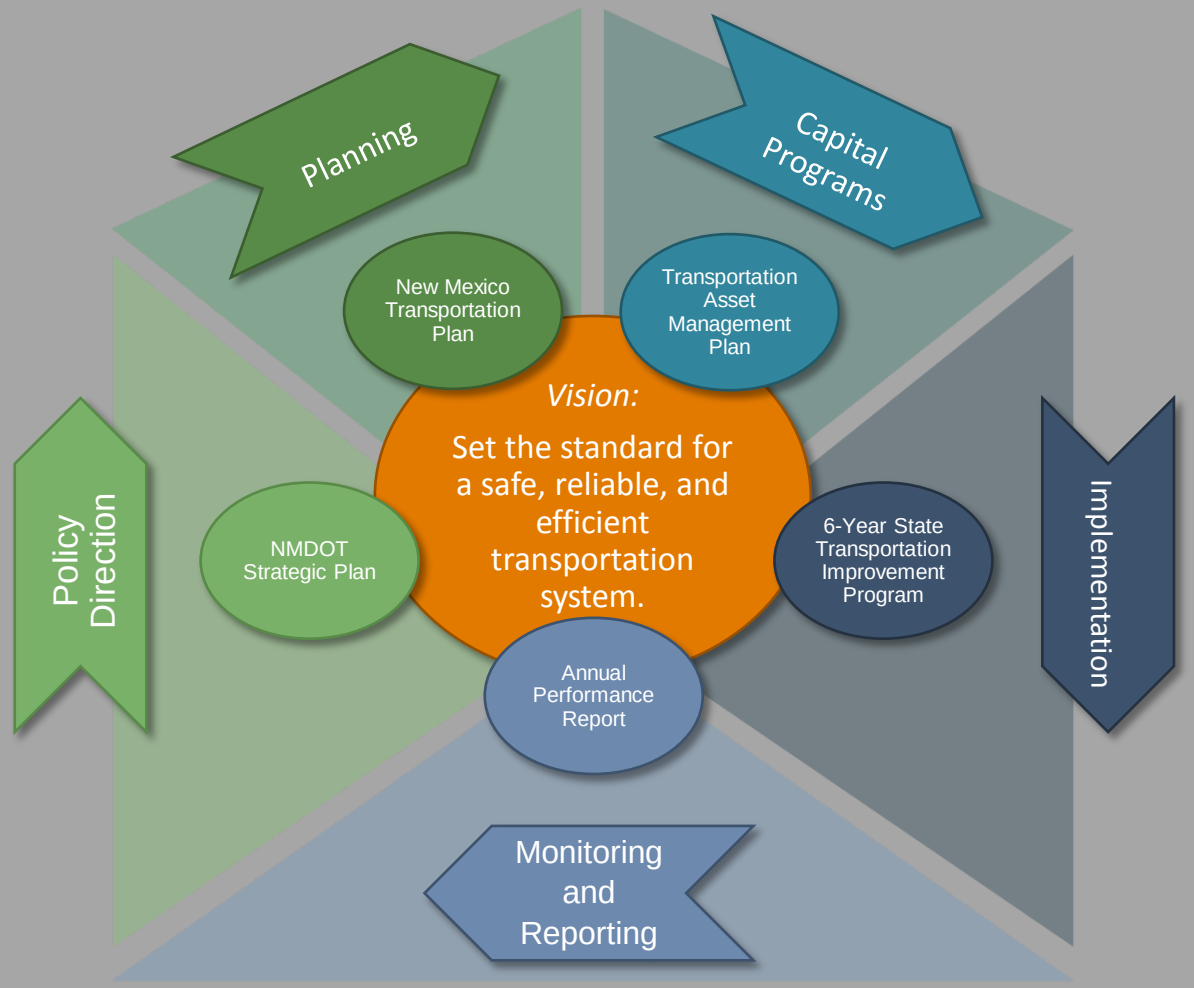
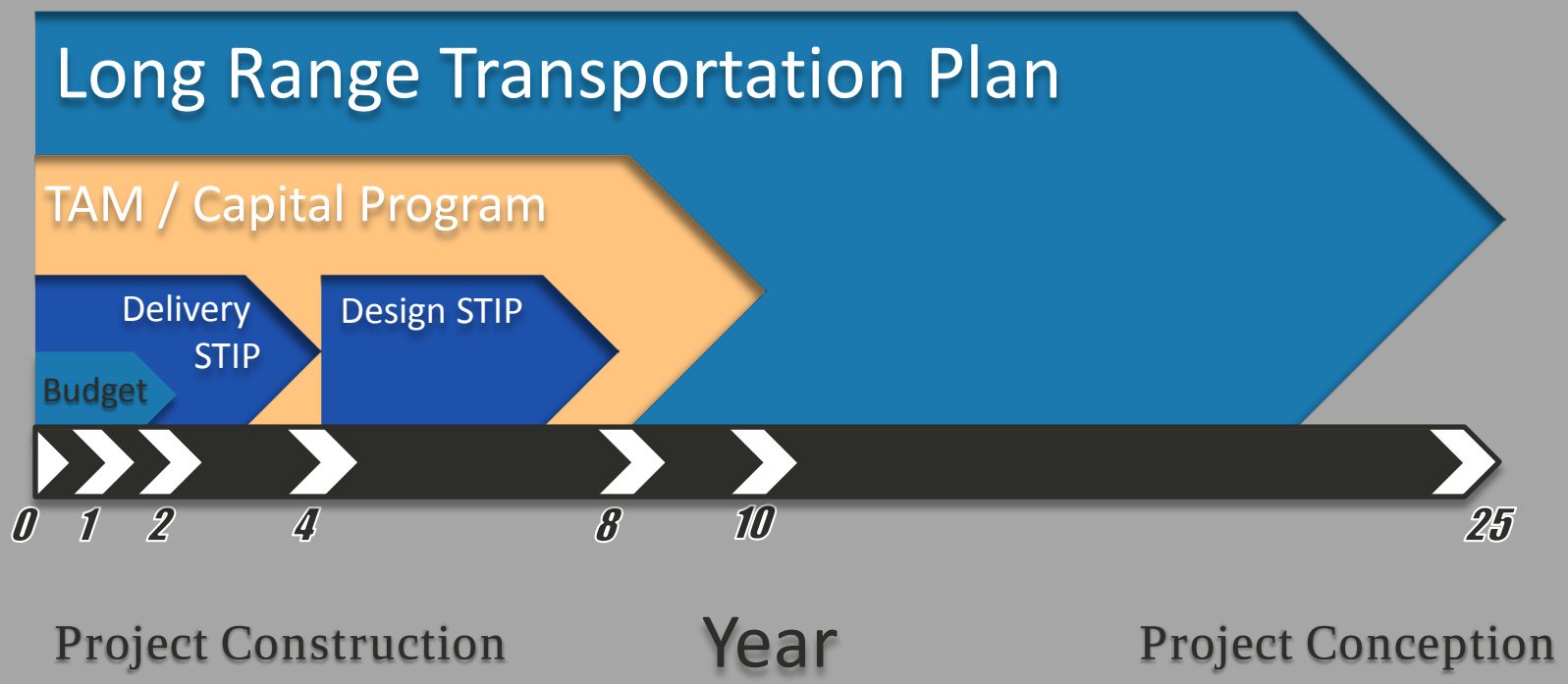
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Bridge need	65	66	68	69	70	72	73	75	76	78
Bridge $	94	96	99	103	106	108	109	106	122	124
Pavement need	250	255	260	265	271	276	282	287	293	299
Pavement $	119	122	126	130	134	137	138	136	139	141
Total need	315	321	328	334	341	348	355	362	369	377
Total $	213	218	225	232	239	245	247	242	261	265
S.I.	**0.68**	**0.68**	**0.69**	**0.69**	**0.70**	**0.70**	**0.70**	**0.67**	**0.71**	**0.70**

Assumptions: Combine Maintenance, Preservation, Replacement/Reconstruct

- Roughly use SPP models developed in March; assume Reconstruction favored.
- Inflation = Revenue Growth (2%). BIG assumption.

PLAN INTEGRATION IN NM

Planning and Programming is Key



PROGRAMMING TIMELINE