Transportation Performance Management Webinar Series

Webinar 1

TPM Best Practices

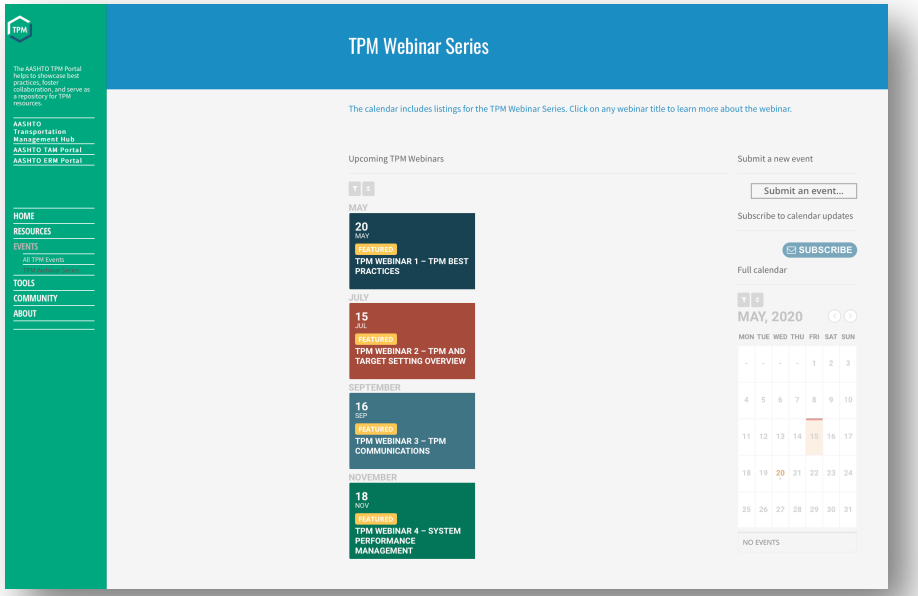
Sponsored by the TPM Pooled Fund
with Support from AASHTO CPBM Leadership and FHWA

Webinar 1 – May 20, 2020

Transportation Performance Management Webinar Series

Welcome to the inaugural webinar in the new series

- Webinars are held every two months, topics include:
  - Target Setting
  - TPM Communications
  - System Performance Management,
  - Data Sources
  - And many more to come!
- Use the webinar Q&A panel during the webinar
  - Submit questions for today's presenters
  - Submit ideas for future webinar topics



Welcome

The **TPM Pooled Fund, AASHTO CPBM,** and **FHWA** are pleased to sponsor this new webinar series!

TPM Pooled Fund Recent Accomplishments

- MODAT: https://multiobjective.org
- TPM Training and Informational Hub: https://www.tpm-portal.com/training-hub/
- Performance-Based Prioritization Using MODA: https://www.tpm-portal.com/resource/using-moda/
- TPM Now! Video Series: https://www.tpm-portal.com/tpm-now/
- TPM Portal: https://www.tpm-portal.com

Webinar Agenda

2:00 **Welcome and Introduction and TPM Pooled Fund Overview**
Christos Xenophontos (Rhode Island DOT), Matt Hardy (AASHTO), and Hyun-A Park (Spy Pond Partners, LLC)

2:20 **Agency Resource Allocation for Performance-Based Planning and Programming**
Karen Miller (Missouri DOT)

2:35 **Maximizing Efficiency Through Predictive Tools**
Ryan Granger (Texas DOT)

2:50 **Opportunities and Challenges of Integrating TPM into a Mature Performance Management System**
Deanna Belden (Minnesota DOT)

3:05 **Aligning Enterprise Information Management, Asset Management, Performance Management and Risk Management within a Strategic Planning Process**
Kelly Travelbee (Michigan DOT)

3:20 **Q&A and Wrap Up**

MoDOT TPM PBPP Resource Allocation

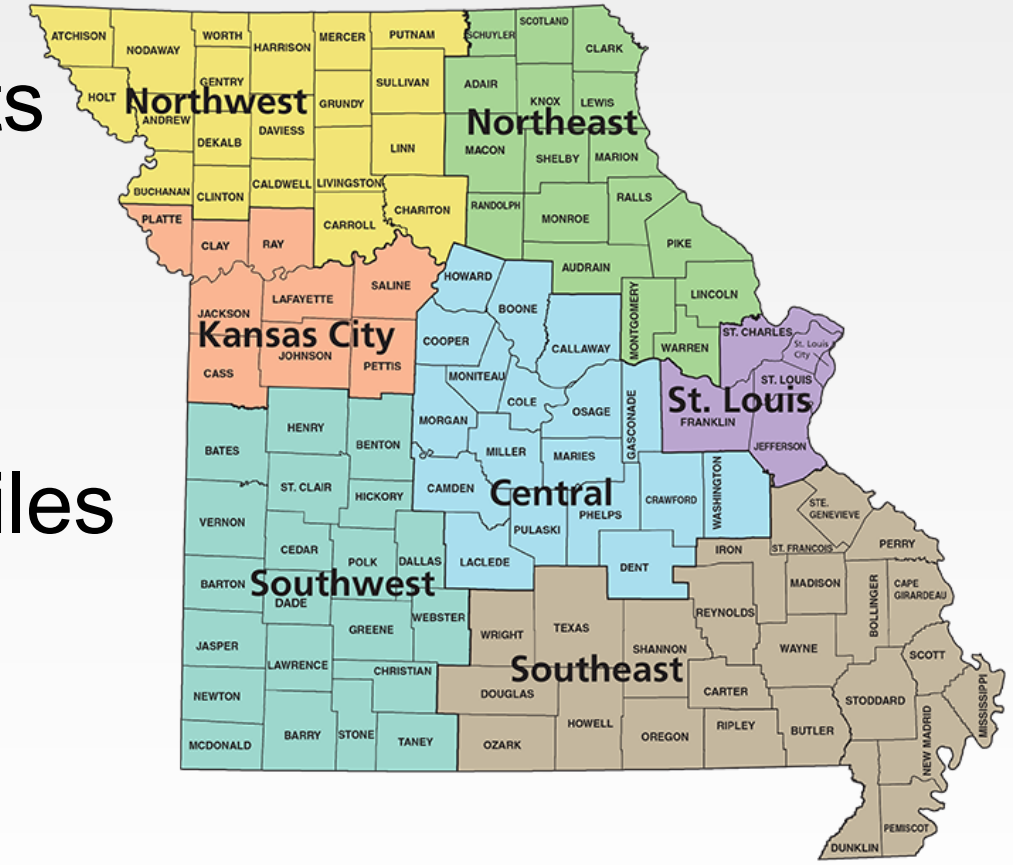
Missouri Department of Transportation

Karen Miller

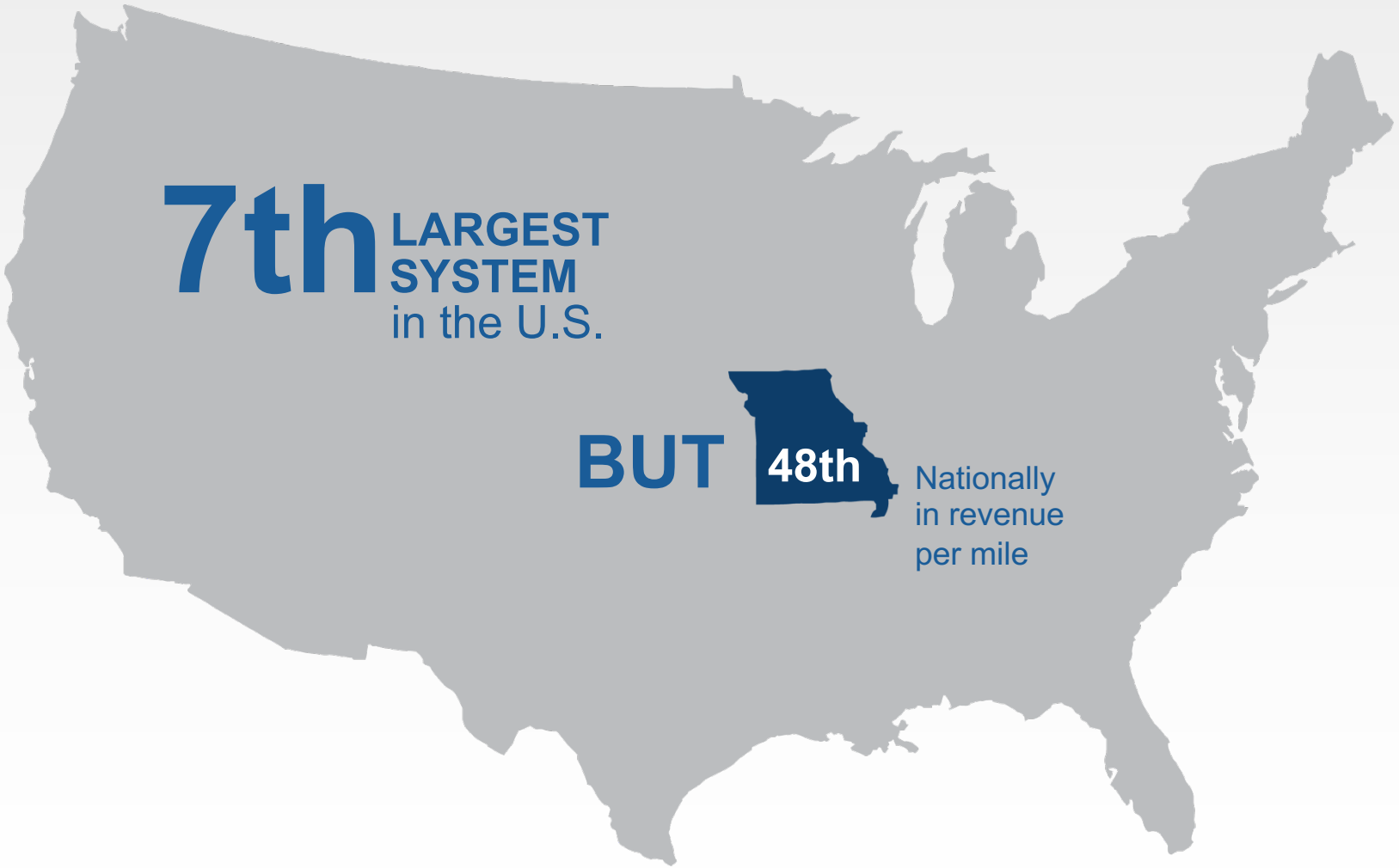
May 20, 2020

Who is MoDOT?

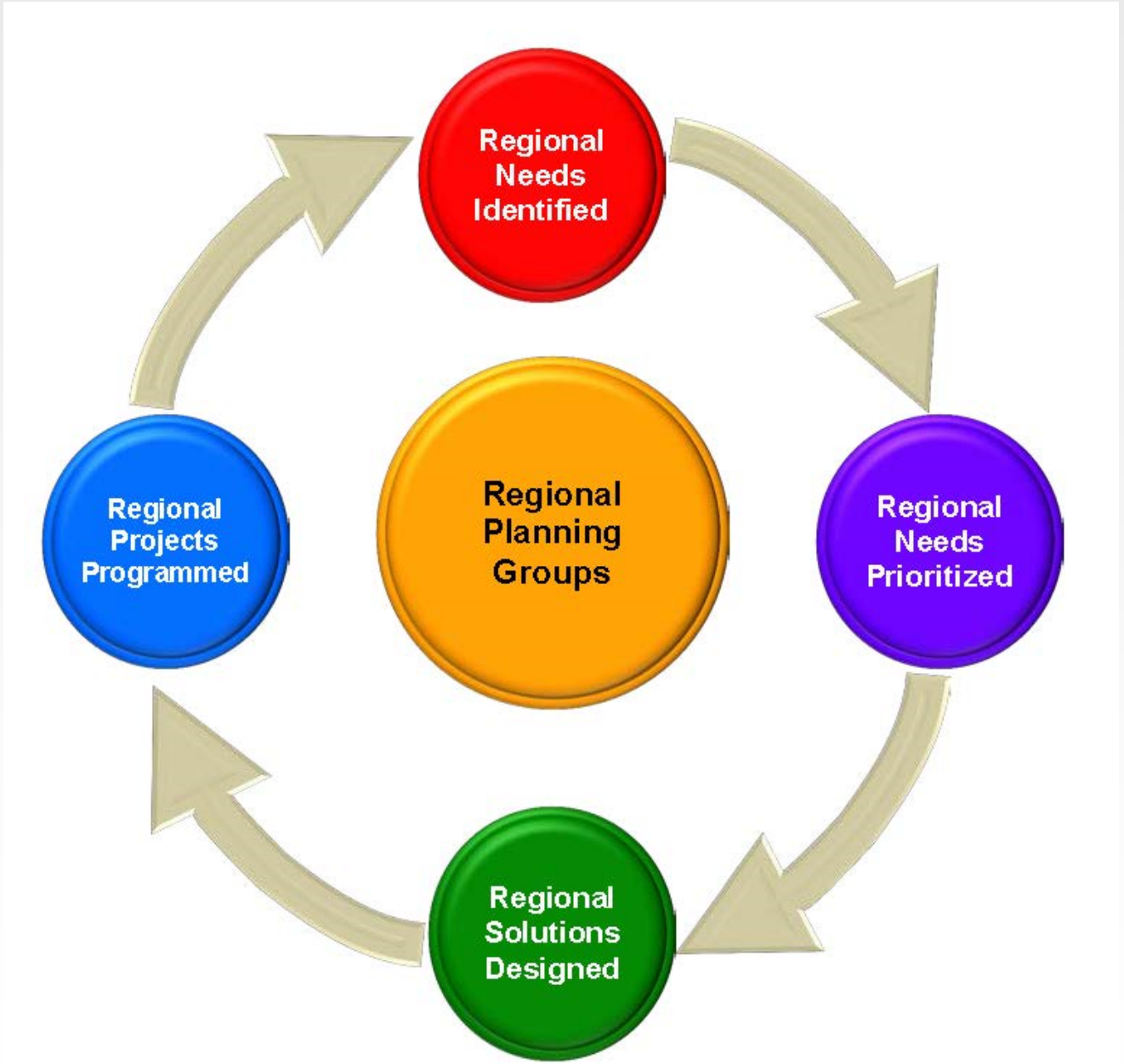
- Independent Commission
- Divided into 7 districts
- Decentralized Org Structure
- 34,000 center line miles
- 10,400 bridges
- 9 MPOs
- 19 Regional Planning Commissions

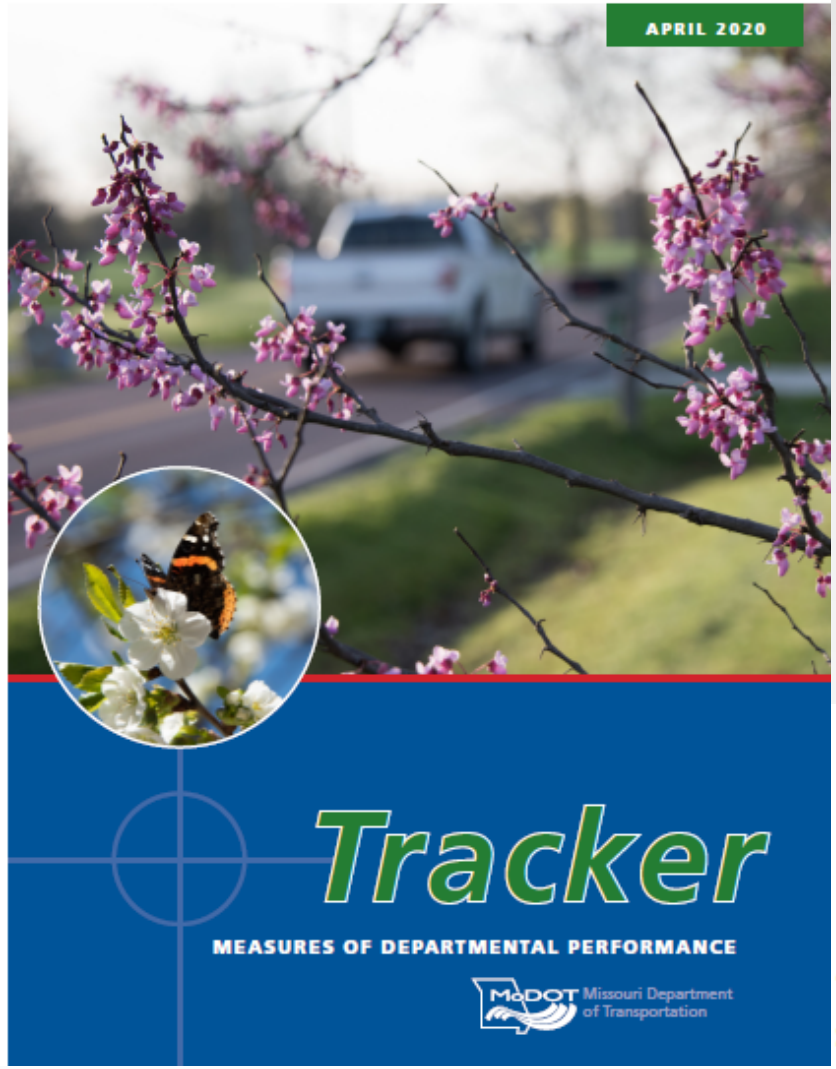


Missouri's long-term insufficient transportation funding challenge.

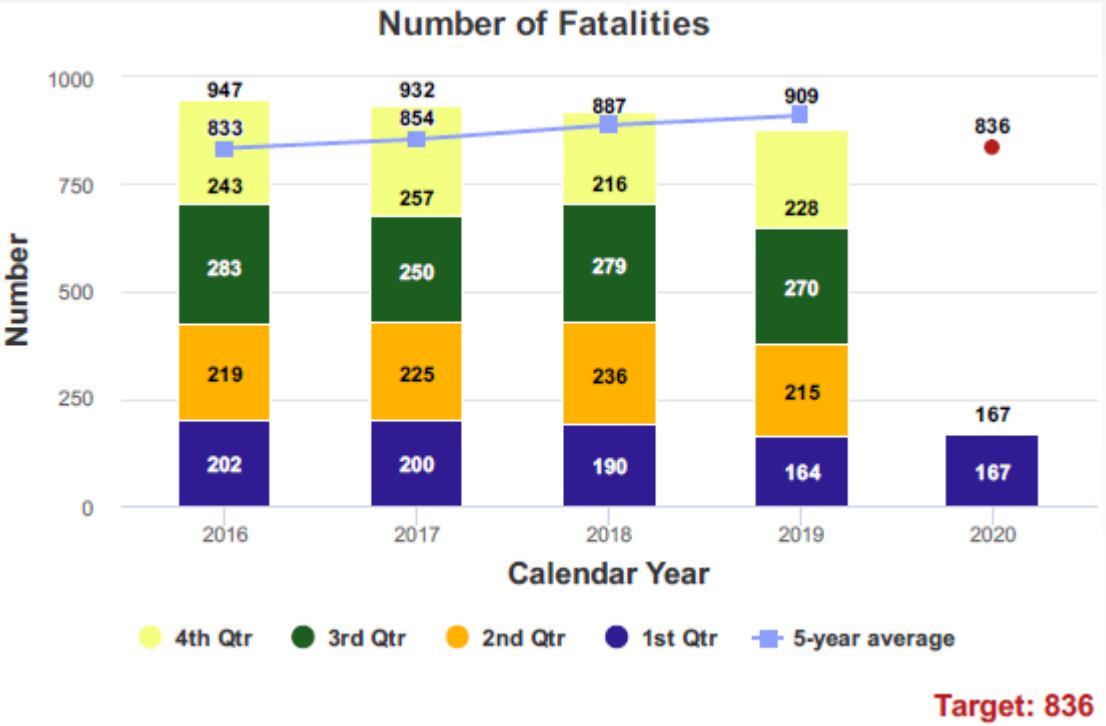


Award Winning Planning Framework





Performance Management

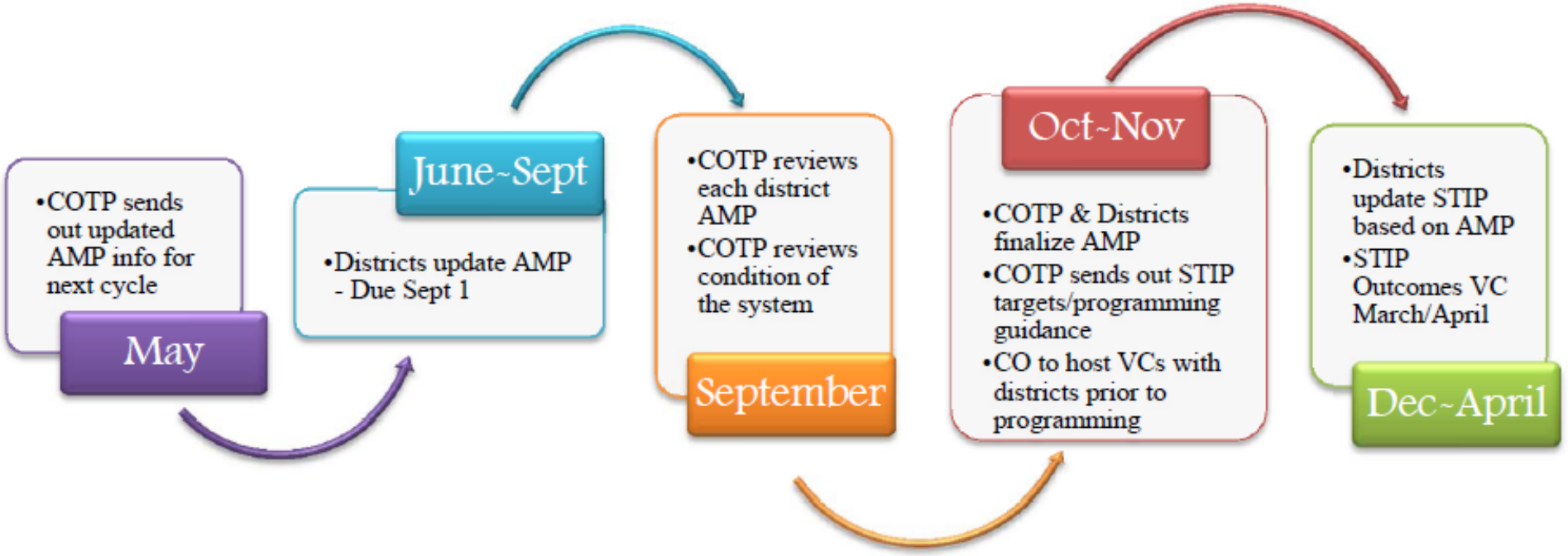


Data Sharing

Planning

PERFORMANCE MANAGEMENT	DATA	ASSET MANAGEMENT

Asset Management Rolling Timeline



Revised Construction Program Funds Distribution

(Fiscal Year 2022 Amounts)

Construction Program Funds
$851 Million

Safety
$29 Million

- $2 million distributed for statewide program
- $27 million distributed based on fatalities and serious injuries on state highways

Asset Management
$677 Million

- $94 million major bridge funding distributed directly to districts
- Remaining $583 million based on asset management plan. Distributed based on highway travel, bridge size and highway miles.

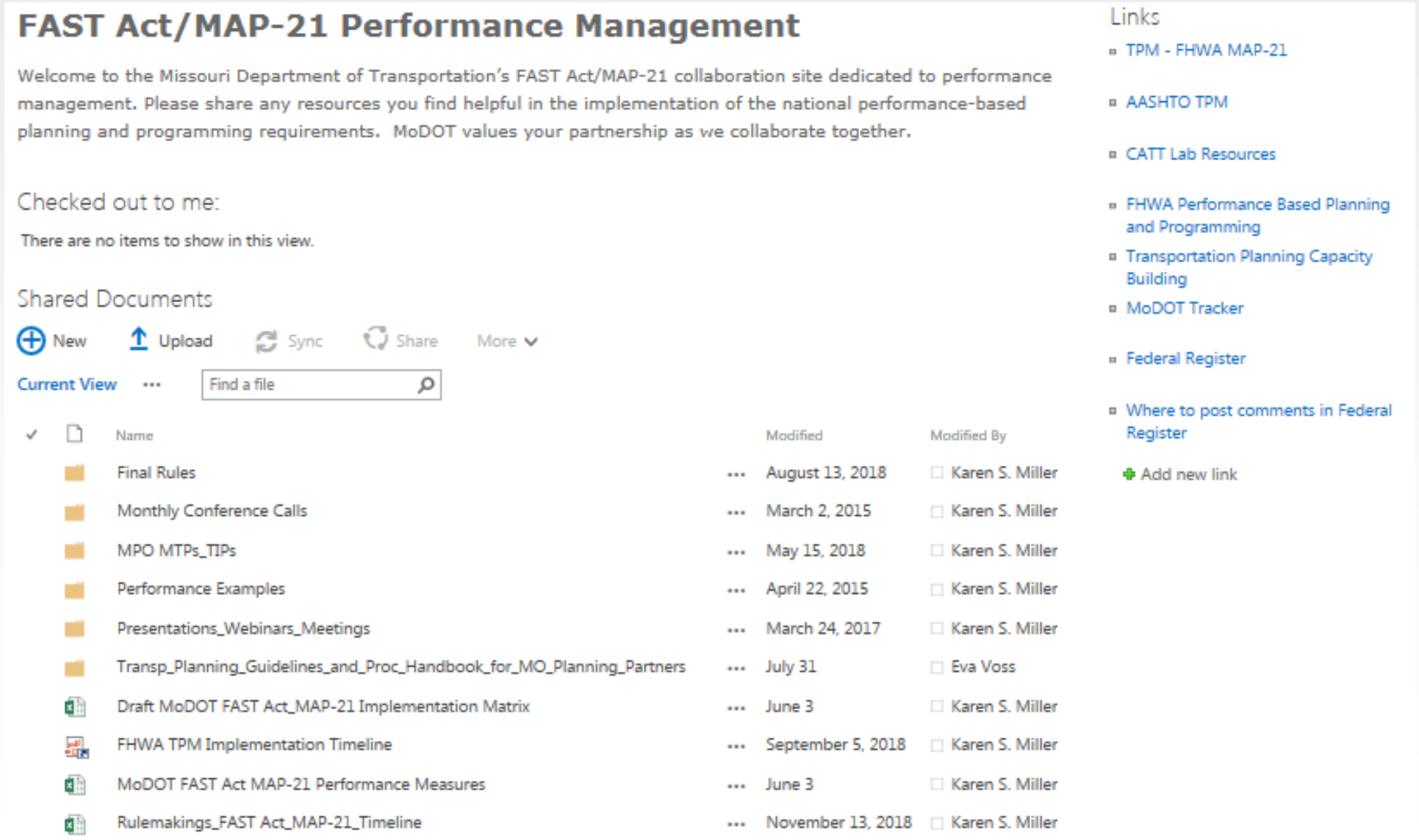
System Improvements
$145 Million

- Distributed based on population, employment and highway travel.

Note:
Amounts do not include engineering costs and district share of debt service for GARVEE debt payments.


BUCKLE
UP
PHONE
DOWN
DO YOUR PART TO MAKE MISSOURI'S ROADS SAFER!
The challenge is simple: when you get into any vehicle, buckle up your safety belt. If you are a driver, put the cellphone down. Turn it off if you have to. Every trip, every time!
Accept the challenge and challenge a friend, relative or members of your community to buckle their seat belts and put their phones down while driving.

Partner Collaboration



FAST Act/MAP-21 Performance Management

Welcome to the Missouri Department of Transportation's FAST Act/MAP-21 collaboration site dedicated to performance management. Please share any resources you find helpful in the implementation of the national performance-based planning and programming requirements. MoDOT values your partnership as we collaborate together.

Checked out to me:

There are no items to show in this view.

Shared Documents

New Upload Sync Share More

Current View ... Find a file

Name	Modified	Modified By
Final Rules	August 13, 2018	Karen S. Miller
Monthly Conference Calls	March 2, 2015	Karen S. Miller
MPO MTPs_TIPs	May 15, 2018	Karen S. Miller
Performance Examples	April 22, 2015	Karen S. Miller
Presentations_Webinars_Meetings	March 24, 2017	Karen S. Miller
Transp_Planning_Guidelines_and_Proc_Handbook_for_MO_Planning_Partners	July 31	Eva Voss
Draft MoDOT FAST Act_MAP-21 Implementation Matrix	June 3	Karen S. Miller
FHWA TPM Implementation Timeline	September 5, 2018	Karen S. Miller
MoDOT FAST Act MAP-21 Performance Measures	June 3	Karen S. Miller
Rulemakings_FAST Act_MAP-21_Timeline	November 13, 2018	Karen S. Miller

Links

- TPM - FHWA MAP-21
- AASHTO TPM
- CATT Lab Resources
- FHWA Performance Based Planning and Programming
- Transportation Planning Capacity Building
- MoDOT Tracker
- Federal Register
- Where to post comments in Federal Register

Add new link

MoDOT Links

- MoDOT Award Winning Planning Framework
- MoDOT Performance Management Tracker
- FHWA Noteworthy Practice: How Tracker Started
- TMS Data Zone
- MoDOT Asset Management
- Citizen's Guide to Transportation Funding in Missouri
- MoDOT Results Document
- Guide – Results Placemat
- Buckle Up Phone Down Challenge
- FHWA Noteworthy Practice: MoDOT Partner Collaboration

Maximizing Efficiency through Predictive Tools

Transportation Performance Management (TPM) Pooled Fund Peer Exchange, St. Paul, Minnesota

November 14-15, 2019

Tools for PBP

- **In development:**
  - **Corridor Prioritization Tool (CPT):** Evaluates statewide corridors to identify needs based on established performance measures
  - **Corridor Evaluation Tool (CET):** Corridors with identified needs are evaluated to identify segments to advance through the project development funnel

- **Mature but still evolving:**
  - **Performance Metrics: Data Integration System (PM-DIS):** Combines data from many data systems, processes the data, and integrates it with Decision Lens
  - **Decision Lens:** Scores projects against TxDOT goals using sensitivity analysis of future impacts by the projects

Demonstration of PM-DIS and Decision Lens

Projects (Double-Click to View)

Assign to Portfolio | test | Assign | Go To

Select All

Show 10 entries

Filter results:

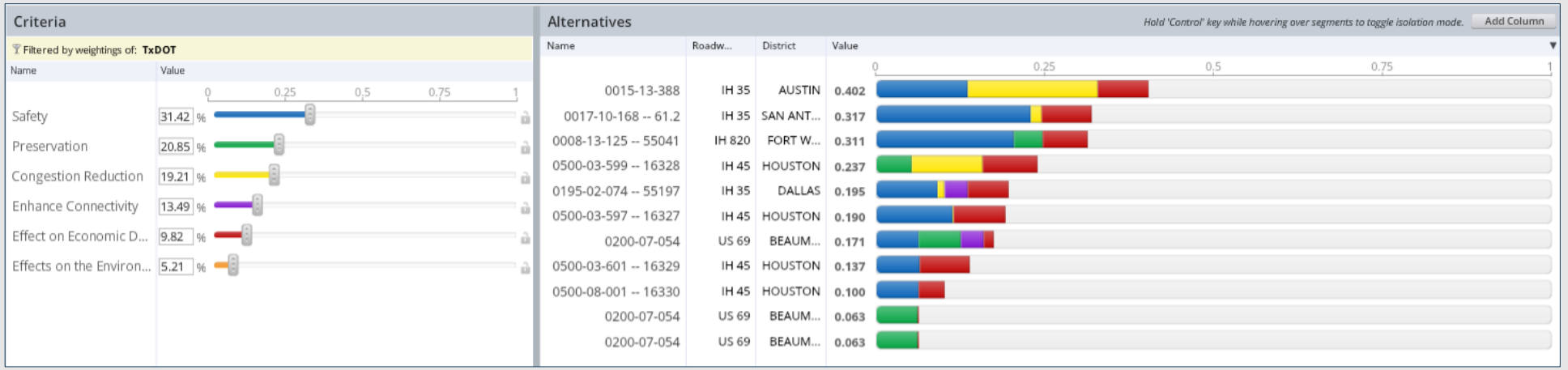
Selected	Project	District	County	MPO	Highway	Proj Class	Dist Let FY	Map
✕	0008-13-125 -- 55041	FTW	TARRANT	NCTCOG	IH 820	WF	2021	
✕	0015-13-388	AUS	TRAVIS	CAMPO	IH 35	WF	2025	
✕	0017-10-168 -- 61.2	SAT	BEXAR	AAMPO	IH 35	WF	2021	
✕	0195-02-074 -- 55197	DAL	DENTON	NCTCOG	IH 35	WF	2023	
✕	0500-03-597 -- 16327	HOU	HARRIS	HGAC	IH 45	INC	2026	
✕	0500-03-599 -- 16328	HOU	HARRIS	HGAC	IH 45	WF	2021	
✕	0500-03-601 -- 16329	HOU	HARRIS	HGAC	IH 45	WF	2021	
✕	0500-08-001 -- 16330	HOU	HARRIS	HGAC	IH 45	WF	2021	

Showing 1 to 8 of 8 entries

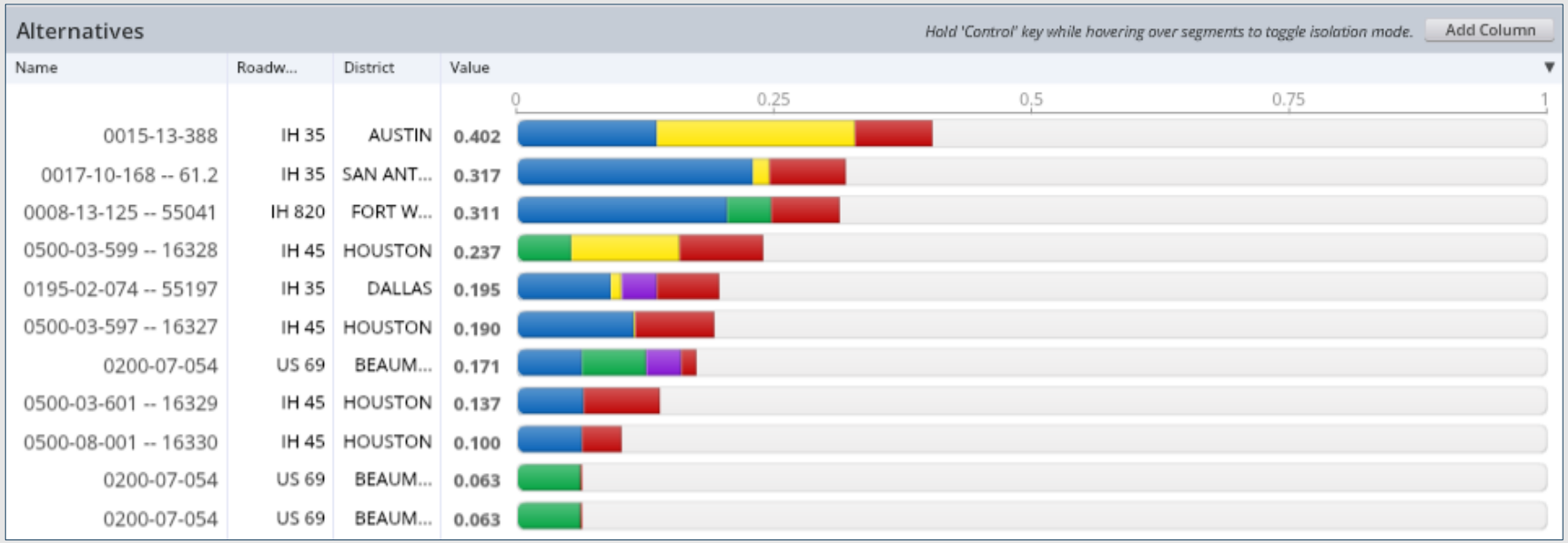
Previous 1 Next

View (First) Selected

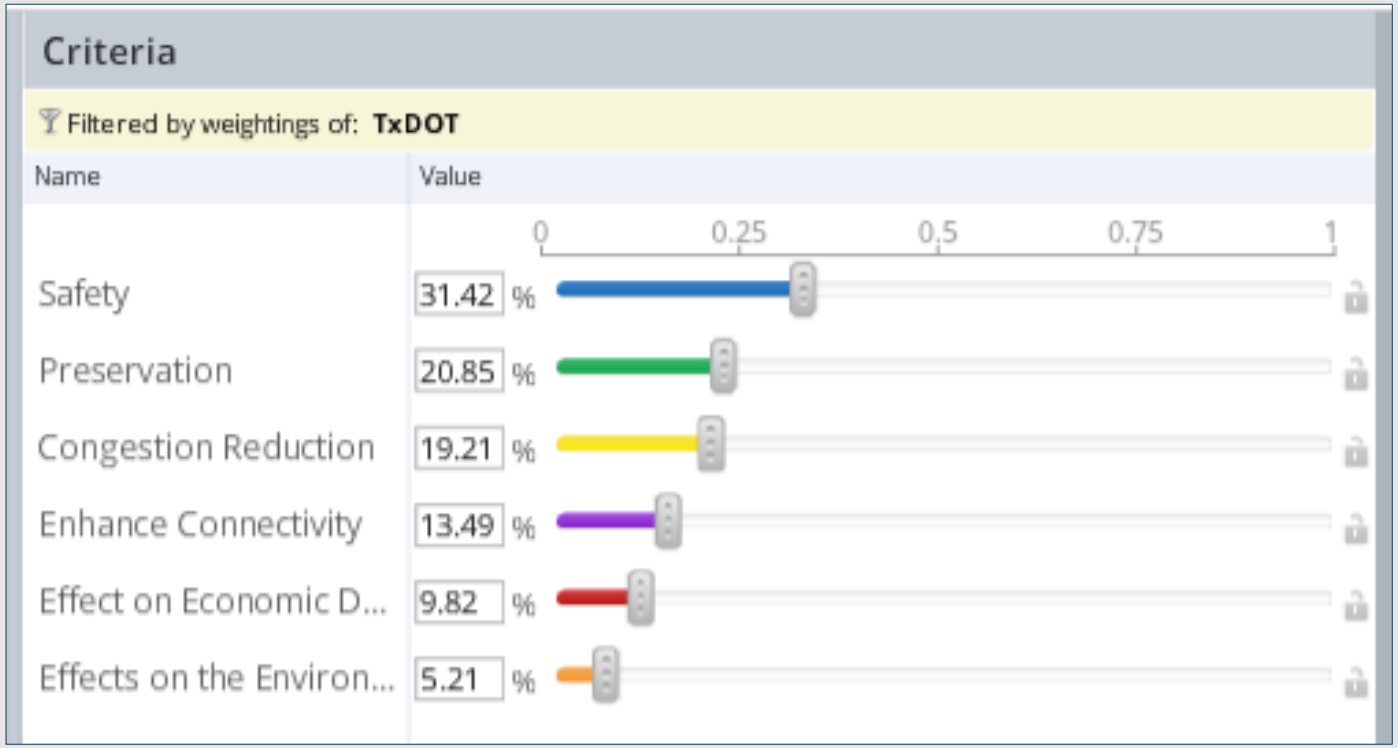
Demonstration of PM-DIS and Decision Lens



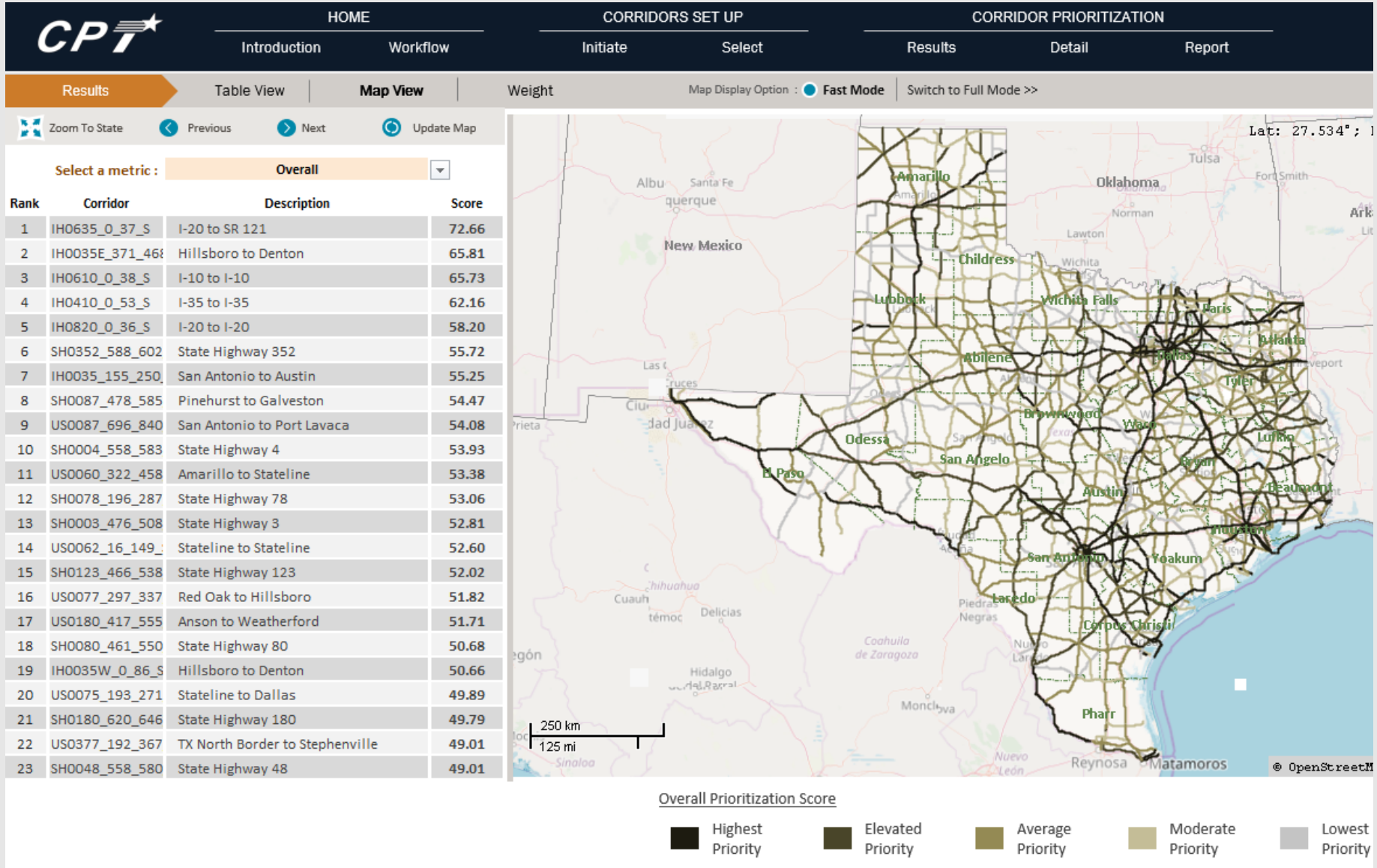
Demonstration of PM-DIS and Decision Lens



Demonstration of PM-DIS and Decision Lens



CPT: Example Corridor Prioritization Results



CET: Dashboard – Performance Area Metrics

Selected Corridor: IH0035

CORRIDOR EVALUATION TOOL

CET | HOME: Introduction, Workflow | CORRIDOR SET UP: Select/Initiate, Data Process | CORRIDOR EVALUATION: Evaluate, Map, Report

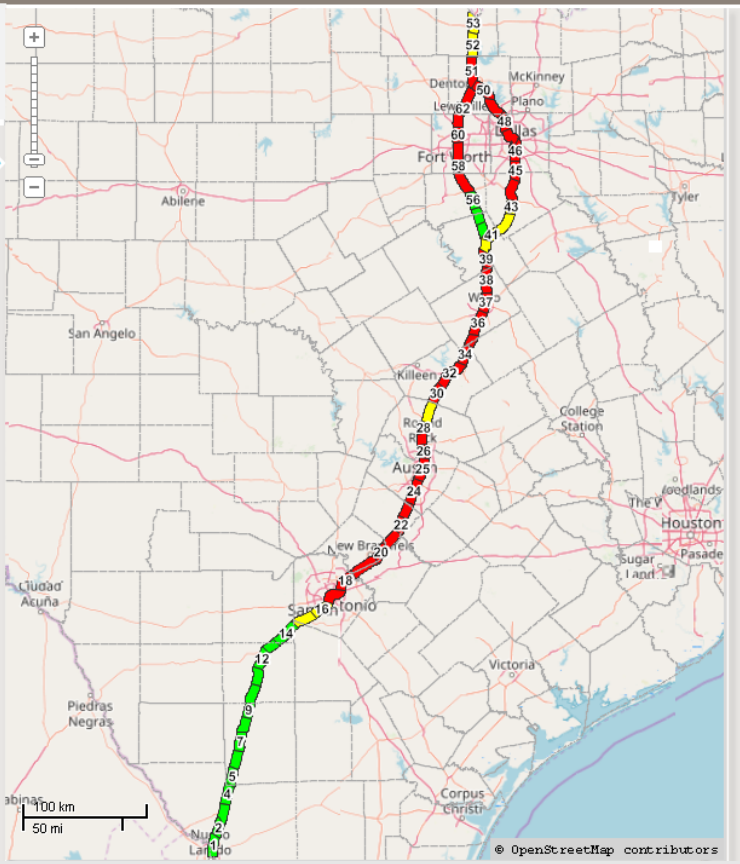
Evaluate | Profile | **Performance** | Objective | Needs | Solution | Prioritization

Corridor I-35 :Mobility Index — Corridor Map | Corridor KPI | Segment KPI

Pavement | Bridge | Mobility | Safety | Freight

Mobility Index

- Mainline Future V/C
- Existing Mainline Peak Hour V/C (NB)
- Existing Mainline Peak Hour V/C (SB)
- Frontage Road V/C (NB)
- Frontage Road V/C (SB)
- Interchange V/C (2015)
- Interchange V/C (2040)
- Directional TTI (all vehicles) (NB)
- Directional TTI (all vehicles) (SB)
- Directional PTI (all vehicles) (NB)
- Directional PTI (all vehicles) (SB)



Previous | Next

Segment	BMP	EMP	Length (miles)	Mobility Index
Corridor	0	247	247	0.86
48	437	446	9	1.28
49	446	456	10	1.28
50	456	468	12	1.12
51	468	482	14	0.84
52	482	495	13	0.73
53	495	505	10	0.65
54	0	9	9	0.46
55	9	17	8	0.48
56	17	26	9	0.55
57	26	38	12	0.78
58	38	44	6	1.21
59	44	53	9	1.21
60	53	61	8	1.69
61	61	68	7	1.02
62	68	74	6	0.78
63	74	85	11	0.76

Good/Above Average Performance	< 0.56 Rural; <0.71 Urban
Fair/Average Performance	0.56 - 0.76 Rural; 0.71 - 0.89 Urban
Poor/Below Average Performance	> 0.76 Rural; > 0.89 Urban

Bridge Targets

Federal Performance Measure	Baseline	2020 Target	2022 Target	*State Target 2028*
NHS Bridge Deck Condition				
% in "good" condition	0.88%	0.80%	0.80%	
% in "poor" condition	50.63%	50.78%	50.42%	
Statewide Bridge Condition Score	*89.0%*			*89.1%*

Details Table

MPO	Abilene
StateHwySys	(All)
NatlHwySys	(All)
Interstate	(All)

	Column Labels							
	Good		Fair		Poor		Total Number of Bridges	Total Deck Area
Row Labels	Number of Bridges	Deck Area	Number of Bridges	Deck Area	Number of Bridges	Deck Area		
2018	125	756,230	165	1,026,957	3	33,926	293	1,817,112
2016	145	890,421	148	930,214			293	1,820,635
2014	151	855,758	139	894,565			290	1,750,324
2012	157	892,809	132	846,268			289	1,739,077

Bridge Targets (Cont.)

Filter Options

On-/Off-System
- Off-System
- On-System

NHS/Non-NHS
- NHS
- Non-NHS

Interstate/Non-IH
- IH
- Non-IH

MPO
- Abilene
- Alamo Area
- Amarillo
- Brownsville
- Bryan-College Station
- Capitol Area
- Corpus Christi
- El Paso

Bridge Performance Measures Summary

Applied Filters

MPO:	**Abilene**
On-/Off-System:	**(All)**
NHS/Non-NHS:	**(All)**
Interstate/Non-IH:	**(All)**

Calculated Totals

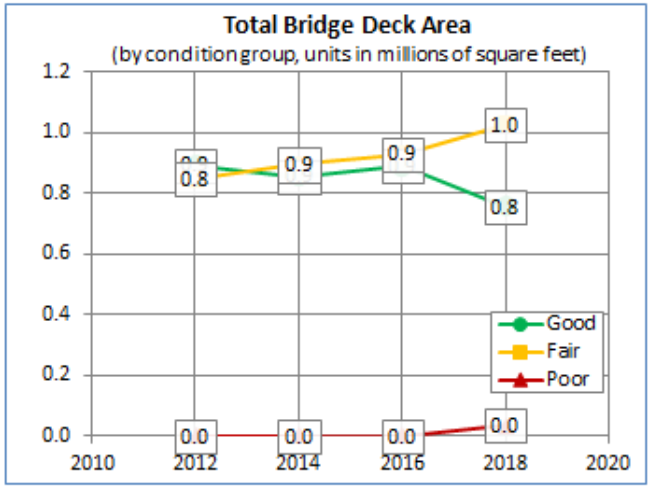
Bridge Deck Area

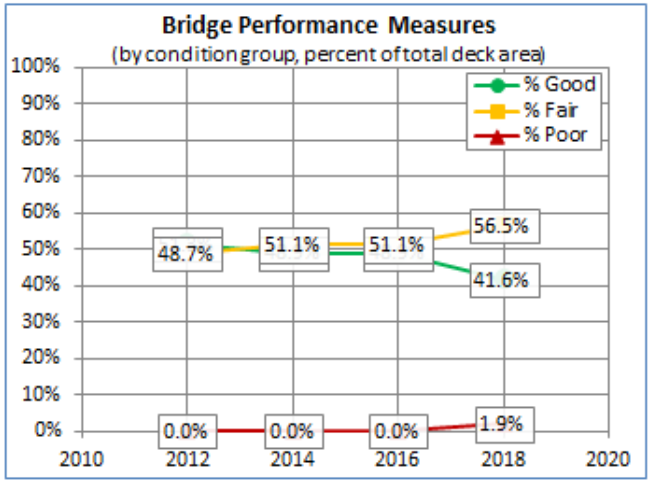
(units in millions of square feet)

Year	Good		Fair		Poor		*Total*	
	M SF	%	M SF	%	M SF	%	M SF	%
2018	0.8	41.6%	1.0	56.5%	0.0	1.9%	*1.8*	*100%*
2016	0.9	48.9%	0.9	51.1%	0.0	0.0%	*1.8*	*100%*
2014	0.9	48.9%	0.9	51.1%	0.0	0.0%	*1.8*	*100%*
2012	0.9	51.3%	0.8	48.7%	0.0	0.0%	*1.7*	*100%*

Number of Bridges

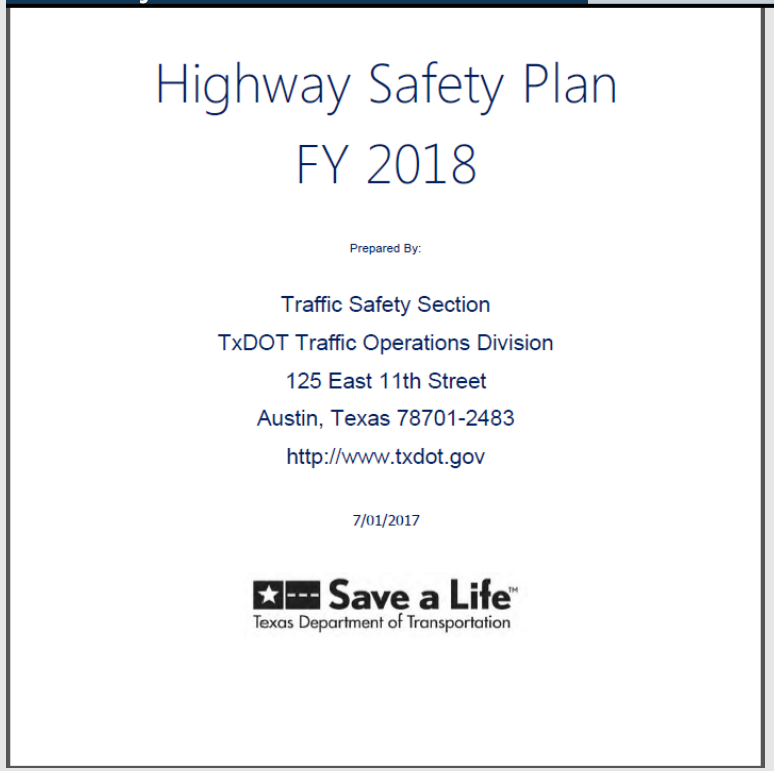
Year	Good		Fair		Poor		*Total*	
	Count	%	Count	%	Count	%	Count	%
2018	125	42.7%	165	56.3%	3	1.0%	*293*	*100%*
2016	145	49.5%	148	50.5%	0	0.0%	*293*	*100%*
2014	151	52.1%	139	47.9%	0	0.0%	*290*	*100%*
2012	157	54.3%	132	45.7%	0	0.0%	*289*	*100%*





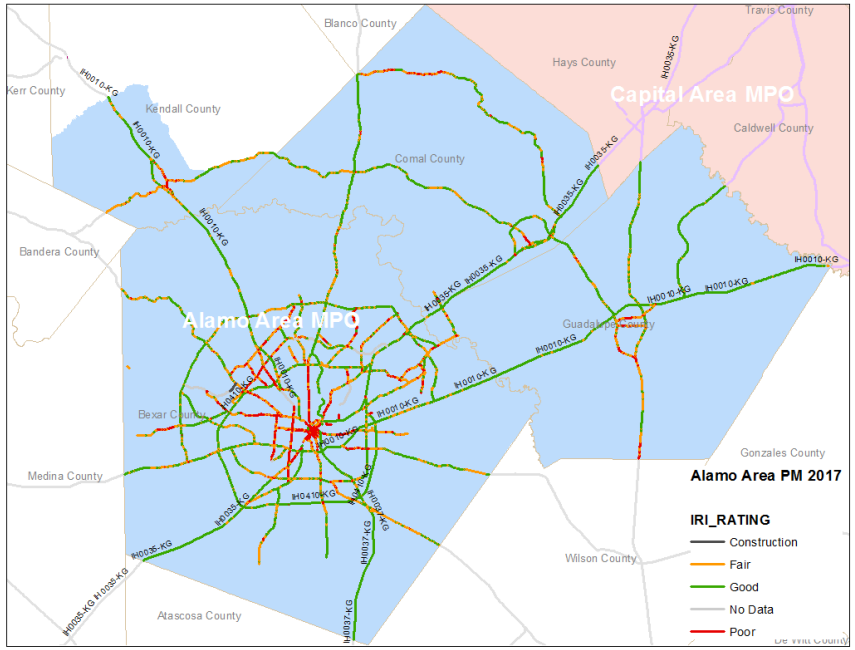
Safety Targets

Federal Performance Measure	Baseline	2020 Target	2022 Target	*State Target 2028*
Number of Fatalities	3,543	3,903	4,067	*4,120*
Rate of Fatalities	1.42	1.46	1.48	*1.36*
Number of Serious Injuries	16,952	18,113	18,600	
Rate of Serious Injuries	6.81	6.64	6.56	
Number of Non-Motorized Fatalities and Serious Injuries	1,984	2,342	2,476	



Pavement Targets

Federal Performance Measure	Baseline	2020 Target	2022 Target	*State Target 2028*
Pavement on IH				
% in "good" condition	66.80%	66.40%	66.40%	
% in "poor" condition	0.30%	0.20%	0.30%	
Pavement on non-IH NHS				
% in "good" condition	54.40%	52.00%	52.30%	
% in "poor" condition	13.80%	14.30%	14.30%	
Statewide Pavement Condition	86.2%			88.0%



ROUTE_ID	BEG_POINT	END_POINT	SEC_LEN	LN_MILES	NUM_LANES	MPO_NBR	MPO_NM	IRI	RUTTING	CRACK_PCT	FAULTING	NHS	SRF_TYPE	IRI_RATING	RUT_RATING	CRK_RATING	FLT_RATING	INTERSTAT
IH0010-KG	533.653	533.753	0.1	0.4	4	28	Alamo Area	75	0.296	1	0	1	Asphalt	Good	Fair	Good	Not Applicable	Yes
IH0010-KG	533.753	533.853	0.1	0.4	4	28	Alamo Area	64	0.398	0	0	1	Asphalt	Good	Fair	Good	Not Applicable	Yes
IH0010-KG	533.853	533.953	0.1	0.4	4	28	Alamo Area	46	0.288	0	0	1	Asphalt	Good	Fair	Good	Not Applicable	Yes
IH0010-KG	533.953	534.053	0.1	0.4	4	28	Alamo Area	53	0.4	0	0	1	Asphalt	Good	Fair	Good	Not Applicable	Yes
IH0010-KG	534.053	534.153	0.1	0.4	4	28	Alamo Area	63	0.406	0	0	1	Asphalt	Good	Poor	Good	Not Applicable	Yes
IH0010-KG	534.153	534.253	0.1	0.4	4	28	Alamo Area	62	0.337	1	0	1	Asphalt	Good	Fair	Good	Not Applicable	Yes
IH0010-KG	534.253	534.353	0.1	0.4	4	28	Alamo Area	54	0.268	0	0	1	Asphalt	Good	Fair	Good	Not Applicable	Yes
IH0010-KG	534.353	534.453	0.1	0.4	4	28	Alamo Area	59	0.202	0	0	1	Asphalt	Good	Fair	Good	Not Applicable	Yes
IH0010-KG	534.453	534.553	0.1	0.4	4	28	Alamo Area	64	0.228	0	0	1	Asphalt	Good	Fair	Good	Not Applicable	Yes
IH0010-KG	534.553	534.653	0.1	0.4	4	28	Alamo Area	59	0.134	0	0	1	Asphalt	Good	Good	Good	Not Applicable	Yes
IH0010-KG	534.653	534.753	0.1	0.4	4	28	Alamo Area	59	0.136	0	0	1	Asphalt	Good	Good	Good	Not Applicable	Yes
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IH0010-KG	534.953	535.053	0.1	0.4	4	28	Alamo Area	59	0.308	0	0	1	Asphalt	Good	Fair	Good	Not Applicable	Yes
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IH0010-KG	535.753	535.853	0.1	0.4	4	28	Alamo Area	89	0.158	0	0	1	Asphalt	Good	Good	Good	Not Applicable	Yes
IH0010-KG	535.853	535.953	0.1	0.4	4	28	Alamo Area	72	0.157	1	0	1	Asphalt	Good	Good	Good	Not Applicable	Yes
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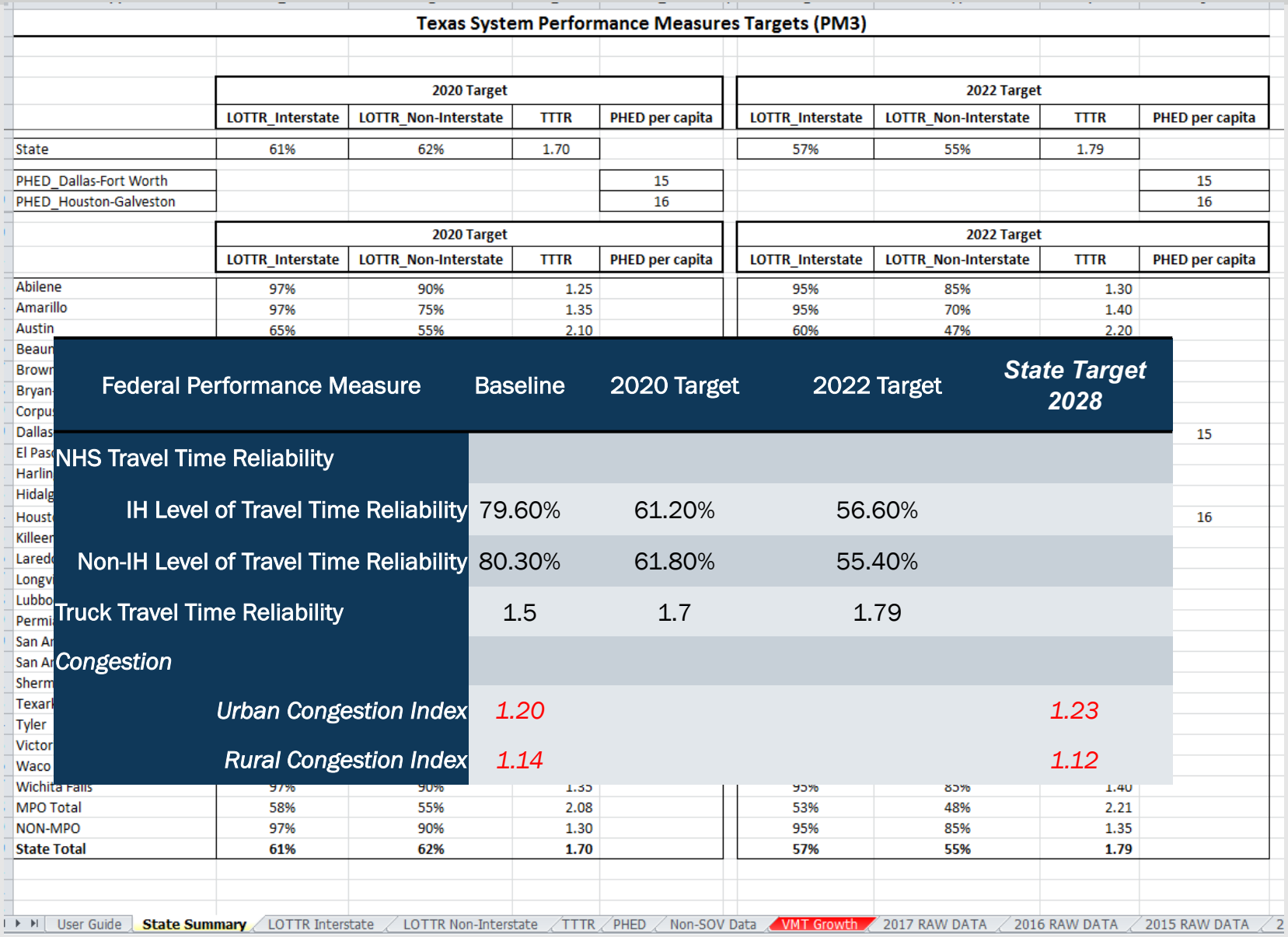
IH0010-KG	536.453	536.553	0.1	0.4	4	28	Alamo Area	99	0.147	0	0	1	Asphalt	Fair	Good	Good	Not Applicable	Yes
IH0010-KG	536.553	536.653	0.1	0.4	4	28	Alamo Area	60	0.167	0	0	1	Asphalt	Good	Good	Good	Not Applicable	Yes
IH0010-KG	536.653	536.753	0.1	0.4	4	28	Alamo Area	71	0.195	0	0	1	Asphalt	Good	Good	Good	Not Applicable	Yes
IH0010-KG	536.753	536.853	0.1	0.4	4	28	Alamo Area	60	0.165	0	0	1	Asphalt	Good	Good	Good	Not Applicable	Yes
IH0010-KG	536.853	536.953	0.1	0.4	4	28	Alamo Area	68	0.152	0	0	1	Asphalt	Good	Good	Good	Not Applicable	Yes
IH0010-KG	536.953	537.053	0.1	0.4	4	28	Alamo Area	73	0.101	0	0	1	Asphalt	Good	Good	Good	Not Applicable	Yes

System Targets



Texas System Performance Measures Targets (PM3)

	2020 Target				2022 Target			
	LOTTR_Interstate	LOTTR_Non-Interstate	TTTR	PHED per capita	LOTTR_Interstate	LOTTR_Non-Interstate	TTTR	PHED per capita
State	61%	62%	1.70		57%	55%	1.79	
PHED_Dallas-Fort Worth				15				15
PHED_Houston-Galveston				16				16

	2020 Target				2022 Target			
	LOTTR_Interstate	LOTTR_Non-Interstate	TTTR	PHED per capita	LOTTR_Interstate	LOTTR_Non-Interstate	TTTR	PHED per capita
Abilene	97%	90%	1.25		95%	85%	1.30	
Amarillo	97%	75%	1.35		95%	70%	1.40	
Austin	65%	55%	2.10		60%	47%	2.20	
Beaun								
Brown								
Bryan-								
Corpu								
Dallas								15
El Pas								
Harlin								
Hidalg								
Houst								16
Killeer								
Laredo								
Longv								
Lubbo								
Permi								
San Ar								
San Ar								
Sherm								
Texari								
Tyler								
Victor								
Waco								
Wichita Falls	97%	90%	1.35		95%	85%	1.40	
MPO Total	58%	55%	2.08		53%	48%	2.21	
NON-MPO	97%	90%	1.30		95%	85%	1.35	
State Total	**61%**	**62%**	**1.70**		**57%**	**55%**	**1.79**	

Federal Performance Measure	Baseline	2020 Target	2022 Target	*State Target 2028*
NHS Travel Time Reliability				
IH Level of Travel Time Reliability	79.60%	61.20%	56.60%	
Non-IH Level of Travel Time Reliability	80.30%	61.80%	55.40%	
Truck Travel Time Reliability	1.5	1.7	1.79	
Congestion				
Urban Congestion Index	*1.20*			*1.23*
Rural Congestion Index	*1.14*			*1.12*

User Guide | State Summary | LOTTR Interstate | LOTTR Non-Interstate | TTTR | PHED | Non-SOV Data | VMT Growth | 2017 RAW DATA | 2016 RAW DATA | 2015 RAW DATA | 2

Performance Crosswalk

- To address performance, understand how much money will map from each of the 12 UTP Categories to the key performance areas: Safety, Preservation, Congestion, and Connectivity using the "cross-walk" percentages.

Category	Safety	Preservation	Congestion Reduction	Enhance Connectivity	Total Percentage
1	29%	45%	3%	23%	100%
2	41%	19%	24%	16%	100%
3	20%	20%	31%	29%	100%
4 Regional	43%	18%	0%	39%	100%
4 Urban	38%	22%	10%	30%	100%
5	52%	20%	17%	11%	100%
6	55%	3%	1%	41%	100%
7	57%	19%	12%	12%	100%
8	93%	2%	0%	5%	100%
9	74%	26%	0%	0%	100%
10	75%	8%	1%	16%	100%
11	35%	35%	4%	26%	100%
12 Clear Lanes	41%	19%	24%	16%	100%
12 Strategic Priority	38%	22%	10%	30%	100%

Challenges

- All areas: accuracy and extent of data, predictability of investments and outcome, differences between Federal and state measures
- Safety: Optics of non-zero fatalities targets, limitations of what we can control
- Pavement: Consistency between databases, measurement methodologies
- Bridge: Adjust State to match Federal Measures
- System: Statewide measures insensitivity to investment
- Transit: Statewide focus of investments, lack of relevant historical data
- Project Performance vs Portfolio Performance and predicted outcomes
- Measures Affecting Investment Decisions vs Required Measures

Needs

- All: Need many years of data to improve outcome predictability and decision-making
- Safety: Time and resources to update and re-invigorate non-structural safety measures
- Pavement: Time to align State methodology with Federal – fill data gaps
- Bridge: Time and resources to adjust State to match Federal Measures
- System: Investigate alternative performance measures and/or better relationships between investments and outcomes
- Transit: broader support for multi-modal investment, better data

Opportunities

- Opportunity to use performance-based planning and programming for whole life cycle of programs that help inform decisions on investment at system-wide level, corridor level, and project-portfolio level.
- As historical investment and outcome data are amassed, predictability should improve
- Apply best practices from other states/MPOs

Questions?

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DEPARTMENT OF TRANSPORTATION

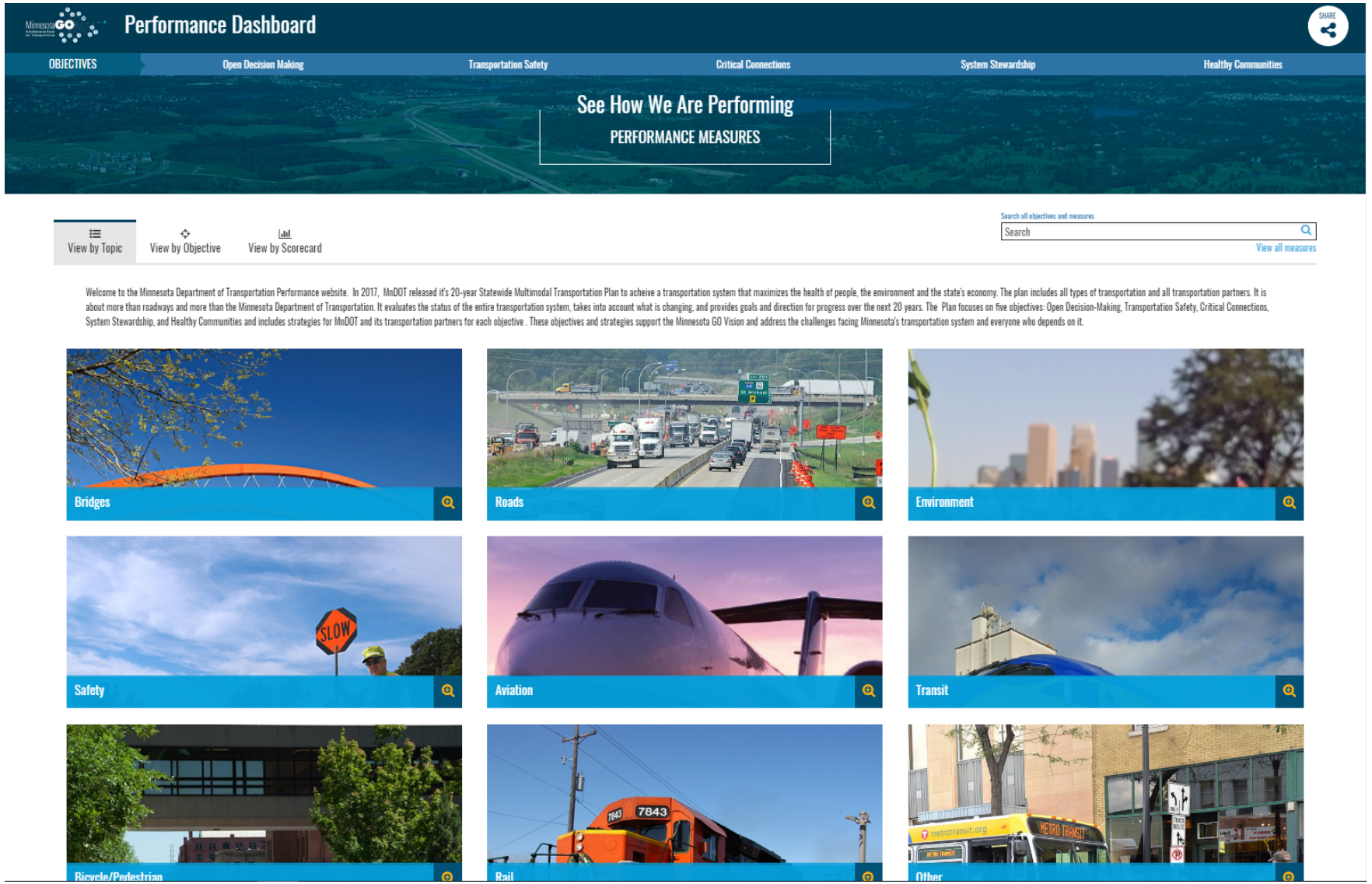
Integrating Federal Measures into a Mature Performance Management System

TPM Webinar 1: TPM Best Practices

May 20, 2020

Deanna Belden

MnDOT's Performance Website



PM1 Safety

Safety

- Number of fatalities
- Rate of fatalities per 100 million VMT
- Number of serious injuries
- Rate of serious injuries per 100 million VMT
- Number of non-motorized fatalities and non-motorized serious injuries

PM1 Safety

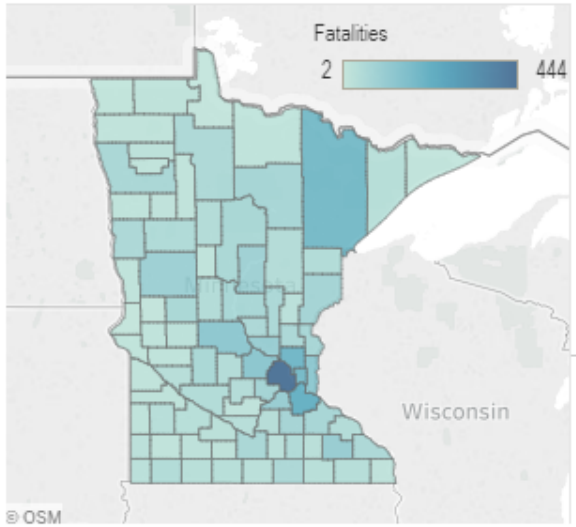
- Federal measures reported in HSIP, but not on our performance dashboard
- Will obligate 100% of current year's apportionment to safety (starting in FY2021)
- Target discussions – align with goals in the Strategic Highway Safety Plan

Safety Dashboard

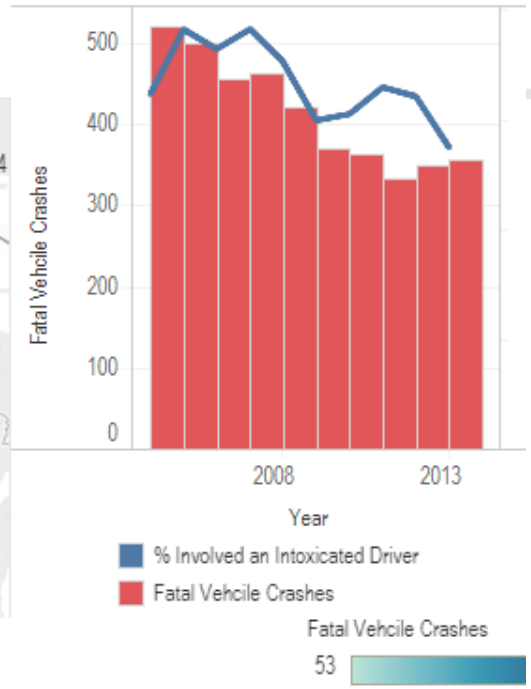
Fatalities | Fatality Dashboard | Vehicle Types | State Rates

Minnesota Vehicle Fatalities, 2004-2013

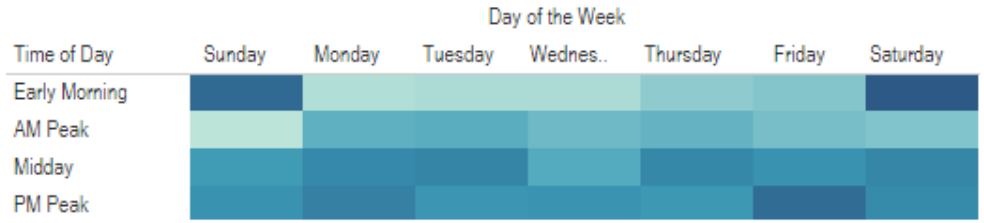
Source: Fatality Analysis Reporting System



Fatal Vehicle Crashes



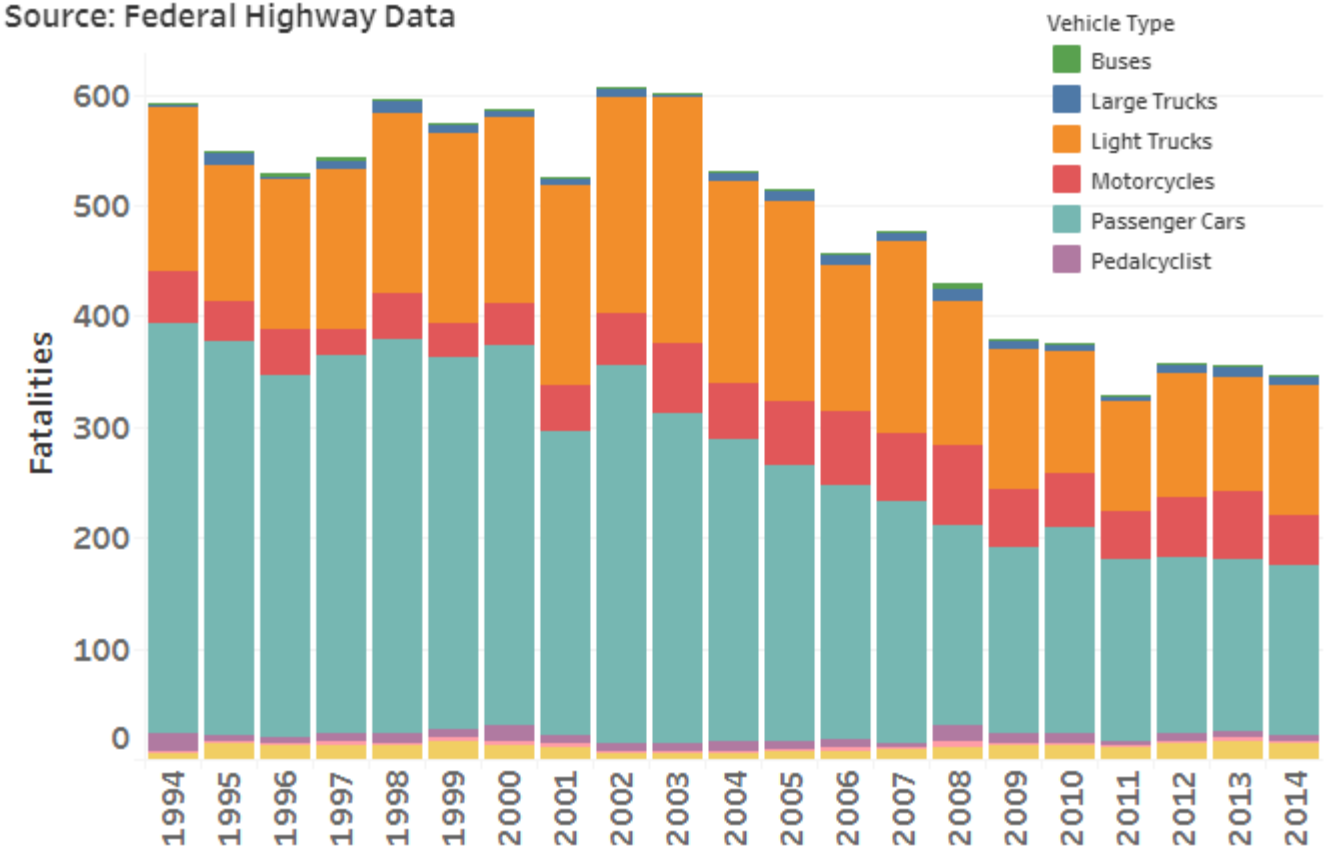
Fatal Crash Occurance



Fatalities | Fatality Dashboard | Vehicle Types | State Rates

Type of Vehicle in Highway Fatalities

Source: Federal Highway Data



tableau

2020-2024 Strategic Highway Safety Plan

Draft February 2020

MINNESOTA TRAFFIC SAFETY GOAL

0 DEATHS & SERIOUS INJURIES

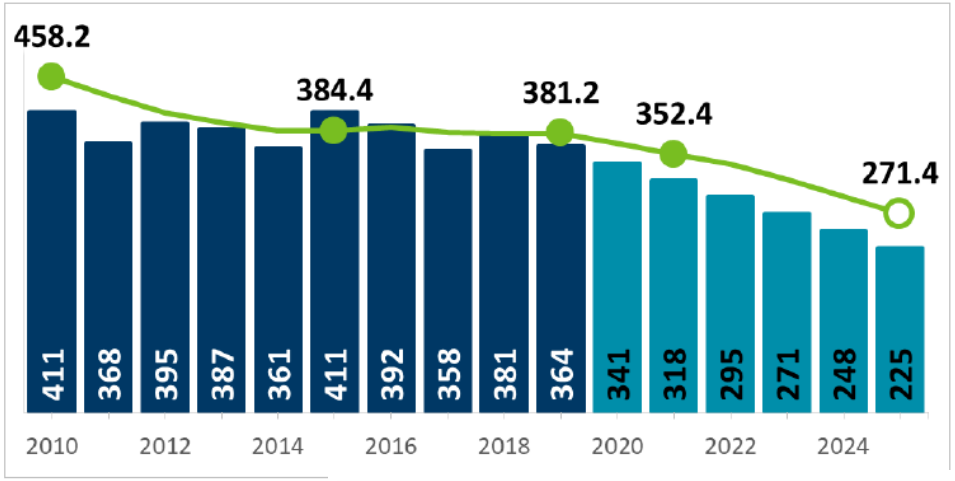
Long-term goal is to eliminate deaths and serious injuries on MN roadways

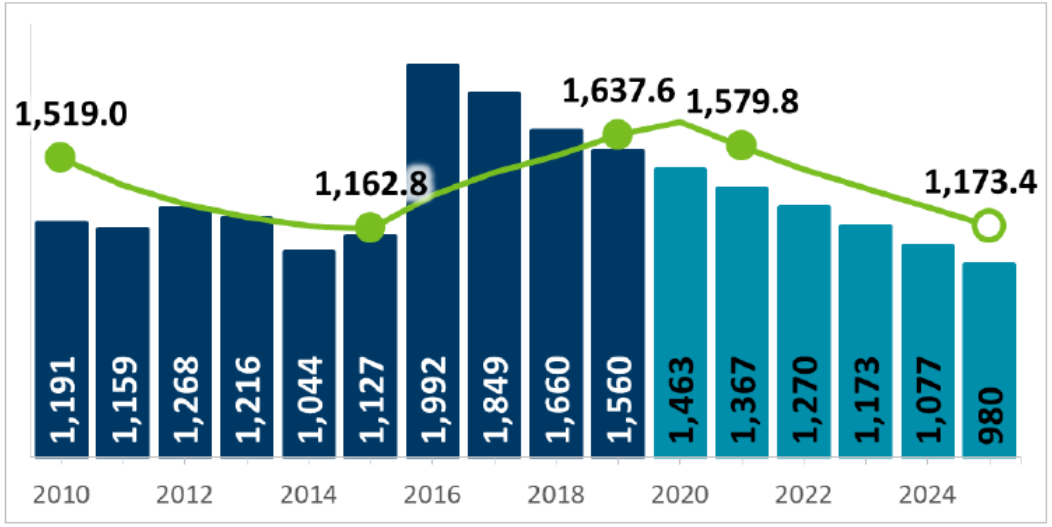
BY 2025

NO MORE THAN **225** TRAFFIC DEATHS

NO MORE THAN **980** SERIOUS INJURIES

- Relate goals to federal targets





PM2 Pavement and Bridge

Pavement condition

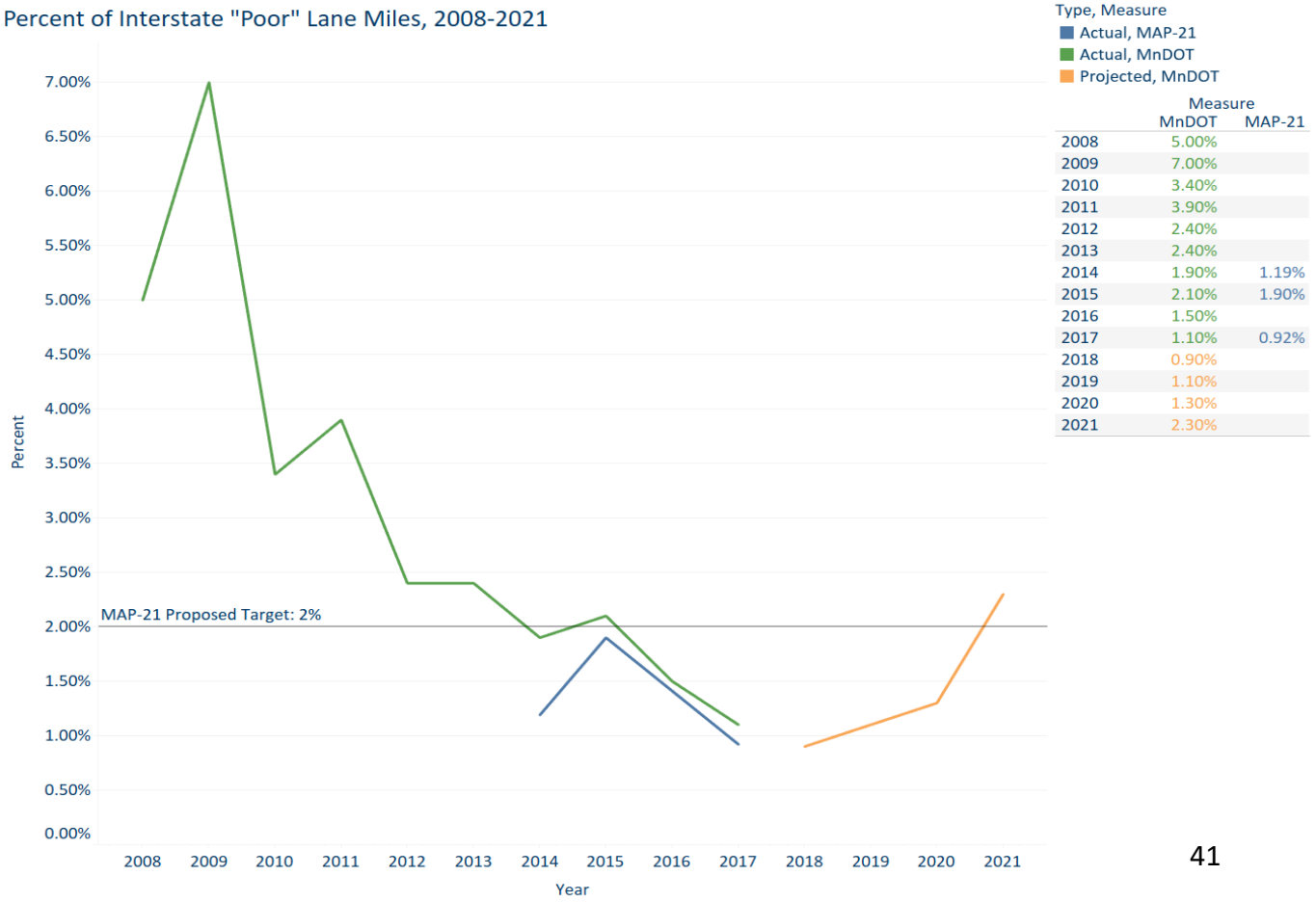
- Percent of pavements of the Interstate system in good condition
- Percent of pavement of the Interstate system in poor condition
- Percent of pavements of the non-Interstate NHS in good condition
- Percent of pavements of the non-Interstate NHS in poor condition

Bridge condition

- Percent of NHS bridges classified as in good condition
- Percent of NHS bridges classified as in poor condition

PM2 Pavement

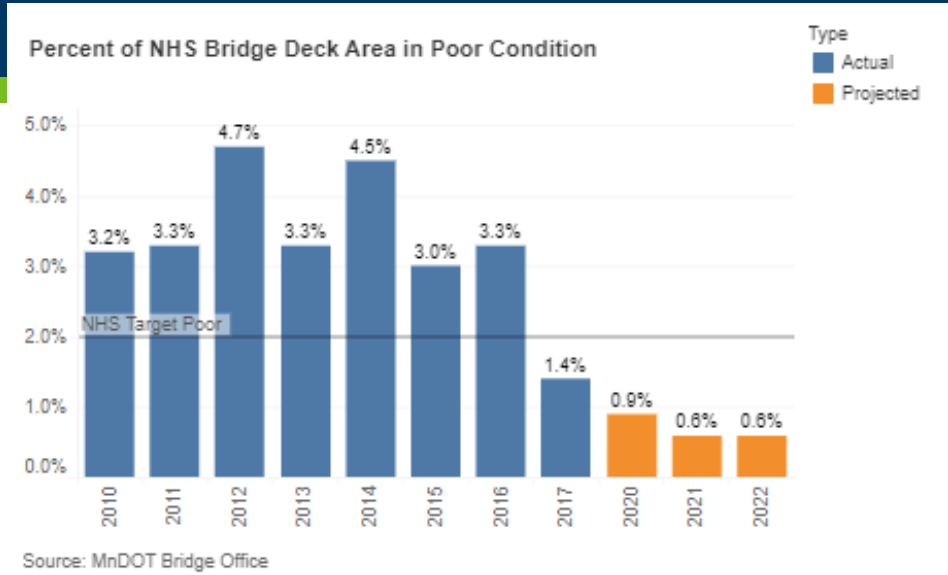
	Measure	
	MnDOT	MAP-21
2008	61.90%	
2009	62.00%	
2010	73.10%	
2011	69.80%	
2012	72.90%	
2013	75.20%	
2014	75.90%	55.03%
2015	74.50%	57.87%
2016	81.00%	
2017	82.50%	60.13%



	Measure	
	MnDOT	MAP-21
2008	5.00%	
2009	7.00%	
2010	3.40%	
2011	3.90%	
2012	2.40%	
2013	2.40%	
2014	1.90%	1.19%
2015	2.10%	1.90%
2016	1.50%	
2017	1.10%	0.92%
2018	0.90%	
2019	1.10%	
2020	1.30%	
2021	2.30%	

- Charts used to set federal pavement targets
- Pavement model can now report current % good/ fair/poor for federal measures but cannot predict condition

PM2 Bridge



- New data queries created to provide consistent bridge condition reporting
- Minnesota and FHWA definition of bridges as well as split between bridges (with a deck) and bridge culverts

DEF	INSP_YR	NHS_ON	TOT_CNT	TOT_SF
FED	2019	1	1,745	28,305,271
MN	2019	1	2,103	29,878,442
MN	2019	0	2,503	22,532,652
MN_BRDG	2019	1	1,373	27,561,095
MN_BRDG	2019	0	1,429	20,501,491
MN_CULV	2019	1	730	2,317,347
MN_CULV	2019	0	1,074	2,031,161

PM3 Freight and Reliability

NHS travel time reliability

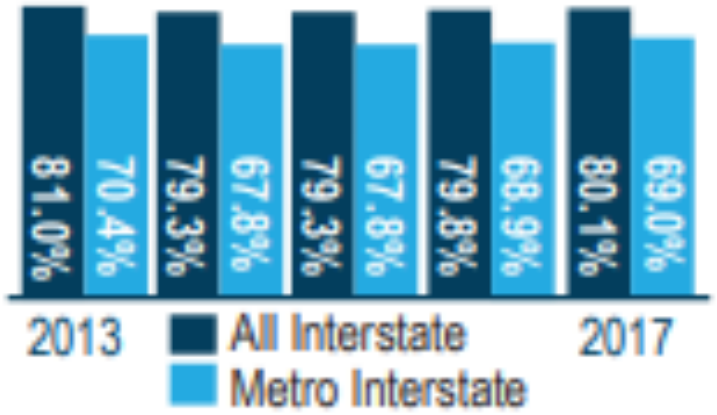
- Percent of person-miles traveled on the Interstate that are reliable (Interstate Travel Time Reliability Measure)
- Percent of person-miles traveled on the non-Interstate NHS that are reliable (Non-Interstate Travel Time Reliability Measure)

Interstate freight reliability

- Truck travel time reliability on the Interstate System (Average Truck Reliability Index)

PM3 Interstate Reliability

- Interstate system travel reliability on MnDOT's performance dashboard and scorecard



PM3 Truck Travel Time Reliability

- Truck travel time reliability index on MnDOT's performance dashboard

Figure 1: Annual Statewide TTTR Index Value

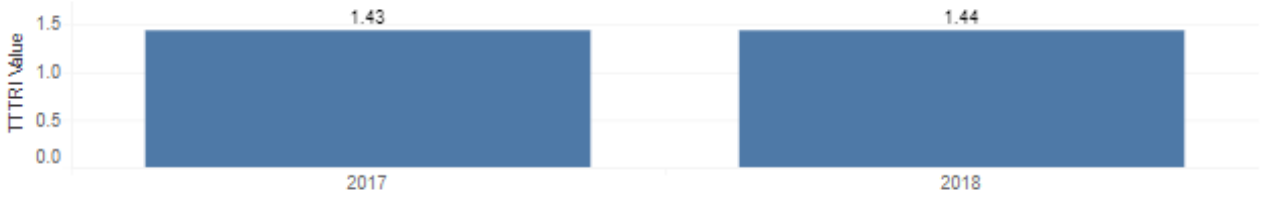


Figure 2: TTTR Index Values for Metropolitan Areas in MN, 2018

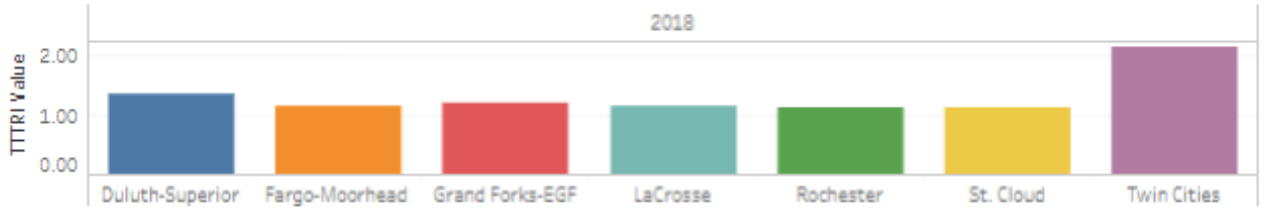
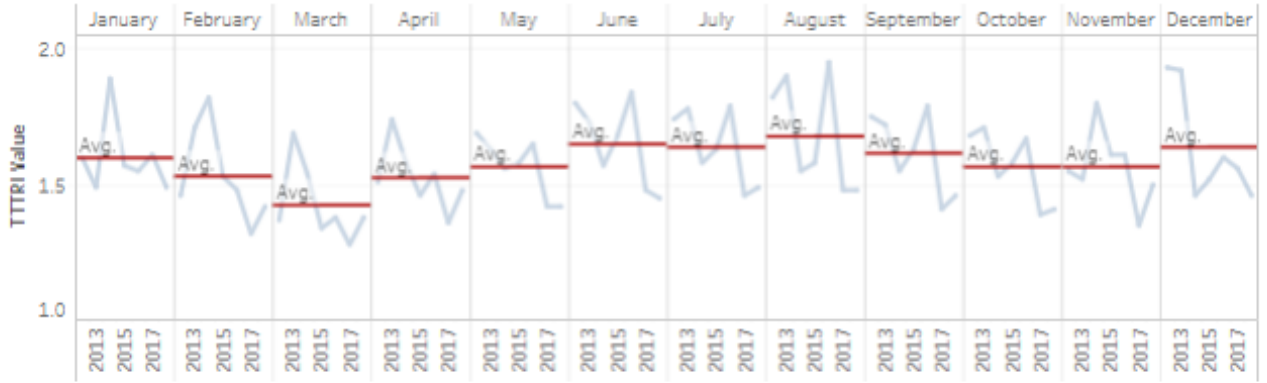


Figure 3: Seasonality and Average TTTR Index Values



Source: National Performance Measurement Research Data Set (NPMRDS)

PM3 CMAQ Congestion and Emissions

CMAQ congestion

- annual hours of peak hours of excessive delay per capita (PHED)
- percent of non-single occupancy vehicle travel (non-SOV)

CMAQ emissions

- Total emissions reductions

Repealed Greenhouse Gas Performance Measure

Greenhouse Gas Emissions Reduction

In 2016, MnDOT voluntarily set ambitious greenhouse gas emissions reduction targets. The targets and 2018 results are summarized in Table 1.

Table 1. MnDOT Greenhouse Gas Emissions Reduction Targets

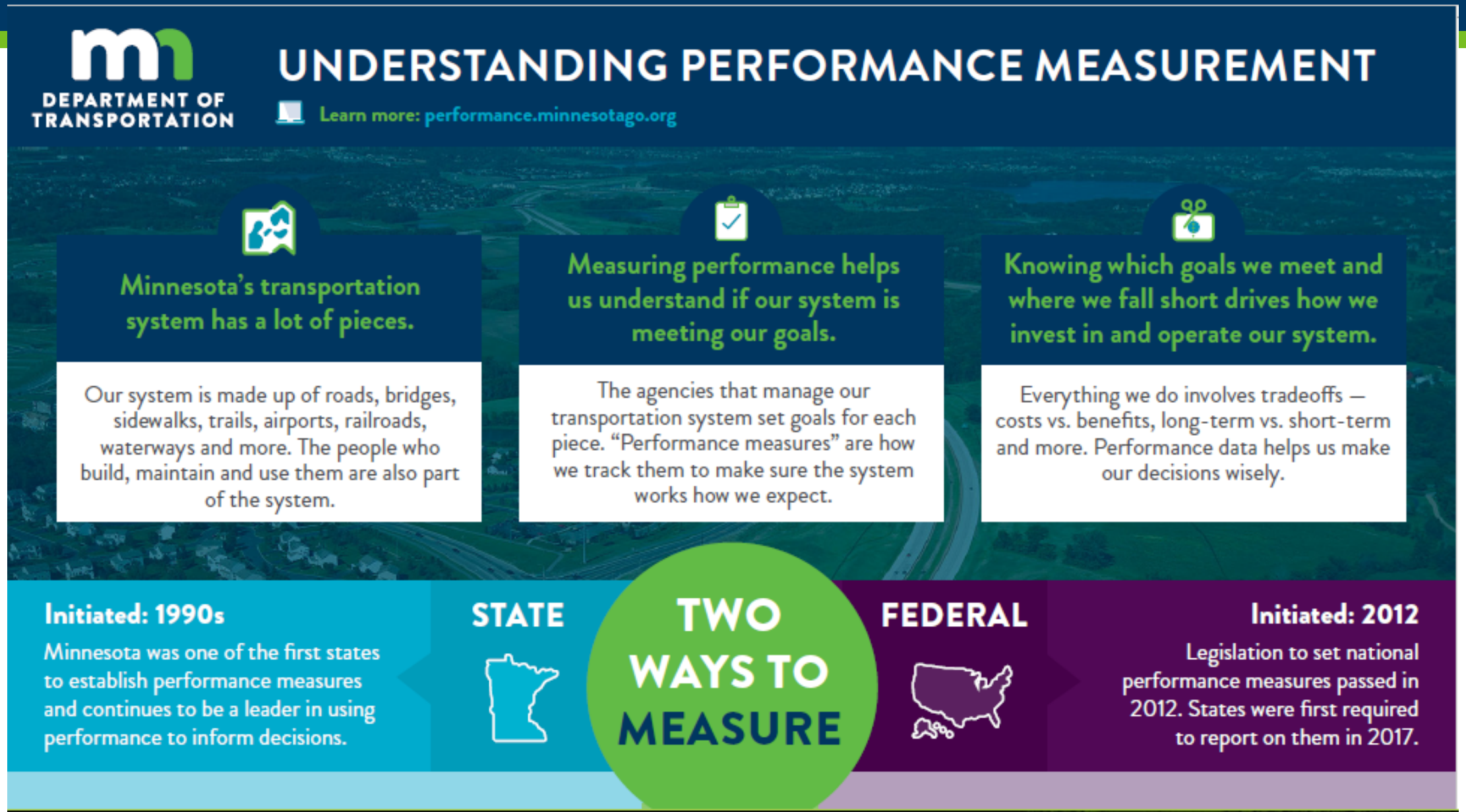
Metric	Target	Results
Sector Level Total annual GHG emissions generated by Minnesota's transportation system	29,500,000 tons CO_2e	41,842,898 tons CO_2e 2018
State Highway Construction Total annual GHG emissions from the fuel and materials used to construct MnDOT projects	252,500 metric tons CO_2e	228,245 metric tons CO_2e 2017
MnDOT GHG Emissions - Facilities Total annual GHG emissions generated from energy used by MnDOT-owned facilities	21,800 metric tons CO_2e	27,012 metric tons CO_2e 2018
Fleet Total annual GHG emissions generated from fuel used by the MnDOT-owned fleet	26,500 metric tons CO_2e	43,028 metric tons CO_2e 2018

From MnDOT Sustainability Report 2018

- For CO_2 emissions generated by on-road mobile sources on the NHS, Minnesota set goals based on existing state law that requires economy-wide 30% emissions reduction from 2005 emission levels by 2025. Despite efforts to reduce transportation emissions, we do not expect to achieve our targets.
  - 2016 emissions = 14,520,000 tons of CO_2
  - 2 year target (2018) = 11,240,000 tons of CO_2
  - 4 year target (2020) = 11,022,000 tons of CO_2

MnDOT calculations based on methodology of repealed GHG measure

Other activities



State measures - What is the purpose and what is measured?

Minnesota's measures allow MnDOT to **track performance over time** and across the state's entire transportation system. They **inform decisions about how we invest in and operate** our system.

MnDOT measures performance **broadly across Minnesota's transportation system**, including roads and bridges, aviation, transit, biking, walking, environment, safety, workforce, customer satisfaction and more.

Federal measures - What is the purpose and what is measured?

Federal measures allow US DOT to track and **compare performance across all states** in key areas to ensure that states **use federal funding responsibly**.

US DOT focuses on **safety** on all state roadways and **performance** of the National Highway System related to road and bridge condition, congestion, travel time and freight movement reliability, and emissions.

State measures –How are measures & targets established and how are targets used?

MnDOT establishes performance measures and targets through **public and stakeholder-driven processes**, typically as part of long-range planning efforts.

- Minnesota State Highway Investment Plan
- Asset Management Plan
- Strategic Highway Safety Plan

A Minnesota "target" describes a **desired outcome** (what we want to happen). For most, there is **no deadline** to meet the target or penalty for not meeting it. It is a goal we continuously work to achieve.

Federal measures –How are measures & targets established and how are targets used?

US DOT established performance measures and minimum condition requirements through the **federal rulemaking process**, with input from states. States set their own targets in coordination with MPOs.

A federal "target" describes an **expected outcome** (what we think will actually happen) **in one, two or four years**. Not meeting a federal target or requirement can impact the flexibility of the federal funding a state receives.

Questions

Thank you!

TPM IMPLEMENTATION

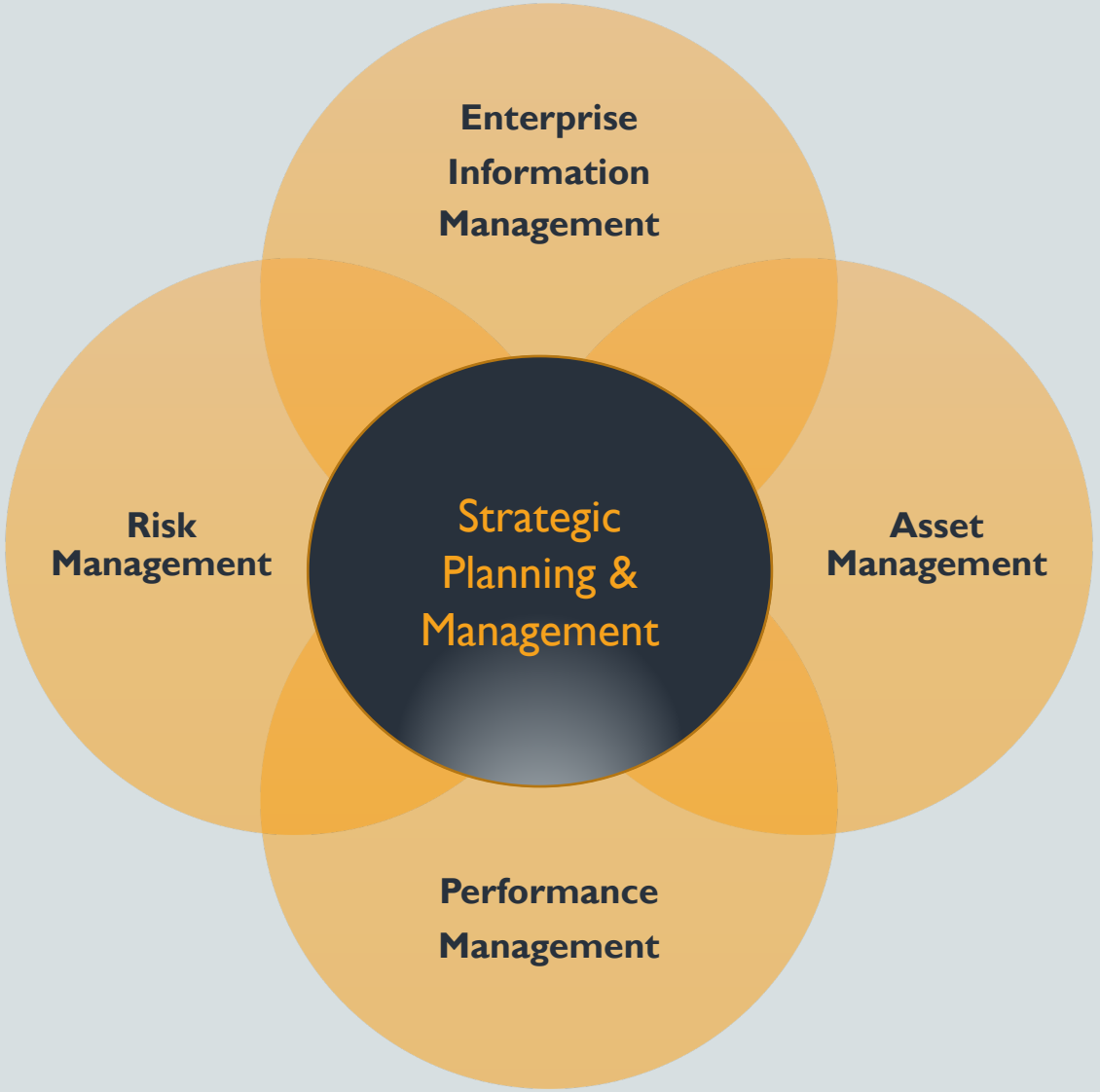
Lessons Learned

Kelly Travelbee

MDOT

PURPOSE

Make Progress Toward Long-Term Goals and Objectives


Enterprise Information Management
Risk Management
Strategic Planning & Management
Asset Management
Performance Management

ALIGNMENT

INTERNAL

- Organizational Structure
- Roles, Responsibilities and Knowledge Sharing
- Processes and Risk

EXTERNAL

- Beyond Collaboration and Coordination - - Partnership!
- Sharing Data and Information

- Data-Driven
- Realistic
- Communicate, Collaborate
- Document & Share Methodology

TARGETS

Revised Objective Tree, Performance-Based Planning and Programming Guidebook, 2013
Objective and Strategy examples provided for discussion purposes only

SAFETY GOAL

OBJECTIVE: Reduce the number of lives lost and injuries sustained on Michigan's transportation network, striving for zero

MDOT/PARTNERS PARTNER

OUTCOME FOCUSED OBJECTIVE

Implement Transit Safety Plan

Implement Strategic Highway Safety Plan

Long-Term Strategy
MDOT/PARTNERS PARTNER

Improve Incident Management

Improve Emergency Management

Intermediate Strategy
MDOT PARTNER

Increase Traffic Signals with Emergency Vehicle Preemption

Short-Term Strategy
MDOT PARTNER

ACTIVITY FOCUSED STRATEGIES

Thank you, Take Care, and Be Safe

Questions?

Submit your questions using the Webinar's Q&A feature

Webinar 2: TPM and Target Setting Overview

- This webinar reviews state target setting approaches and lessons learned leading up to the mid-performance period progress report.
- Topics covered will include:
  - Target setting in the face of uncertainty and data gaps
  - Coordinating and collaborating on target setting and
  - Improving forecasting approaches
- When: July 15, 2020 2:00 EDT

All webinars available online:

https://www.tpm-portal.com/tpm-webinars/

Save the Dates!

A bimonthly webinar series, Wednesdays at 2:00 PM EST

Next Webinars

Wednesday, July 15, 2020 – 2:00 PM EST
TPM and Target Setting Overview

Wednesday, September 16, 2020 – 2:00 PM EST
TPM Communications

Wednesday, November 18, 2020 – 2:00 PM EST
System Performance Management

More to follow!

Federal Highway Administration

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