Transportation Performance Management Webinar Series

Transportation Performance Management Communications

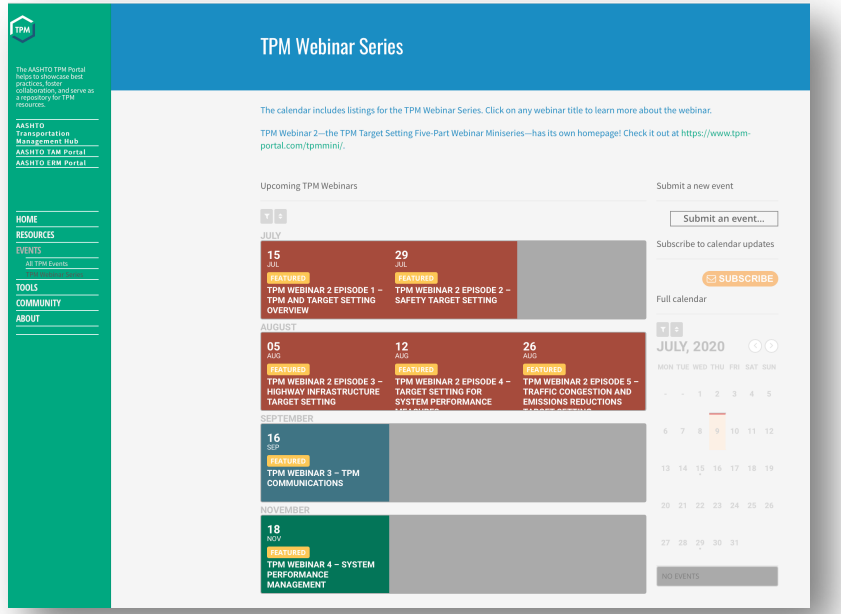
Sponsored by the TPM Pooled Fund
with Support from AASHTO CPBM Leadership and FHWA

September 16, 2020

TPM Webinar 3

Transportation Performance Management Webinar Series

- Our regular webinar series is held every two months, on topics such as communications, system performance management, data sources, and many more to come!
- Today is the 3rd installment of the bi-monthly webinar series
- We welcome ideas for future webinar topics and presentations
- 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, the AASHTO Committee on Performance Based Management, and FHWA are pleased to sponsor this webinar series!

- Sharing knowledge is a critical component of advancing performance management practice

Webinar Agenda

2:00 **Welcome, Introduction and Webinar Overview**
Matt Hardy (AASHTO) and Hyun-A Park (Spy Pond Partners, LLC)

2:10 **FHWA Perspective on Communicating TPM**
Nelson Hoffman (FHWA)

2:15 **Communicating Effectively in the Modern World: Data, Visualization and Performance Measures**
Michael Pack (University of Maryland, Center for Advanced Transportation Technology Laboratory)

2:30 **Utah DOT's Internal and External TPM Communications**
Patrick Cowley (Utah Department of Transportation)

2:45 **Washington State Department of Transportation Communicating Transportation Performance Management**
Gabe Philips (Washington State Department of Transportation)

3:00 **Effectively Communicating with Data**
John Selmer (Iowa Department of Transportation)

3:15 **Q&A and Wrap Up**
Hyun-A Park, Spy Pond Partners

FHWA Perspective on TPM Communications

Nelson Hoffman, FHWA Transportation Performance Management Team

U.S. Department of Transportation
Federal Highway Administration

Communicating Effectively in the Modern World

Data, Visualization, and Performance Measures

Performance Measures

Planning

Operations

Communications

CATT LABORATORY

UNIVERSITY OF MARYLAND 18 56

Enabling Decision Making & Effective Communication

Your audience matters…

- Engineers
- Planners
- Operators

Vs.

- Legislators
- Media
- Decision Makers
- Public

Data in and of itself is NOT the goal!

Big numbers are hard to comprehend

10 Pallets

10,000
pallets

Visual Communication is a Critical Skill

- **Visual bandwidth is enormous**
  - Human perceptual skills are remarkable
    - Trend, cluster, gap, outlier...
    - Color, size, shape, proximity...
  - Human image storage is fast and vast

Visualization is so effective and useful because it utilizes one of the channels to our brain that have the highest bandwidths: our eyes.

- Robert Kosara

Guess the story

A broken family is reunited after the children enlist in the military, unaware that their father is a high ranking official within the enemy force.

An Experiment:

On the next slide, find the 3 countries with the largest values beside them.

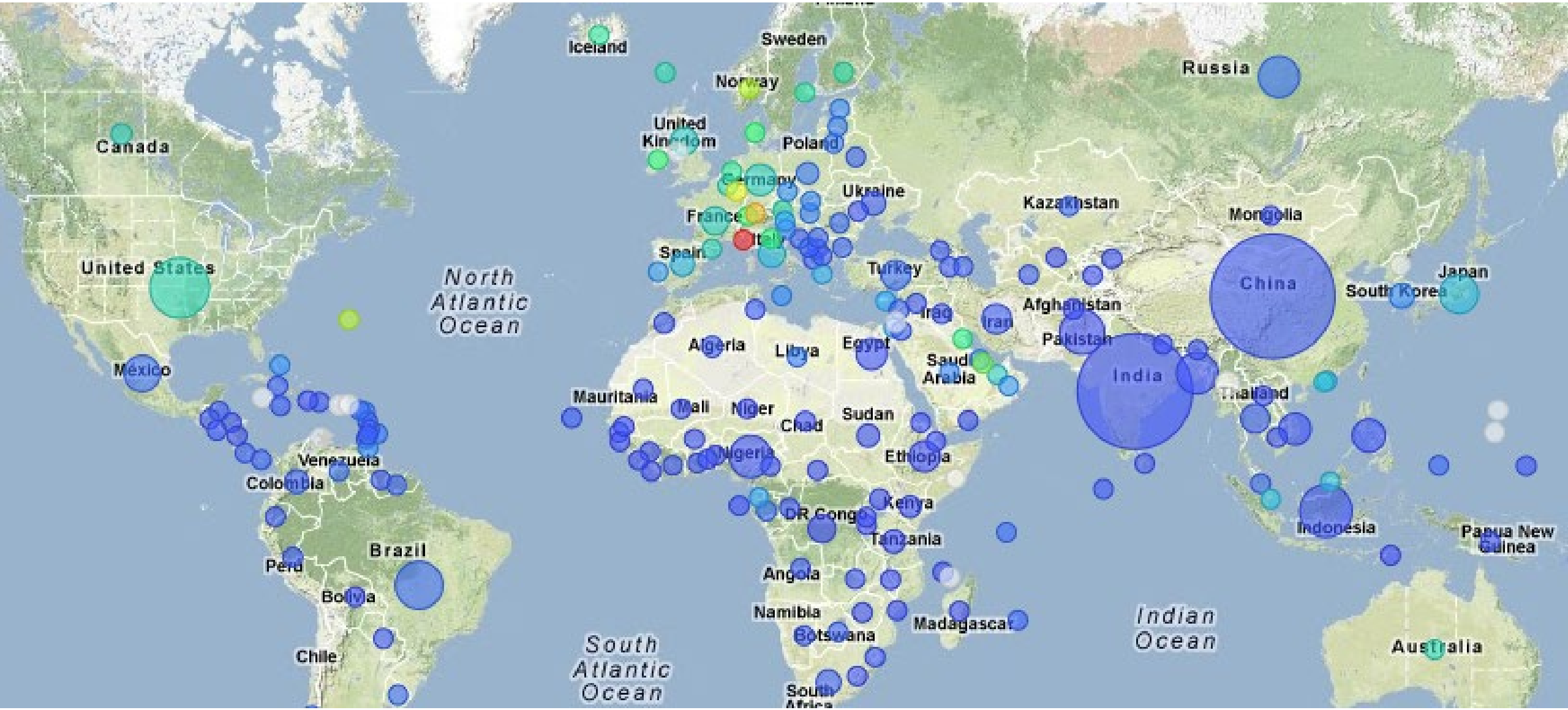
You have 3-seconds.

What did you see?

Same Experiment:

On the next slide, find the 3 countries with the largest values over them.

You have 3-seconds.


Iceland
Sweden
Norway
Russia
United Kingdom
Canada
Poland
Germany
Ukraine
France
Kazakhstan
Mongolia
Spain
United States
Turkey
China
Japan
South Korea
Afghanistan
Iraq
Iran
Pakistan
North Atlantic Ocean
Algeria
Libya
Egypt
Saudi Arabia
India
México
Mauritania
Mali
Niger
Chad
Sudan
Thailand
Nigeria
Ethiopia
Venezuela
Colombia
Kenya
DR Congo
Tanzania
Indonesia
Papua New Guinea
Brazil
Peru
Angola
Bolivia
Namibia
Madagascar
Botswana
Indian Ocean
Chile
South Atlantic Ocean
Australia
South Africa

What did you see?

What makes an appropriate performance measure (TPM or otherwise)?

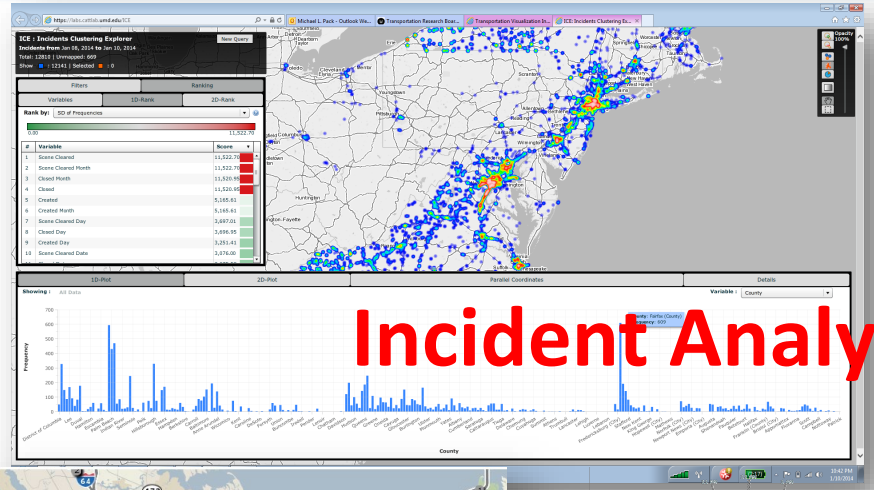
Good performance measures are like a really good movie

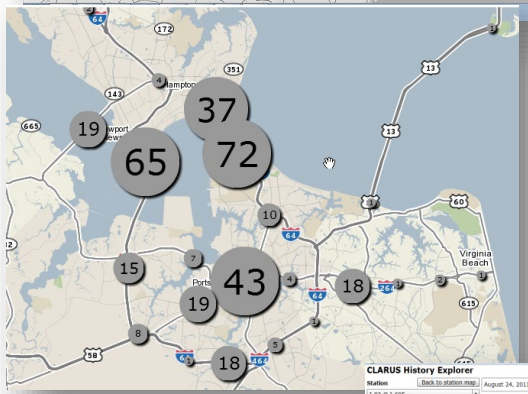
- They (1) tell a compelling story from beginning to end (2) about a compelling issue, and they (3) make important discoveries/observations along the way.
- There is no single number that can do this!
- You need several key measures that, when combined, point out the state of your system in a meaningful, and easily understood way.

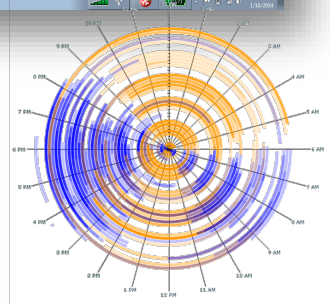
Performance Measures = Story Telling

Communicating TPM with data viz tools

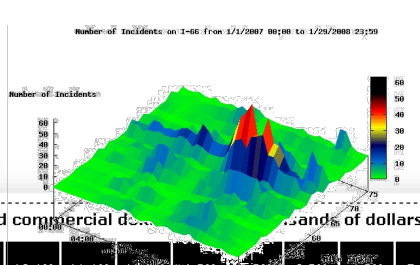
Incident Analysis

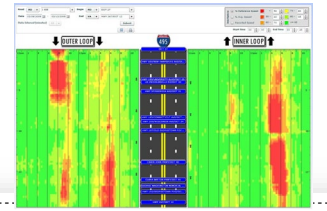


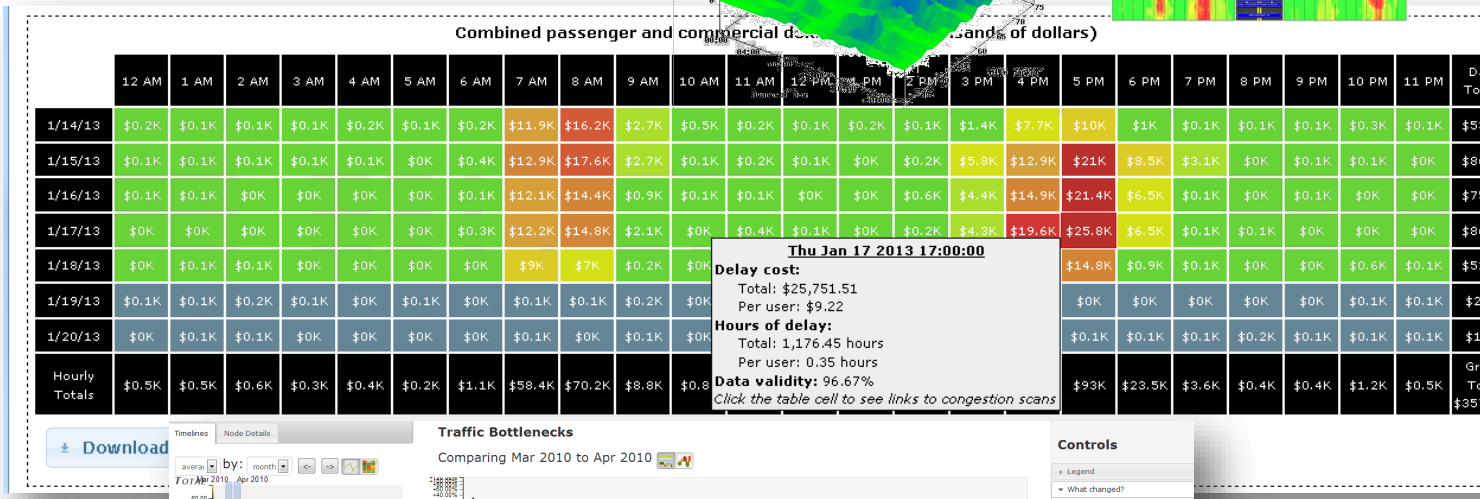


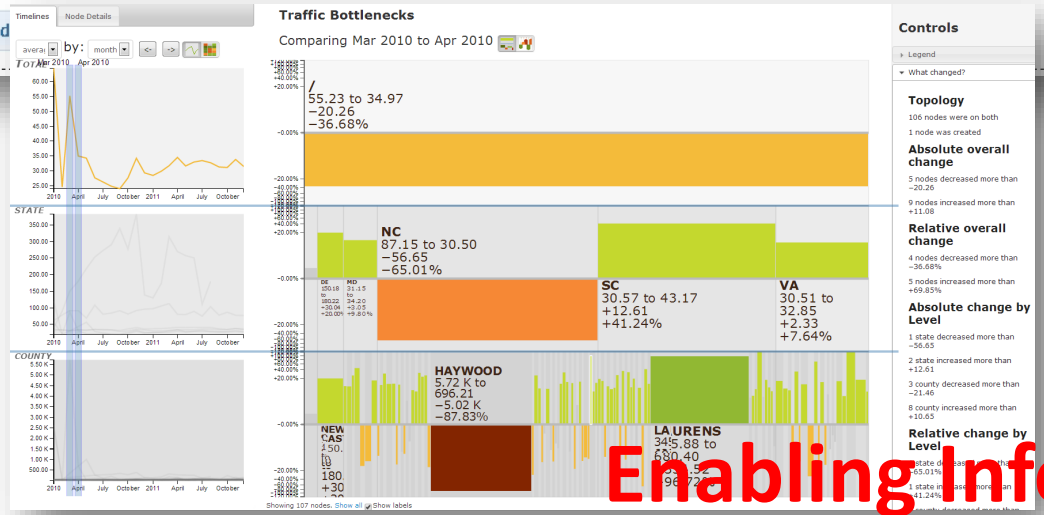


Congestion Analysis

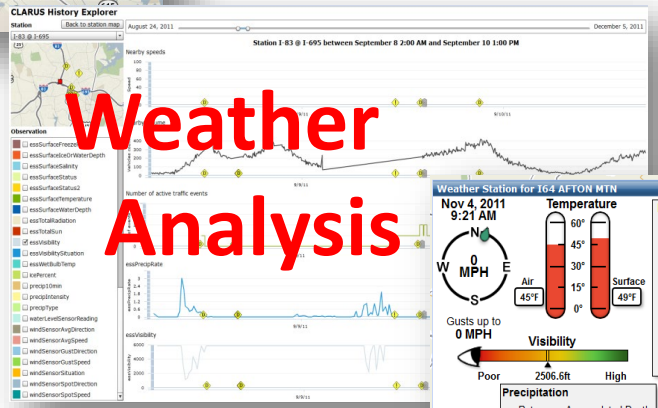








Weather Analysis

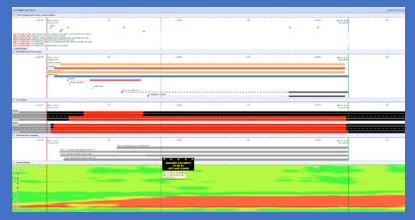


Enabling Informed Decision Making

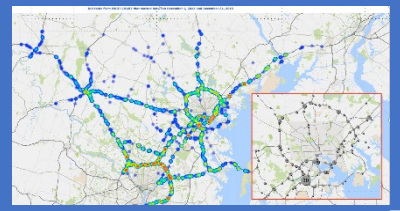
After-action Review

Woodrow Wilson Bridge Collison • June 20, 2018

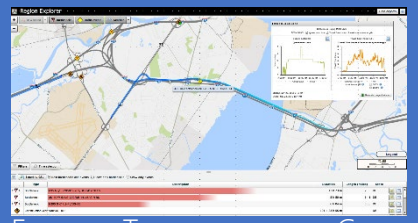
Incident Timeline



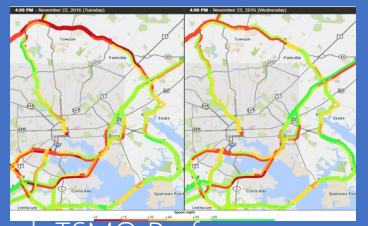
Event Query Tool



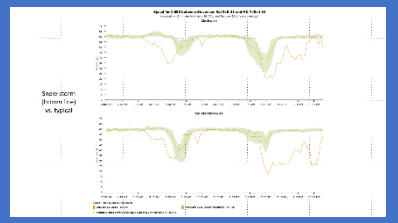
Region Explorer



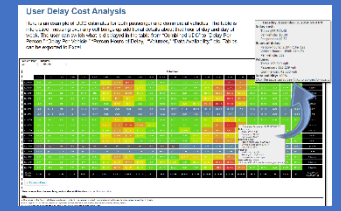
Trend Map



Performance Charts

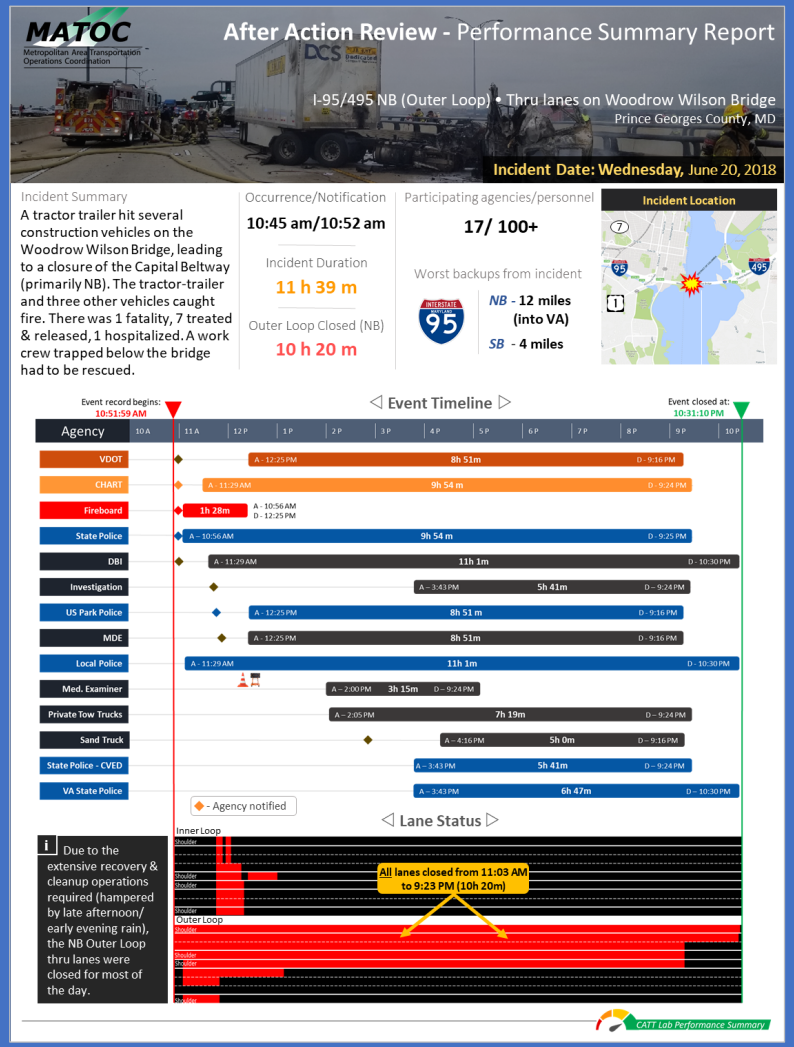


User Delay Cost

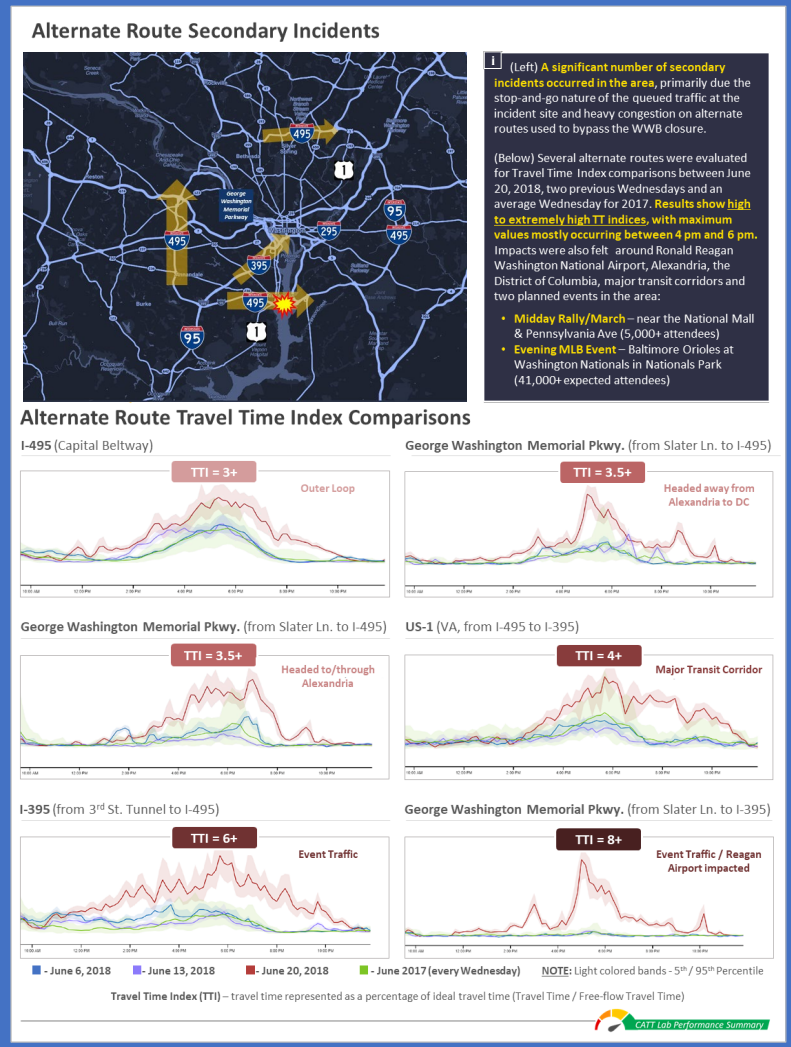


AAR Reporting (select pages)

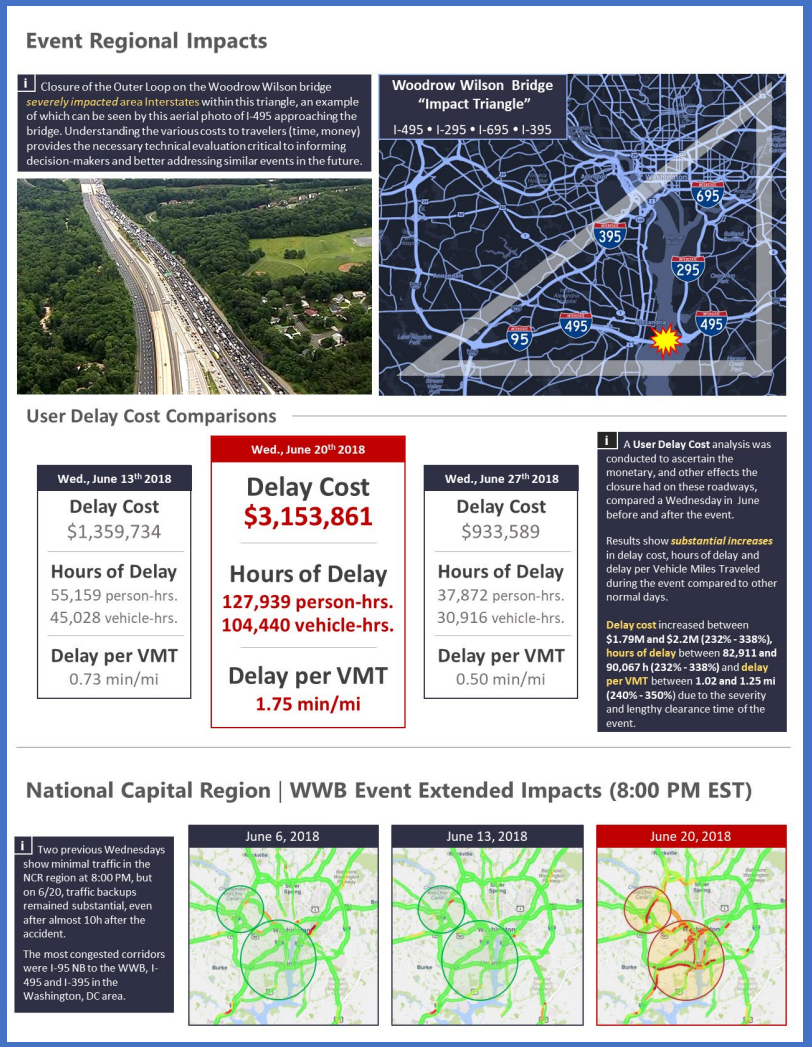
Event Summary



Alternate Route Impacts



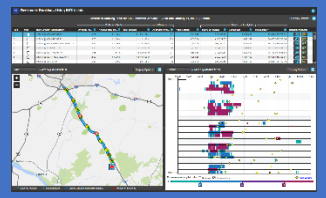
Other Impacts



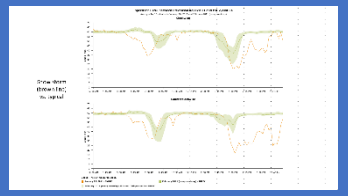
Project Assessment Report (Before & After Study)

Sr 141/Peachtree Road • Dekalb County • Georgia

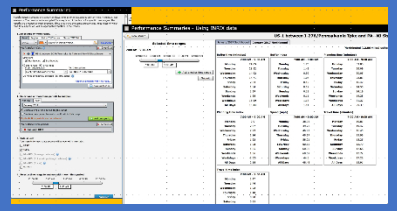
Bottleneck Ranking



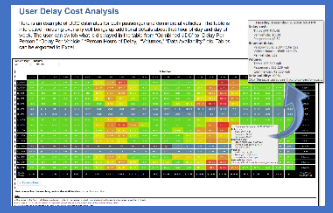
Performance Charts



Performance Summaries



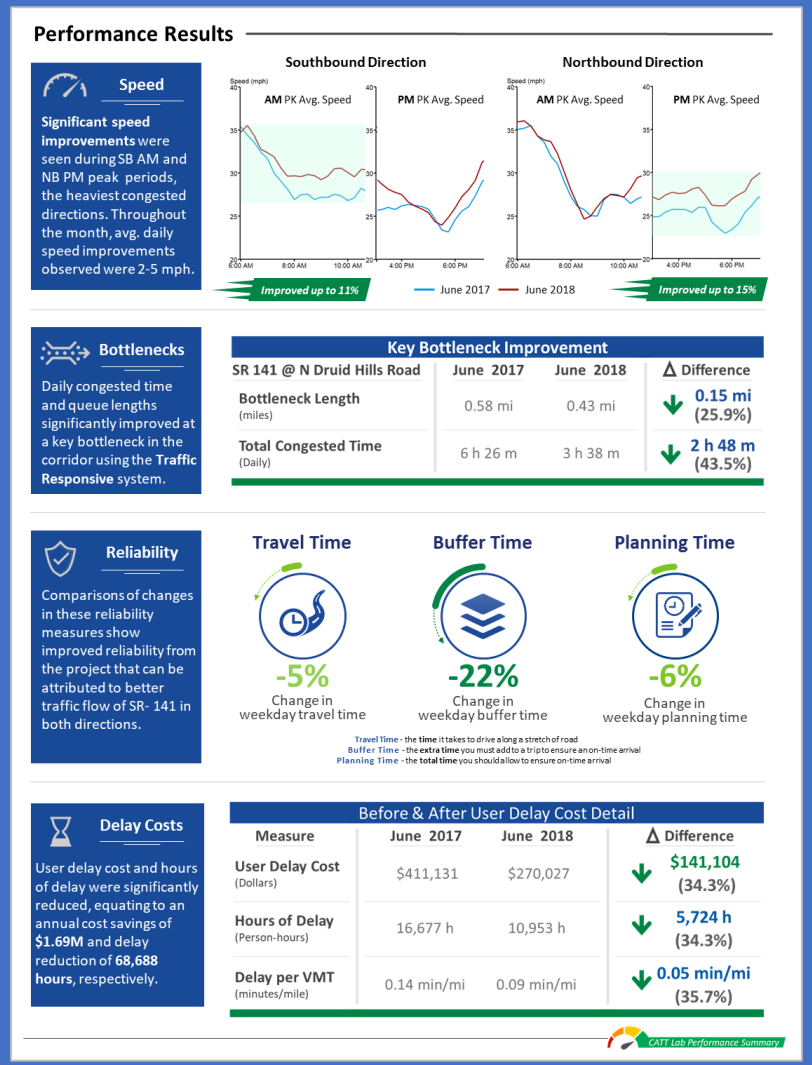
User Delay Cost



Project Assessment Report (Before & After Study)

Project Summary

Performance Results

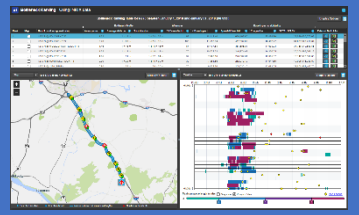


Holiday Travel Guide (Forecast Infographic)

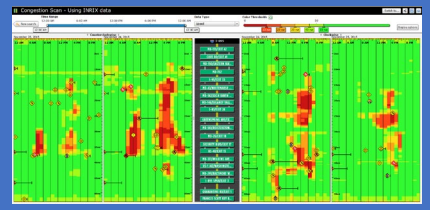
Interstate Travel Forecast for the Baltimore, MD region

Interstate Travel Forecast for the Baltimore, MD region

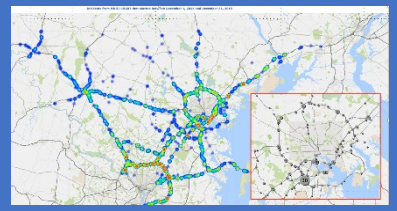
Bottleneck Ranking



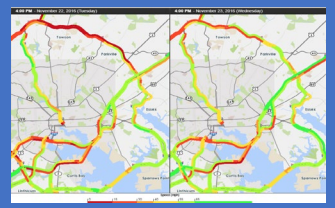
Congestion Scan



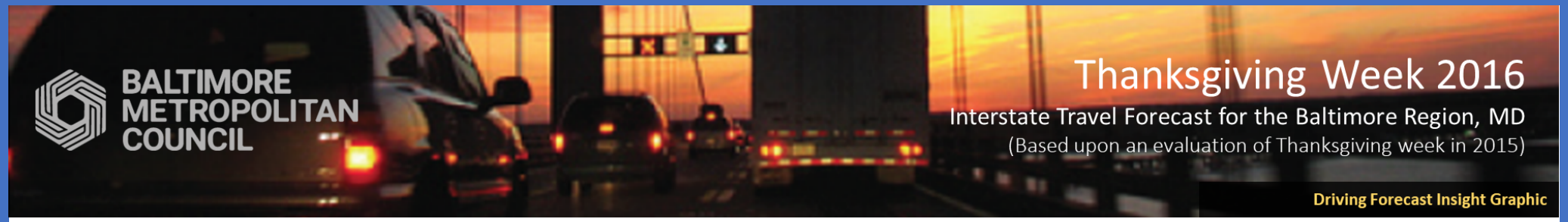
Event Query Tool



Trend Map



Holiday Travel Guide (forecast infographic)



FORECAST

The Maryland Transportation Authority (MDTA) anticipates a 1.5% increase in traffic volumes compared to last year's Thanksgiving holiday period. Between Tuesday, Nov. 21, and Sunday, Nov. 26, the MDTA expects more than 2.2 million travelers on its highways, bridges and tunnels. The Wednesday before Thanksgiving is typically considered the busiest travel day of the year. Based on traffic counts from previous years, Wednesday, Nov. 22, is expected to be the heaviest travel day. However, in recent years the Tuesday before Thanksgiving has become very busy as well with families trying to beat the rush. **Using crowdsourced vehicle probe data, we have determined that peak travel occurs in the 4 o'clock hour on both the Tuesday and Wednesday of Thanksgiving week, making this one of the worst times to travel.**

REGION AFFECTED

- Anne Arundel Co.
- Baltimore City
- Baltimore Co.
- Carroll Co.
- Harford Co.
- Howard Co.

LOCATION MAP

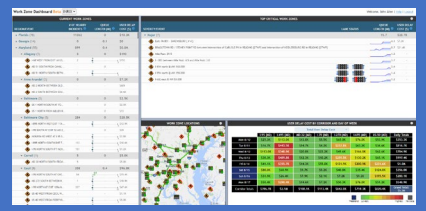
TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY	MONDAY
11.22.16	11.23.16	11.24.16	11.25.16	11.26.16	11.27.16	11.28.16
Avoid 3 PM – 7 PM	Avoid 2 PM – 5 PM	Great day to drive!	Great day to drive!	Great day to drive!	Drive Carefully!	Avoid 3 PM – 6 PM
INSIGHT Worst time between 4pm – 6pm Heaviest congestion **on I-695** (between I-95 & I-70)	INSIGHT Collisions are **47% higher** than normal, statewide. **Drive carefully!**	INSIGHT Low usage all day. Happy Thanksgiving	INSIGHT Low usage all day. Black Friday shows low use than an average Friday.	INSIGHT Low usage all day; only minor congestion on I-95.	INSIGHT Moderate usage all day, I-95 SB north of the city congested 12PM to 7PM. Collisions are 12% higher than normal, statewide.	INSIGHT Worst time between 4pm – 5pm Heaviest congestion **on I-695**

CATT Lab Performance Summary

Work Zone Impact (Weekly Performance Summary Report)

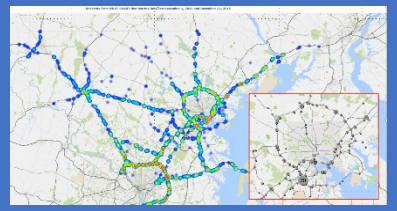
I-895 (at the Baltimore Harbor Tunnel)

Work Zone Dashboard

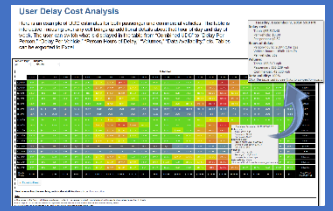


Congestion Scan

Event Query Tool

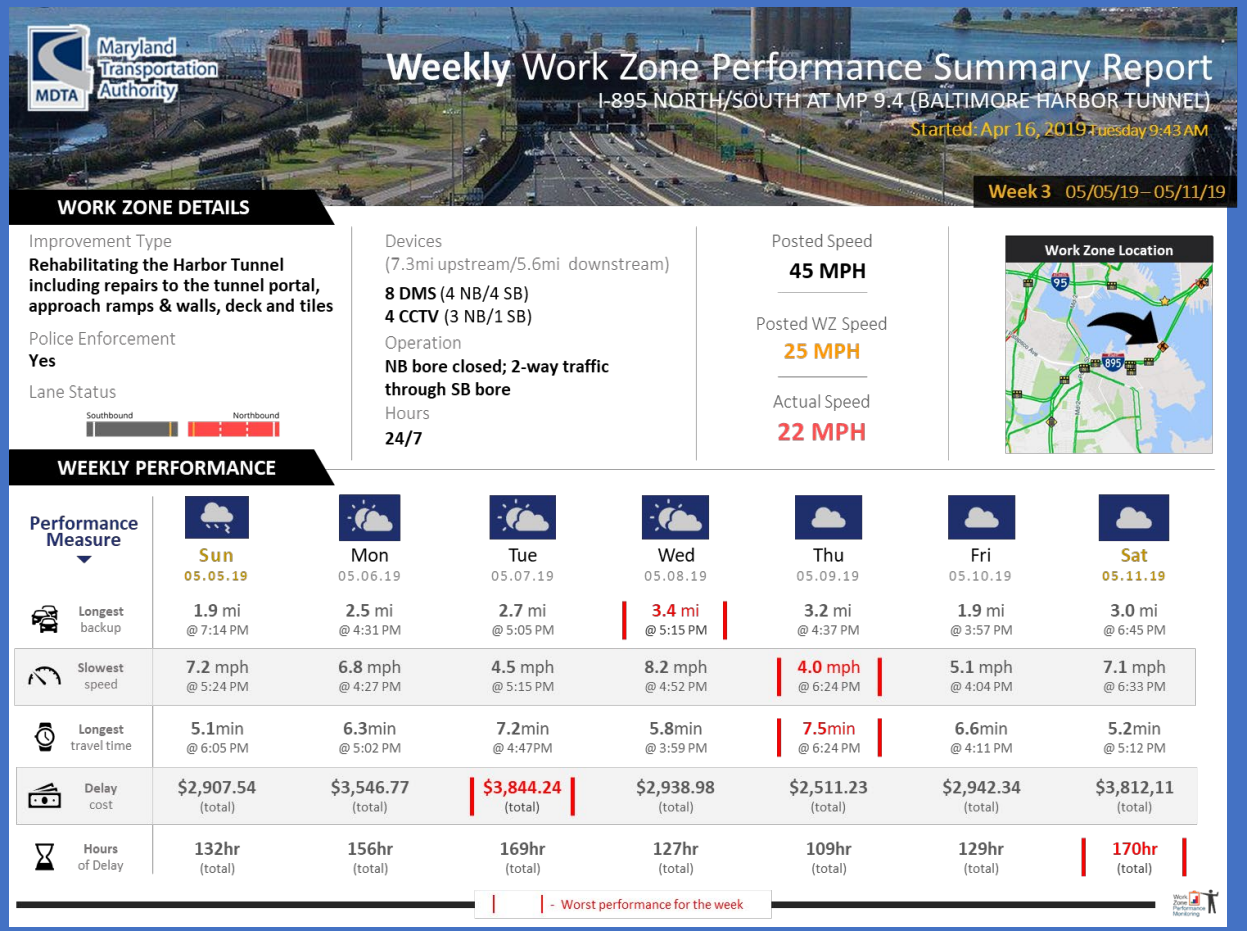


User Delay Cost

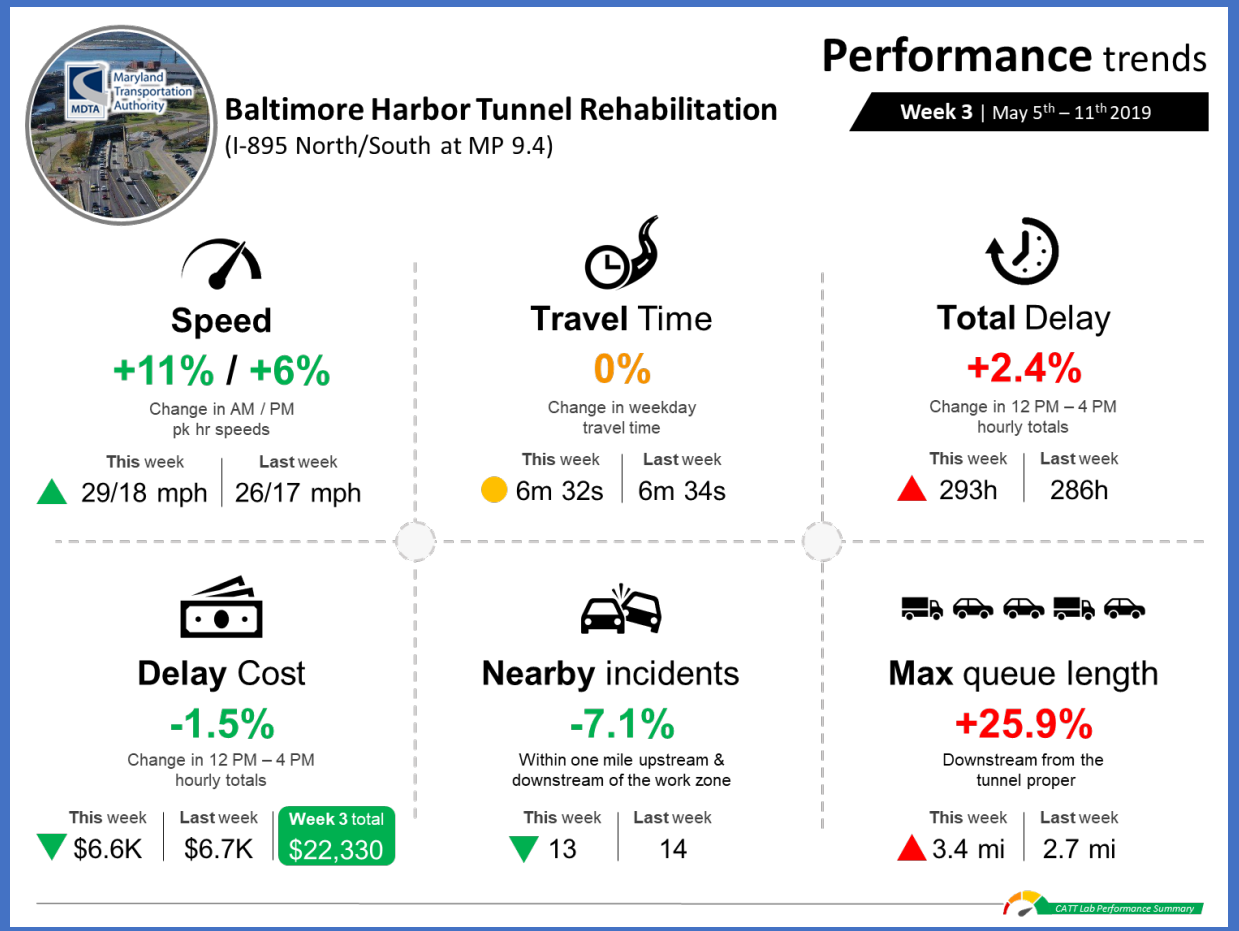


Work Zone Impact (weather infographic style)

Weekly Performance (front)

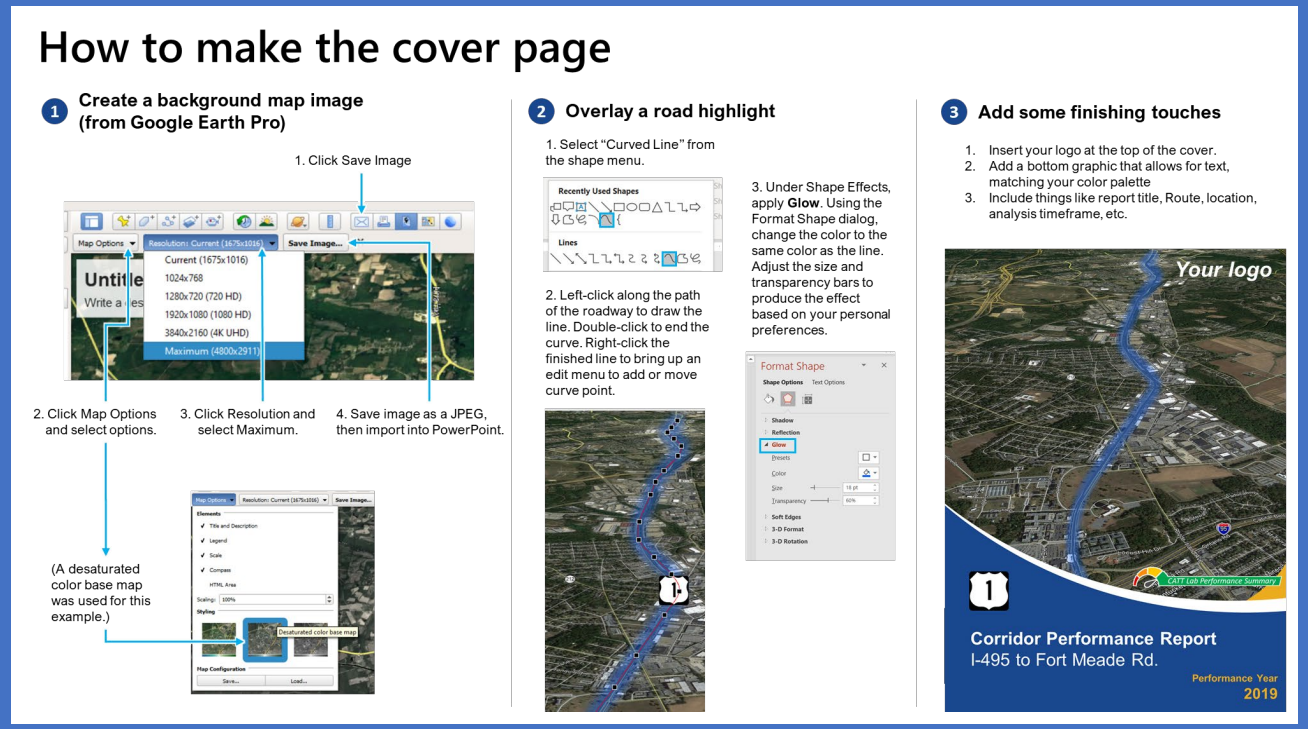


Performance Trends (back)

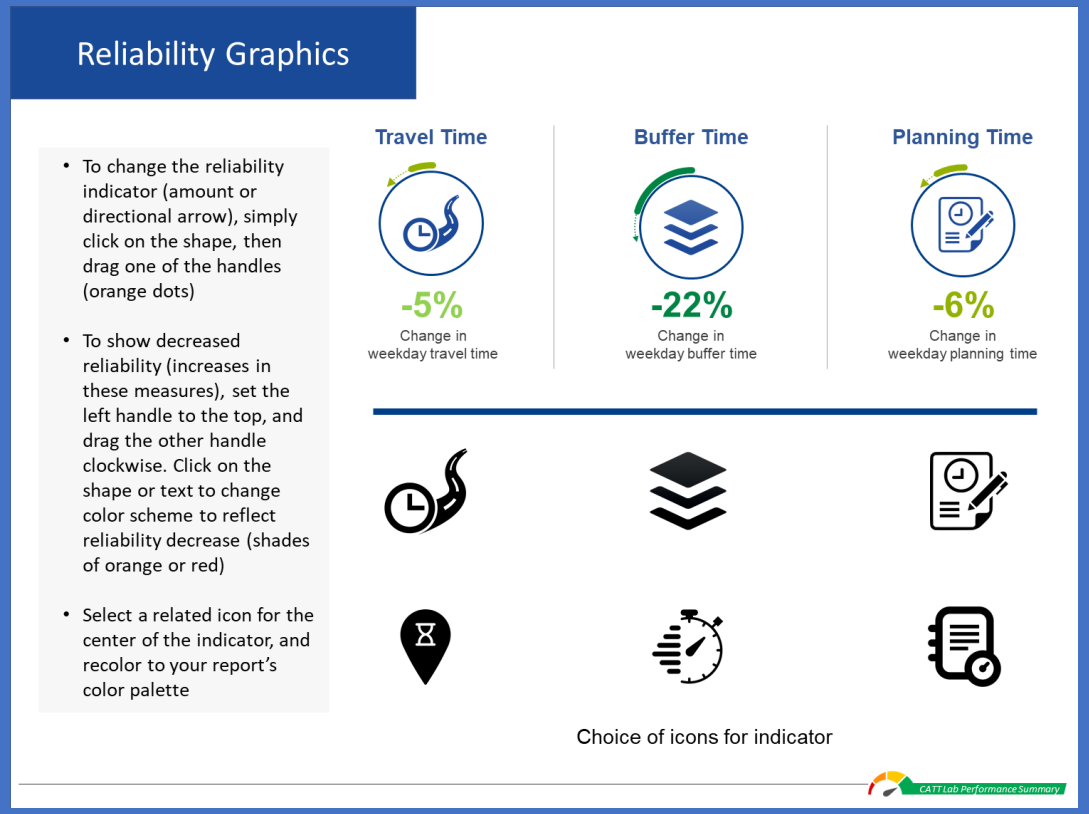


Supplemental guides available through RITIS

How-to Guides



DesignSheets

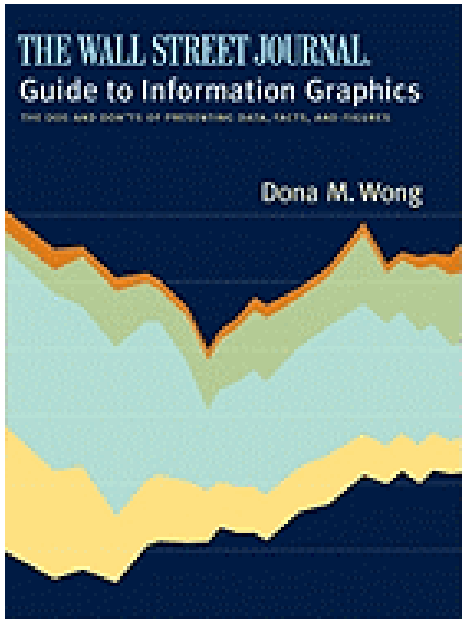


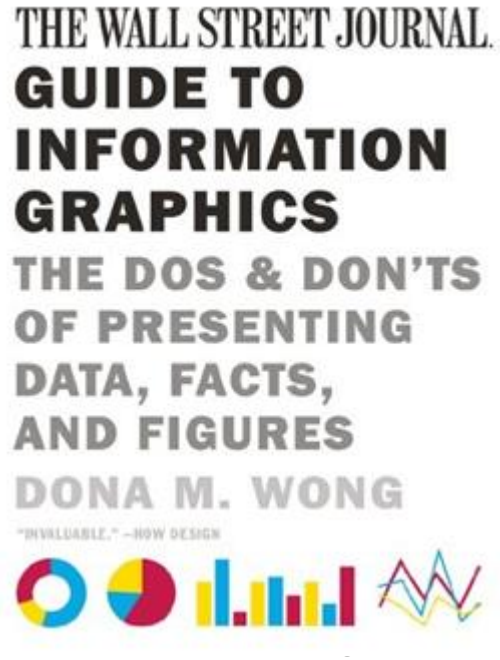
Ethics in Visual Communication

- Graphics are powerful, but they can be misused!

- Colors matter, fonts matter, location matters, size matters (no matter what she says)

Great Resource!!!





Invest in Tools to Make Fused Data Easy to work with, understand, and tell your story…

- Data is only useful when it is
  - **easily accessible,**
  - **usable, and**
  - **understandable**

  To managers, planners, operations, and ITS applications…

For more information, contact

Michael L. Pack

CATT Laboratory

240.676.4060

PackML@umd.edu

Communicating TPM

Patrick Cowley, PE
Director of Transportation
Performance Management
Utah DOT
16 Sept. 2020

Effective communication

Relies less on what you say
than on what the receiver understands.

Internal v. External

With a recent reorganization at the highest levels, we are still feeling the effects of change. Internal communication has therefore become more important than it has in the past.

Internal Communication

Defining who we are, what we do, and who we serve

People (inc. employees, co-workers, customers)
Processes
Products

Transportation Performance Management Division - Brief Overview

TPM Division Director

Align, coordinate, and support the OM, PM, AM, and RM managers in their responsibilities.
Administer the SPR program for Transportation Performance Management.

Organizational Management

Developing process improvement methods, tools and training to advance agency performance. Building a culture of continuous improvement.

Performance Management

Develop strategic approach that uses system information to achieve performance criterion that align with policy decisions and drive investment strategies

Asset Management

Align the department's assets with a strategic and systematic process of goals for operating, maintaining, upgrading, expanding, and effectively budgeting through their lifecycle.

Enterprise Risk Management

Encourage risk strategies within the department to minimize threats, identify opportunities, and design against events or circumstances that may prevent the department to achieve its objectives.

UDOT Keeping Utah Moving

Transportation Performance Management

Network

Continuous Improvement Culture

GOMB SUCCESS

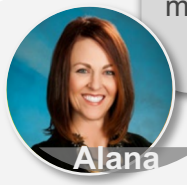
Training & Support

Process Documentation

Improvement Methods

Continuous Improvement

Producing value by developing process improvement methods, tools and training, helping employees define and give meaning to their work. Building a culture of continuous improvement.



Consultants

GSOT

Performance Forecasting

PMC

Federal Reporting Steward

Tactical Measures

Strategic Direction

Asset Management

Align the department's goals with a strategic and systematic process of operating, maintaining, upgrading and expanding physical assets effectively throughout their lifecycle.

Consultants

Transportation Performance Management

Help employees make better decisions through improved processes, meaningful metrics, and clarified risks.

Performance Management

Aid in the development and evaluation of performance measures to effectively support the department's goals and strategies.

Consultants

Vacant

Analytics & Performance

Asset Sub-Committees

Program Finance

Federal Compliance

Transportation Asset Management

Asset Risk

Asset Trade-off Analysis

Enterprise Risk & Resiliency

Encourage risk management within the department to identify the various events or circumstances that may prevent or enable the department to achieve its objectives.

Consultants

System Risk

Enterprise Risk

Program Risk

System Resiliency

Project Risk

Activity Risk

v. 1

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UDOT Keeping Utah Moving

POSITION | PERFORMANCE MANAGER

Date: July 2020 **Division:** Transportation Performance Management **Director:** Patrick Cowley

Responsibilities/Duties

Federal Reporting Steward | Fulfills HPMS annual reporting requirements in accordance with FHWA/UDOT Stewardship and Oversight Agreement .

Federal Performance Measures | Measures reports in highway safety, infrastructure, reliability, aids in setting targets.

Transportation Performance Management (TPM) | Develops and implements TPM principles, resources and practices in accordance with FHWA TPM implementation goals.

Strategic Direction | Provide vision, resources and training to divisions, groups and individuals on how performance management is key to UDOTs strategic direction. Make recommendations for changes to the 14 tactical measures tied to the strategic goals.

Tactical Measures | Provide department wide vision, resources and training for developing and effectively implementing tactical measures to improve performance.

Department Statistics | Coordinate efforts to collect, display, and verify department statistics so they are consistent, repeatable and accurate.

Continuous Improvement | Encourages improvement through the continuous improvement cycle foreseeing performance management.

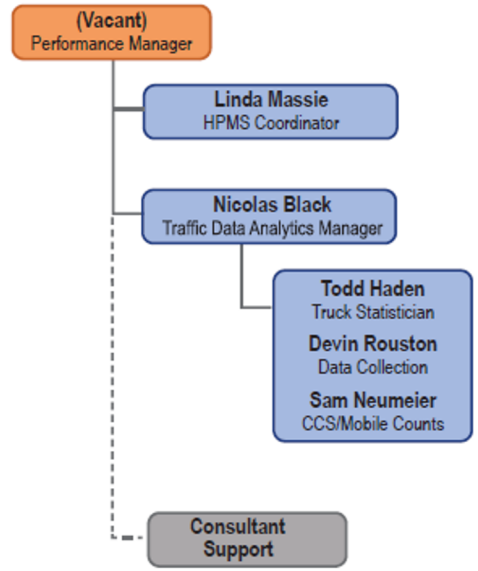
GOMB Measures | Work with process improvement to ensure meaningful measures and targets for successful projects.

Performance Forecasting | Develop and implement performance forecasting principles and processes

Key Dates

- ***April 15*** | HPMS Submission 1
- ***April 15*** | Pavement condition-related data
- ***June 1*** | Certified Mileage
- ***June 15*** | HPMS Submission 2
- ***October 1*** | Mid Performance Period Progress Report

Organizational/Responsibilities Chart



1 & 5 Year Vision

Year 1 | This position will have completed the federal reporting requirements for federal performance measures and have reviewed each divisions tactical measures.

Year 5 | A fully functioning on-line living document that provides all departments and employees the tools to develop and monitor their performance measures. Led effort to include funding/ experience into a number of our key performance metrics. The strategic direction will be a topic of discussion at all levels of the agency.

Need

Much of the work that has been done to date with the support of Performance Measures has been done by consultants. The difficulty comes from who directs the work. Currently this is being done ad-hoc and is not sustainable.

Use of meaningful metrics is on the rise. Understanding measures, what stories they tell, and how to set targets that matter is becoming more and more critical, not only on the National front, but for state and division specific measures as well.

Outcome

"When performance is measured, performance improves. When performance is measured and reported performance accelerates." Without meaningful measures, we are guessing at the effectiveness of our efforts. Having a leader in this area will aid in the development, improvement and maintenance of these measures.

No Action Alternative

- Unmet federal reporting requirements
- Unmeasured Department Performance
- Minimizes Department Performance
- Unsupported Tactical Measures

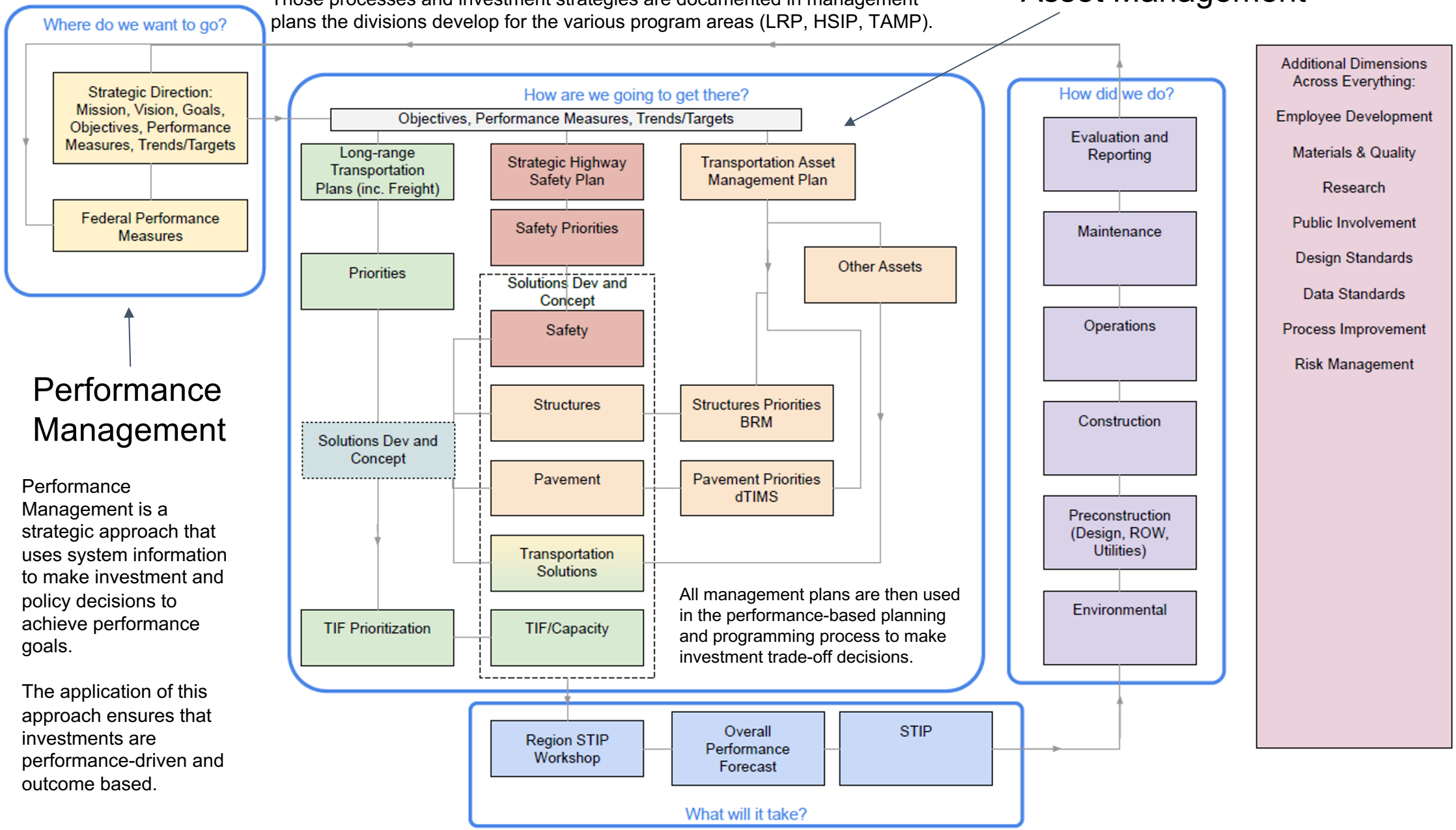
Position History

This position is an aggregation of activity accomplished by various groups and people. The reason for filling this position is to be more intentional about performance management within the department. Over time additional requirements have been added per the MAP21 and FAST Act.

Divisions within the department apply performance management principles in making decisions about where to invest resources.

Those processes and investment strategies are documented in management plans the divisions develop for the various program areas (LRP, HSIP, TAMP).

Asset Management

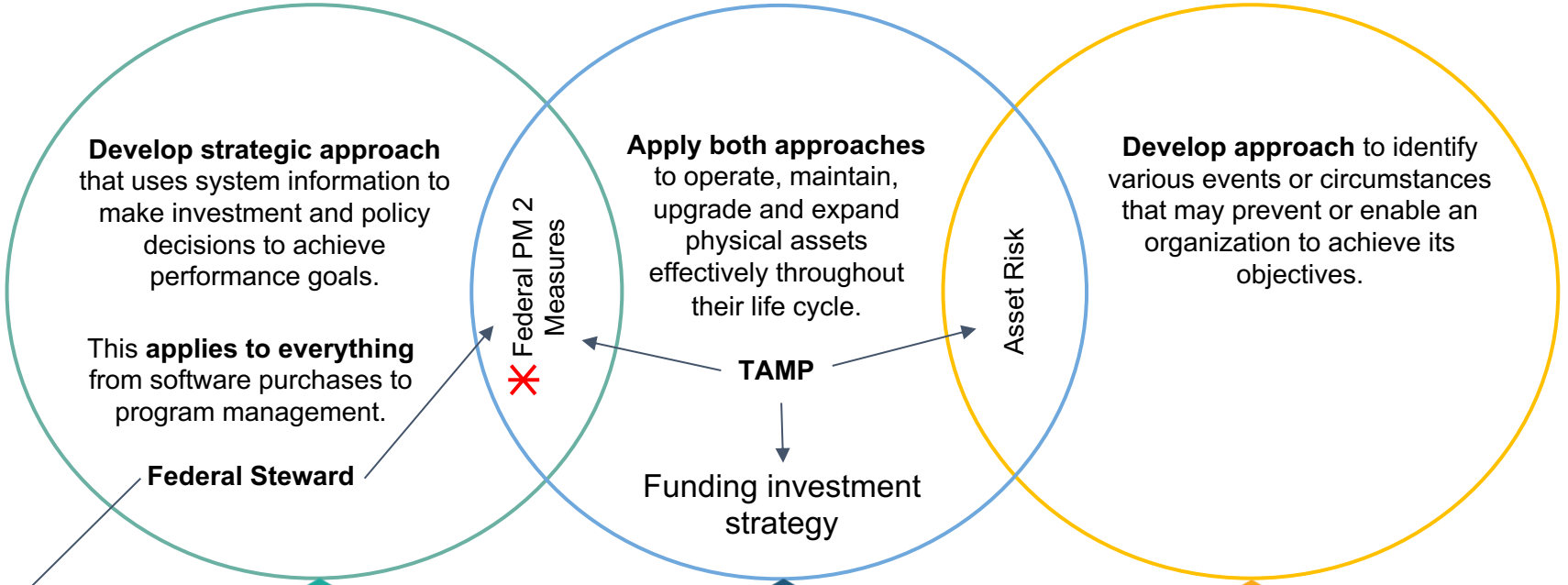


Performance Management

Performance Management is a strategic approach that uses system information to make investment and policy decisions to achieve performance goals.

The application of this approach ensures that investments are performance-driven and outcome based.

UDOT application of NCHRP 08-113
How Performance, Asset, & Risk Management interact



✳ Federal PM 1 measures coordinated with **Traffic & Safety Division (HSIP)**

✳ Federal PM 3 measures coordinated with **Traffic Management Division (LRP)**

Federal Steward v State Metrics

Understanding the various aspects of the position for both Federal Stewardship and internal metrics

Performance Manager Federal Stewardship Role

The Performance Manager coordinates with the various divisions on their progress toward meeting the Federal Measures as well as reviewing and setting targets on a regular basis as seen in the graphic on the right.

This regular coordination also happens with the MPOs to inform and review performance metrics and targets.

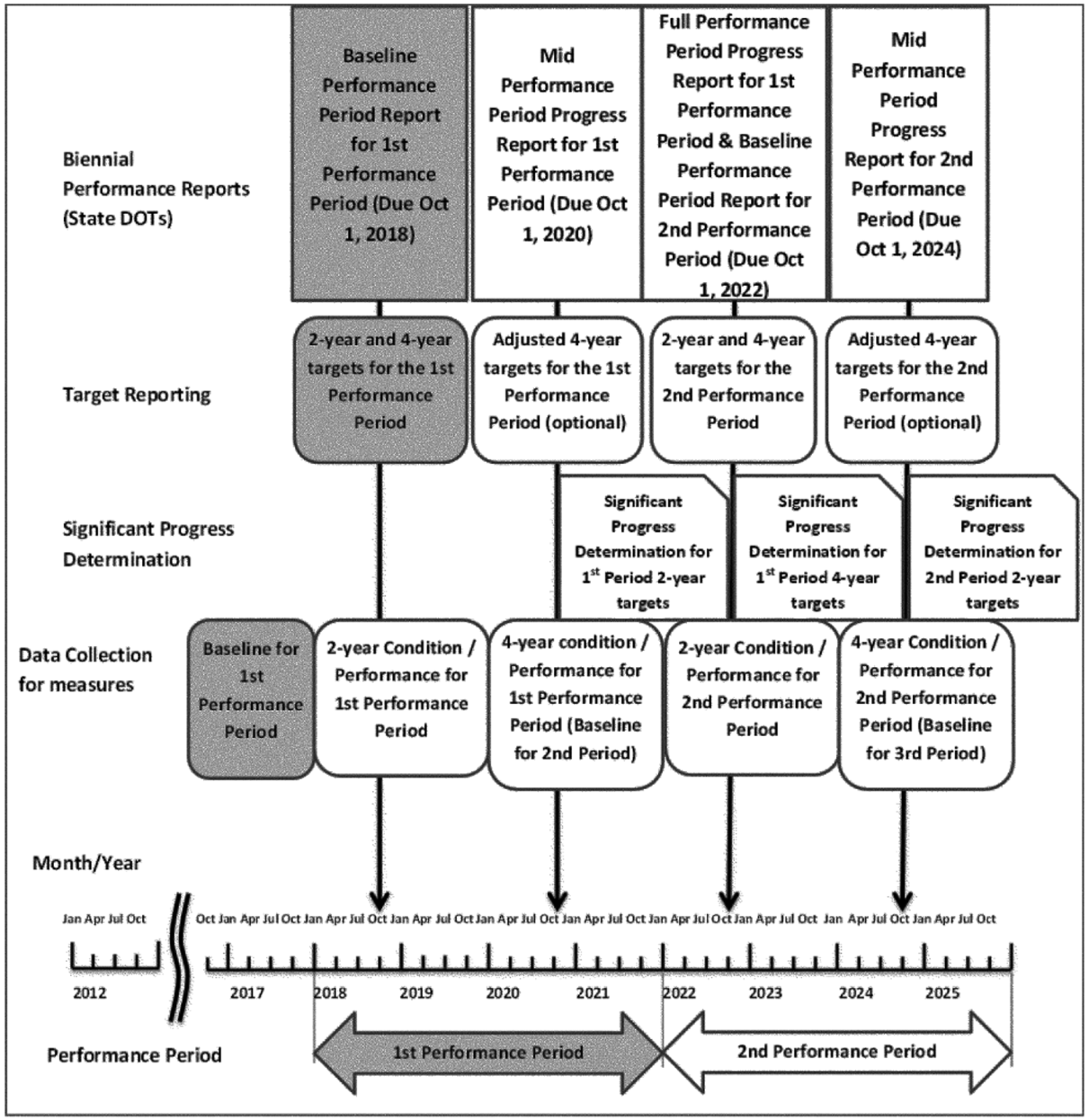
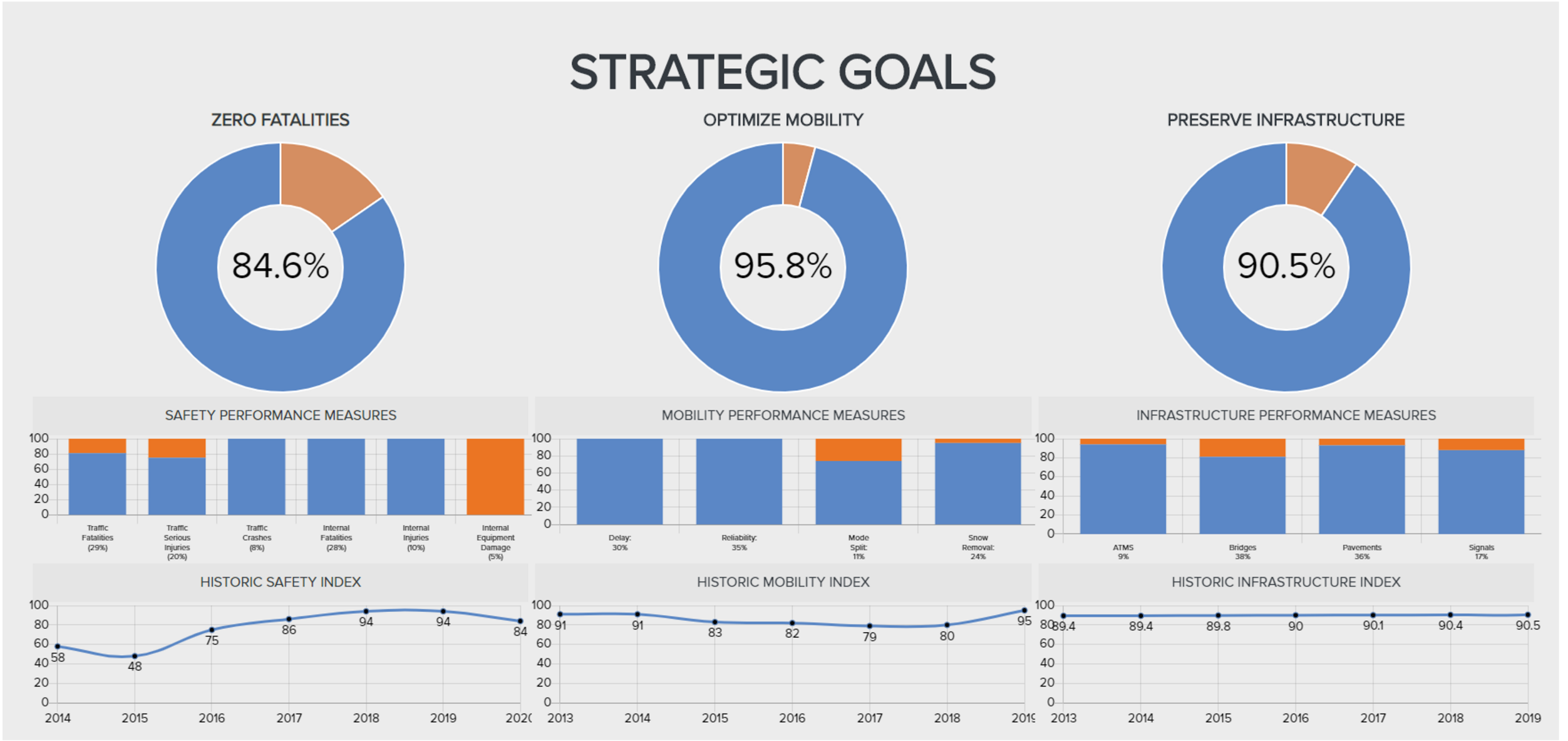


Figure 1 – Biennial Performance Reports – The Baseline Performance Period Report

Performance Manager Strategic Direction Stewardship Role

The Performance Manager also coordinates with the various divisions on their progress toward meeting the Strategic Direction Tactical Measures as well as reviewing and setting targets on a regular basis.

The performance manager would also recommend changes to the 14 tactical measures in coordination with the Performance Management Committee.



Performance Manager Tactical Measure Role

The Performance manager **encourages and facilitates the application of the performance strategic approach** that uses system information to make decisions to achieve performance goals for each area within the department.

The performance manager also recommends changes to the Strategic Direction 14 tactical measures based on the development and applicability of these other tactical measures..

DIVISION TACTICAL MEASURES AND PERFORMANCE METRICS

UNDER DEVELOPMENT AND SUBJECT TO CHANGE

- STRUCTURES
- CONSTRUCTION
- EMPLOYEE DEVELOPMENT
- ENVIRONMENTAL
- MAINTENANCE PLANNING
- TRAFFIC AND SAFETY
- MOTOR CARRIER
- PAVEMENT CONDITION
- PROGRAMMING
- PROGRAM DELIVERY DASHBOARD
- STATEWIDE PERMITTING
- TRAFFIC MANAGEMENT

HUB

Transportation Performance Management Division

TPM Division Director

Align, coordinate, and support the OM, PM, AM, and RM managers in their responsibilities.
Administer the SPR program for Transportation Performance Management.

Organizational Management

Developing process improvement methods, tools and training to advance agency performance. Building a culture of continuous improvement.

Performance Management

Develop strategic approach that uses system information to achieve performance criterion that align with policy decisions and drive investment strategies

Asset Management

Align the department's assets with a strategic and systematic process of goals for operating, maintaining, upgrading, expanding, and effectively budgeting through their lifecycle.

Enterprise Risk Management

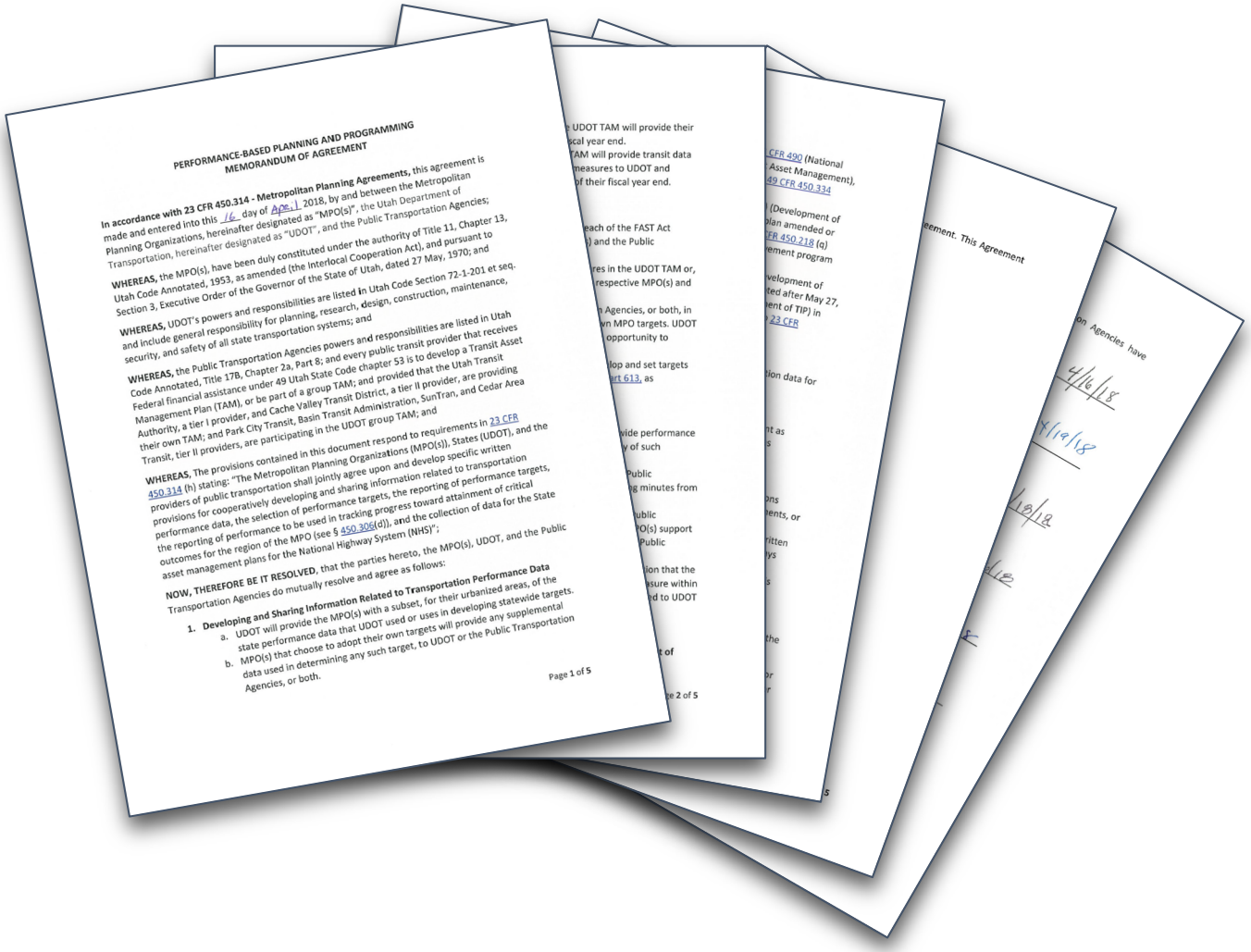
Encourage risk strategies within the department to minimize threats, identify opportunities, and design against events or circumstances that may prevent the department to achieve its objectives.

UDOT Keeping Utah Moving

External Communication

Focused on the product and service we provide to our MPOs and Federal partners

Memorandum of Agreement



PERFORMANCE-BASED PLANNING AND PROGRAMMING
MEMORANDUM OF AGREEMENT

In accordance with 23 CFR 450.314 - Metropolitan Planning Agreements, this agreement is made and entered into this 16 day of April 2018, by and between the Metropolitan Planning Organizations, hereinafter designated as "MPO(s)", the Utah Department of Transportation, hereinafter designated as "UDOT", and the Public Transportation Agencies;

WHEREAS, the MPO(s), have been duly constituted under the authority of Title 11, Chapter 13, Utah Code Annotated, 1953, as amended (the Interlocal Cooperation Act), and pursuant to Section 3, Executive Order of the Governor of the State of Utah, dated 27 May, 1970; and

WHEREAS, UDOT's powers and responsibilities are listed in Utah Code Section 72-1-201 et seq. and include general responsibility for planning, research, design, construction, maintenance, security, and safety of all state transportation systems; and

WHEREAS, the Public Transportation Agencies powers and responsibilities are listed in Utah Code Annotated, Title 17B, Chapter 2a, Part 8; and every public transit provider that receives Federal financial assistance under 49 Utah State Code chapter 53 is to develop a Transit Asset Management Plan (TAM), or be part of a group TAM; and provided that the Utah Transit Authority, a tier I provider, and Cache Valley Transit District, a tier II provider, are providing their own TAM; and Park City Transit, Basin Transit Administration, SunTran, and Cedar Area Transit, tier II providers, are participating in the UDOT group TAM; and

WHEREAS, The provisions contained in this document respond to requirements in 23 CFR 450.314 (h) stating: "The Metropolitan Planning Organizations (MPO(s)), States (UDOT), and the providers of public transportation shall jointly agree upon and develop specific written provisions for cooperatively developing and sharing information related to transportation performance data, the selection of performance targets, the reporting of performance targets, the reporting of performance to be used in tracking progress toward attainment of critical outcomes for the region of the MPO (see § 450.306(d)), and the collection of data for the State asset management plans for the National Highway System (NHS)";

NOW, THEREFORE BE IT RESOLVED, that the parties hereto, the MPO(s), UDOT, and the Public Transportation Agencies do mutually resolve and agree as follows:

1. **Developing and Sharing Information Related to Transportation Performance Data**
   a. UDOT will provide the MPO(s) with a subset, for their urbanized areas, of the state performance data that UDOT used or uses in developing statewide targets.
   b. MPO(s) that choose to adopt their own targets will provide any supplemental data used in determining any such target, to UDOT or the Public Transportation Agencies, or both.

Page 1 of 5

Keeping Utah Moving

Federal Performance Measures

federalmeasures-hub.udot.utah.gov

Apps | Collections | TAM Conference 20... | SDSU - Lean Six Sig... | Free Lean Six Sigma... | UDOT Production A... | Google Custom Sea... | Innovation Leaders... | UDOT Safety Index | Telework | Personnel

Sign In

Federal Performance Measures

UTAH FEDERAL PERFORMANCE MEASURES AND TARGETS

Federal performance measures were required by "MAP 21" to enable a federal summary and comparison between states. The Utah performance measures are derived from local goals (MPOs, Transit, DOT) and used for decision-making within Utah.

Click here for the Performance-Based Planning & Programming Memorandum of Agreement.

Click here for UDOT's Stewardship and Oversight Agreement.

Click here to access the UDOT Strategic Direction & Performance Measures.

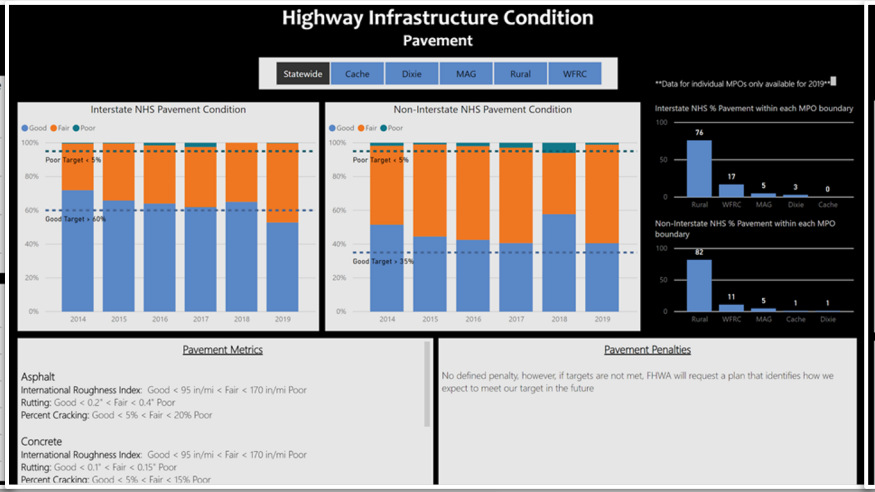
Highway Safety

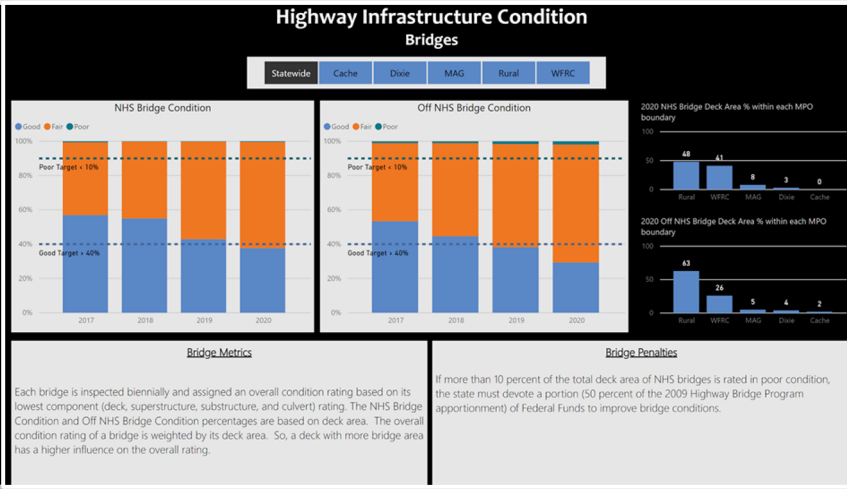
Read More

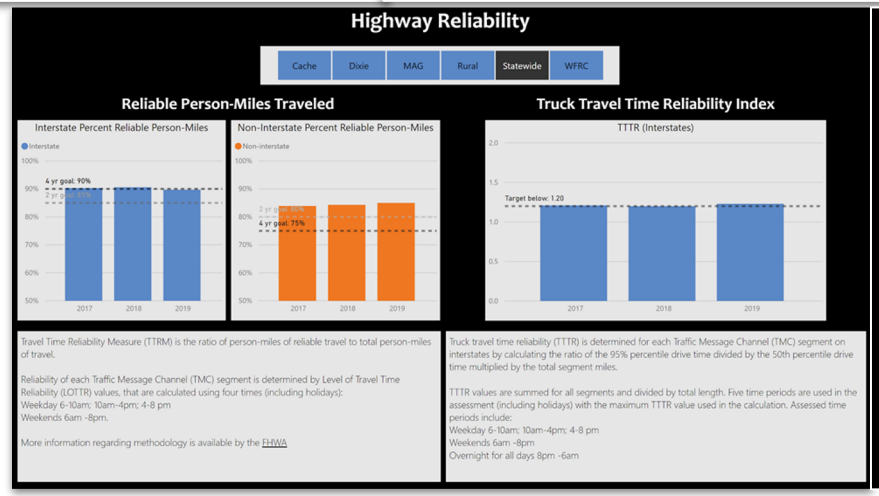
Highway Infrastructure Condition

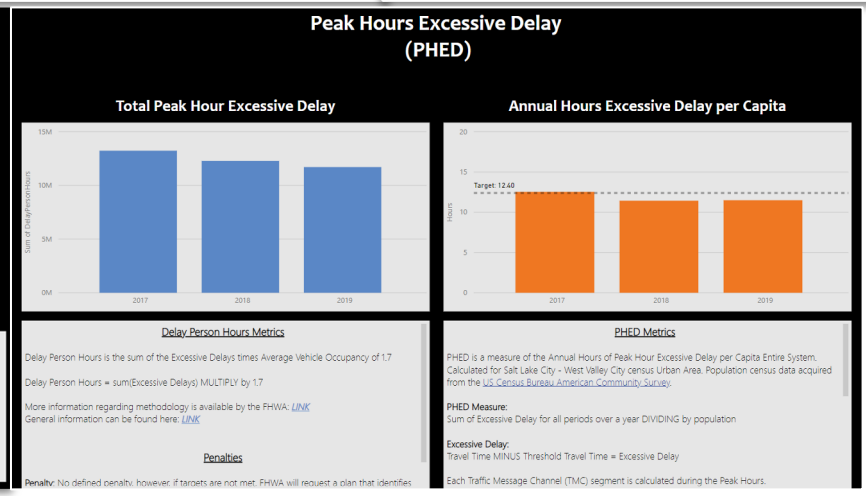
Read More

Interactive Metrics









UDOT Keeping Utah Moving

MPO Presentation

Past Key Dates

- Jan 2018: 1st Performance
- Feb 2018: Rule goes into E
- Oct 2018: Submit Baseline
  - Set 2 and 4 year targets (es
- Jun 2019: Submit first fully
  Plan with implementation d
  review

Current Key Dates

- Jun 2020: Consistency review report – COMPLETE
- Jun 2020: HPMS data reporting with measures – In Progress
- Oct 2020: Mid Performance Period Progress Report Due
  - Option to change 4 year targets
- Oct 2020: FHWA determination of 2 year target significant progress
- Dec 2021: 1st Performance Period Ends

Keeping Utah Moving

MPO Presentation

Final Performance Measures	Measure Applicability	Current Target	Recommended Change
PM1			
Number of fatalities	All public roads	2.5% decrease over the last 5 year average	No change
Rate of fatalities	All public roads	2.5% decrease over the last 5 year average	No change
Number of serious injuries	All public roads	2.5% decrease over the last 5 year average	No change
Rate of serious injuries	All public roads	2.5% decrease over the last 5 year average	No change
Number of non-motorized fatalities and non-motorized serious injuries	All public roads	2.5% decrease over the last 5 year average	No change
PM2			
Percentage of pavements of the Interstate System in Good condition	The Interstate System	> 60% in Good Condition	No change
Percentage of pavements of the Interstate System in Poor condition	The Interstate System	< 5% in Poor Condition	No change
Percentage of pavements of the non-Interstate NHS in Good condition	The non-Interstate NHS	> 35% in Good Condition	No change
Percentage of pavements of the non-Interstate NHS in Poor condition	The non-Interstate NHS	< 5% in Poor Condition	No change
Percentage of NHS bridges classified as in Good condition	NHS	> 40% in Good Condition	No change
Percentage of NHS bridges classified as in Poor condition	NHS	< 10% in Poor Condition	No change
PM3			
Percent of the person-miles traveled on the Interstate that are reliable	The Interstate System	2 yr goal (2019)= 85% 4 yr goal (2021) = 90%	4 yr goal (2021) = 85% (Same as 2 yr)
Percent of the person-miles traveled on the non-Interstate NHS that are reliable	The non-Interstate NHS	2 yr goal (2019)= 80% 4 yr goal (2021) = 75%	No change
Truck Travel Time Reliability (TTTR) Index	The Interstate System	1.2	1.3
Annual Hours of Peak Hour Excessive Delay Per Capita	The NHS in urbanized areas with a population over 1 million for the first performance period and in urbanized areas with a population over 200,000 for the second and all other performance periods that are also in nonattainment or maintenance areas for ozone (O3), carbon monoxide (CO), or particulate matter (PM10 and PM2.5)	12.4	13

UDOT Keeping Utah Moving

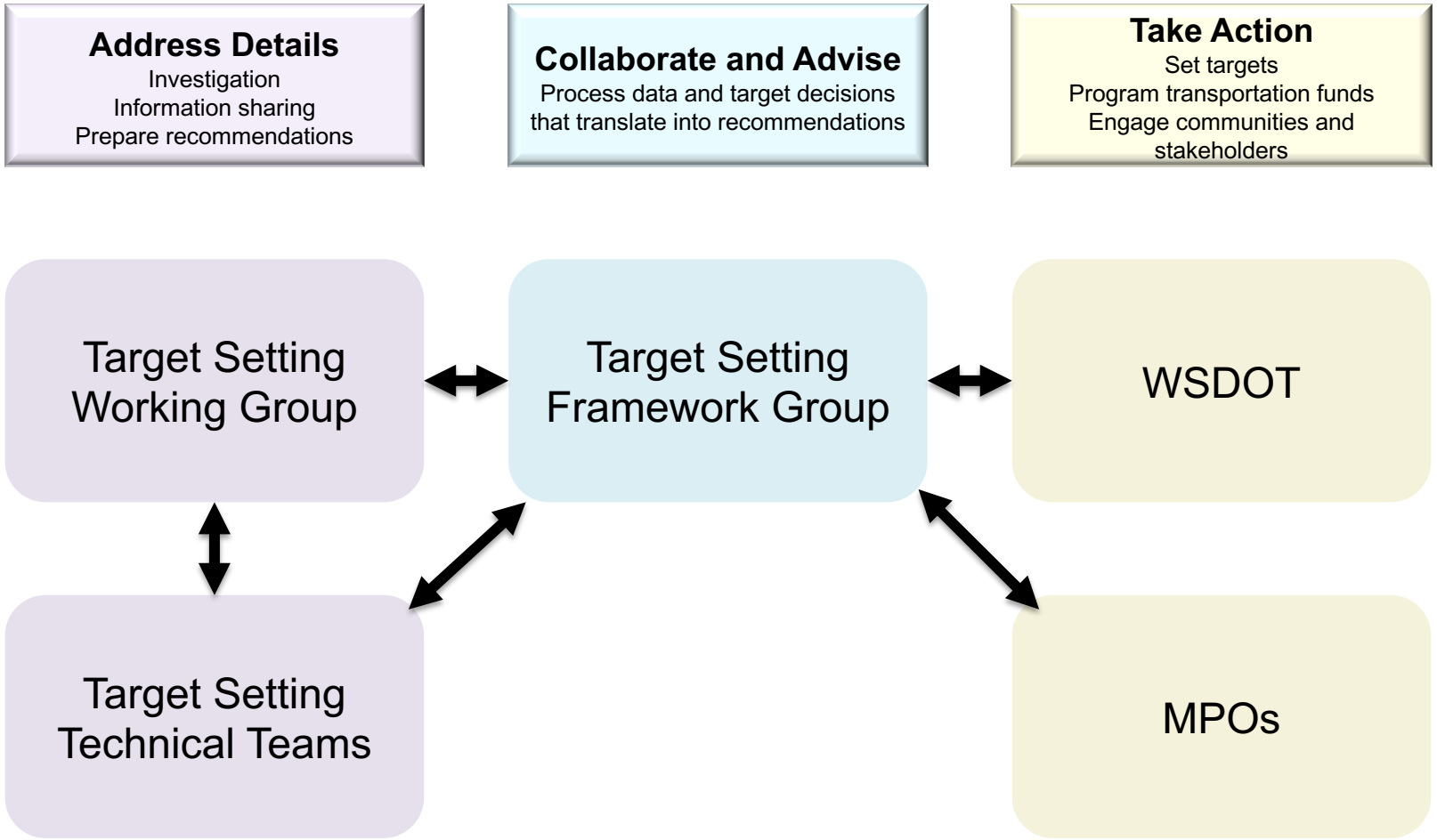
Patrick Cowley, PE
patrickcowley@utah.gov
801-648-5459

Communicating Transportation Performance Management

Washington State Department of Transportation

Gabe Philips, Tribal and Regional Planning Manager
November 15, 2019

Coordination



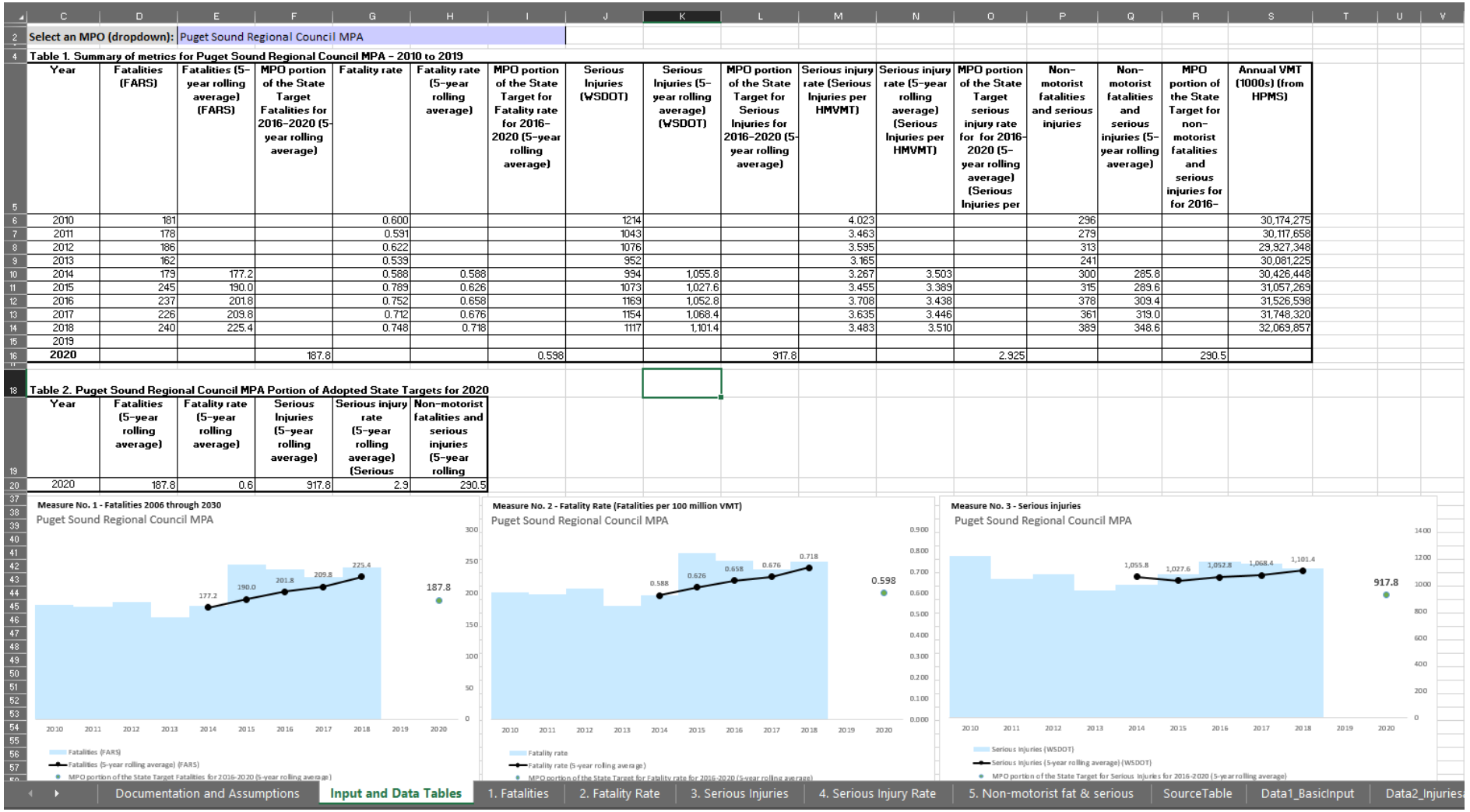
23 CFR 450.314 “Written Provisions”

- Written provisions are “documented in some other means” outside of the Metropolitan Planning Agreement
- Highlights successes we have had in the past and identifies areas of coordination over the next year

23 CFR 450.314 “Written Provisions”

Date	Collaboration Activities or Action	PM 1	PM 2	PM 3	TAM	PTA SP
July 1, 2020	The Washington Traffic Safety Commission will report statewide calendar year (CY) 2021 targets for number of fatalities, number of serious injuries, and fatality rate to the National Highway Traffic Safety Administration	•				
July 20, 2020	Providers of public transportation that receive FTA section 5307 funds and/or operate a rail transit systems adopt safety targets in their Public Transportation Agency Safety Plans and provide them to WSDOT and applicable MPO. (Due to impacts of the COVID-19 pandemic, FTA will not enforce this requirement until December 31, 2020)					•
Aug. 31, 2020	WSDOT reports all five CY 2021 safety targets in the Highway Safety Improvement Program Annual Report to FHWA	•				
Sept. 9, 2020	Pavement/Bridge technical team meeting to review progress towards achieving targets		•			
Sept. 30, 2020	WSDOT distributes CY 2021 MAP-21 Safety Folio	•				
Oct. 1, 2020	WSDOT reports “Mid Performance Period Progress Report” for 1st Performance Period		•	•		
Dec. 2020	FHWA assessment of State's progress toward past CY 2019 safety targets	•				
Jan. 16, 2021	MPOs submit CY 2021 transit safety targets to WSDOT.					•
Feb. 27, 2021	MPOs submit CY 2021 safety targets to WSDOT by either developing their own quantifiable targets or supporting the state targets	•				
Apr. 2021	Safety Technical Team Meeting to discuss methodology and target setting for CY 2022	•				
Spring 2021	Providers of public transportation will coordinate closely with MPOs and WSDOT as they prepare their Transit Asset Management Plans for the fall of 2022				•	
Spring 2021	Providers of public transportation must collaborate with their respective MPOs as they prepare their annual update to transit safety targets					•
May 2021	Safety Technical Team Leader presents safety methodology/preliminary targets for CY 2022 to Target Setting Framework Group; Considers feedback	•				
May 2021	Pavement/Bridge technical team meeting to review progress towards achieving targets		•			
May to June 2021	PM3 technical team meeting to review progress toward achieving targets			•		
June 2021	Safety Technical Team Leader presents safety methodology/preliminary targets for CY 2022 to 1) WTSC and 2) WSDOT Bi-Weekly Executive Leadership for concurrence	•				
July 20, 2021	MPOs must reference the safety performance targets and Agency Safety Plans in their Transportation Improvement Programs and Metropolitan Transportation Plans updated or amended after this date					•
At the conclusion of the provider of public transportation's fiscal year, new targets for equipment, rolling stock, infrastructure (fixed guideways), and facilities must be set in consultation with the MPO					•	
When/if the MPO updates its metropolitan transportation plan or transportation improvement program, MPO targets must be revisited					•	

Data Sharing



Select an MPO (dropdown): Puget Sound Regional Council MPA

Table 1. Summary of metrics for Puget Sound Regional Council MPA – 2010 to 2019

Year	Fatalities (FARS)	Fatalities (5-year rolling average) (FARS)	MPO portion of the State Target Fatalities for 2016-2020 (5-year rolling average)	Fatality rate	Fatality rate (5-year rolling average)	MPO portion of the State Target for Fatality rate for 2016-2020 (5-year rolling average)	Serious Injuries (WSDOT)	Serious Injuries (5-year rolling average) (WSDOT)	MPO portion of the State Target for Serious Injuries for 2016-2020 (5-year rolling average)	Serious injury rate (Serious Injuries per HMVMT)	Serious injury rate (5-year rolling average) (Serious Injuries per HMVMT)	MPO portion of the State Target serious injury rate for for 2016-2020 (5-year rolling average) (Serious Injuries per	Non-motorist fatalities and serious injuries	Non-motorist fatalities and serious injuries (5-year rolling average)	MPO portion of the State Target for non-motorist fatalities and serious injuries for for 2016-	Annual VMT (1000s) (from HPMS)
2010	181			0.600			1214			4.023			296			30,174,275
2011	178			0.591			1043			3.463			279			30,117,658
2012	186			0.622			1076			3.595			313			29,927,348
2013	162			0.539			952			3.165			241			30,081,225
2014	179	177.2		0.588	0.588		994	1,055.8		3.267	3.503		300	285.8		30,426,448
2015	245	190.0		0.789	0.626		1073	1,027.6		3.455	3.389		315	289.6		31,057,269
2016	237	201.8		0.752	0.658		1169	1,052.8		3.708	3.438		378	309.4		31,526,538
2017	226	209.8		0.712	0.676		1154	1,068.4		3.635	3.446		361	319.0		31,748,320
2018	240	225.4		0.748	0.718		1117	1,101.4		3.483	3.510		389	348.6		32,069,857
2019																
2020			187.8			0.598			917.8			2.925			290.5	

Table 2. Puget Sound Regional Council MPA Portion of Adopted State Targets for 2020

Year	Fatalities (5-year rolling average)	Fatality rate (5-year rolling average)	Serious Injuries (5-year rolling average)	Serious injury rate (5-year rolling average) (Serious	Non-motorist fatalities and serious injuries (5-year rolling
2020	187.8	0.6	917.8	2.9	290.5

Documentation and Assumptions | Input and Data Tables | 1. Fatalities | 2. Fatality Rate | 3. Serious Injuries | 4. Serious Injury Rate | 5. Non-motorist fat & serious | SourceTable | Data1_BasicInput | Data2_Injuries

Folios

- Primary communication device
- Summaries of federal rules, state targets, timelines and reporting requirements
- Educational tool for policy boards, technical advisory groups, and other stakeholder groups
- www.wsdot.wa.gov/accountability/map-21

Folios

FHWA provides flexibility for safety target setting under MAP-21

State DOTs and MPOs have flexibility in setting numeric targets for the five performance measures identified in Rule #1. It does place stipulations on certain aspects of the process, however. It requires that states and MPOs report their performance metrics and targets for each of five performance measures as rolling 5-year averages. Per Rule #2, states are also required to develop a Strategic Highway Safety Plan (SHSP). Washington state's plan is called Target Zero.

Summary of required performance measures

Following the ideals of Target Zero, Washington is working to achieve zero transportation-related serious injuries and deaths by 2030. While short-term goals might show increases or slight decreases, WSDOT and the Washington Traffic Safety Commission feel this aspirational goal will become more achievable as advances in transportation technology (autonomous vehicles) become more widespread.

WSDOT's target adoption

In 2018, the linear trend of the 5-year rolling average was used to set the targets unless the target showed an increase; then the 5-year average value for 2013-2017 was used to set the target for 2019. See the table below for the targets produced via this method.

MAP-21 Safety Target Setting

Five-year rolling averages; number of persons, or number of persons per 100 million VMT

	2017 Baseline	2019 Official Targets Statewide MAP-21 Target
No. 1 - Fatalities	510.0	489.2
No. 2 - Fatality rate	0.857	0.813
No. 3 - Serious injuries	2,092.2	1,855.0
No. 4 - Serious injury rate	3.517	3.068
No. 5 - Non-motorist fatalities & serious injuries	511.8	511.8

Data sources: Washington State Traffic Safety Commission - Fatality Analysis Reporting System; Washington State Department of Transportation - Transportation Data, GIS & Modeling Office.

FHWA's "Significant Progress" measurement

At the end of each reporting period, FHWA will determine whether a state has made overall "significant progress" toward achieving its safety targets. The penalties listed on the back page of this folio, including the obligation of state funds, will apply to the State DOT if FHWA deems it has not made that progress.

To make significant progress overall, a state must achieve at least four out of five targets. For each measure, there are two ways this can be done. For example, the value of the 5-year rolling average in 2019 must be:

- At or below the target set in 2018 for the 2019 year, OR
- At or below its 2017 (baseline) level.

If either of these conditions are met, the state will have made significant progress for that measure. It must do so for any four of the five measures to have made significant progress overall and avoid the penalty provisions. For example, in the graph for Measure No. 1, Washington must lower the 5-year average to fewer than 510.0 fatalities (the baseline value) or meet the 2019 target of 489.2 to achieve significant progress in that measure.

How WSDOT is setting its targets to reduce fatality and serious injuries

The general process for generating trend and target information as prescribed by Rule #1 proceeds as follows:

- The annual number of fatalities, serious injuries, and Vehicle Miles Traveled (VMT) is determined for a 10-year period.
- A 5-year rolling average is calculated for each performance measure. For example, in the graph for Measure No. 1, data from 2006-2010 creates the value of the rolling average in 2010—535.4 fatalities. Data from 2007-2011 creates the next 5-year rolling average in 2011.
- The rolling 5-year average value for 2017 will serves as the baseline for performance (annual average of 2013 through 2017).
- The linear trend line through the rolling 5-year average values is determined along with its projected value in 2019 (the target year). If the projected value for 2019 is higher than the baseline value, the baseline value becomes the 2019 target. If the projected value for 2019 is lower than the baseline value, then this lower value is selected as the 2019 target.

Timelines

For MAP-21 compliance, all five statewide targets were reported to FHWA by the HSIP deadline of August 31, 2018. MPOs have until February 28, 2019 (180 days after the HSIP reporting deadline) to either agree to plan and program projects so they contribute toward the accomplishment of the State DOT HSIP targets, or commit to a quantifiable target for their Metropolitan Planning Area. In Washington state, MPOs have agreed to adopt the WSDOT targets.

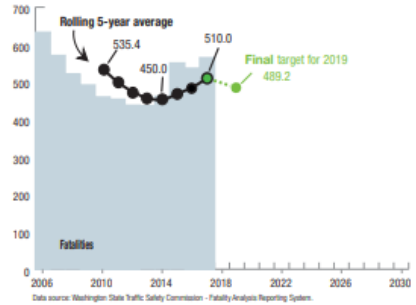
In December 2020, the FHWA will make its first determinations of significant progress toward achieving 2019 targets. They will notify states of the outcome in March 2021.

About these graphs

These graphs display the final 2019 targets for each of the five MAP-21 safety performance measures, and show targets developed by WSDOT in coordination with Washington State Traffic Safety Commission.

Measure No. 1 - Fatalities

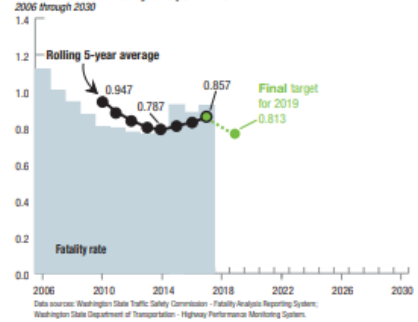
2006 through 2030



Data source: Washington State Traffic Safety Commission - Fatality Analysis Reporting System.

Measure No. 2 - Fatality rate per million VMT

2006 through 2030

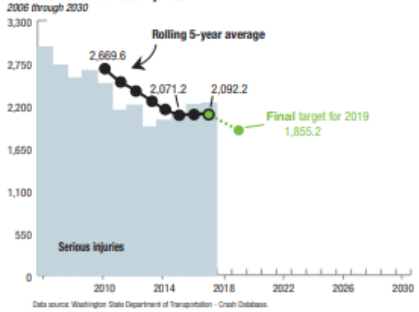


Data sources: Washington State Traffic Safety Commission - Fatality Analysis Reporting System; Washington State Department of Transportation - Highway Performance Monitoring System.

Notes for all graphics: Fatality data for 2016 is finalized as of January 2018, serious injury count for 2016 is as of August 2018. All data for 2017 is preliminary as of August 2018. Under 23 U.S. Code § 148 and 23 U.S. Code § 409, safety data, reports, surveys, schedules, lists compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential crash sites, hazardous roadway conditions, or railway-highway crossings are not subject to discovery or admitted into evidence in a federal or state court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.

Measure No. 3 - Serious injuries

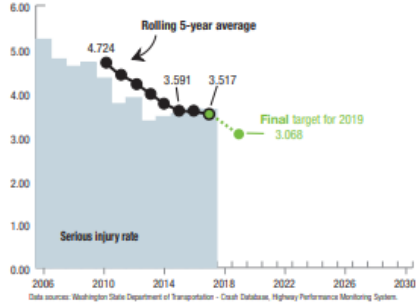
2006 through 2030



Data source: Washington State Department of Transportation - Crash Database.

Measure No. 4 - Serious injury rate per 100 million VMT

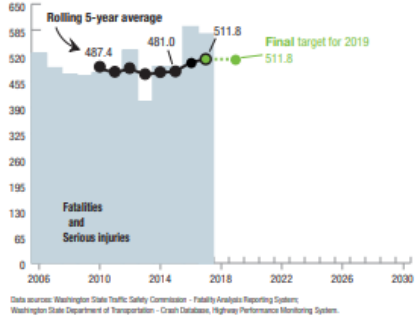
2006 through 2030



Data sources: Washington State Department of Transportation - Crash Database, Highway Performance Monitoring System.

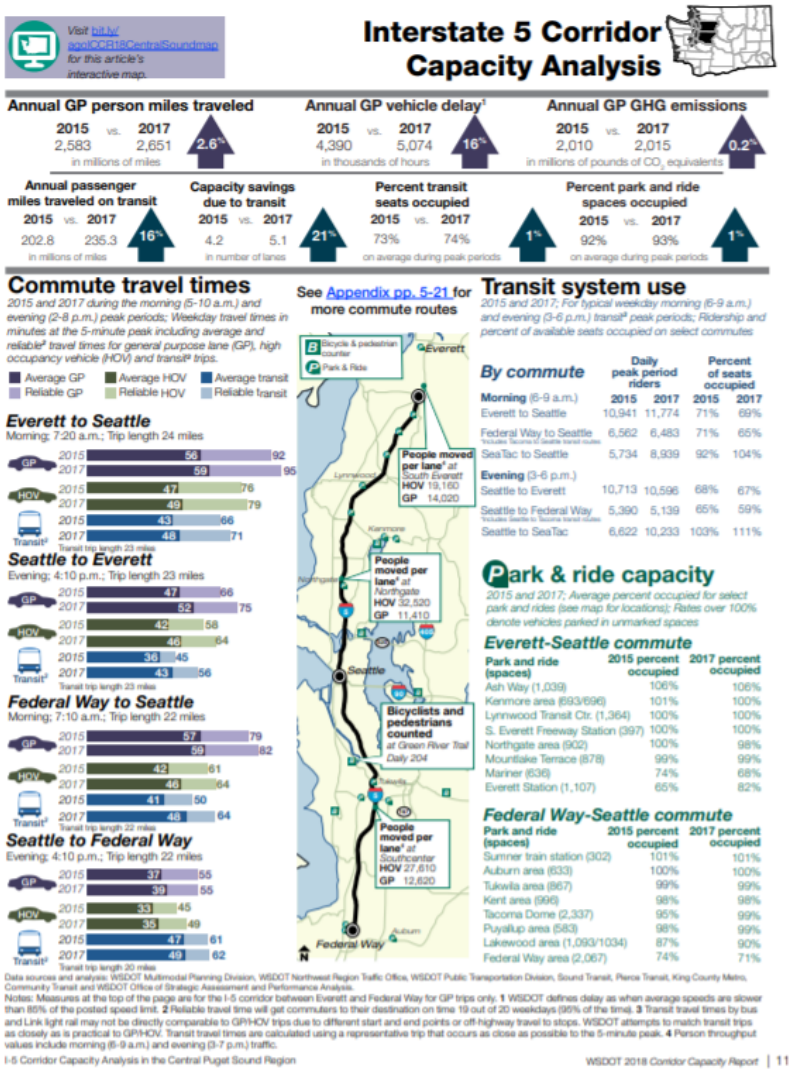
Measure No. 5 - Non-motorist fatalities and serious injuries

2006 through 2030



Data sources: Washington State Traffic Safety Commission - Fatality Analysis Reporting System; Washington State Department of Transportation - Crash Database, Highway Performance Monitoring System.

Corridor Capacity Report (CCR)



Link to statewide map: bit.ly/agolCCR18statewidemap

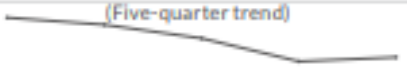
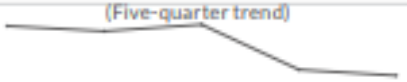
CCR Engagement Process – ongoing effort

Data Contributors	WSDOT Leadership	WSDOT Regional Staff
Tailor to different audiences	Align messaging with agency priorities	Shorter report
Make web-based	Make truly multimodal by integrating modes	Expand interactive online map
Expand interactive online map	Focus on solutions	Create high-level summaries
Create high-level summaries	Less narrative and text	Write in "plain talk"
Write in "plain talk"	More infographics for presentations	Better Active Transportation data

The Gray Notebook

- Quarterly performance and accountability report
- Quarterly and annual updates on key agency functions
- Aligned with the agency's strategic plan emphasis

The Gray Notebook

Statewide policy goal/ WSDOT performance measure	Previous period	Current period	Target	Target met	Five-year trend (unless noted)	Desired trend
Safety						
Rate of **traffic fatalities** per 100 million vehicle miles traveled statewide (Annual measure: calendar years 2016 & 2017)	0.88	0.92	<1.00[1]	✓		↓
Rate of **recordable incidents** for every 100 full-time WSDOT workers (Annual measure: calendar years 2017 & 2018)	4.7	5.0	<5.0	–		↓
Preservation						
Percentage of state **highway pavement** in fair or better condition by vehicle miles traveled (Annual measure: calendar years 2016 & 2017)	92.2%	91.8%	≥ 90%	✓		↑
Percentage of **state bridges** in fair or better condition by bridge deck area (Annual measure: fiscal years 2018 & 2019)	92.5%	92.9%	≥ 90%	✓		↑
Mobility[2] (congestion relief)						
Highways: Vehicle Miles Traveled **(VMT)** on state highways (Annual measure: calendar years 2016 & 2017)	34.2 million	34.6 million	*	N/A		↓
Highways: Average **incident clearance times** for all Incident Response program responses (Calendar quarterly measure: Q2 2018 & Q2 2019)	12.5 minutes	12.3 minutes	*	N/A		↓
Ferries: Percentage of trips departing on time[3] (Fiscal quarterly measure: year to year Q4 FY2018 & Q4 FY2019)	86.8%	87.5%	≥ 95%	–	 (Five-quarter trend)	↑
Rail: Amtrak Cascades on-time performance[4] (Annual measure: fiscal years 2017 & 2018)	56.3%[5]	53.9%	≥ 88%	–	 (Five-quarter trend)	↑

The Gray Notebook Lite

PERFORMANCE HIGHLIGHTS reported for the quarter ending June 30, 2019

40,571
trips completed by WSF in the fourth quarter of FY2019. This comprised 99.4% of the 40,835 regularly scheduled trips.

280 BRIDGES

owned by WSDOT are currently over 80 YEARS OLD

12 PERCENT increase in **air cargo** tonnage from 2016 to 2017

2,000 HOURS of WSDOT staff time saved by **General Hydraulic Project Approval permits** in 2018

49 percent of WSDOT employees **eligible to retire** with full benefits actually retired in FY2019

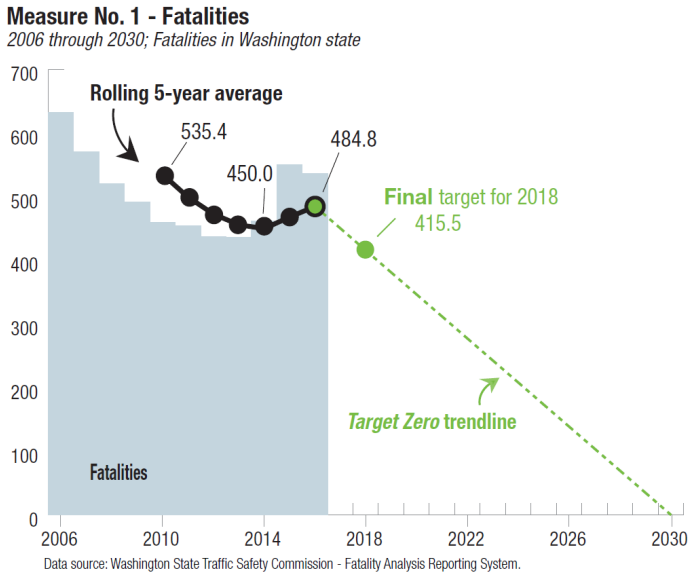
$25 MILLION in economic benefit provided by WSDOT's **Incident Response** teams clearing 16,268 incidents during the quarter

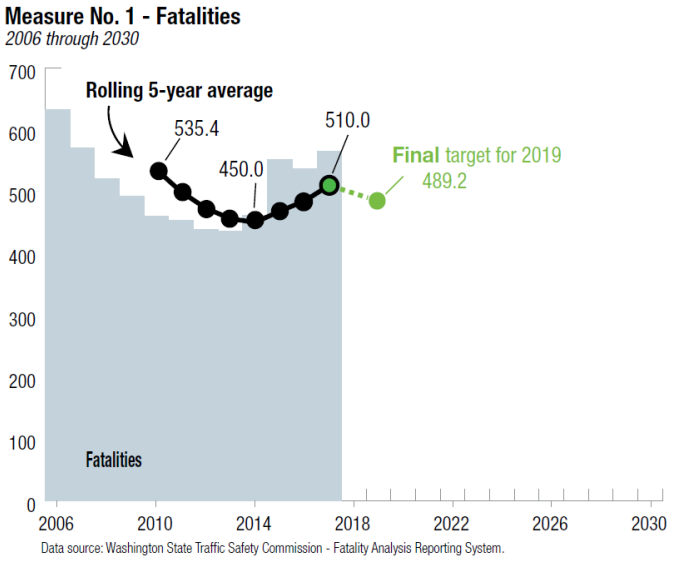
Construction projects completed with **Nickel** or **Transportation Partnership Account** funds **382**

WSDOT COMPLETED 15 FISH PASSAGE PROJECTS IN 2018, IMPROVING ACCESS TO 105 MILES OF UPSTREAM HABITAT

Lessons Learned

- PM 1 targets were well-coordinated
  - Based on Target Zero methodology
- Sophomore slump
  - WSDOT changed its methodology to “maintenance targets”
  - Staff turnover
  - Changes not communicated to MPOs until very late in process
  - Unhappy partners
- The comeback
  - Involved MPOs in methodology conversations prior to finalizing
  - Early notification of WSDOT targets
  - MPO-level data to frame regional conversation





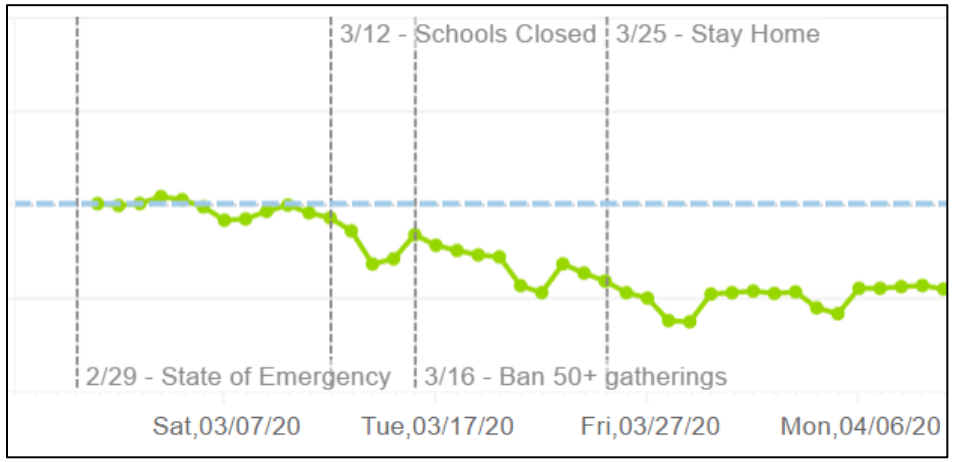
COVID-19 in Washington

- January 21 – First COVID-19 case identified in Washington state
- February 29 – Governor declares state of emergency
- March 12 – Schools close
- March 16 – First WSDOT daily travel report
- March 25 – Stay Home, Stay Healthy

Informing Decision Making

Governor making difficult decisions daily:

- Close state offices?
- Close parks, trails, recreation?
- Cancel large gatherings?
- Prohibit medium gatherings, including religious services?
- Restrict travel?



Need for high-clip info in near real-time about how people are or are not adjusting their behavior

Serving our Customers

Daily message:

- Governor and Governor’s office
- WSDOT Executive Team
- WSDOT Communicators list
- JIC/EOC at Camp Murray
- Heads of state agencies
- County and local partners
- Media

WSDOT COVID-19 Dashboard

https://www.wsdot.wa.gov/about/covid-19-transportation-report/

https://coronavirus.wa.gov/

https://www.governor.wa.gov/issues/issues/covid-19-resources

Questions

- To find out more, please contact me at (425) 647-0030 or gabe.philips@wsdot.wa.gov
- Please let me know if you have any comments on how we can improve our communication and reporting

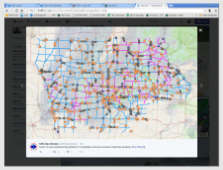
The Use of Data for Effective Communication

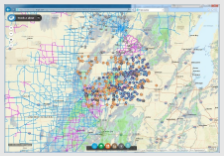
John Selmer
Director, Strategic Performance Division

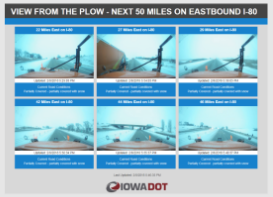
Initial Thoughts

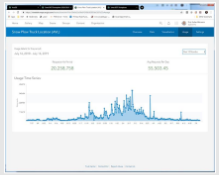
- Meaningful Communication comes at a potential risk.
- Data/tools allow us the opportunity for greater impact. Data/tools can also hinder the message.
- What is our role, "to tell the story or to reveal the story"?
- If you determine your message is ineffective, are you in a position to understand why and change it? Is it the right message to begin with?

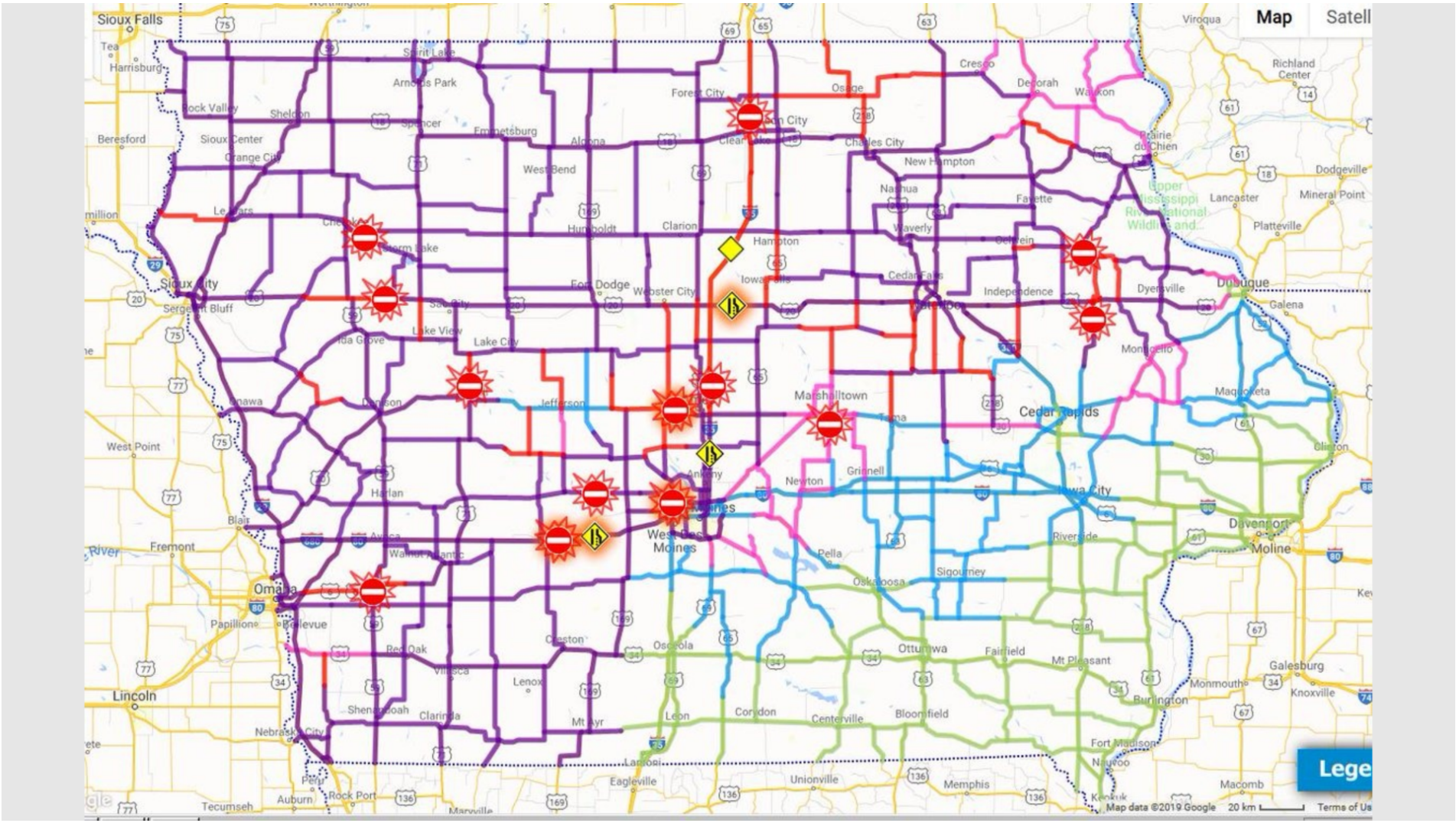
Track A Plow

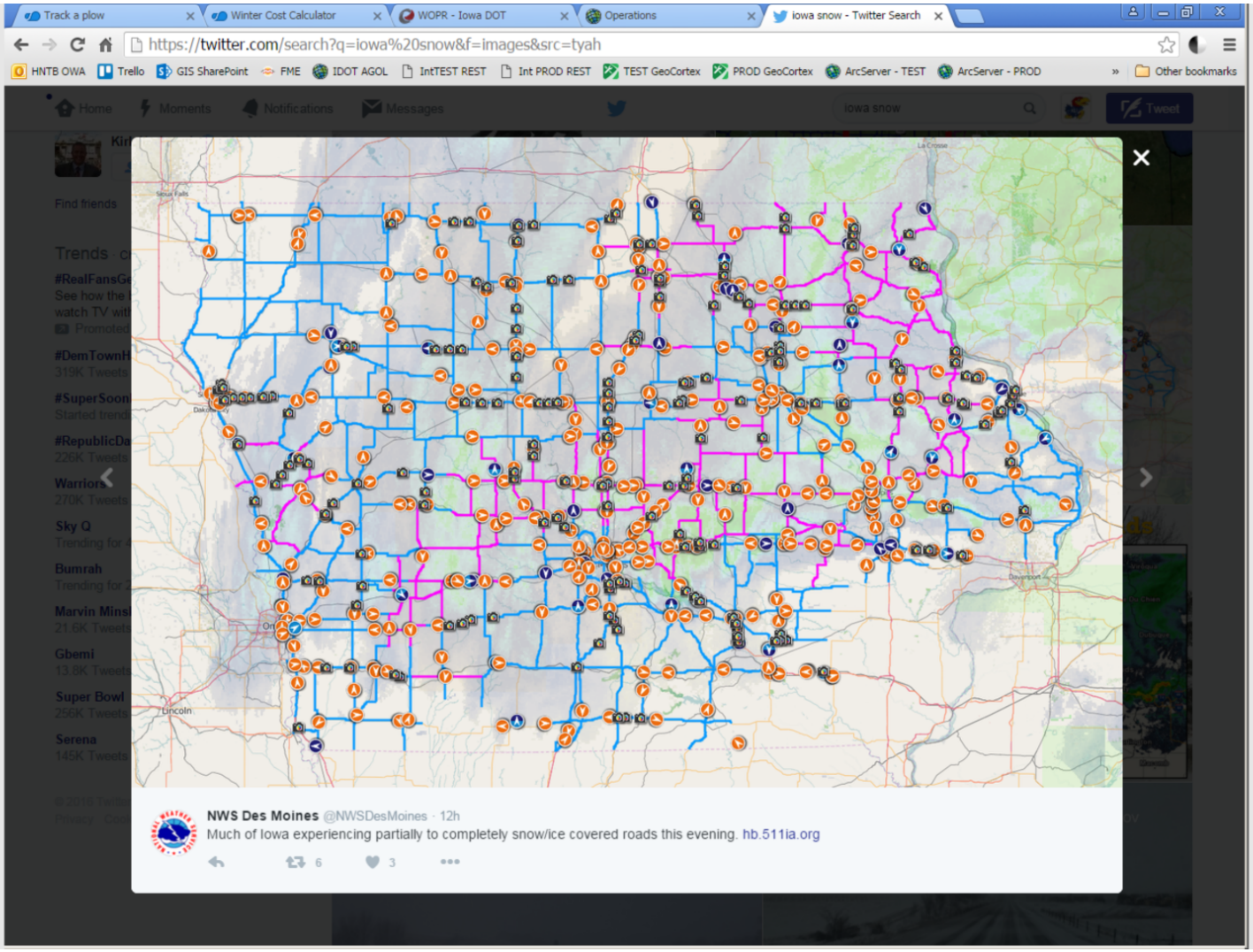


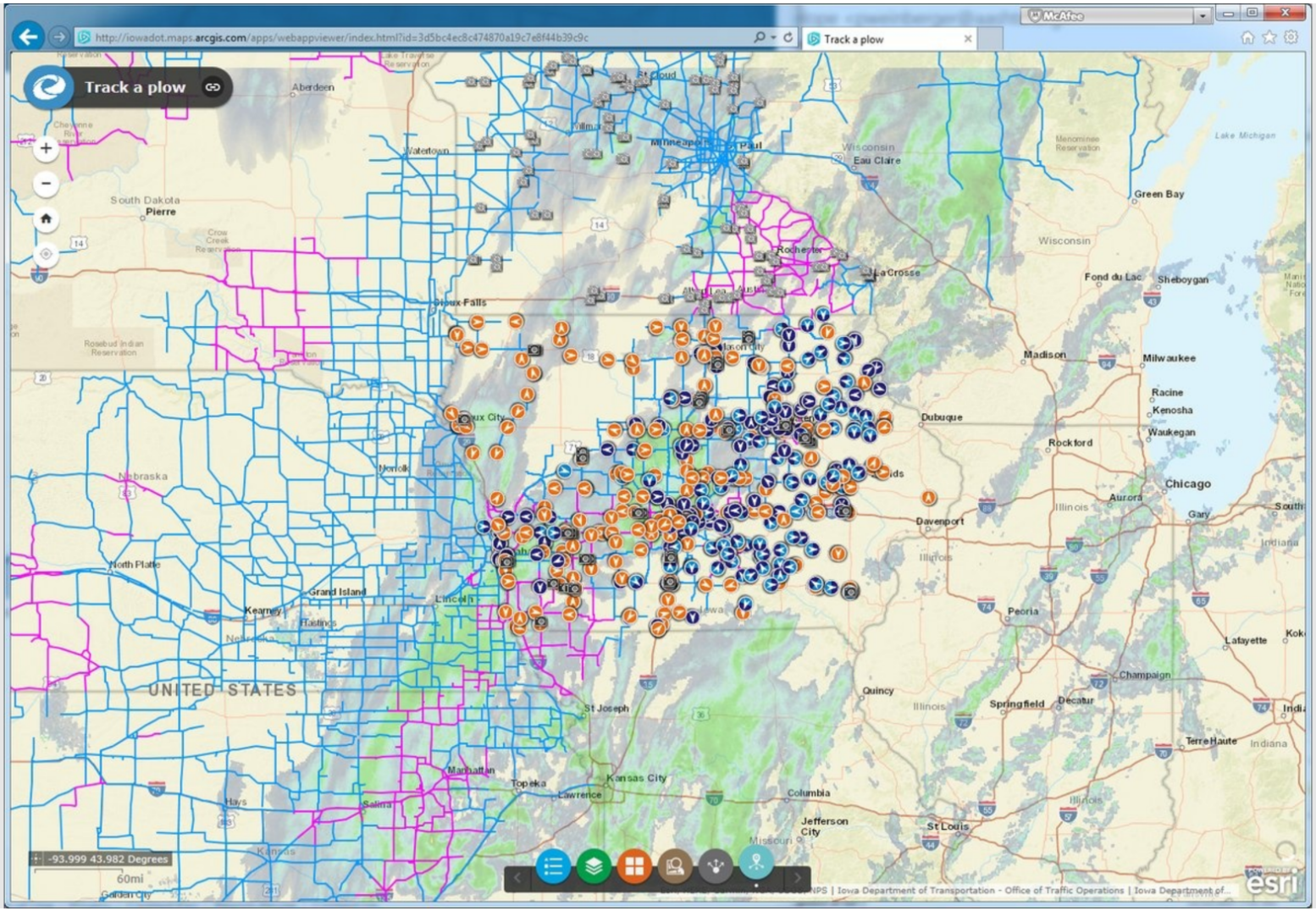







Map
Satell
Sioux Falls
Harrisburg
Beresford
Sioux Center
Orange City
Rock Valley
Sheldon
Spencer
Emmetsburg
Arnolds Park
Spirit Lake
Algona
West Bend
Le Mars
Sioux City
Sergeant Bluff
Storm Lake
Lake View
Ida Grove
Lake City
Humboldt
Clarion
Forest City
Osage
Cresco
Decorah
Waukon
Viroqua
Richland Center
Prairie du Chien
Dodgeville
Mineral Point
Platteville
Lancaster
Upper Mississippi River National Wildlife and
Charles City
New Hampton
Nashua
Fayette
Waverly
Oelwein
Hampton
Iowa Falls
Fort Dodge
Webster City
Cedar Falls
Independence
Dyersville
Dubuque
Galena
Monticello
Marshalltown
Tama
Cedar Rapids
Maquoketa
Clinton
Grinnell
Newton
Jefferson
Denison
Onawa
West Point
Blair
Fremont
Harlan
Ankeny
West Des Moines
Iowa City
Riverside
Davenport
Moline
Pella
Oskaloosa
Sigourney
Omaha
Papillion
Bellevue
Council Bluffs
Red Oak
Villisca
Lenox
Shenandoah
Clarinda
Nebraska City
Lincoln
Creston
Osceola
Ottumwa
Fairfield
Mt Pleasant
Burlington
Monmouth
Galesburg
Knoxville
Leon
Corydon
Centerville
Bloomfield
Mt Ayr
Fort Madison
Keokuk
Memphis
Macomb
Unionville
Eagleville
Tecumseh
Auburn
Rock Port
Map data ©2019 Google
20 km
Terms of Us
Lege


Track a plow
Winter Cost Calculator
WOPR - Iowa DOT
Operations
iowa snow - Twitter Search
https://twitter.com/search?q=iowa%20snow&f=images&src=tyah
HNTB OWA
Trello
GIS SharePoint
FME
IDOT AGOL
IntTEST REST
Int PROD REST
TEST GeoCortex
PROD GeoCortex
ArcServer - TEST
ArcServer - PROD
Other bookmarks
Home
Moments
Notifications
Messages
iowa snow
Tweet
Find friends
Trends
Sky Q
Bumrah
Gbemi
Super Bowl
Serena
NWS Des Moines @NWSDesMoines · 12h
Much of Iowa experiencing partially to completely snow/ice covered roads this evening. hb.511ia.org


Track a plow
http://iowadot.maps.arcgis.com/apps/webappviewer/index.html?id=3d5bc4ec8c474870a19c7e8f44b39c9c
Track a plow
McAfee
Aberdeen
Watertown
Minneapolis
St Paul
Eau Claire
Green Bay
Wisconsin
Lake Michigan
South Dakota
Pierre
Rochester
La Crosse
Fond du Lac
Sheboygan
Sioux Falls
Madison
Milwaukee
Racine
Kenosha
Waukegan
Dubuque
Rockford
Chicago
Aurora
Gary
Davenport
Illinois
Indiana
Nebraska
North Platte
Grand Island
Lincoln
Kearney
Hastings
Peoria
Lafayette
Champaign
Quincy
Springfield
Decatur
Terre Haute
UNITED STATES
St Joseph
Manhattan
Topeka
Kansas City
Lawrence
Columbia
Jefferson City
St Louis
Missouri
Kansas
Hays
Salina
-93.999 43.982 Degrees
60mi
esri

VIEW FROM THE PLOW - NEXT 50 MILES ON EASTBOUND I-80

22 Miles East on I-80

Updated: 2/8/2018 5:29:03 PM

Current Road Conditions
Partially Covered - partially covered with snow

27 Miles East on I-80

Updated: 2/8/2018 5:34:03 PM

Current Road Conditions
Partially Covered - partially covered with snow

29 Miles East on I-80

Updated: 2/8/2018 5:39:03 PM

Current Road Conditions
Partially Covered - partially covered with snow

42 Miles East on I-80

Updated: 2/8/2018 5:30:34 PM

Current Road Conditions
Partially Covered - partially covered with snow

44 Miles East on I-80

Updated: 2/8/2018 5:35:37 PM

Current Road Conditions
Partially Covered - partially covered with snow

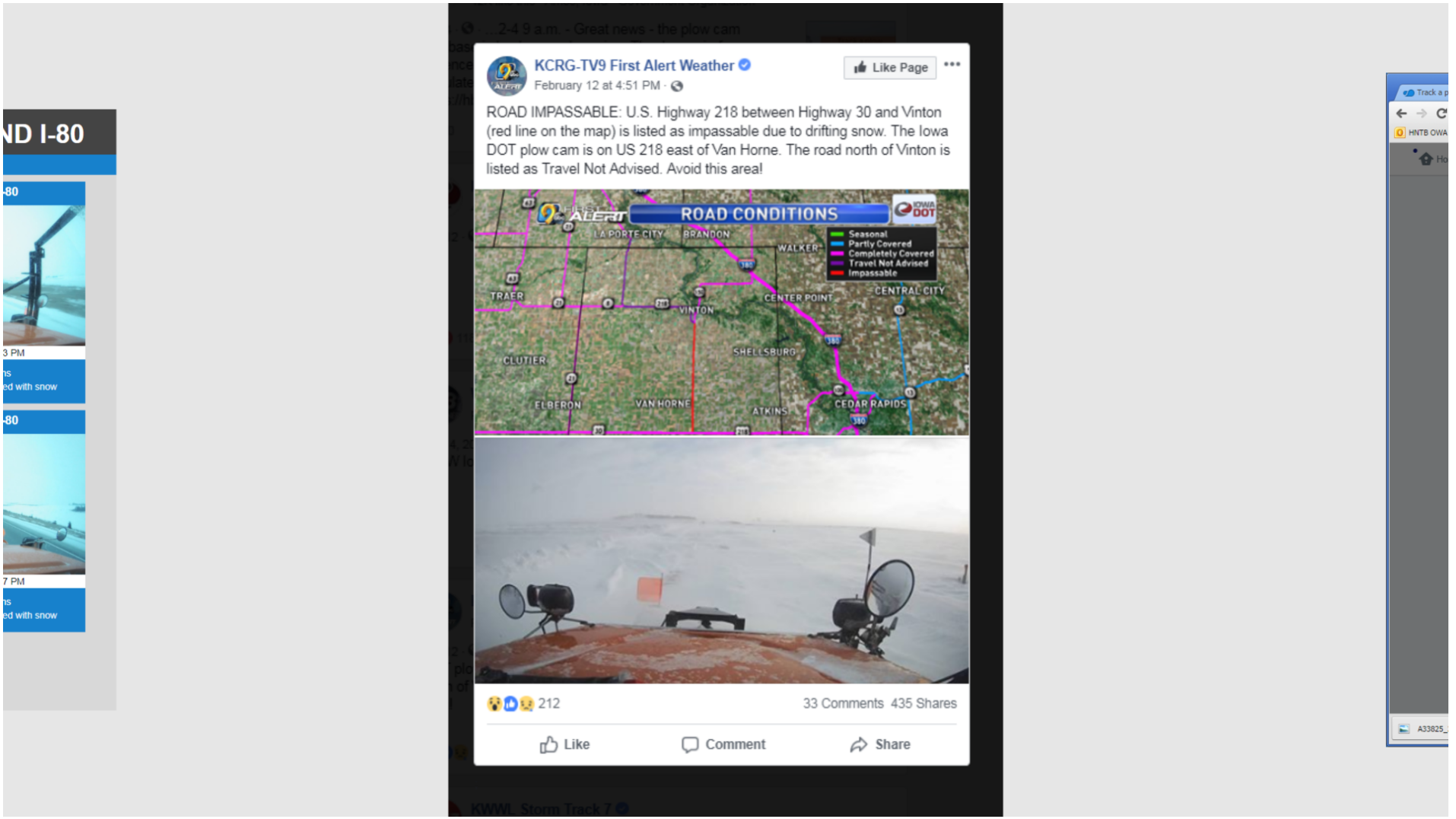
46 Miles East on I-80

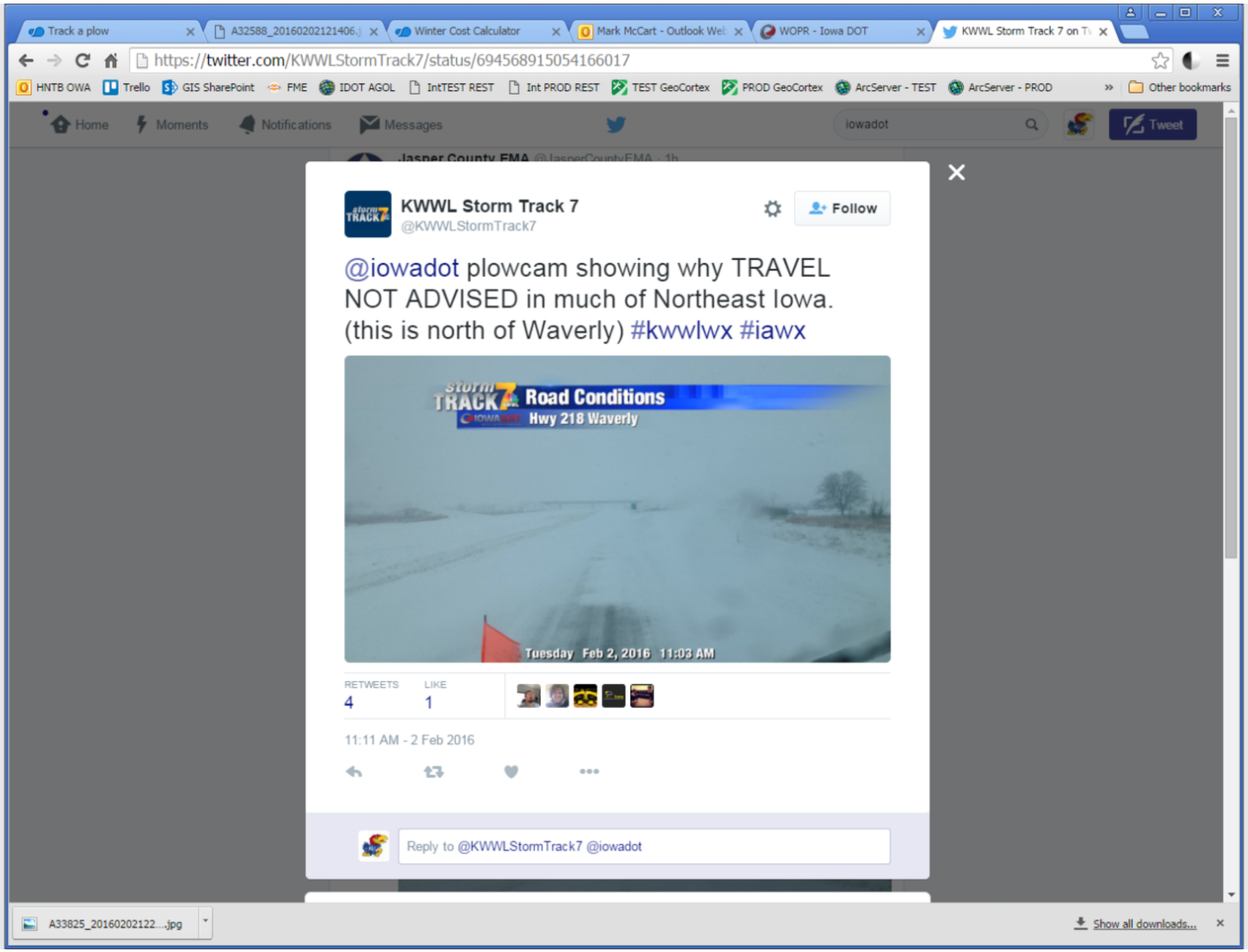
Updated: 2/8/2018 5:40:37 PM

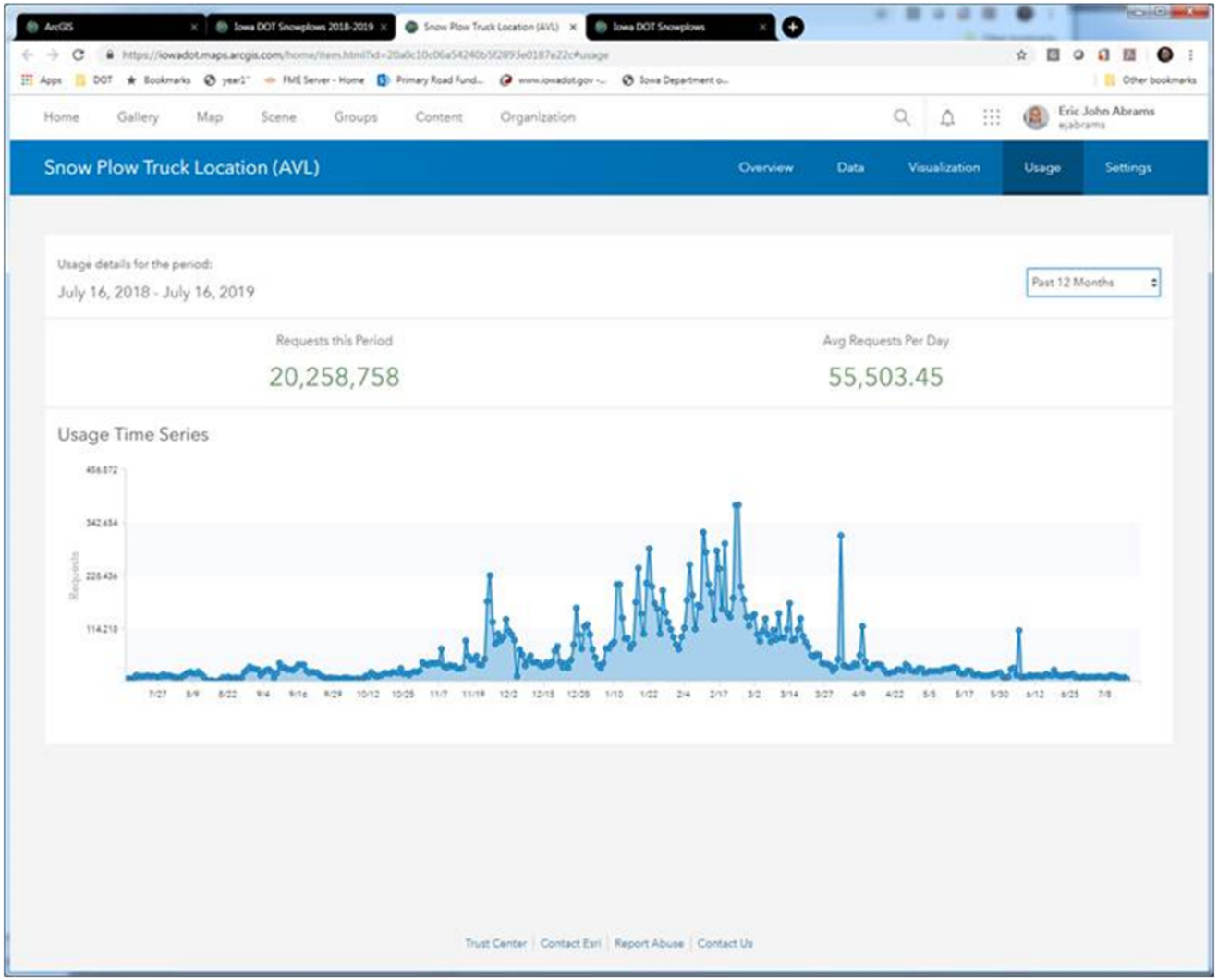
Current Road Conditions
Partially Covered - partially covered with snow

Last Updated: 2/8/2018 5:46:33 PM

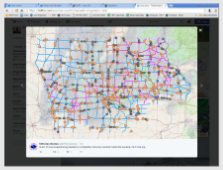
IOWA DOT

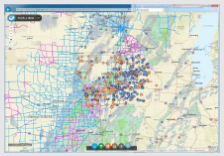

ND I-80
3 PM
ed with snow
7 PM
ed with snow
2-4 9 a.m. - Great news - the plow cam
KCRG-TV9 First Alert Weather
February 12 at 4:51 PM
Like Page
ROAD IMPASSABLE: U.S. Highway 218 between Highway 30 and Vinton (red line on the map) is listed as impassable due to drifting snow. The Iowa DOT plow cam is on US 218 east of Van Horne. The road north of Vinton is listed as Travel Not Advised. Avoid this area!
ROAD CONDITIONS
Seasonal
Partly Covered
Completely Covered
Travel Not Advised
Impassable
LA PORTE CITY
BRANDON
WALKER
TRAER
VINTON
CENTER POINT
CENTRAL CITY
SHELLSBURG
CLUTIER
ELBERON
VAN HORNE
ATKINS
CEDAR RAPIDS
212
33 Comments 435 Shares
Like
Comment
Share
KWWL Storm Track 7

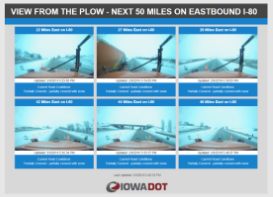

Track a plow
Winter Cost Calculator
Mark McCart - Outlook Web
WOPR - Iowa DOT
KWWL Storm Track 7 on Tw
https://twitter.com/KWWLStormTrack7/status/694568915054166017
HNTB OWA
Trello
GIS SharePoint
FME
IDOT AGOL
IntTEST REST
Int PROD REST
TEST GeoCortex
PROD GeoCortex
ArcServer - TEST
ArcServer - PROD
Other bookmarks
Home
Moments
Notifications
Messages
iowadot
Tweet
KWWL Storm Track 7
@KWWLStormTrack7
Follow
@iowadot plowcam showing why TRAVEL NOT ADVISED in much of Northeast Iowa. (this is north of Waverly) #kwwlwx #iawx
Road Conditions
Hwy 218 Waverly
Tuesday Feb 2, 2016 11:03 AM
RETWEETS
4
LIKE
1
11:11 AM - 2 Feb 2016
Reply to @KWWLStormTrack7 @iowadot
A33825_20160202122....jpg
Show all downloads...

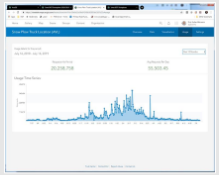

Snow Plow Truck Location (AVL)
Home
Gallery
Map
Scene
Groups
Content
Organization
Eric John Abrams
ejabrams
Overview
Data
Visualization
Usage
Settings
Usage details for the period:
July 16, 2018 - July 16, 2019
Past 12 Months
Requests this Period
20,258,758
Avg Requests Per Day
55,503.45
Usage Time Series
456,872
342,654
228,436
114,218
Requests
Trust Center
Contact Esri
Report Abuse
Contact Us

Track A Plow

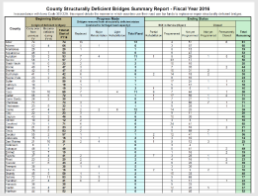


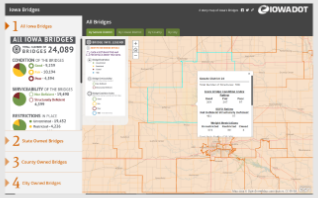


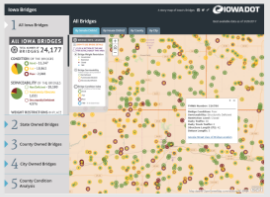


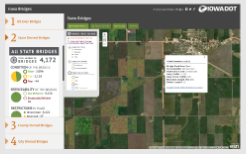


Bridge Condition Reporting





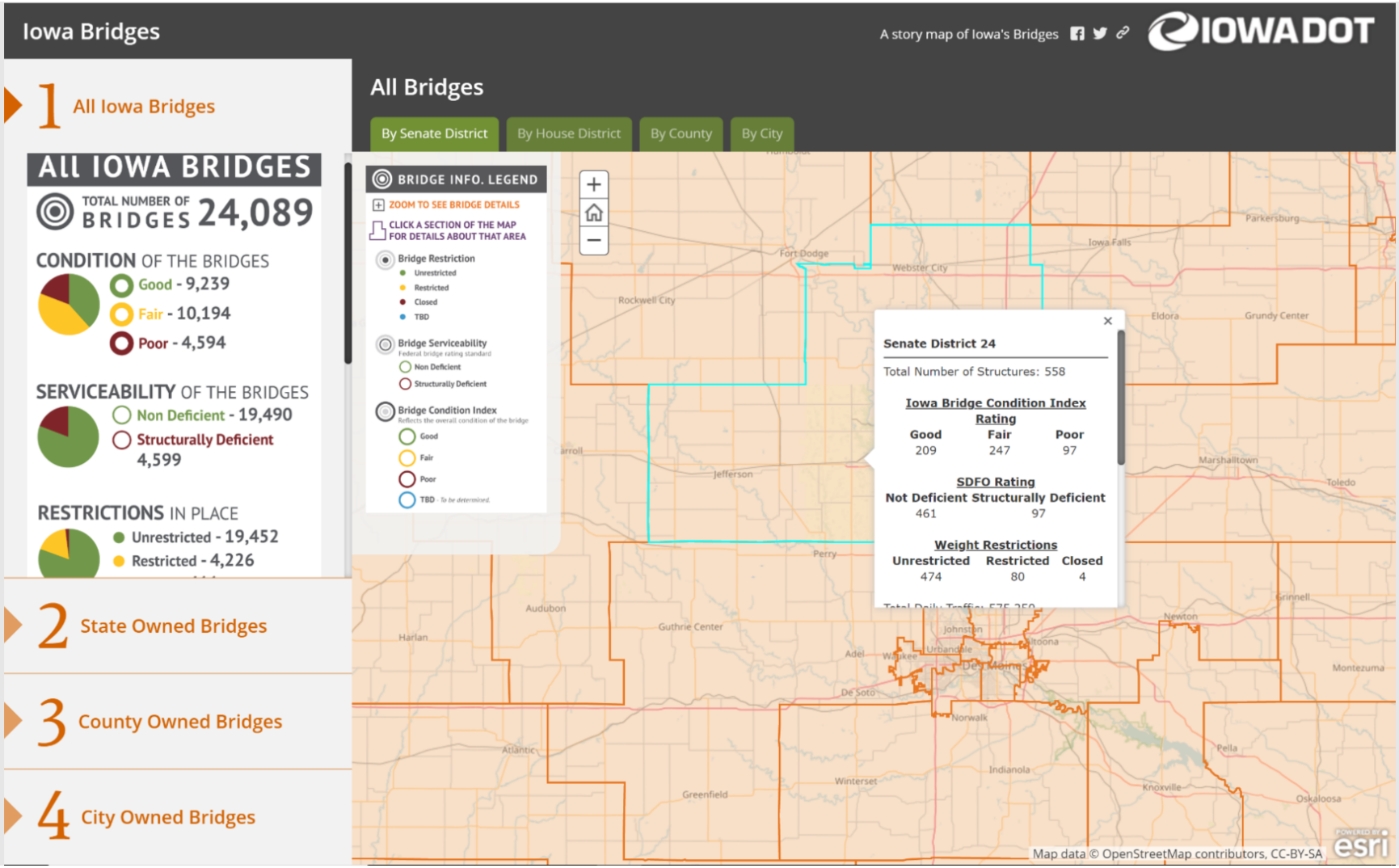


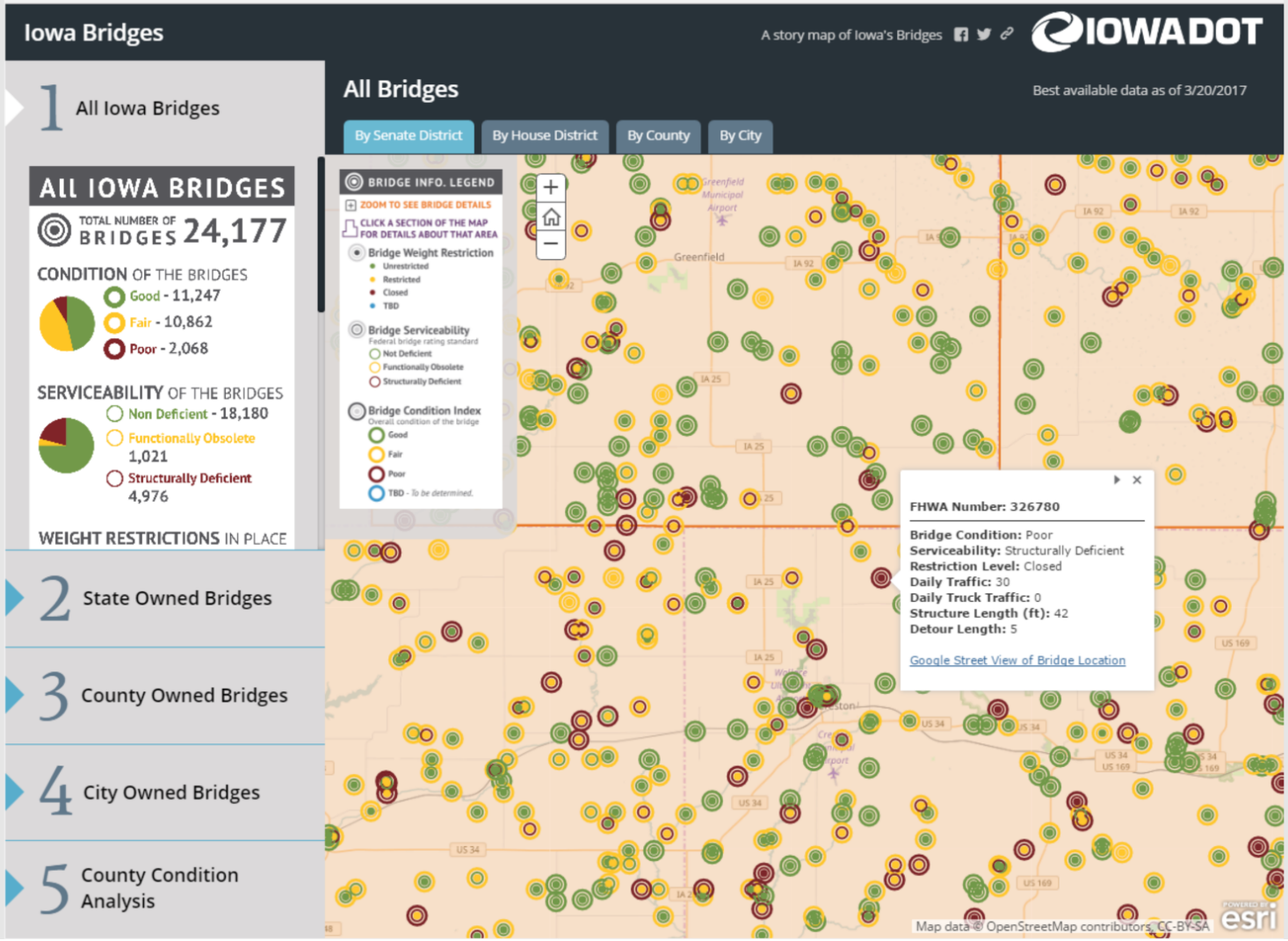


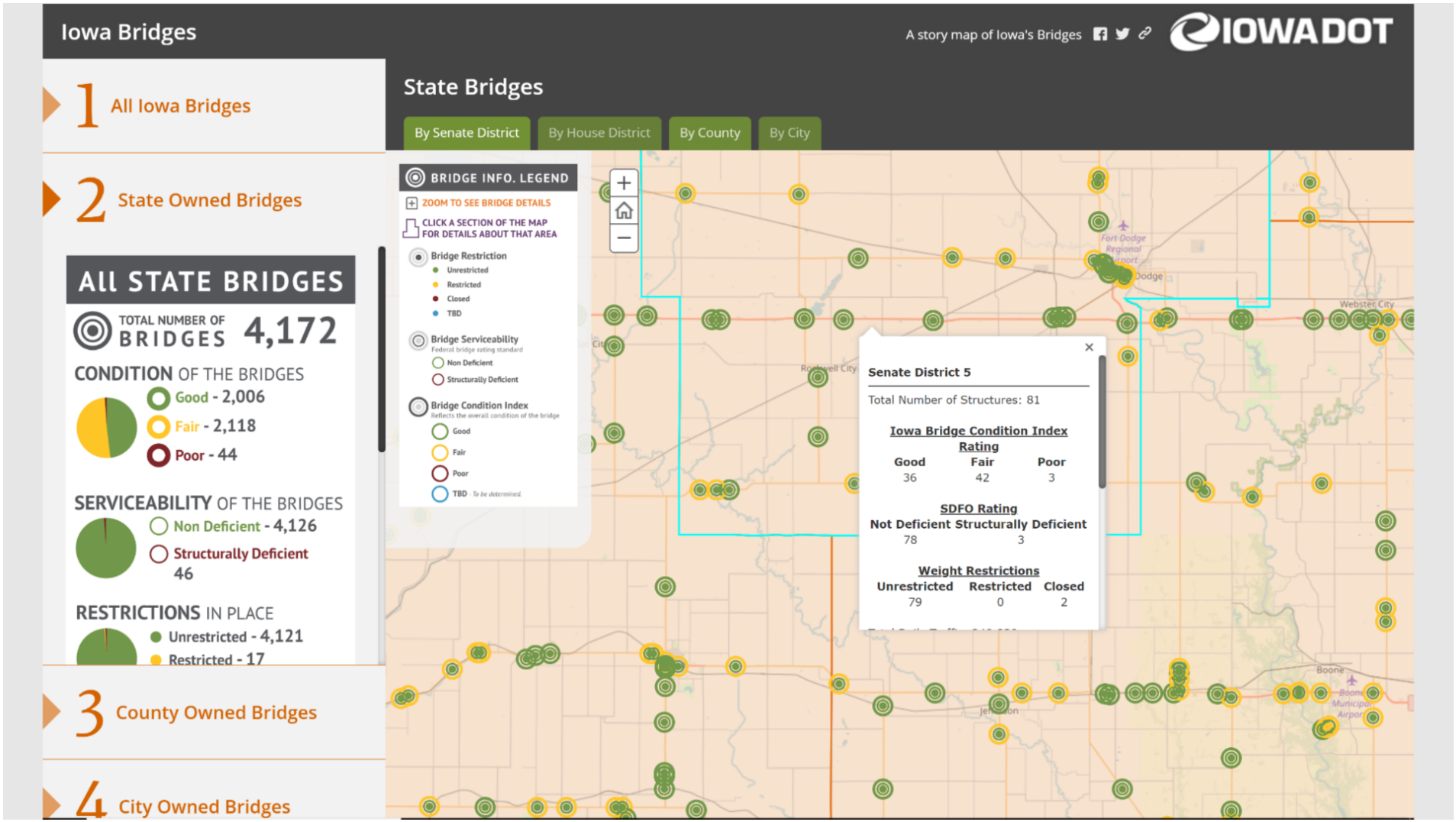
County Structurally Deficient Bridges Summary Report - Fiscal Year 2016

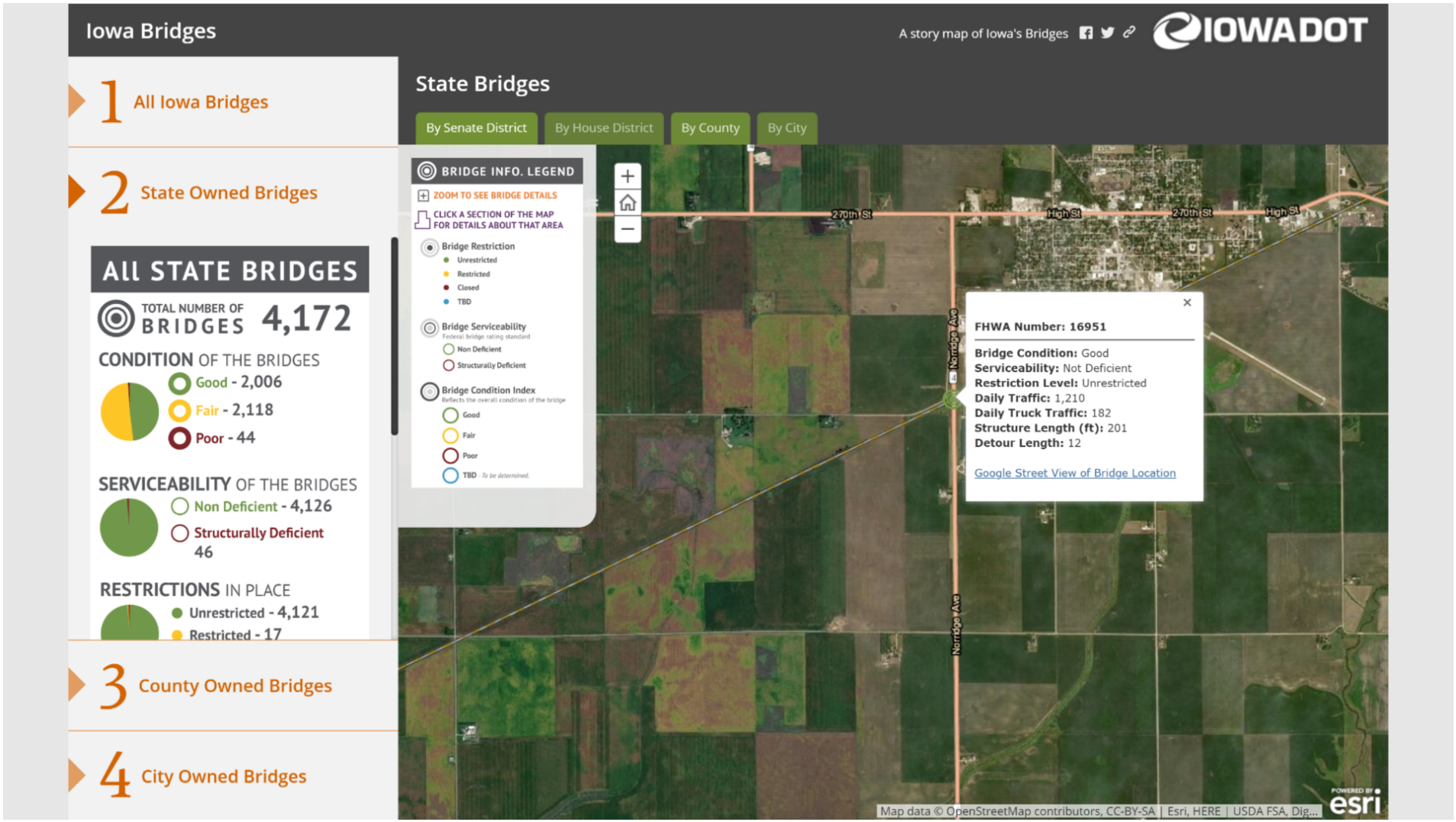
In accordance with Iowa Code 309.22A, this report details the manner in which counties use their road use tax funds to replace or repair structurally deficient bridges.

County	Beginning Status (origin of deficient bridges)			Progress Made Bridges removed from structurally deficient status (restored to full legal load capacity)				Ending Status					
								Still in Service (Open)			Closed		
	Carry over from previous FY	Became deficient during FY15	Total at Start of FY16	Replaced	Major Rehabilitation	Light Rehabilitation	Total Fixed	Partial Rehabilitation	Programmed	Not yet Programmed	Not yet Programmed	Permanently Closed	Total Remaining
Adair	74		**74**	13			**13**		4	51		6	**61**
Adams	62	4	**66**	5	1		**6**		3	57			**60**
Allamakee	20		**20**	1			**1**		6	13			**19**
Appanoose	46	7	**53**				**0**		6	47			**53**
Audubon	50	3	**53**	7	4		**11**	1	6	29	1	5	**42**
Benton	56	1	**57**	7			**7**		33	17			**50**
Black Hawk	16	6	**22**	2			**2**		10	10			**20**
Boone	40	7	**47**	3			**3**		7	35		2	**44**
Bremer	42	5	**47**	4			**4**		10	31	2		**43**
Buchanan	41	1	**42**	6			**6**	2	14	18	2		**36**
Buena Vista	23	2	**25**	1			**1**		8	16			**24**
Butler	49	1	**50**	6	1		**7**		17	24	1	1	**43**
Calhoun	19		**19**	1			**1**		5	12		1	**18**
Carroll	19		**19**	3			**3**	1	8	6	1		**16**
Cass	59	10	**69**	7		4	**11**	6	7	44		1	**58**
Cedar	66	6	**72**	1			**1**	1	17	50	1	2	**71**
Cerro Gordo	28	2	**30**				**0**	1	7	21	1		**30**
Cherokee	74		**74**	3			**3**		3	60	7	1	**71**
Chickasaw	23	9	**32**	1			**1**		5	25		1	**31**
Clarke	47	4	**51**	2	2	8	**12**		14	25			**39**
Clay	22	1	**23**	3			**3**		9	11			**20**
Clayton	43	3	**46**	6			**6**		10	30			**40**
Clinton	10	2	**12**	2			**2**		3	6		1	**10**
Crawford	70	1	**71**	6			**6**		24	41			**65**
Dallas	21	2	**23**	2			**2**		3	16		2	**21**
Davis	78	5	**83**	2			**2**		5	69	7		**81**
Decatur	55	2	**57**	1			**1**	2	12	41	1		**56**
Delaware	15	1	**16**	1	1		**2**	1	3	10			**14**
Des Moines	21	10	**31**	2	4		**6**	1	9	12	3		**25**
Dickinson	6	1	**7**				**0**		3	4			**7**
Dubuque	48	1	**49**				**0**		6	41		2	**49**
Emmet	12	7	**19**				**0**		1	16		2	**19**
Fayette	37	4	**41**	2			**2**	7	3	28	1		**39**
Floyd	23	2	**25**	2			**2**		4	16	1	2	**23**
Franklin	37	6	**43**	4			**4**		8	28		3	**39**
Fremont	38		**38**	1	4		**5**		3	30			**33**
Greene	15	1	**16**				**0**	2	3	9	2		**16**
Grundy	45	5	**50**	1	1		**2**		15	33			**48**
Guthrie	72	11	**83**	3	3		**6**		9	68			**77**
Hamilton	27	4	**31**	6	2		**8**		5	17		1	**23**
Hancock	38		**38**				**0**		5	33			**38**
Hardin	33	4	**37**				**0**		12	20	5		**37**
Harrison	44	8	**52**				**0**		6	46			**52**


Iowa Bridges
A story map of Iowa's Bridges
IOWADOT
1 All Iowa Bridges
All Bridges
By Senate District
By House District
By County
By City
ALL IOWA BRIDGES
TOTAL NUMBER OF BRIDGES 24,089
CONDITION OF THE BRIDGES
Good - 9,239
Fair - 10,194
Poor - 4,594
SERVICEABILITY OF THE BRIDGES
Non Deficient - 19,490
Structurally Deficient 4,599
RESTRICTIONS IN PLACE
Unrestricted - 19,452
Restricted - 4,226
2 State Owned Bridges
3 County Owned Bridges
4 City Owned Bridges
BRIDGE INFO. LEGEND
ZOOM TO SEE BRIDGE DETAILS
CLICK A SECTION OF THE MAP FOR DETAILS ABOUT THAT AREA
Bridge Restriction
Unrestricted
Restricted
Closed
TBD
Bridge Serviceability
Federal bridge rating standard
Non Deficient
Structurally Deficient
Bridge Condition Index
Reflects the overall condition of the bridge
Good
Fair
Poor
TBD - To be determined.
Senate District 24
Total Number of Structures: 558
Iowa Bridge Condition Index Rating
Good 209
Fair 247
Poor 97
SDFO Rating
Not Deficient 461
Structurally Deficient 97
Weight Restrictions
Unrestricted 474
Restricted 80
Closed 4
Fort Dodge
Webster City
Iowa Falls
Parkersburg
Rockwell City
Eldora
Grundy Center
Jefferson
Marshalltown
Toledo
Perry
Grinnell
Audubon
Guthrie Center
Harlan
Newton
Johnston
Urbandale
Adel
Montezuma
De Soto
Norwalk
Atlantic
Pella
Indianola
Winterset
Knoxville
Greenfield
Oskaloosa
Map data © OpenStreetMap contributors, CC-BY-SA
esri


Iowa Bridges
A story map of Iowa's Bridges
IOWA DOT
1 All Iowa Bridges
2 State Owned Bridges
3 County Owned Bridges
4 City Owned Bridges
5 County Condition Analysis
ALL IOWA BRIDGES
TOTAL NUMBER OF BRIDGES 24,177
CONDITION OF THE BRIDGES
Good - 11,247
Fair - 10,862
Poor - 2,068
SERVICEABILITY OF THE BRIDGES
Non Deficient - 18,180
Functionally Obsolete 1,021
Structurally Deficient 4,976
WEIGHT RESTRICTIONS IN PLACE
All Bridges
Best available data as of 3/20/2017
By Senate District
By House District
By County
By City
BRIDGE INFO. LEGEND
ZOOM TO SEE BRIDGE DETAILS
CLICK A SECTION OF THE MAP FOR DETAILS ABOUT THAT AREA
Bridge Weight Restriction
Unrestricted
Restricted
Closed
TBD
Bridge Serviceability
Federal bridge rating standard
Not Deficient
Functionally Obsolete
Structurally Deficient
Bridge Condition Index
Overall condition of the bridge
Good
Fair
Poor
TBD - To be determined.
FHWA Number: 326780
Bridge Condition: Poor
Serviceability: Structurally Deficient
Restriction Level: Closed
Daily Traffic: 30
Daily Truck Traffic: 0
Structure Length (ft): 42
Detour Length: 5
Google Street View of Bridge Location
Greenfield
Map data © OpenStreetMap contributors, CC-BY-SA
esri


Iowa Bridges
A story map of Iowa's Bridges
IOWADOT
1 All Iowa Bridges
2 State Owned Bridges
3 County Owned Bridges
4 City Owned Bridges
State Bridges
By Senate District
By House District
By County
By City
ALL STATE BRIDGES
TOTAL NUMBER OF BRIDGES 4,172
CONDITION OF THE BRIDGES
Good - 2,006
Fair - 2,118
Poor - 44
SERVICEABILITY OF THE BRIDGES
Non Deficient - 4,126
Structurally Deficient 46
RESTRICTIONS IN PLACE
Unrestricted - 4,121
Restricted - 17
BRIDGE INFO. LEGEND
ZOOM TO SEE BRIDGE DETAILS
CLICK A SECTION OF THE MAP FOR DETAILS ABOUT THAT AREA
Bridge Restriction
Unrestricted
Restricted
Closed
TBD
Bridge Serviceability
Federal bridge rating standard
Non Deficient
Structurally Deficient
Bridge Condition Index
Reflects the overall condition of the bridge
Good
Fair
Poor
TBD - To be determined.
Senate District 5
Total Number of Structures: 81
Iowa Bridge Condition Index Rating
Good 36
Fair 42
Poor 3
SDFO Rating
Not Deficient 78
Structurally Deficient 3
Weight Restrictions
Unrestricted 79
Restricted 0
Closed 2
Fort Dodge Regional Airport
Dodge
Webster City
Boone
Boone Municipal Airport


Iowa Bridges
A story map of Iowa's Bridges
IOWADOT
1 All Iowa Bridges
2 State Owned Bridges
3 County Owned Bridges
4 City Owned Bridges
State Bridges
By Senate District
By House District
By County
By City
ALL STATE BRIDGES
TOTAL NUMBER OF BRIDGES 4,172
CONDITION OF THE BRIDGES
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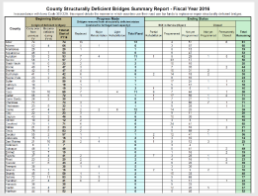
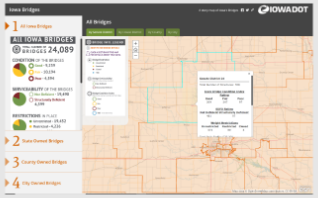
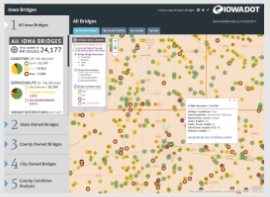
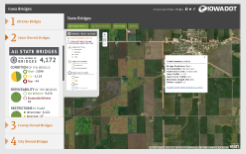
Structurally Deficient 46
RESTRICTIONS IN PLACE
Unrestricted - 4,121
Restricted - 17
BRIDGE INFO. LEGEND
ZOOM TO SEE BRIDGE DETAILS
CLICK A SECTION OF THE MAP FOR DETAILS ABOUT THAT AREA
Bridge Restriction
Unrestricted
Restricted
Closed
TBD
Bridge Serviceability
Federal bridge rating standard
Non Deficient
Structurally Deficient
Bridge Condition Index
Reflects the overall condition of the bridge
Good
Fair
Poor
TBD - To be determined.
270th St
High St
Norridge Ave
FHWA Number: 16951
Bridge Condition: Good
Serviceability: Not Deficient
Restriction Level: Unrestricted
Daily Traffic: 1,210
Daily Truck Traffic: 182
Structure Length (ft): 201
Detour Length: 12
Google Street View of Bridge Location
Map data © OpenStreetMap contributors, CC-BY-SA | Esri, HERE | USDA FSA, Dig...
POWERED BY esri

Bridge Condition Reporting

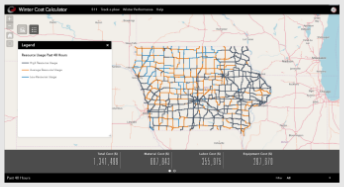


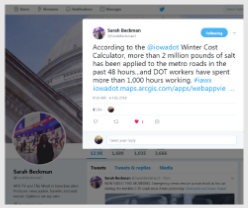


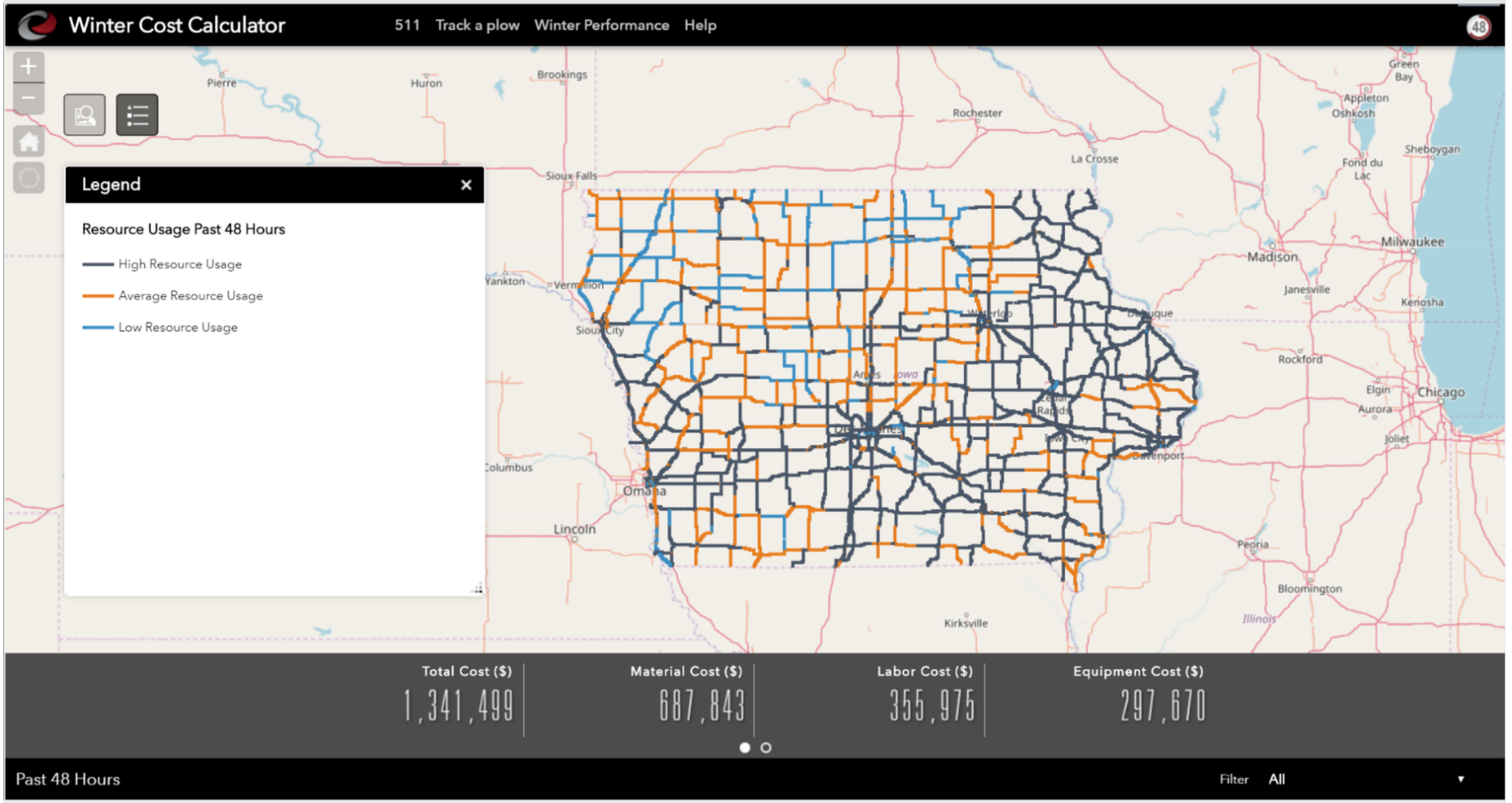


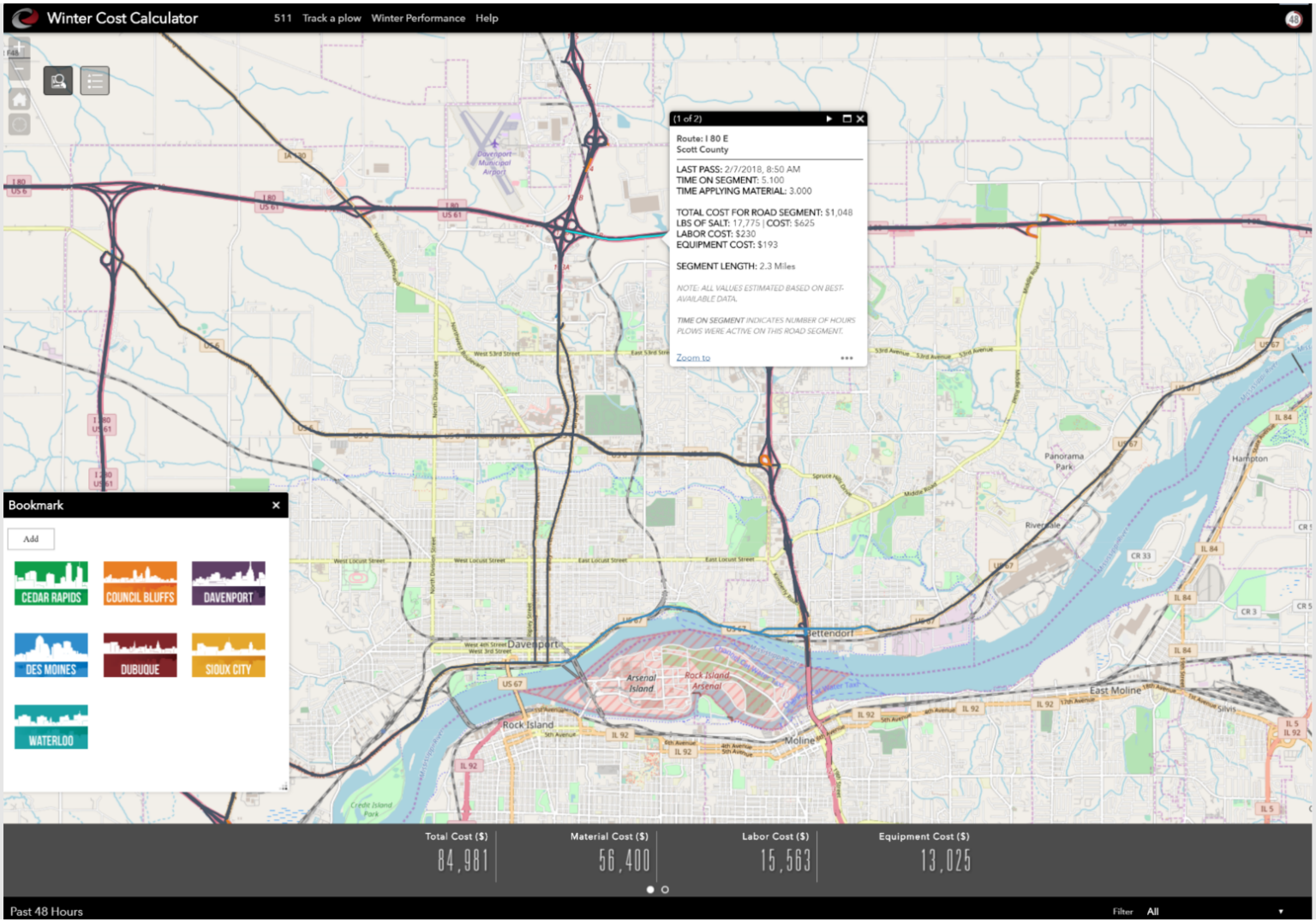


Winter Cost Calculator

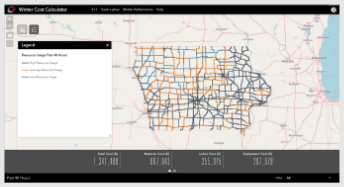


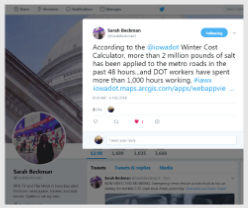


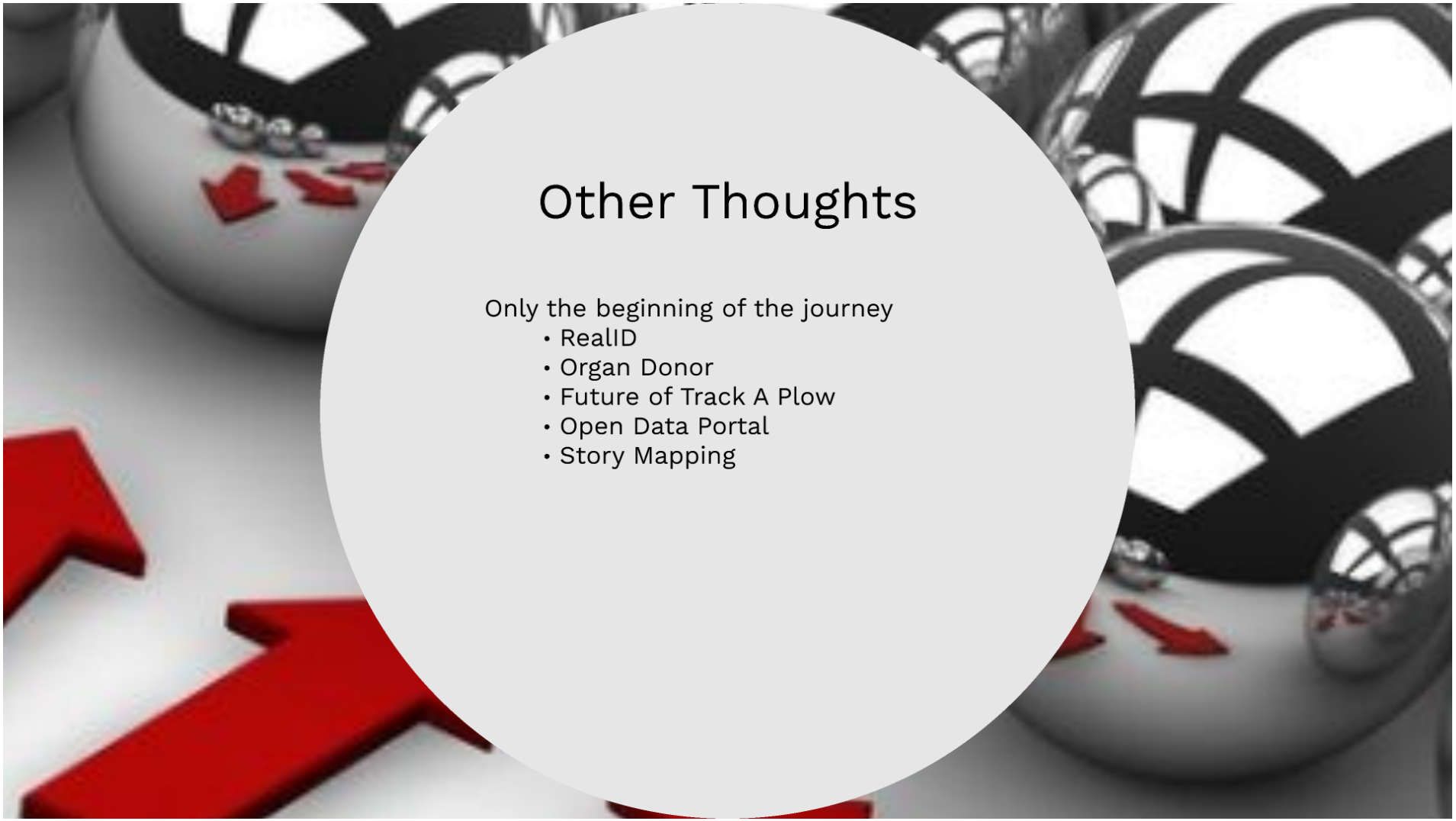

Winter Cost Calculator
511
Track a plow
Winter Performance
Help
48
Legend
Resource Usage Past 48 Hours
High Resource Usage
Average Resource Usage
Low Resource Usage
Pierre
Huron
Brookings
Rochester
La Crosse
Green Bay
Appleton
Oshkosh
Sheboygan
Fond du Lac
Sioux Falls
Yankton
Sioux City
Madison
Milwaukee
Janesville
Kenosha
Rockford
Chicago
Elgin
Aurora
Joliet
Omaha
Lincoln
Columbus
Peoria
Bloomington
Kirksville
Total Cost ($)
1,341,499
Material Cost ($)
687,843
Labor Cost ($)
355,975
Equipment Cost ($)
297,670
Past 48 Hours
Filter
All


Winter Cost Calculator
511
Track a plow
Winter Performance
Help
(1 of 2)
Route: I 80 E
Scott County
LAST PASS: 2/7/2018, 8:50 AM
TIME ON SEGMENT: 5.100
TIME APPLYING MATERIAL: 3.000
TOTAL COST FOR ROAD SEGMENT: $1,048
LBS OF SALT: 17,775 | COST: $625
LABOR COST: $230
EQUIPMENT COST: $193
SEGMENT LENGTH: 2.3 Miles
NOTE: ALL VALUES ESTIMATED BASED ON BEST-AVAILABLE DATA.
TIME ON SEGMENT INDICATES NUMBER OF HOURS PLOWS WERE ACTIVE ON THIS ROAD SEGMENT.
Zoom to
Bookmark
Add
CEDAR RAPIDS
COUNCIL BLUFFS
DAVENPORT
DES MOINES
DUBUQUE
SIOUX CITY
WATERLOO
Total Cost ($)
84,981
Material Cost ($)
56,400
Labor Cost ($)
15,563
Equipment Cost ($)
13,025
Past 48 Hours
Filter
All

Winter Cost Calculator







Other Thoughts

Only the beginning of the journey

- RealID
- Organ Donor
- Future of Track A Plow
- Open Data Portal
- Story Mapping

Questions?

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

Webinar 4: System Performance Management

- This webinar focuses on approaches and noteworthy practices in system performance management
- Presentations will address:
  - Performance-based decision-making to maximize system performance
  - Data collection and analysis
  - Forecasting and modeling performance in an uncertain time
- When: November 18, 2020 2:00 Eastern Time

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

November 18, 2020 2:00 PM Eastern Time
System Performance Management

Please let us know about future topics of interest to you in 2021!

Federal Highway Administration

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