

# Transportation Performance Management Webinar Series

## TPM Data and Data Visualization

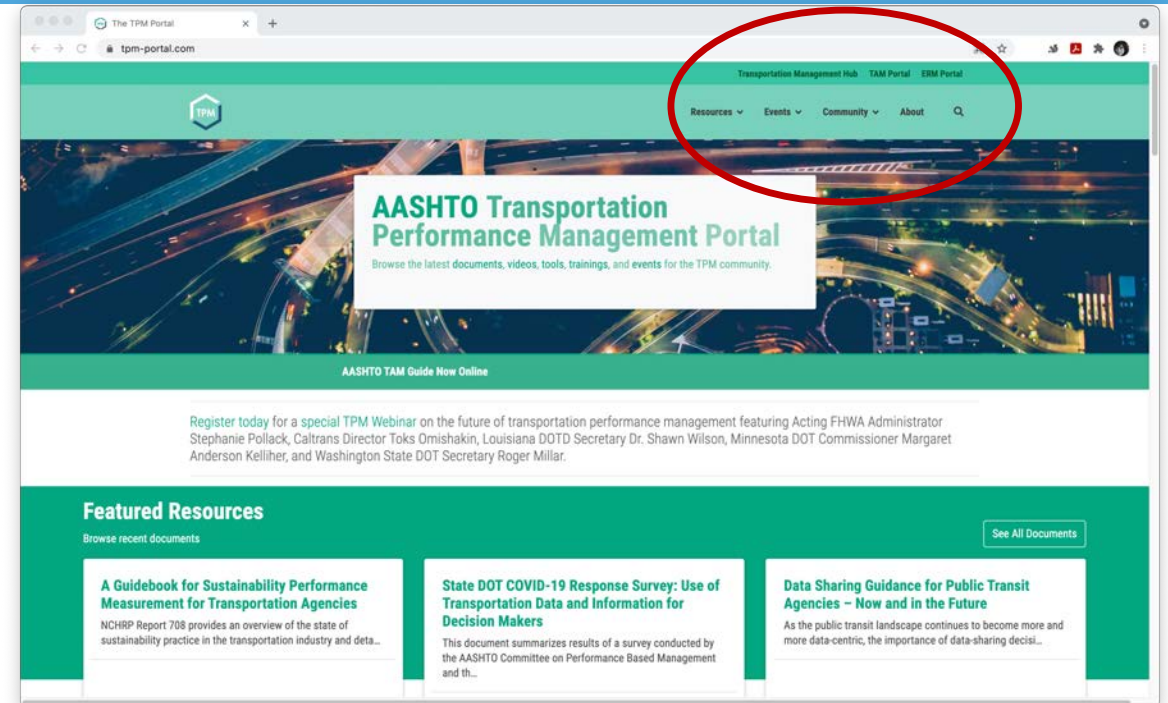
Sponsored by the TPM Pooled Fund  
with support from AASHTO CPBM Leadership and FHWA



**September 15, 2021**  
**TPM Webinar 8**

# Transportation Performance Management Webinar Series

- Our TPM 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 8<sup>th</sup> webinar in our bi-monthly 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



Find us on the NEW AASHTO TPM Portal  
<https://www.tpm-portal.com>

# AASHTO Welcome

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**Matthew H. Hardy, Ph.D.**

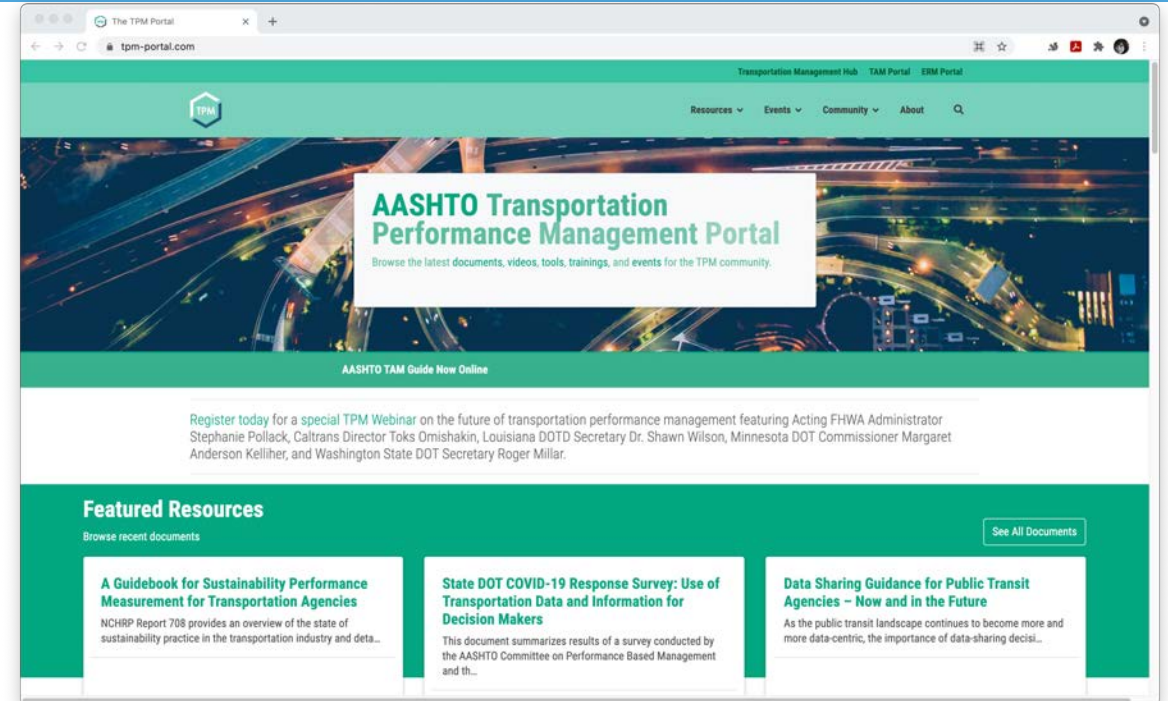
Program Director for Planning and Performance Management, AASHTO

[mhardy@aaashto.org](mailto:mhardy@aaashto.org)



# Upcoming Events and Visualization Resources

- Events
  - 2022 TRB Visualization Symposium
  - 2022 AASHTO Performance and Data Conference
- Visualization Resources
  - VizGuide
  - Communicating Performance Site



AASHTO TPM Portal  
<https://www.tpm-portal.com>



# Webinar Agenda

**2:00 Webinar Welcome and Introduction**

Matt Hardy, AASHTO on behalf of Christos Xenophontos, Rhode Island DOT

**2:05 AASHTO Welcome**

Matt Hardy, AASHTO

**2:15 FHWA Perspective and the TPM Dashboard**

Nelson Hoffman, FHWA

**2:25 How Do You Visualize Performance?**

Frank Broen, Metro Analytics

**2:40 UDOT's Visualization of Highway Performance Measures for Storytelling and Decision Support**

Ryan Bailey, Utah DOT

**2:55 WSDOT's Performance Data Visualization and Dashboards**

Sreenath Gangula, Washington State DOT

**3:10 Q&A and Wrap Up**

Matt Hardy, AASHTO and Hyun-A Park, Spy Pond Partners

# FHWA Perspective and the TPM Dashboard

**Nelson Hoffman**

HIF-Transportation Performance and Asset Management Team

[Nelson.Hoffman@dot.gov](mailto:Nelson.Hoffman@dot.gov)



# How Do You Visualize Performance?



Frank Broen

[frank@metroanalytics.com](mailto:frank@metroanalytics.com)

How good is your  
transportation system?

Where do you  
want to be?

Where are  
you now?

# Communicating Data

MN



Score Card

Dashboard



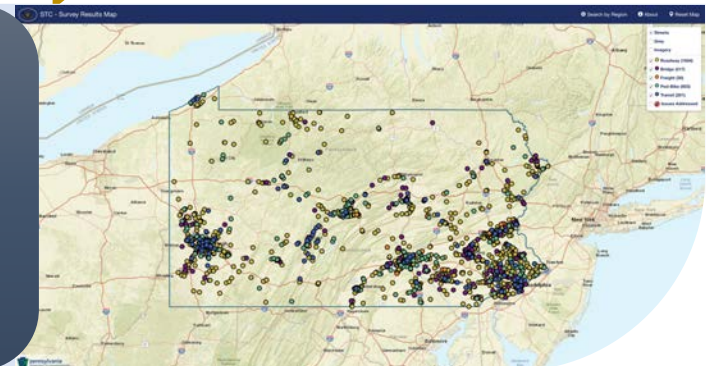
NC

NE



Report

Interactive



PA

traditional reports

visionary support

# Gartner Magic Quadrant



OUTCOME ORIENTED



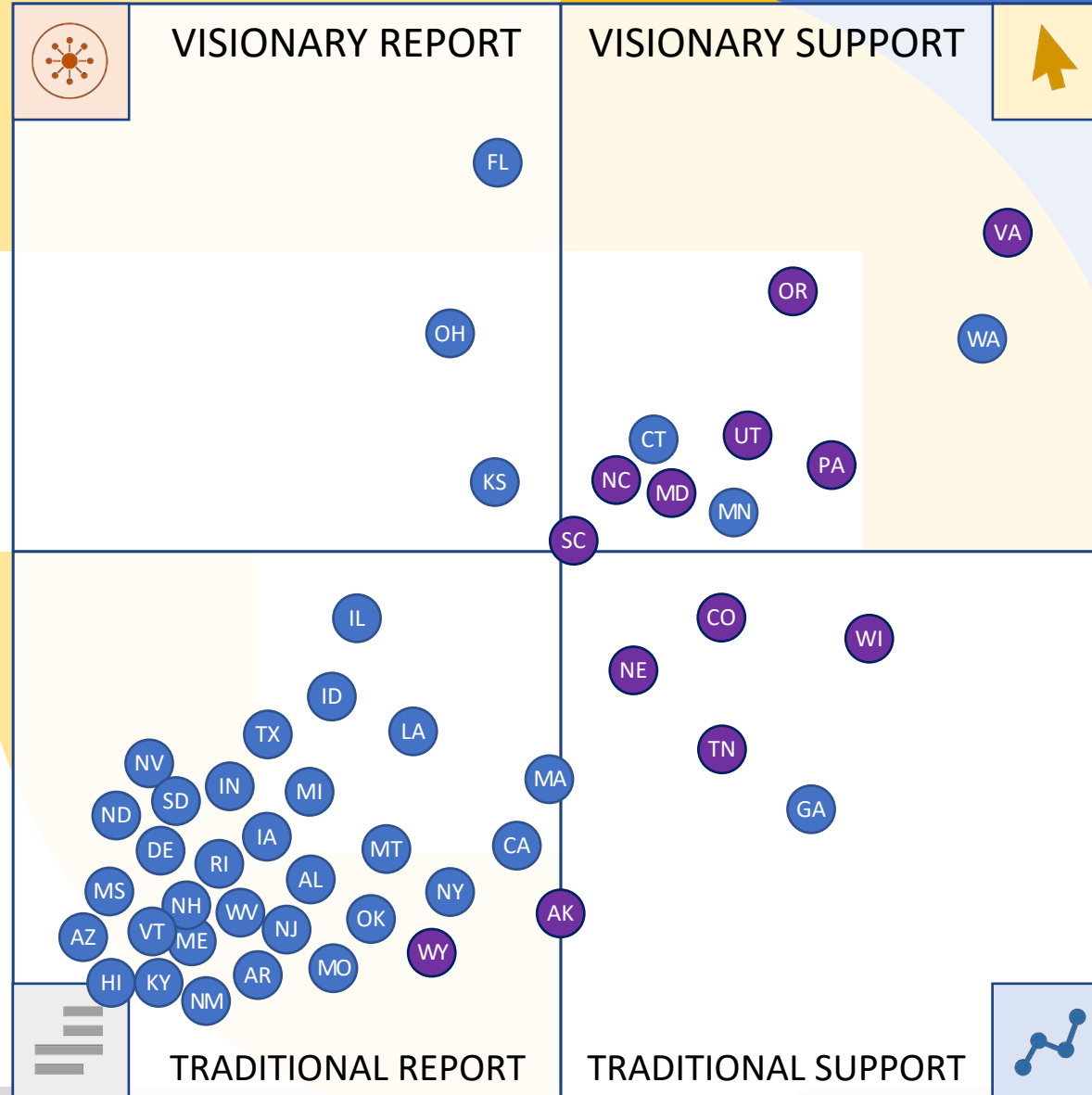
ABILITY TO SUPPORT DECISION MAKING



# 2015

NOTE: These are personal observations from a quick review. A more detailed analysis would address which measures, how detailed and context.

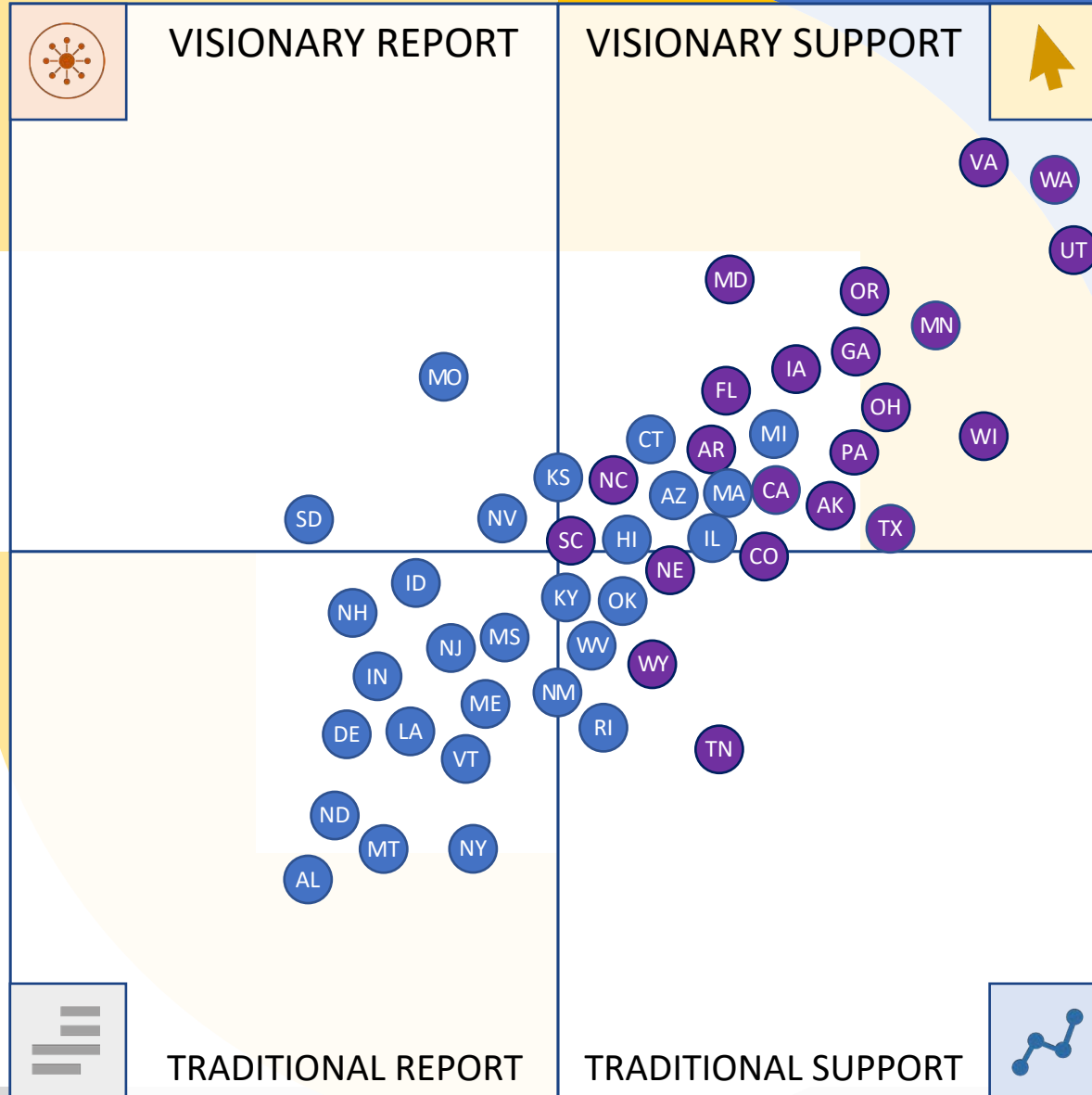
OUTCOME ORIENTED



# 2020

NOTE: These are personal observations from a quick review. A more detailed analysis would address which measures, how detailed and context.

OUTCOME ORIENTED



● Dashboard  
● Document

# VISUALIZING HIGHWAY PERFORMANCE MEASURES



NCHRP Project 20-05  
Synthesis Topic 52-16

Preliminary Findings, Panel has not balloted

**Frank Broen, PI**

[frank@metroanalytics.com](mailto:frank@metroanalytics.com)



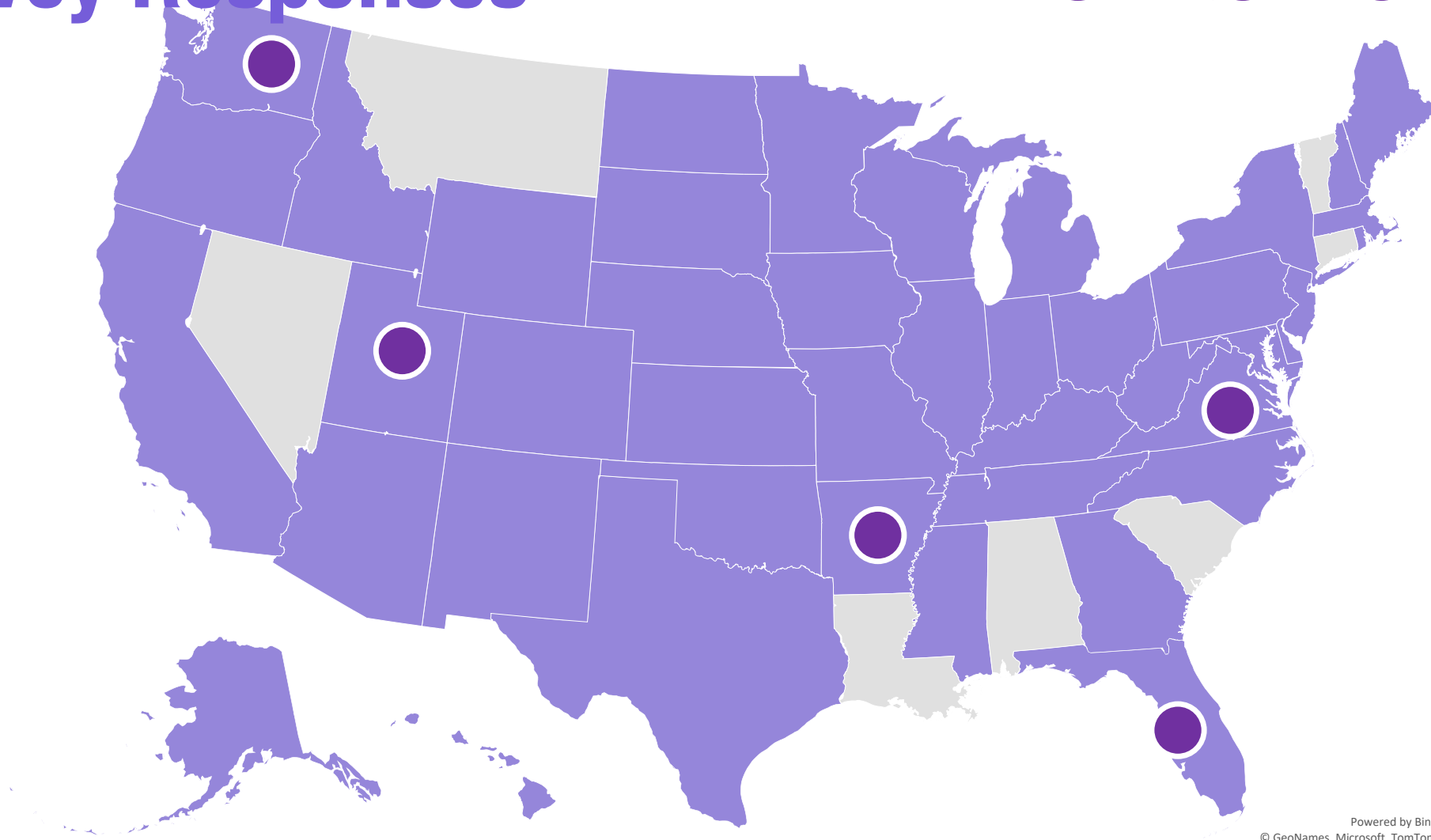
# Objective

Document current practices and methods used by DOTs to visualize highway performance measures and how that information is being used for communication and decision support.



# 44 Survey Responses

● 5 Interviews



Powered by Bing  
© GeoNames, Microsoft, TomTom



# Information gathered

## Performance Measures

- PM1, PM2, PM3
- DOT performance measures
- highway network reliability measures

## Techniques

- dashboards
- story maps
- maps
- real time operations
- infographics
- interactive visualizations

## Processes

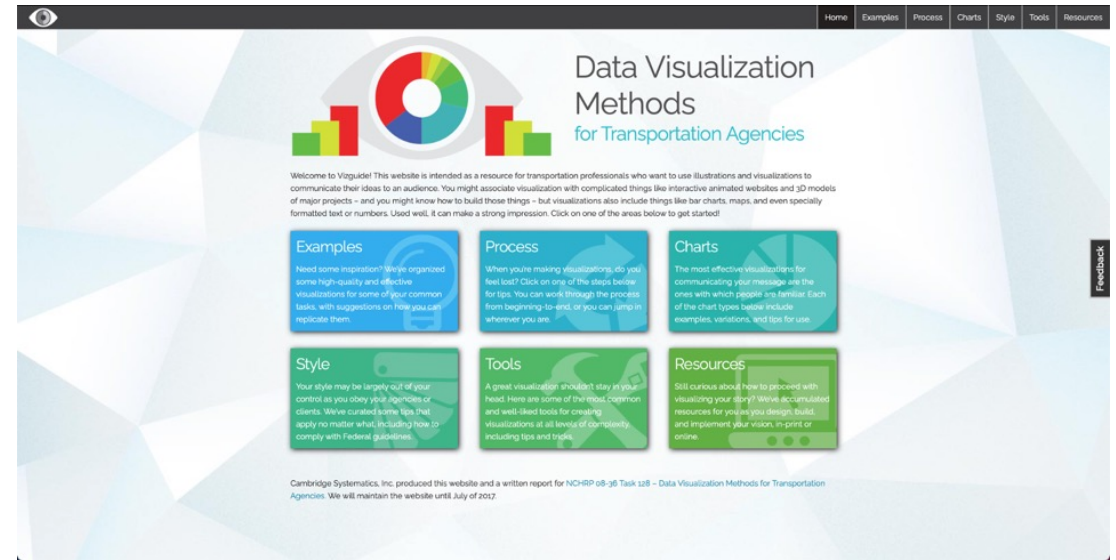
- Strategies for different audiences
- Governance
- Staffing
- Other resources
- Software tools
- Evaluating effectiveness
- Examples
- Challenges and constraints



# Lit Review

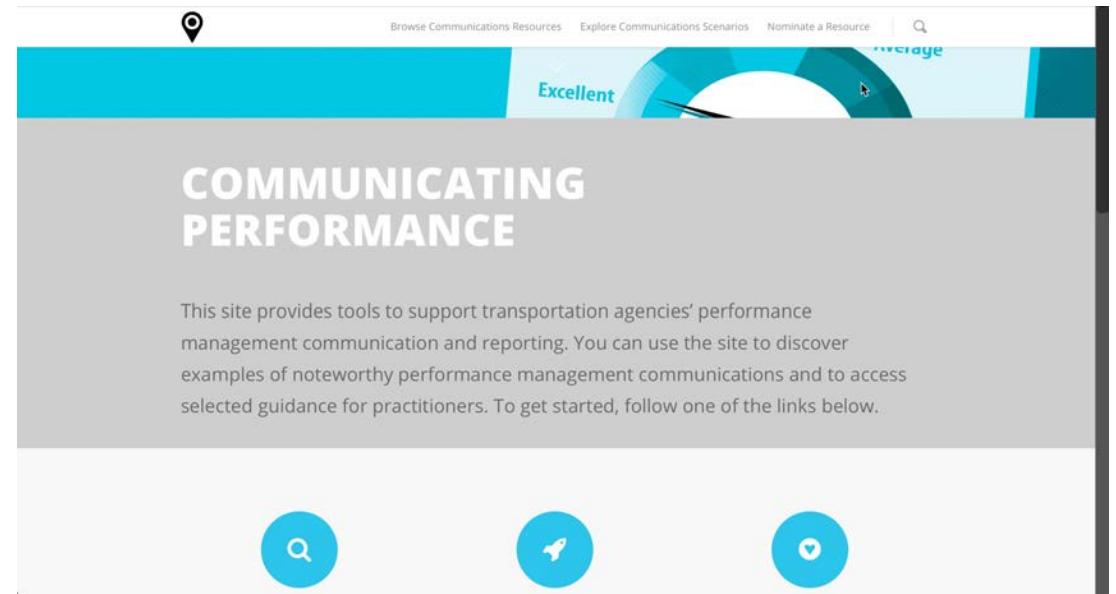
*Vizguide.camsys.com*

*NCHRP 08-36*



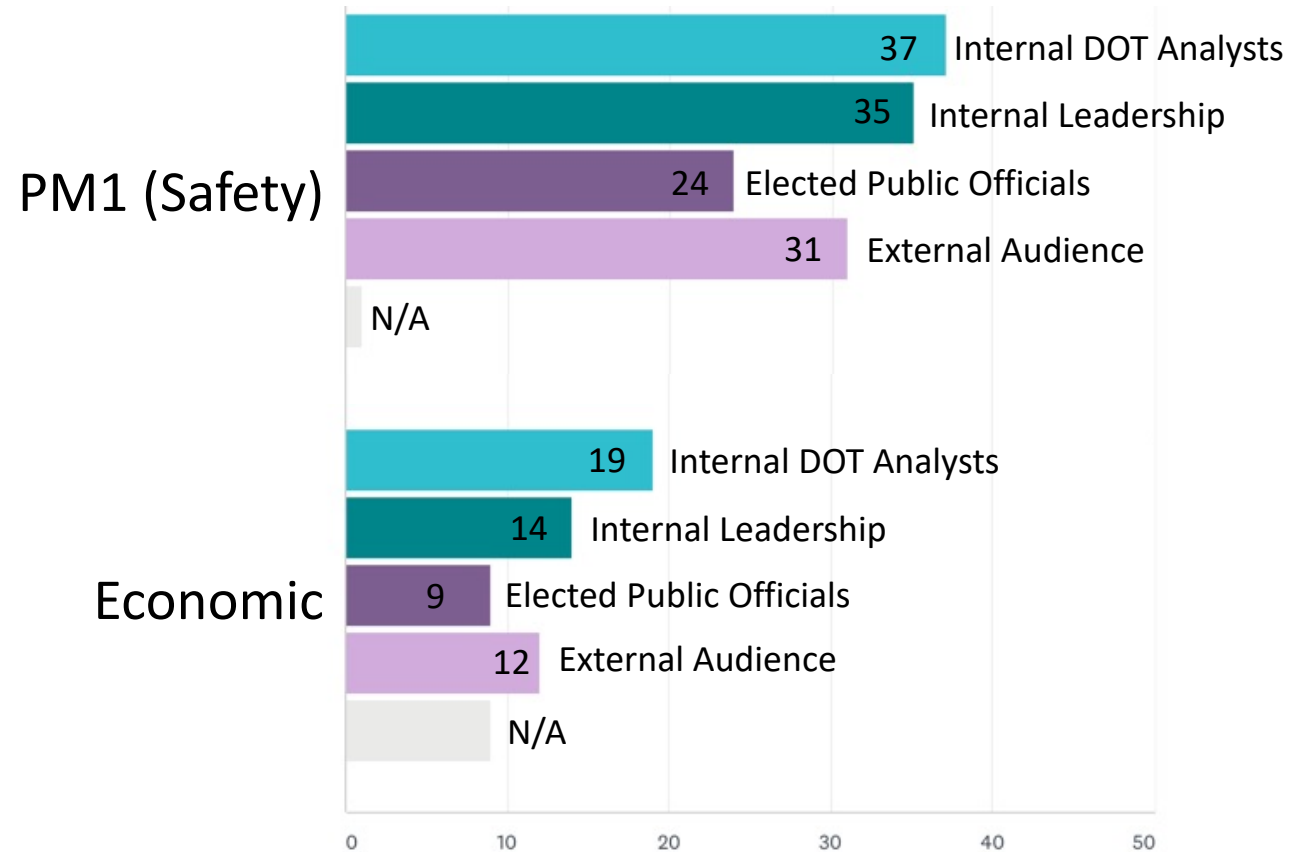
*communicatingperformance.com*

*NCHRP Project 20-24(93)B(02)*





# Survey Results



# Survey Results

|                                     | INTERNAL DOT ANALYSTS | INTERNAL LEADERSHIP (DECISION MAKERS) | ELECTED PUBLIC OFFICIALS | EXTERNAL AUDIENCE | TOTAL RESPONDENTS |
|-------------------------------------|-----------------------|---------------------------------------|--------------------------|-------------------|-------------------|
| Charts - Simple                     | 43 (98%)              | 44 (100%)                             | 27 (61%)                 | 27 (61%)          | 44                |
| Charts - Complex                    | 31 (97%)              | 26 (81%)                              | 10 (31%)                 | 10 (31%)          | 32                |
| Infographics                        | 25 (78%)              | 27 (84%)                              | 22 (69%)                 | 21 (66%)          | 32                |
| Dashboards                          | 36 (95%)              | 34 (89%)                              | 19 (50%)                 | 25 (66%)          | 38                |
| Story Maps                          | 13 (76%)              | 15 (88%)                              | 9 (53%)                  | 10 (59%)          | 17                |
| Videos                              | 5 (45%)               | 5 (45%)                               | 6 (55%)                  | 10 (91%)          | 11                |
| Maps                                | 38 (90%)              | 36 (86%)                              | 25 (60%)                 | 30 (71%)          | 42                |
| Publications                        | 27 (79%)              | 28 (82%)                              | 23 (68%)                 | 27 (79%)          | 34                |
| External Interactive visualizations | 14 (64%)              | 13 (59%)                              | 14 (64%)                 | 20 (91%)          | 22                |
| Internal Interactive visualizations | 21 (91%)              | 22 (96%)                              | 5 (22%)                  | 7 (30%)           | 23                |



# Survey Results

DOTs visualize Performance Measures to:

|                         |  |                           |   |                                       |  |                               |   |
|-------------------------|--|---------------------------|---|---------------------------------------|--|-------------------------------|---|
| Document current status | Document current status<br> | Show trend over time      | Show trend over time<br> | Communicate progress towards a target | Progress towards a target<br> | Help tell a performance story | Tell a performance story<br> |
| Support a policy        | Support a policy<br>       | Inform Long-term Planning | Long-Term Planning<br>  | Inform Medium-Term Planning           | Medium-Term Programming<br>  | Inform Day-to-Day Operations  | Day-to-Day Operations<br>   |

Figure 13 Purposes of Visualizations



# DC <https://ddot.dc.gov/pavedc>

## DDOT Paving Plan

An interactive map of DDOT's paving work for Washingtonians to track our progress as we enhance the safety of the roadway and improve the ride comfort of the road surface. DDOT is prioritizing paving non-residential streets during the COVID-19 response to minimize disturbance to residents during the Stay Home Order.

View the map on your mobile device



d. delivers

Overview Roads Sidewalks Alleys Markings Roads Paving Progress

## Road Paving Progress Swipe Map

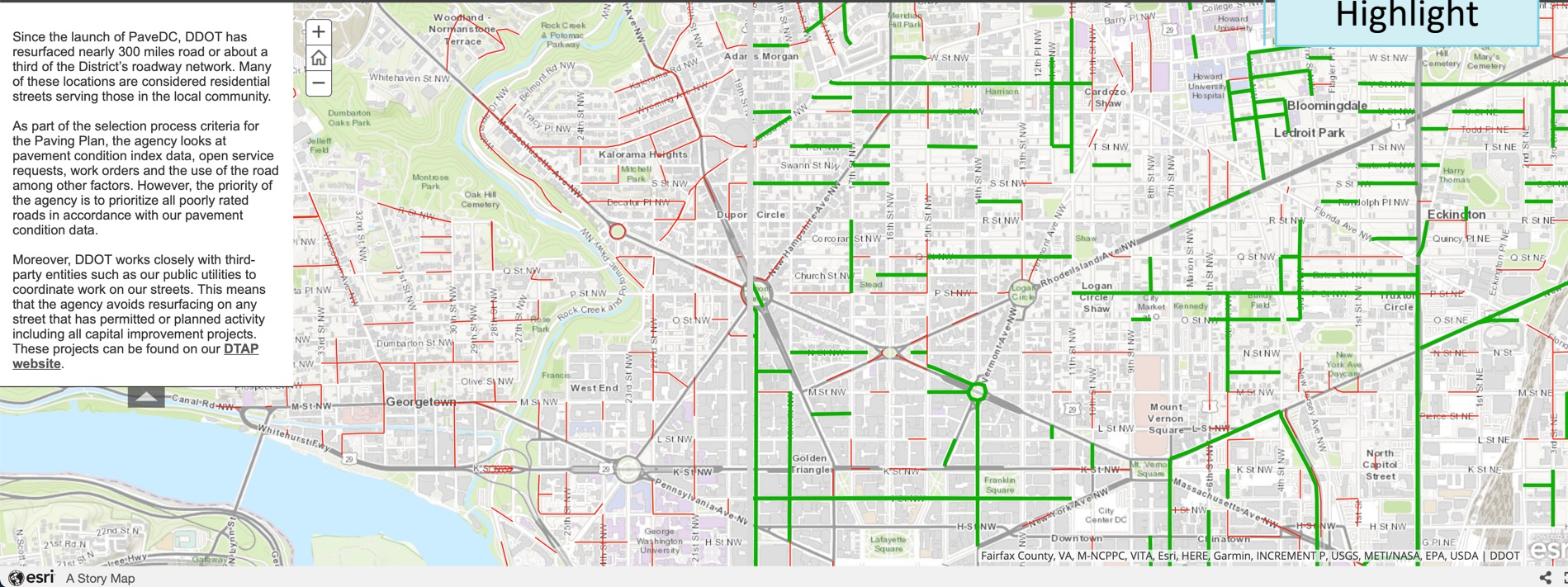
A swipe map compares roads in poor condition before PaveDC and the roads that has been resurfaced since the launch of PaveDC

See  
Performance  
Highlight

Since the launch of PaveDC, DDOT has resurfaced nearly 300 miles road or about a third of the District's roadway network. Many of these locations are considered residential streets serving those in the local community.

As part of the selection process criteria for the Paving Plan, the agency looks at pavement condition index data, open service requests, work orders and the use of the road among other factors. However, the priority of the agency is to prioritize all poorly rated roads in accordance with our pavement condition data.

Moreover, DDOT works closely with third-party entities such as our public utilities to coordinate work on our streets. This means that the agency avoids resurfacing on any street that has permitted or planned activity including all capital improvement projects. These projects can be found on our [DTAP website](#).



Document current status

Show trend over time

Progress towards a target

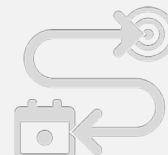
Tell a performance story

Support a policy

Long-Term Planning

Medium-Term Programming

Day-to-Day Operations



PERFORMANCE MEASURES



# FL Multimodal Mobility Performance Measures

FDOT

Home

Mobility Performance Measures

Auto

Truck

Transit

Pedestrian

Bicycle

Aviation

Rail

Seaport

Spaceport

Segment-Level Visualization

Factors Affecting Mobility

Infrastructure

Safety

Accountability

About

Contact

Resources

INTRODUCTION

Factors Affecting Mobility

Travel Demand

Economy

Emerging Trends

Transportation System

Demographics

2013

2014

Cruise Passengers

Aviation

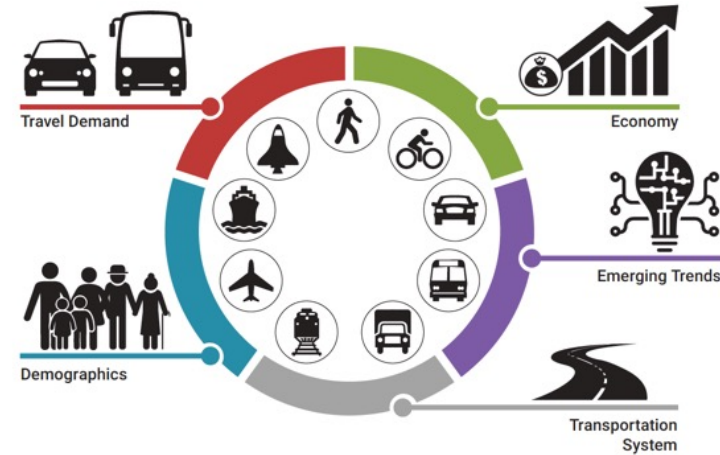
Factors Affecting Mobility

10

sourcebook@dot.state.fl.us

## FACTORS AFFECTING MOBILITY

This section of the Source Book explores the effects of various external factors on mobility in Florida and nationally.



### List of Factors Affecting Mobility

- VMT, Population and Drivers
- VMT, GDP and Visitors
- Taxi and Limousine Non-Employer Establishments
- Maintenance, Pavement, and Bridge Condition
- Employment Levels for Department Stores/E-Commerce
- Micromobility Services
- Electric Vehicle Registrations
- Electric Vehicle Charging Stations

Document current status



Show trend over time



Progress towards a target



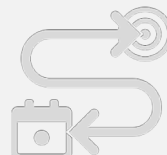
Tell a performance story



Support a policy



Long-Term Planning



Medium-Term Programming



Day-to-Day Operations



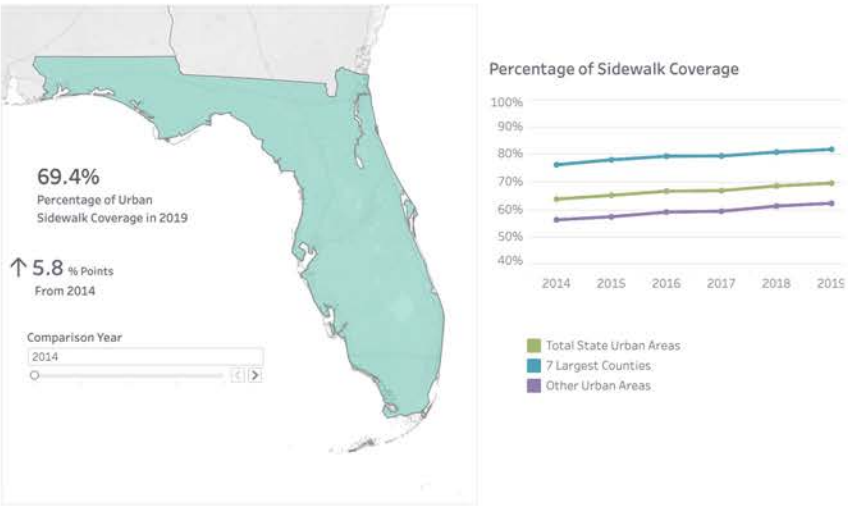
ANCE MEASURES



### % Pedestrian Facility Coverage

This measure quantifies the percentage of centerline miles of non-freeway SHS facilities in urban areas that have sidewalks and/or shared-use paths available to pedestrians.

From 2014 to 2019, Florida's SHS sidewalk coverage increased from 63.6% to 69.4%. In the seven largest counties, over 80% of the SHS had sidewalks.

[Methodology](#)


+ a b l e a u

Source

FDOT - Roadway Characteristics Inventory

Seven Largest Counties are Duval, Palm Beach, Hillsborough, Pinellas, Miami-Dade, Broward, and Orange

Document current status



Show trend over time



Progress towards a target



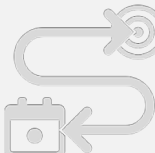
Tell a performance story



Support a policy



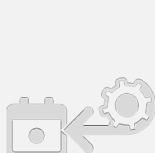
Long-Term Planning



Medium-Term Programming



Day-to-Day Operations



PERFORMANCE MEASURES





## ACAT (Arkansas Crash Analytics Tool)

Subscribe Here For ACAT Notifications.



- Welcome
- Fatal & Suspected Serious Injury Crashes
- Roadway Departure Crashes
- Impaired Driver Crashes
- Speed Related Crashes
- Young Driver Crashes
- Intersection Related Crashes
- Work Zone Related Crashes
- Large CMV Related Crashes

Arkansas Fatal and Suspected Serious Injury Crashes 2015-2019

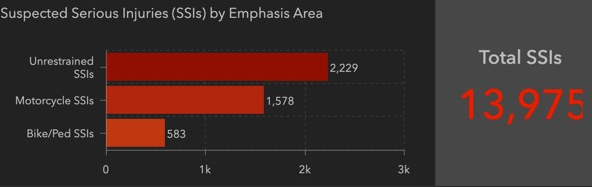
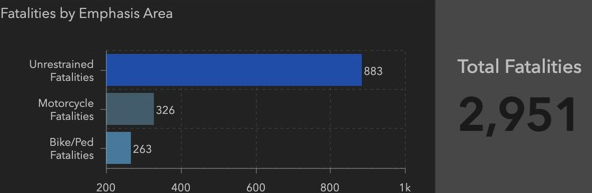
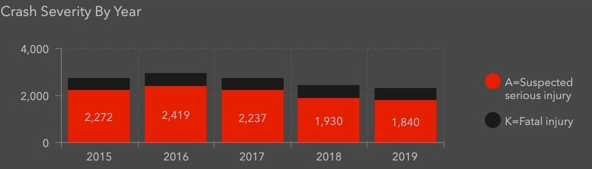
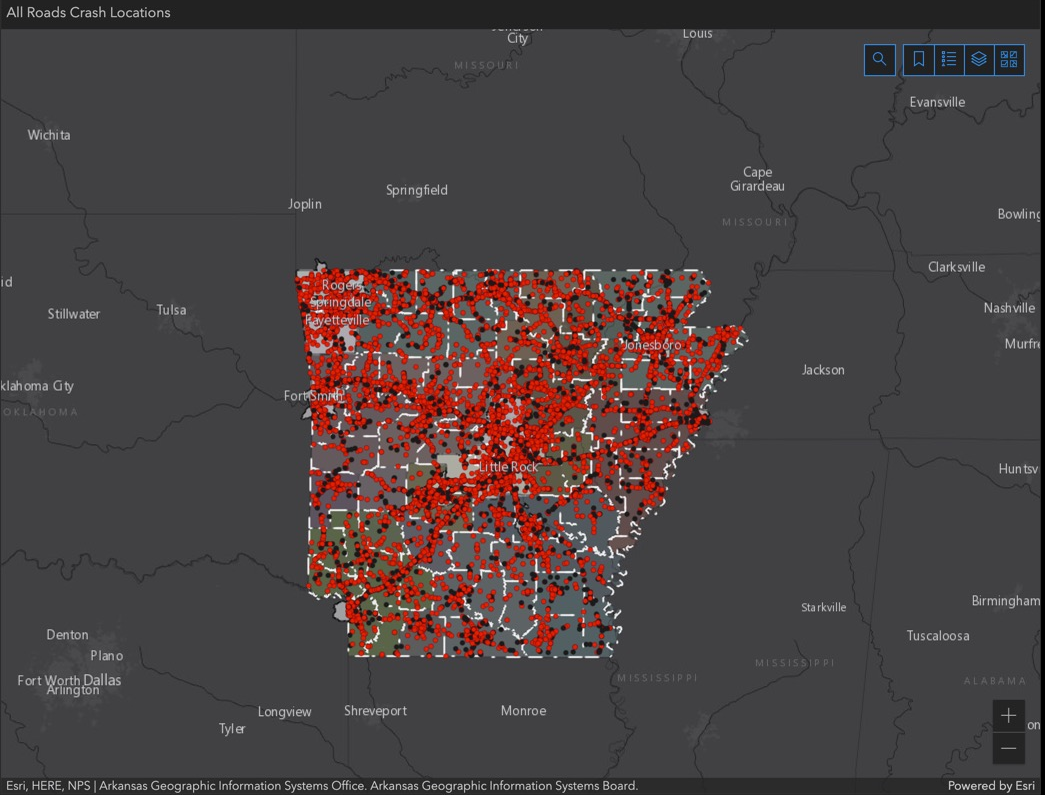


Click on the arrow to the left to access slide panel and select filters.

It is best to start with geographic filters, then move on to emphasis areas.

Please complete the [ACAT User Feedback Form](#) to submit comments or suggestions.

Review the [ACAT User Guide](#) for more information.



Document current status



Show trend over time



Progress towards a target



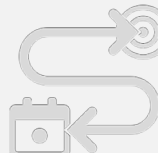
Tell a performance story



Support a policy



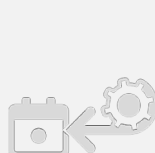
Long-Term Planning



Medium-Term Programming



Day-to-Day Operations



ANCE MEASURES





## Filters

## Bridge Condition

All Conditions

## Structure Number

All

## Owner

All

## Maintenance Responsibility

No Selection

## Arkansas Primary Highway Network

No Selection

## Functional Classification

No Selection

## National Highway System

No Selection

## Type of Wearing Surface

No Selection

## Type of Service on Bridge

No Selection

## Heavy Bridges or District Bridges

☒ All Bridges☐ District☐ Heavy Bridge Bridges

Choose from the dropdowns to narrow the results shown.

Total Bridges

12,784

Bridges in Good Condition

6,168

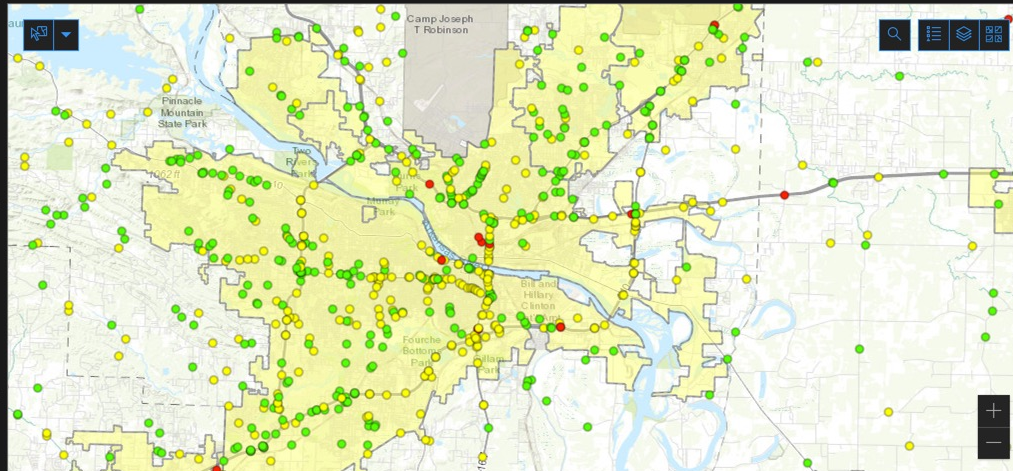
Bridges in Fair Condition

5,937

Bridges in Poor Condition

674

All values associated with this interactive Bridge Dashboard follow the National Bridge Inspection Standards. All bridges that are "Poor" and/or "Posted" for load are safe for the traveling public. For more information on the National Bridge Inspection program visit: <https://www.fhwa.dot.gov/bridge/nbis.cfm>.



Deck Area of Selection

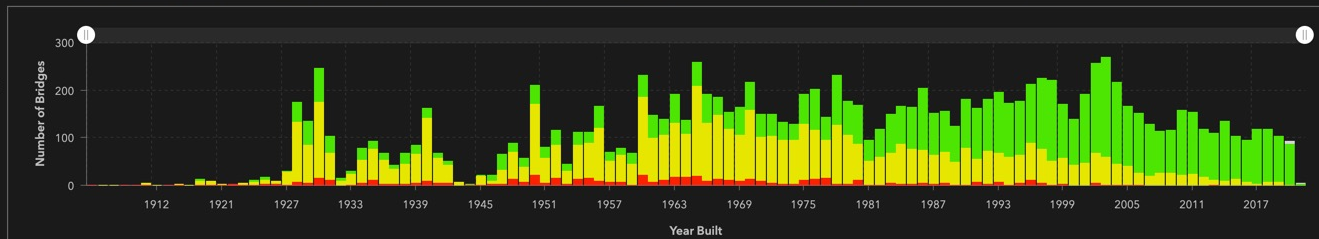
73,256,841.1

Status



Posted for Load 10.3%  
Open 88.72%  
Other 0.98%

Click on chart to select bridges. Click outside of chart to undo.



Visit <https://www.ardot.gov/divisions/maintenance/heavy-bridge/arkansas-bridge-information/> or follow @AR\_BridgeTrolls on Twitter for the other information on Arkansas Bridges. [https://twitter.com/AR\\_BridgeTrolls](https://twitter.com/AR_BridgeTrolls)

Document current status



Show trend over time



Progress towards a target



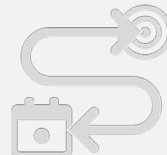
Tell a performance story



Support a policy



Long-Term Planning



Medium-Term Programming

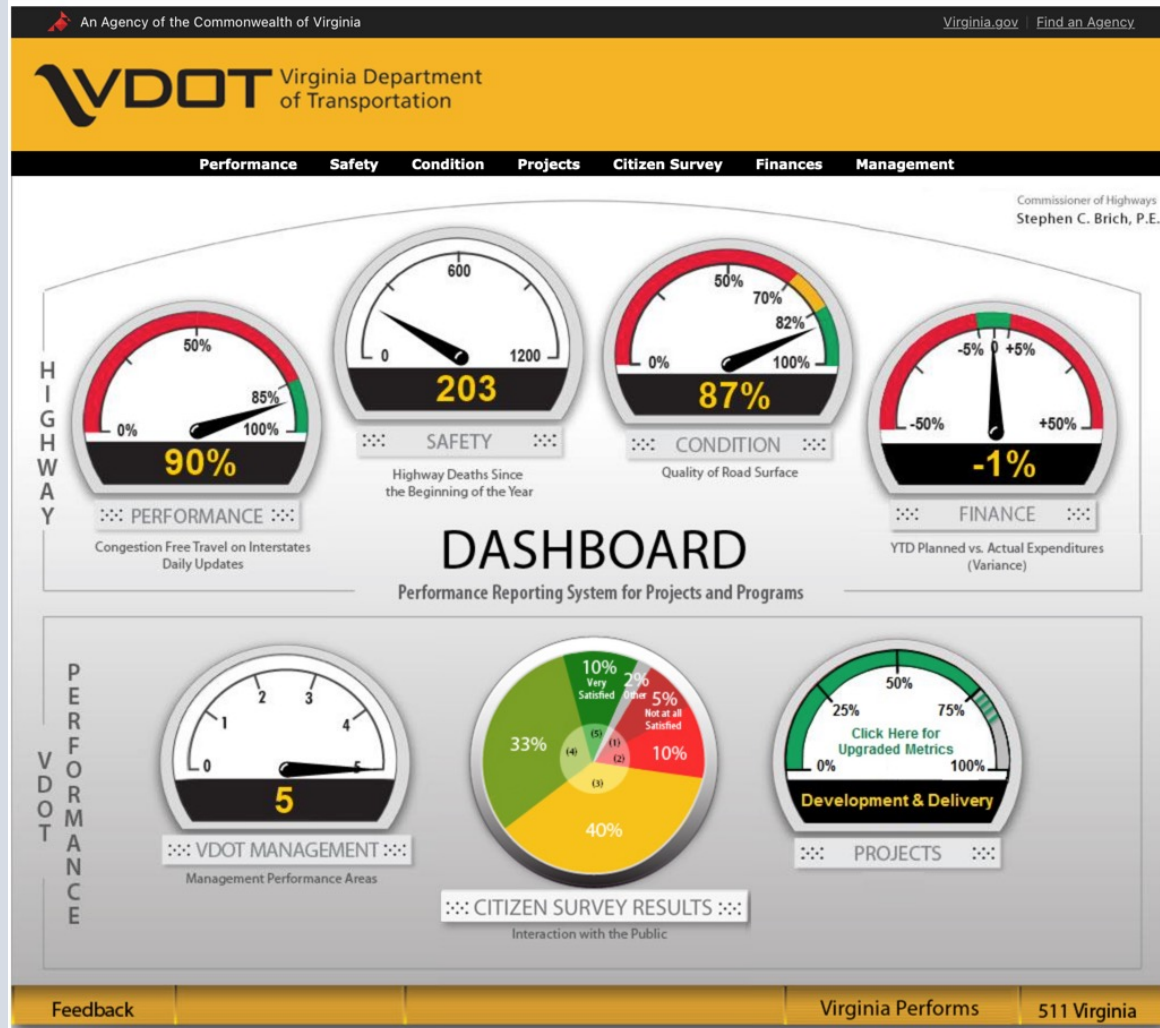


Day-to-Day Operations



PERFORMANCE MEASURES





Document current status



Show trend over time



Progress towards a target



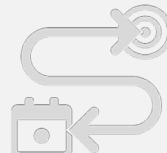
Tell a performance story



Support a policy



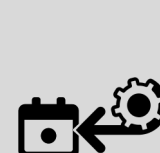
Long-Term Planning



Medium-Term Programming



Day-to-Day Operations



ANCE MEASURES





ON TIME



308 of 446

DEVELOPMENT

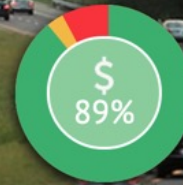


100 of 128

DELIVERY



313 of 446



114 of 128

\$ ON BUDGET



Program Overview



Program Details

Route 288 - Midlothian, VA

Document current status



Show trend over time



Progress towards a target



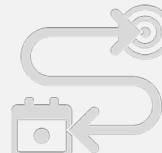
Tell a performance story



Support a policy



Long-Term Planning



Medium-Term Programming



Day-to-Day Operations



PERFORMANCE MEASURES





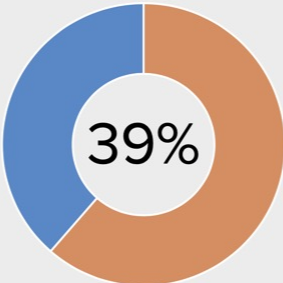


STRATEGIC GOALS

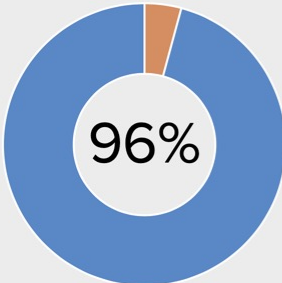


# STRATEGIC GOALS

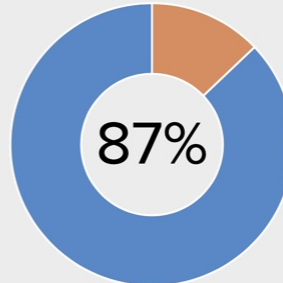
ZERO FATALITIES



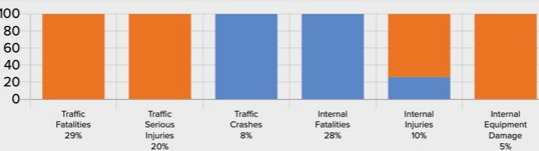
OPTIMIZE MOBILITY



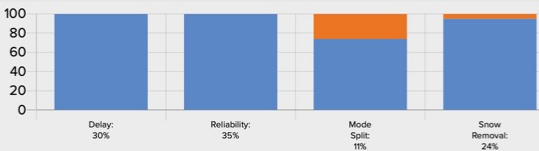
PRESERVE INFRASTRUCTURE



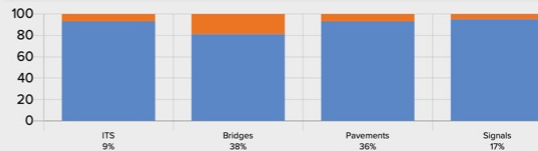
SAFETY PERFORMANCE MEASURES



MOBILITY PERFORMANCE MEASURES



INFRASTRUCTURE PERFORMANCE MEASURES



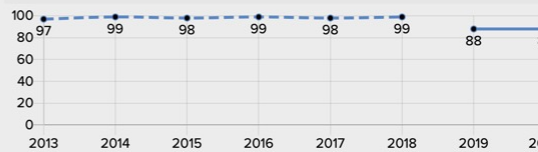
HISTORIC SAFETY INDEX



HISTORIC MOBILITY INDEX



HISTORIC INFRASTRUCTURE INDEX



Document current status



Show trend over time



Progress towards a target



Tell a performance story



Support a policy



Long-Term Planning



Medium-Term Programming



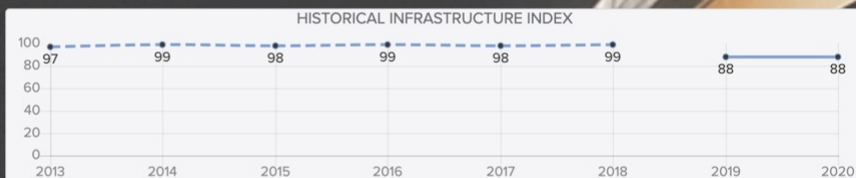
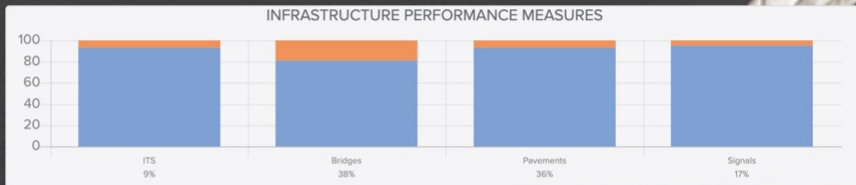
Day-to-Day Operations



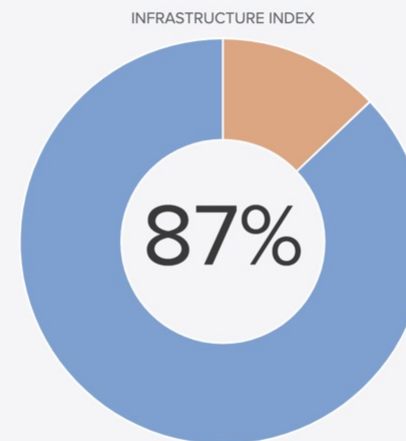
ANCE MEASURES



# PRESERVE INFRASTRUCTURE



In 2019, the methods for this calculation were changed to indicate the condition of the assets instead of how well the asset condition targets were met.



Document current status



Show trend over time



Progress towards a target



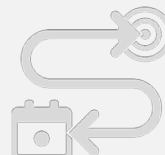
Tell a performance story



Support a policy



Long-Term Planning



Medium-Term Programming



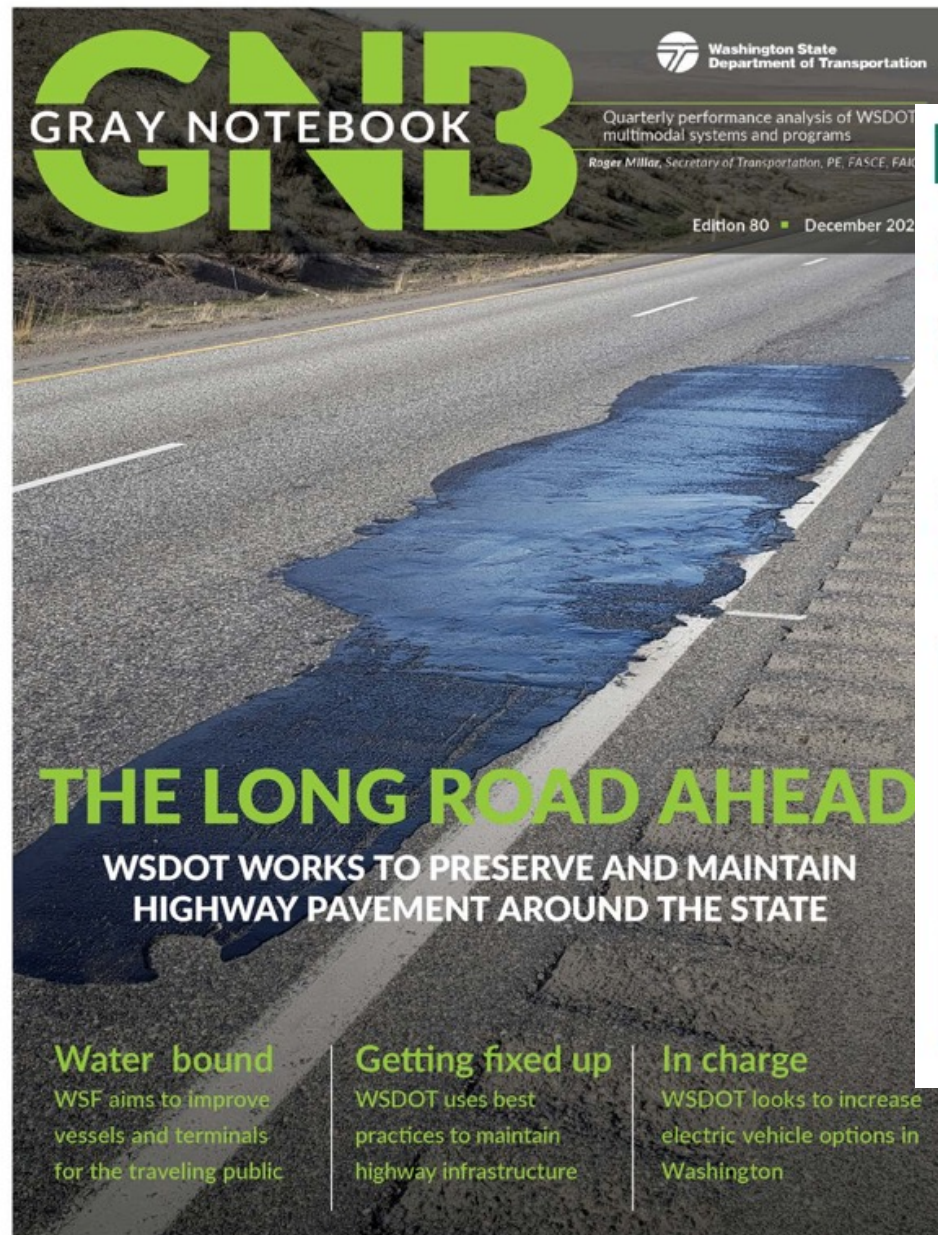
Day-to-Day Operations



PERFORMANCE MEASURES







### PERFORMANCE HIGHLIGHTS report

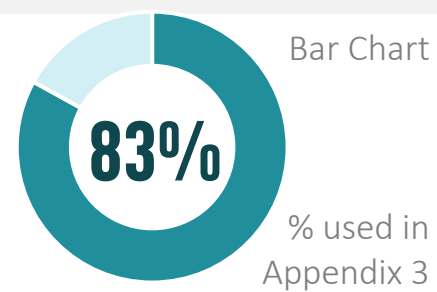
# 292 BRIDGES



owned by WSDOT  
are currently over  
80 YEARS OLD



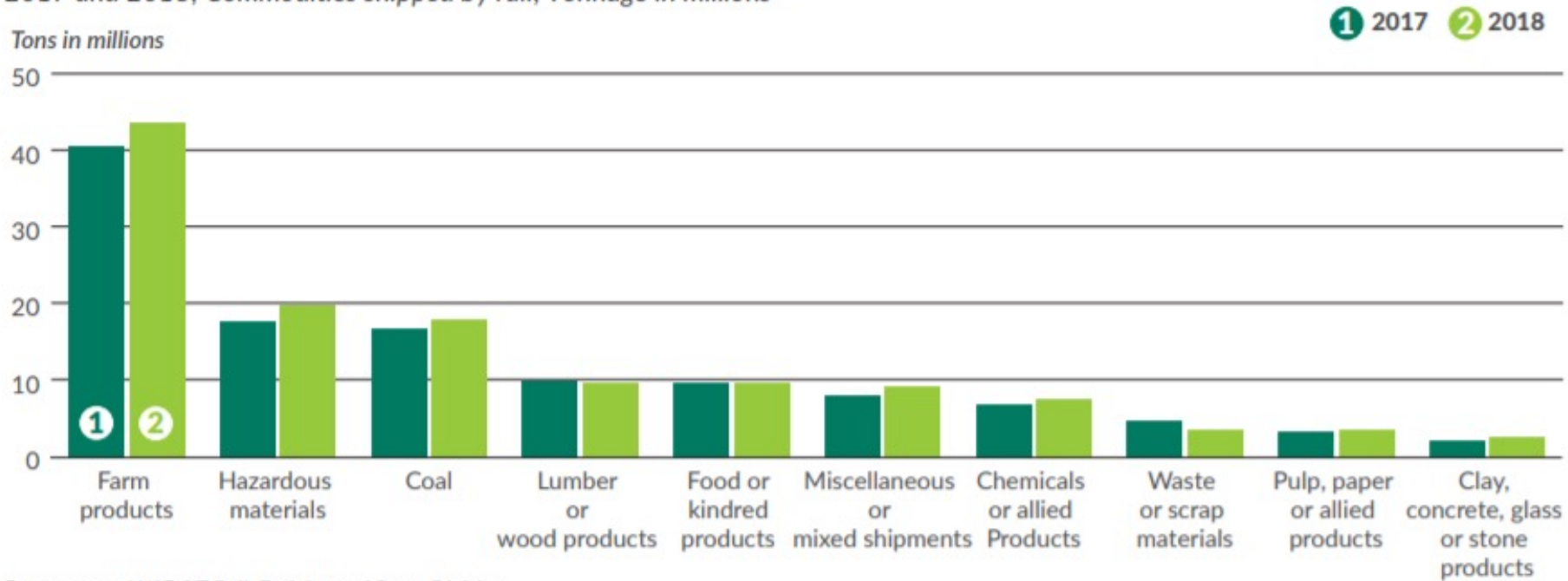
# Bar Chart



## Farm products continue to make up largest share of freight shipped by rail in Washington state in 2018

2017 and 2018; Commodities shipped by rail; Tonnage in millions

Tons in millions

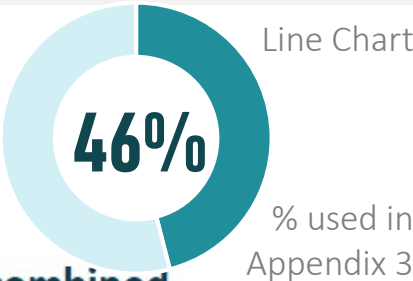


Data source: WSDOT Rail, Freight, and Ports Division.



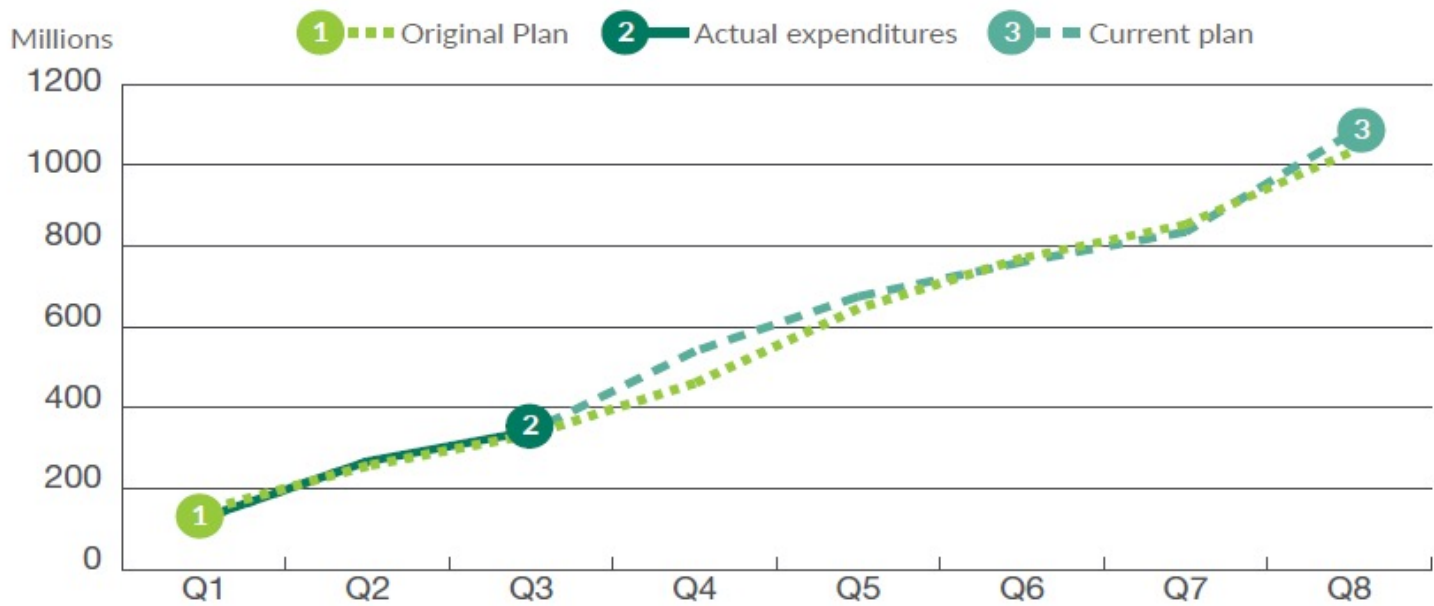


# Line Chart



## Cumulative Pre-existing Funds improvement and preservation combined cash flows during the 2019-2021 biennium slightly higher than planned

Quarter ending March 31, 2020; Planned vs. actual expenditures and current plan; Dollars in millions



Data source: WSDOT Capital Program Development and Management.

Note: Q3 refers to the third quarter (January through March 2020) of the 2019-2021 biennium, which runs from July 2019 through June 2021.

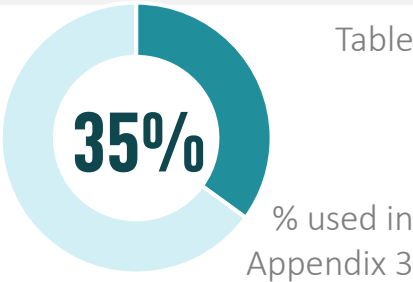


# Table

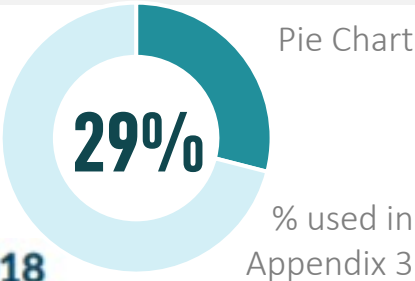
## WSDOT advertises 115 PEF projects during the 2019-2021 biennium

| Advertisement status             | Quarter <sup>1</sup> | Cumulative <sup>2</sup> |
|----------------------------------|----------------------|-------------------------|
| Advanced <sup>3</sup>            | 0                    | 0                       |
| On time                          | 29                   | 85                      |
| Emergent <sup>4</sup>            | 13                   | 17                      |
| Early <sup>5</sup>               | 1                    | 3                       |
| Late                             | 9                    | 12                      |
| <b>Total projects advertised</b> | <b>52</b>            | <b>115</b>              |
| Delayed within the biennium      | 29                   | 65                      |
| Deferred out of the biennium     | 0                    | 0                       |
| Deleted                          | 1                    | 4                       |

Data source: WSDOT Capital Program Development and Management.

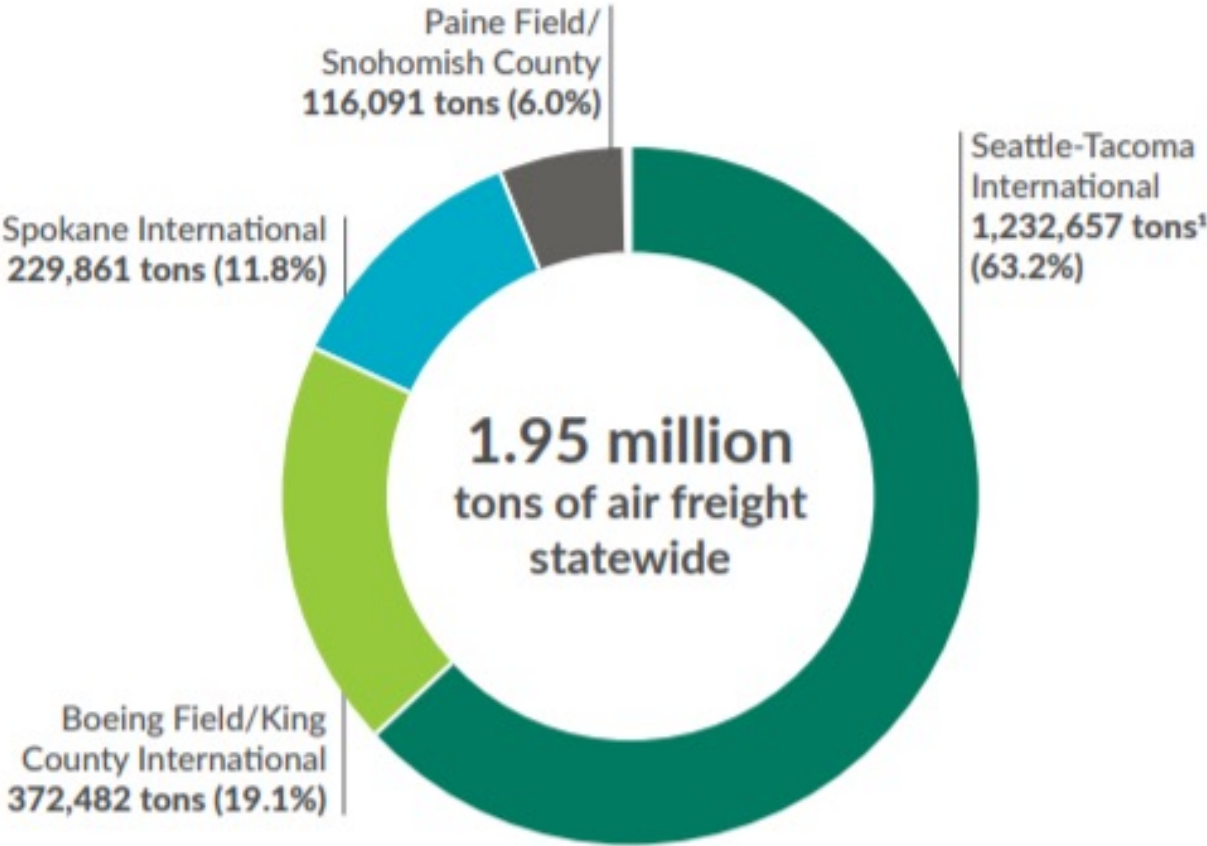


# Pie Chart



## Seattle-Tacoma airport moves majority of state's air freight in 2018

Tonnage and percentage share of air freight per airport in Washington state

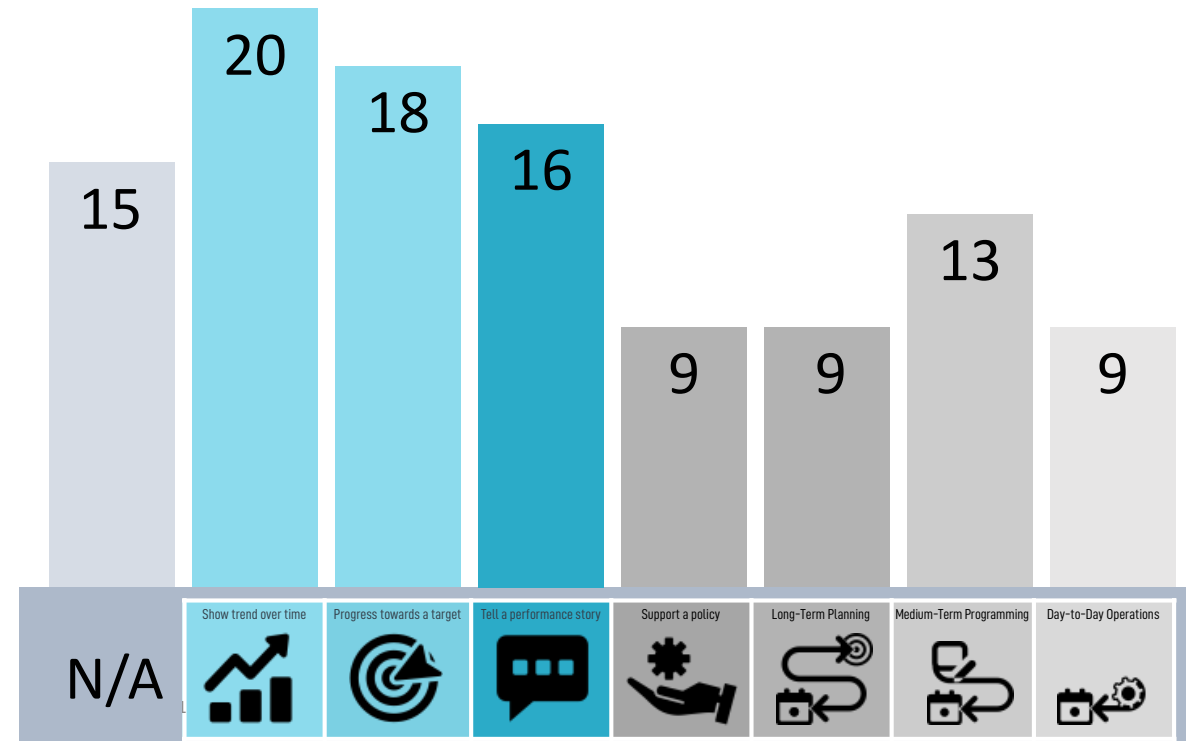


Data source: Federal Aviation Administration.

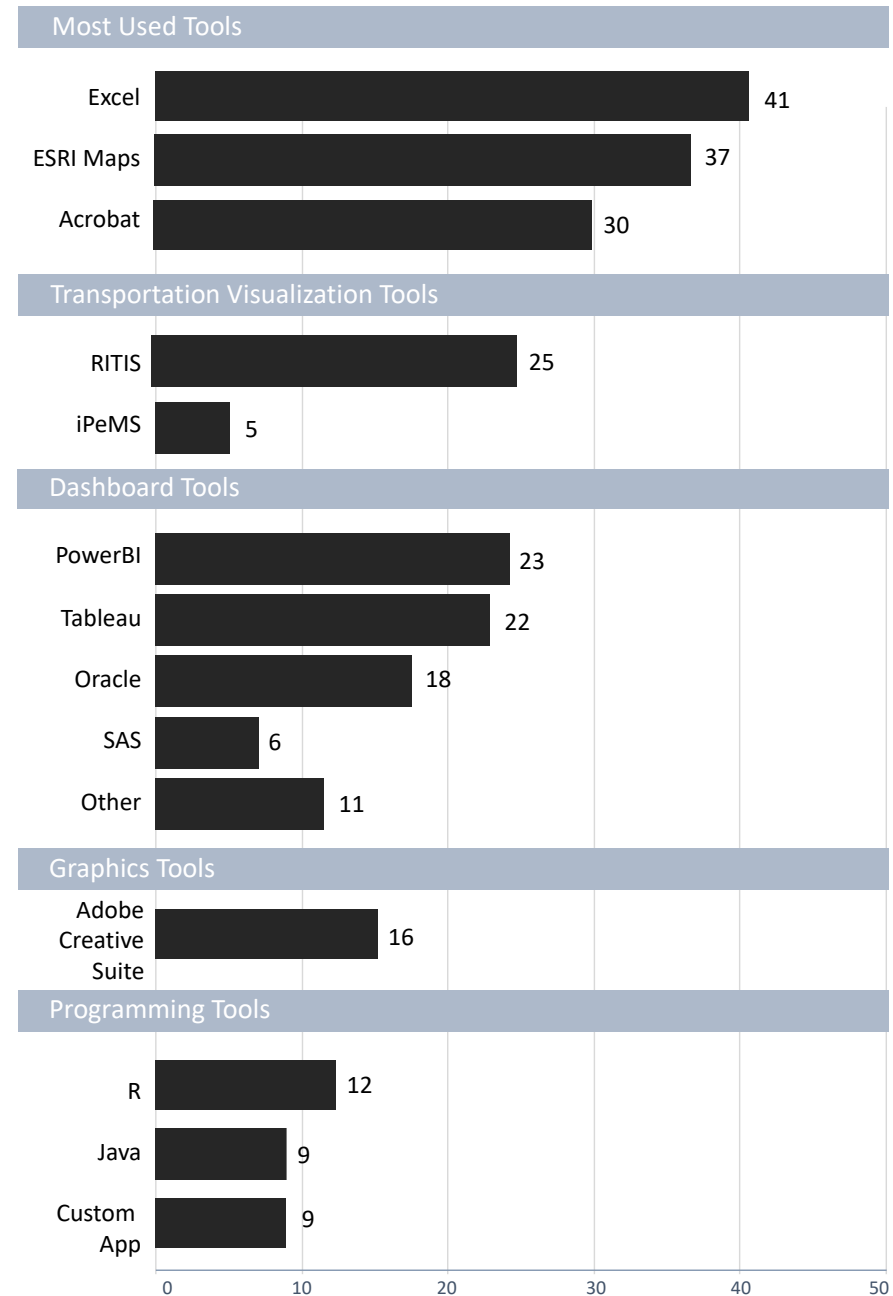


# Internal Dashboards

Is a dashboard used by analysts only available inside your agency?

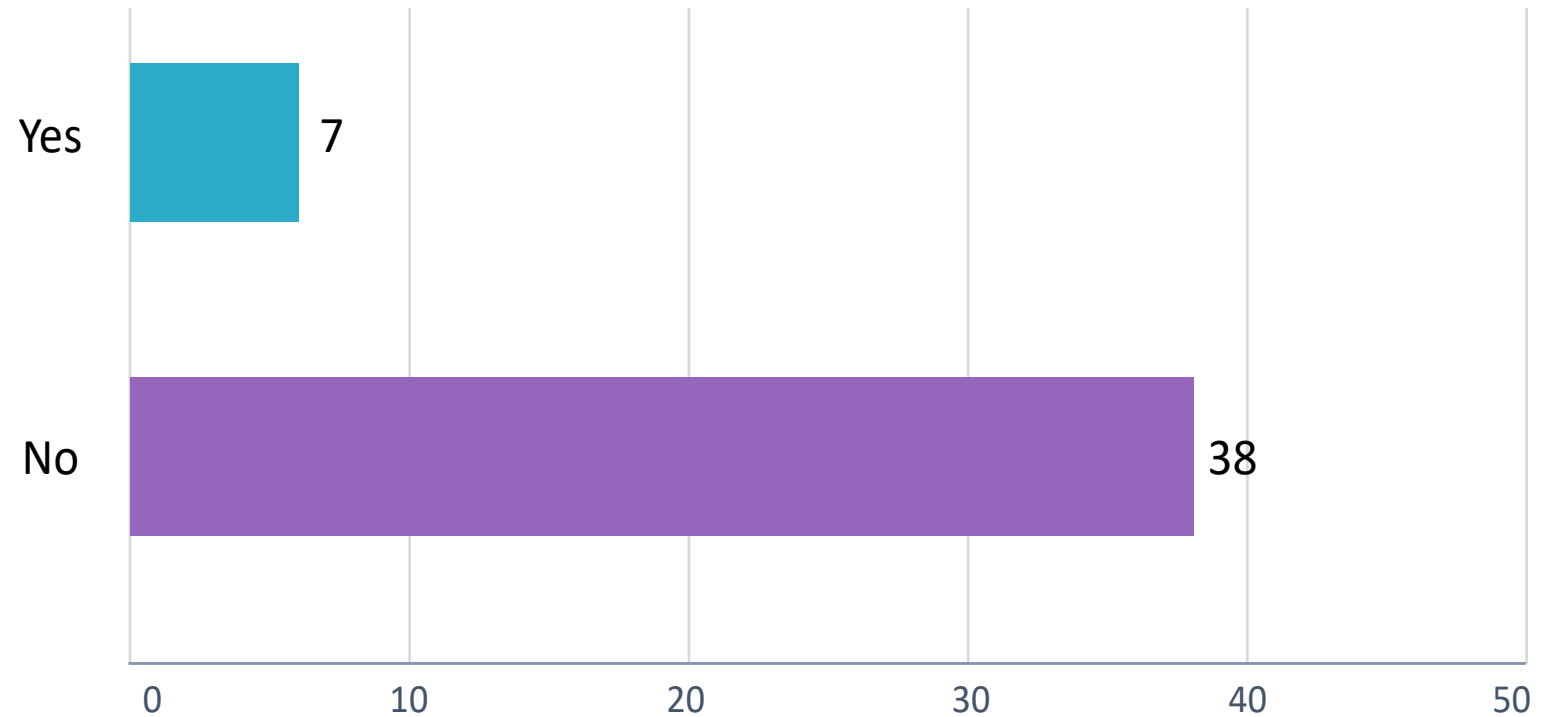


# Visualization Tools

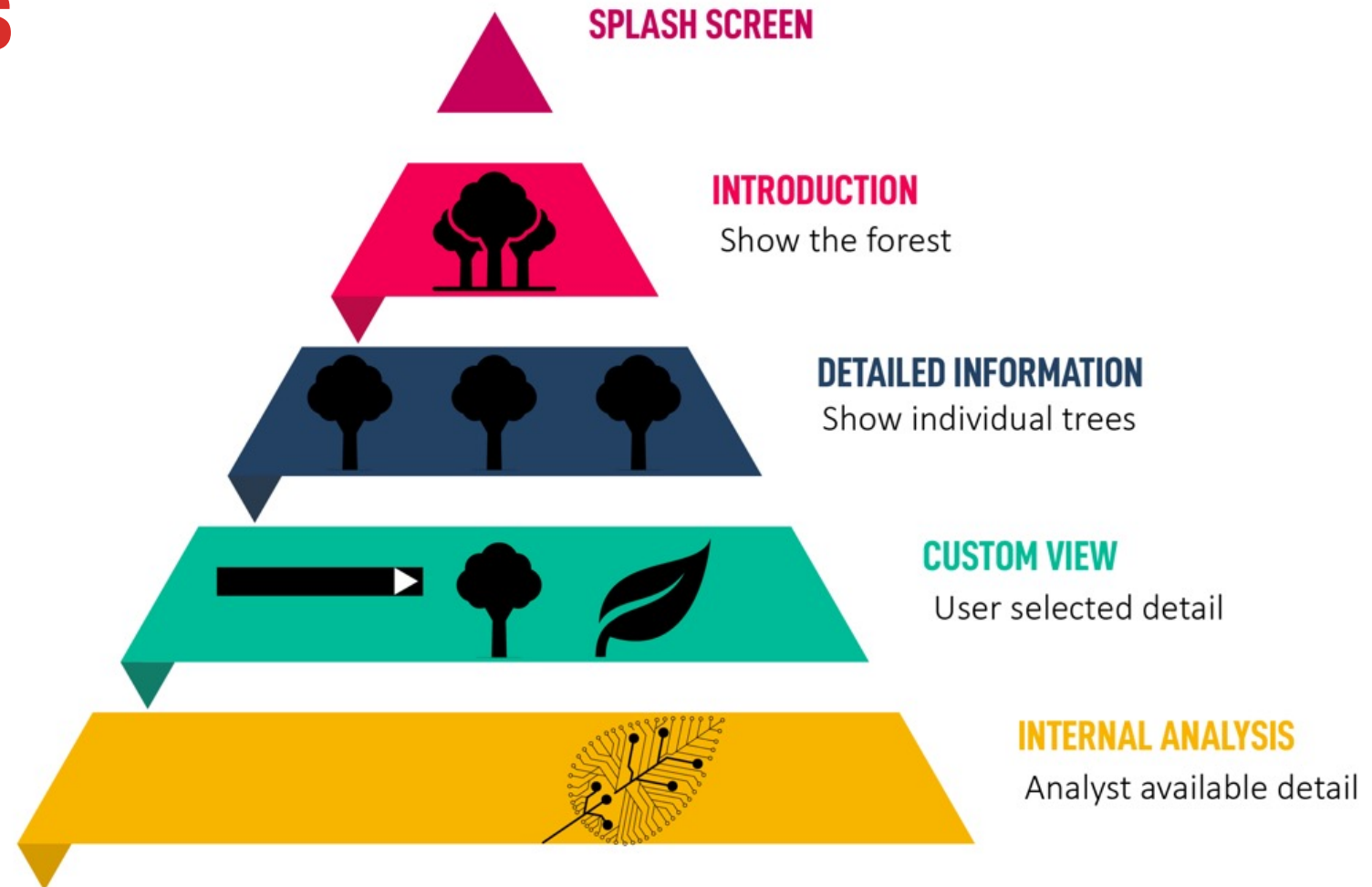




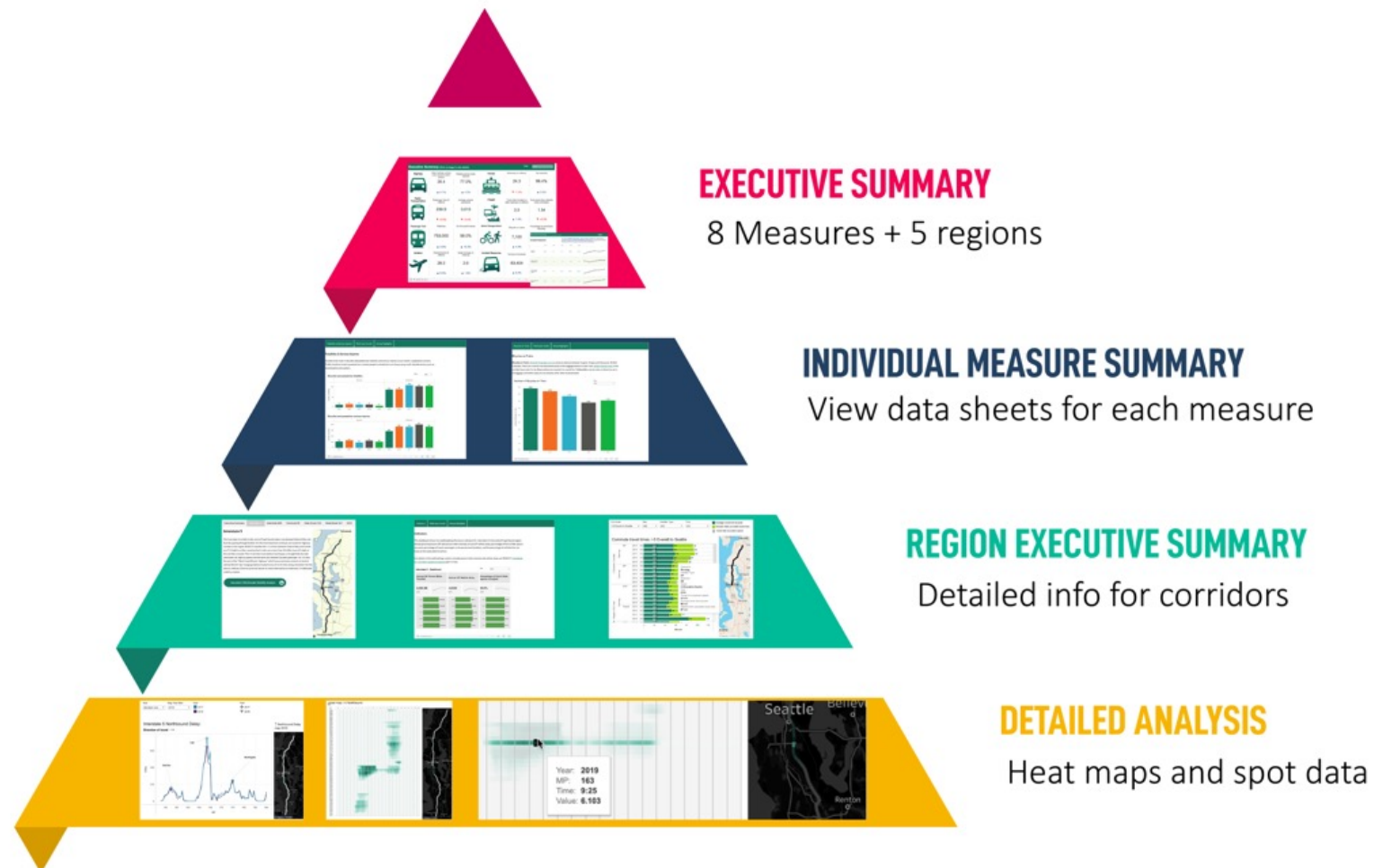
# Do you have a method for evaluating the effectiveness of visualizations?



# Dashboards

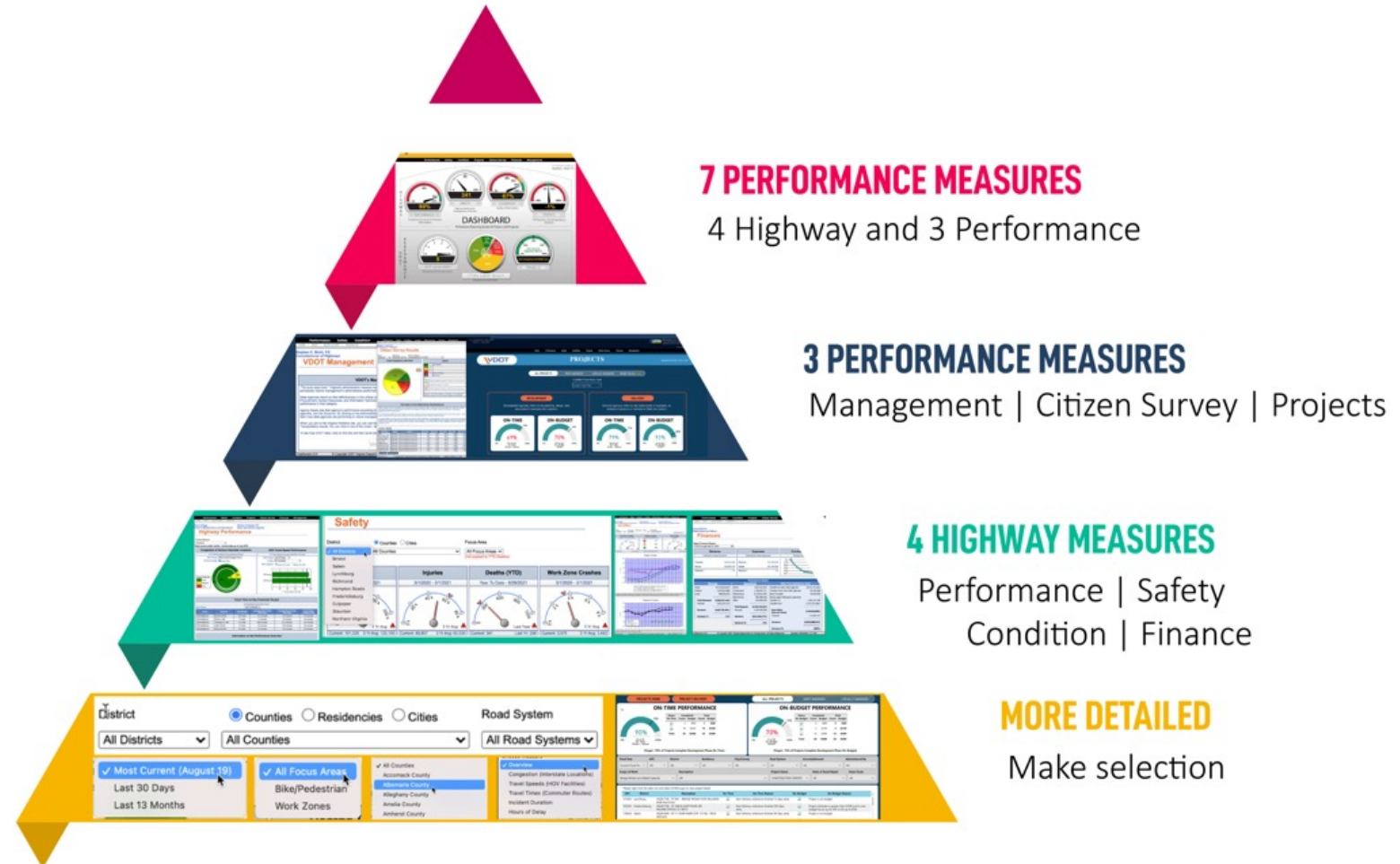


# WSDOT Multimodal Mobility Dashboard



[test.wsdot.wa.gov/wsdot/about/multimodal-mobility-dashboard/default.htm](https://test.wsdot.wa.gov/wsdot/about/multimodal-mobility-dashboard/default.htm)

# Virginia Dashboard Performance Reporting System



[dashboard.virginiadot.org/](https://dashboard.virginiadot.org/)

# Utah Strategic Direction Dashboard

**SPLASH SCREEN**



**STRATEGIC GOALS**

3 Core measures + Funding + Projects



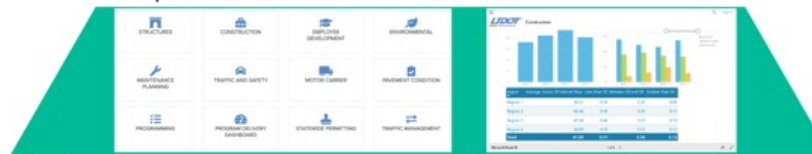
**TACTICAL MEASURES AND METRICS**

16 Specific measures



**NESTED DASHBOARDS**

Analyst Sign in for more detail



**4 REGIONAL DASHBOARDS**

5 Tabs of detail for each



[www.udot.utah.gov/strategic-direction/](http://www.udot.utah.gov/strategic-direction/)





# UDOT Region 2 Mobility Dashboard

Region 1 Region 3 Region 4 Statewide



Capacity (Top 25)

Capacity (All Routes)

Bottlenecks (Top 25)

Bottlenecks (All Routes)

Construction or Completed

Rank: 2021 VHD per Mile

VHD = Vehicle Hours of Delay

Data Updated  
Aug 9, 2021

25  
Route(s)

## Vehicle Hours of Delay



Top 25 vhd All

VHD

VHD Top 25

## % Change VHD 2020-21 (all routes)



Top 25 vhd All

% Change

## Speed Trend Weekday Median Speed



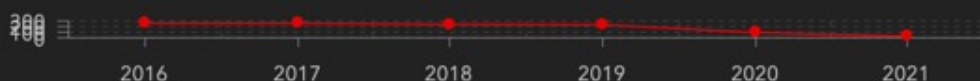
2016 2017 2018 2019 2020 2021

Speed Trend

Speed Range

Forecast Speed

## Crash Trend



## Top 25 Capacity Routes 2021 Vehicle Hours of Delay per Mile

Click on Route to update charts. Re-click to unselect.

### EB 600 S (SR-270) I-15 to State St

Delay: 10,356 hrs Rank: 1 Funded  
Project(s): ~

### NB SR-224 Cove Canyon Dr to I-80 Kimball Jct

Delay: 10,143 hrs Rank: 2 Funded  
Project(s): ~

### WB 9000 S (SR-209) I-15 to Redwood Rd

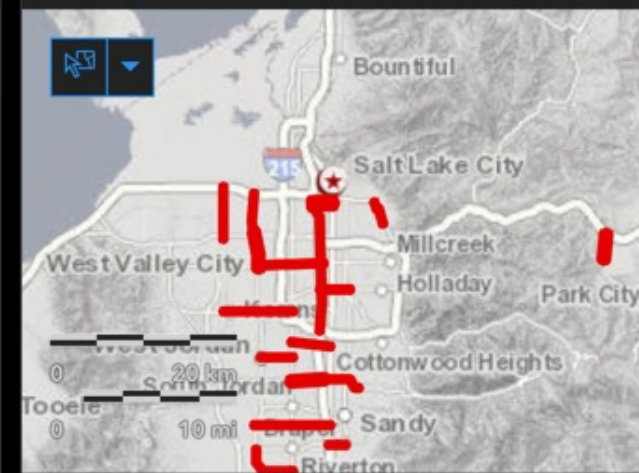
Delay: 8,588 hrs Rank: 3 Funded  
Project(s): ~

### NB Bangerter Hwy 3500 S to SR-201

Delay: 8,294 hrs Rank: 4 Funded  
Project(s): ~

## VHD by Routes

Use selection tools to select Route(s) and update charts. Click X to unselect.



none Powered by Esri

Top 25 VHD Map

Crash Map

## Yearly Vehicle Hours of Delay Trend



VHD Trend

VHD Seasons

Legend for Crash Map

Video Link (if available)

Funded Projects

No data



# VISUALIZING HIGHWAY PERFORMANCE MEASURES



NCHRP Project 20-05  
Synthesis Topic 52-16

Preliminary Findings, Panel has not balloted

**Frank Broen, PI**

[frank@metroanalytics.com](mailto:frank@metroanalytics.com)





# UDOT's Visualization of Highway Performance Measures for Storytelling and Decision Support

Ryan Bailey  
Utah DOT  
Performance Manager  
9/15/2021

# Strategic Direction Website



## Quick links from home page:

- Vision of the Department
- Mission Statement
- Strategic Goals
- Funding - Where we are spending the money
- Projects
- Tactical Measures

## Highlighting UDOT:

- Road map:
  - Overview of mission, vision, values, strategic goals
- Getting to know UDOT:
  - PDF showing how we do business
- Director's message:
  - History of the site



# UDOT Roadmap

## MISSION

ENHANCE QUALITY OF LIFE THROUGH TRANSPORTATION

### QUALITY OF LIFE FRAMEWORK



Better  
Mobility



Good  
Health



Connected  
Communities



Strong  
Economy

## VISION

KEEPING UTAH MOVING

## UDOT VALUES

RESPECT | INTEGRITY | CARING

## STRATEGIC GOALS

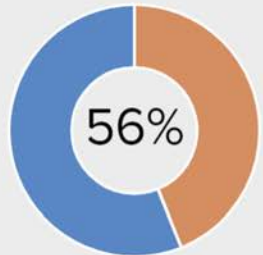
ZERO CRASHES, INJURIES AND FATALITIES |  
PRESERVE INFRASTRUCTURE | OPTIMIZE MOBILITY



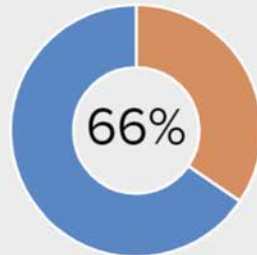
# Strategic Goals

## STRATEGIC GOALS

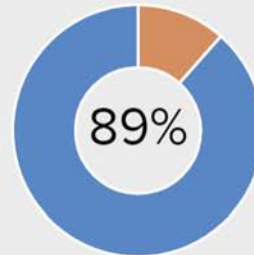
### ZERO FATALITIES



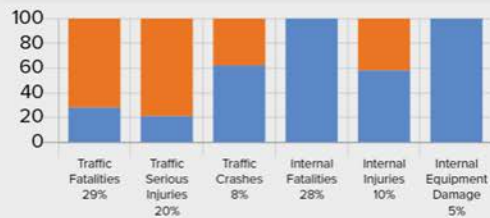
### OPTIMIZE MOBILITY



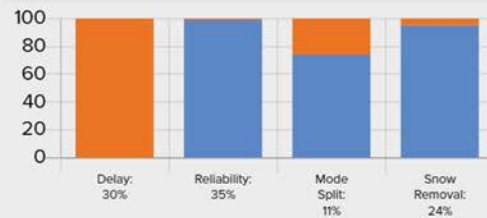
### PRESERVE INFRASTRUCTURE



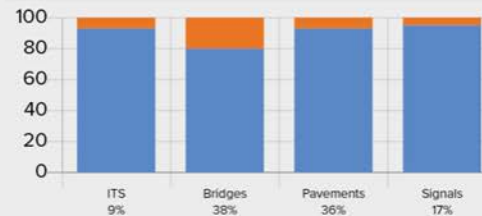
#### SAFETY PERFORMANCE MEASURES



#### MOBILITY PERFORMANCE MEASURES



#### INFRASTRUCTURE PERFORMANCE MEASURES



#### HISTORIC SAFETY INDEX



#### HISTORIC MOBILITY INDEX



#### HISTORIC INFRASTRUCTURE INDEX



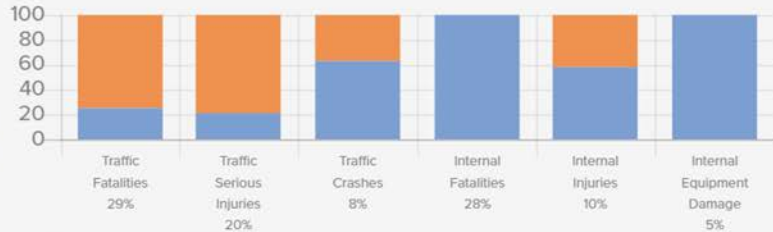
### Three Strategic Goals:

- **Zero crashes, injuries, and fatalities**
  - Traffic Fatalities
  - Traffic Serious Injuries
  - Traffic Crashes
  - Internal Fatalities
  - Internal Injuries
  - Internal Equipment Damage
- **Optimize Mobility**
  - Delay
  - Reliability
  - Mode Split
  - Snow Removal
- **Preserve Infrastructure**
  - ITS
  - Bridges
  - Pavement
  - Signals

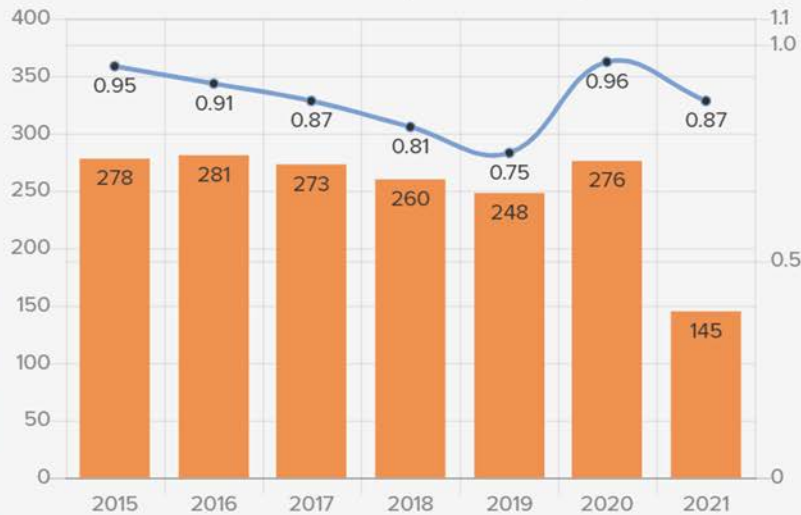
# Zero Fatalities - Part 1

## ZERO FATALITIES

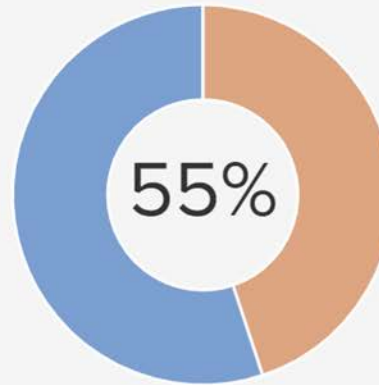
SAFETY PERFORMANCE MEASURES



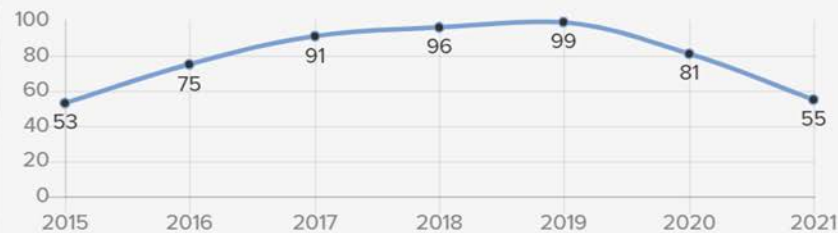
FATALITY RATE (PER 100M VMT)



SAFETY INDEX



HISTORICAL SAFETY INDEX



### Highlights:

- **Strategies tabs**
  - Infrastructure Improvement
  - Partnering
  - Employee Safety
  - Public Outreach and Education

### STRATEGIES

Infrastructure Improvement

Partnering

Employee Safety

Public Outreach and Education

# Zero Fatalities - Part 2

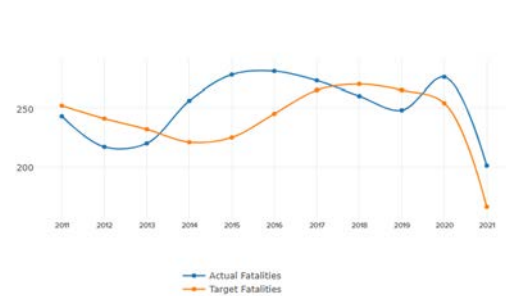
- Zero Fatalities Performance Measures

- Graphs
- Description of the measure and our current performance.
- Targets

## TRAFFIC FATALITIES

Total number of motor vehicle involved fatalities in the state of Utah. This data is for all publicly accessible routes.

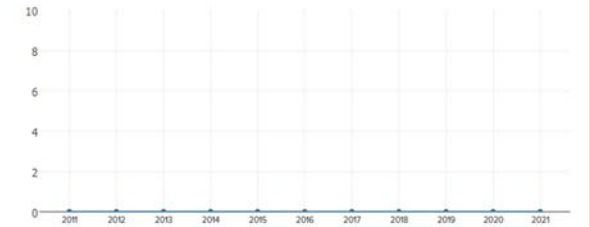
Target: Reduce fatality number by 2.5 percent below the three-year average.



## INTERNAL FATALITIES

The number of UDOT employee deaths.

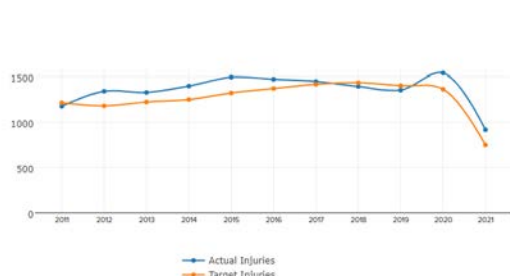
Target: Achieve zero employee fatalities.



## SUSPECTED SERIOUS TRAFFIC INJURIES

Total number of motor vehicle involved suspected serious injuries occurring in the state of Utah. Suspected serious injuries for current year are shown with a one month lag. This data is for all publicly accessible routes.

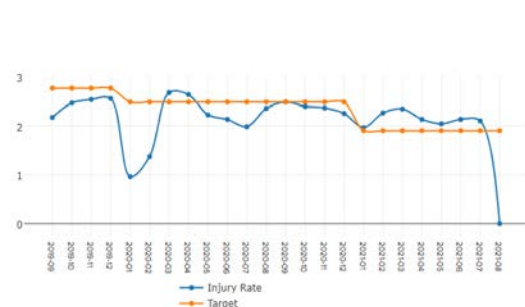
Target: Reduce by 2.5 percent below the three year average.



## INTERNAL INJURY RATE

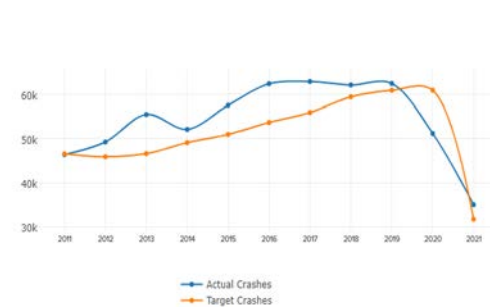
The number of injuries per 200,000 working hours.

Target is set 10% below prior year injury rate.



## TRAFFIC CRASHES

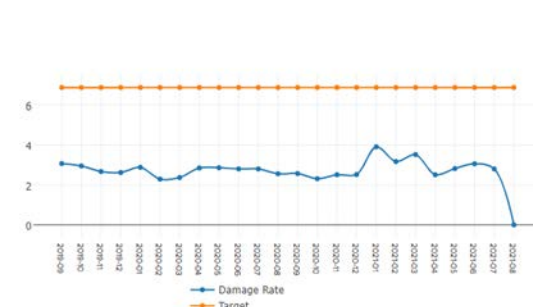
Total number of reported motor vehicle involved crashes in the state of Utah. Crashes for current year are shown with a one month lag. This data is for all publicly accessible routes.



## EQUIPMENT DAMAGE RATE

The number of incidents of equipment damage per 200,000 working hours.

Target: Achieve a rate of 6.85 incidents per 200,000 working hours.



# Optimize Mobility - Part 1

## OPTIMIZE MOBILITY

### Highlights:

- **Strategies tabs**
  - Capacity Improvements
  - Efficient Operations
  - Enable Travel Choices

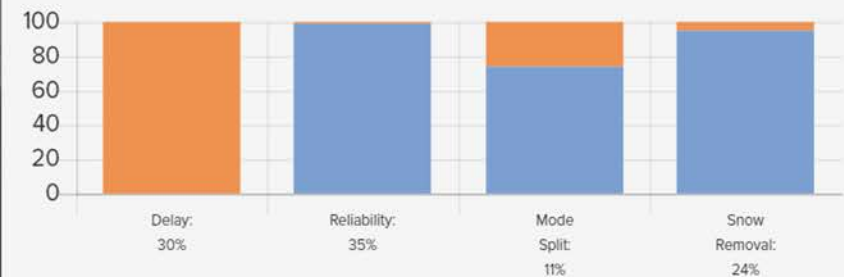
### STRATEGIES

Capacity Improvements

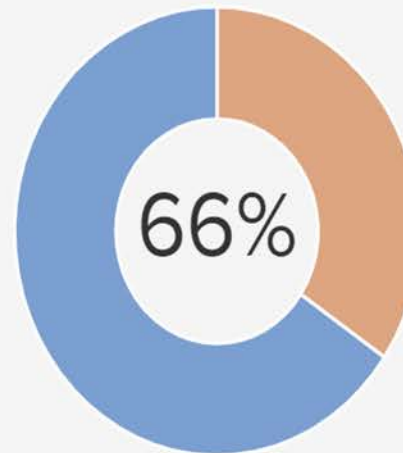
Efficient Operations

Enable Travel Choices

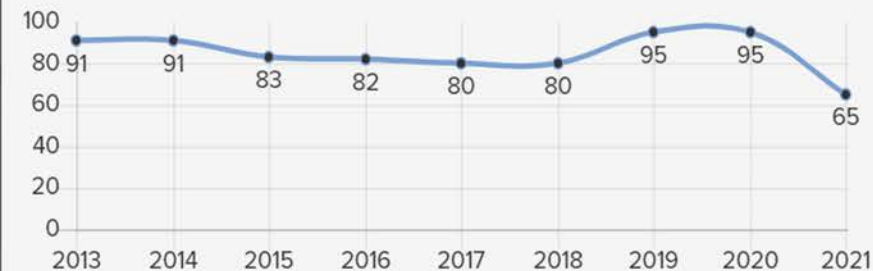
MOBILITY PERFORMANCE MEASURES



MOBILITY INDEX



HISTORICAL MOBILITY INDEX



# Optimize Mobility - Part 2

- Optimize Mobility Performance Measures
  - Graphs
  - Description of the measure and our current performance.
  - Targets

## DELAY

Delay is the sum of additional travel time on major routes (Interstates, highways and arterials) in the state each month. Delay is measured as the difference between the actual travel time and free-flow travel time.

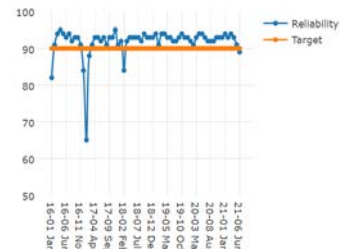
Target: Delay should not grow by more than 4% annually



## RELIABILITY

Reliability is the percent of miles on major routes that were uncongested and performed consistently with historical speeds during the peak hour.

Target: 90% of the system will be reliable.



## MODE SPLIT

The stacked bar chart on Mode Split below shows average daily trips by people in vehicles and on UTA transit in the I-15 Corridor in Salt Lake County. The Mode Split performance measure score is determined by dividing the actual percentage of transit trips by the target percentage transit trips and multiplying by 100.

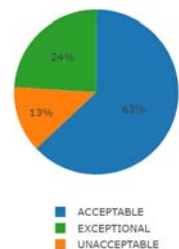
Target: 10 percent of all trips in the corridor are transit trips.



## SNOW AND ICE REMOVAL EFFICIENCY

The percentages shown represent current winter efforts success in our ability to maintain roadways free of snow and ice.

Target: (B+) 87% or greater for the acceptable and exceptional categories.





# Preserve Infrastructure - Part 1

## Highlights:

- **Strategies tabs**
  - Pavement Management
  - Bridge Management
  - Signal & Intelligent Transportation Systems Management

## STRATEGIES

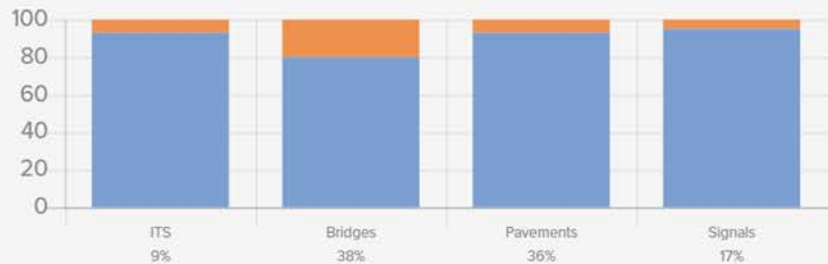
Pavement Management

Bridge Management

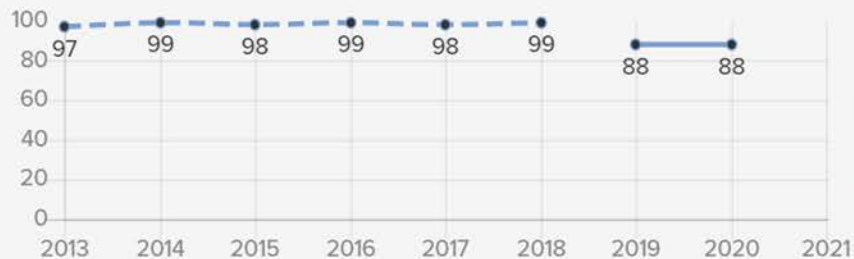
Signals & Intelligent  
Transportation Systems Management

## PRESERVE INFRASTRUCTURE

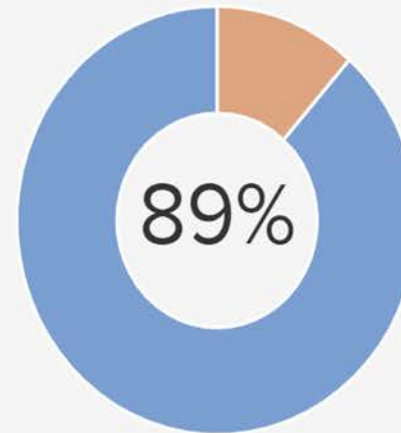
INFRASTRUCTURE PERFORMANCE MEASURES



HISTORICAL INFRASTRUCTURE INDEX



INFRASTRUCTURE INDEX

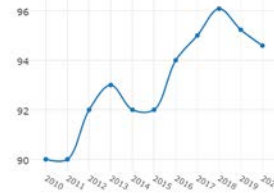


# Preserve Infrastructure - Part 2

- **Preserve Infrastructure Performance Measures**
  - Graphs
  - Description of the measure and our current performance.
  - Targets

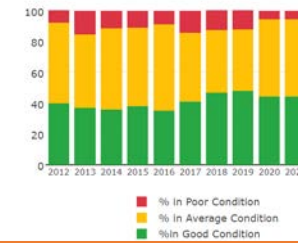
## ITS

This measure shows the percentage of ITS field devices communicating with the Traffic Operations Center (including CCTV, VMS, Traffic Signals, Ramp Meters, Traffic Monitoring Sensors).



## SIGNAL CONDITION

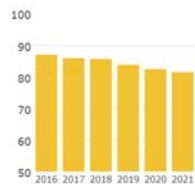
These values represent the percent of UDOT traffic signals that are in good, average and poor condition.



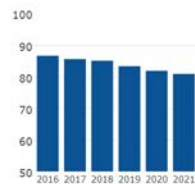
## BRIDGE CONDITION

These values represent the combined average Bridge Health Index (BHI) score, which is the health rating for bridge condition for bridges in the respective category.

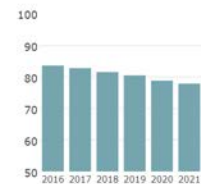
### NHS BHI



### State BHI



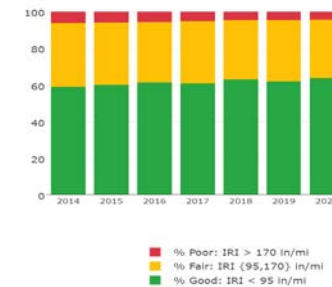
### Local Governments BHI



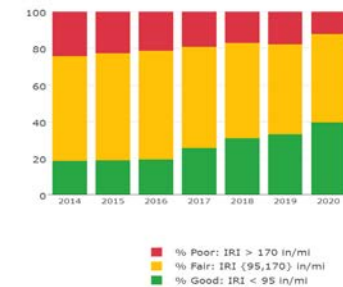
## PAVEMENT CONDITION

These values represent the weighted average condition of high and low volume highways that are in good and fair condition, using the International Roughness Index (IRI), as the indicator.

### High Volume Pavement



### Low Volume Pavement



# Funding

## FY22 UDOT FUNDING \$1.591 B

+ \$869.6 M 1X (ONE TIME)

| Transportation Investment Fund (TIF) | Transportation Fund | Highway Federal Funds | Transit Transportation Investment Fund (TTIF) | Rural Transit | Aeronautics |
|--------------------------------------|---------------------|-----------------------|---|---------------|-------------|
| 52%                                  | 26%                 | 20%                   | <1%   | <1%           | <1%         |
| \$828.75 M<br>\$768.0 M 1x           | \$413.67 M          | \$314.8 M             | \$13.0 M<br>\$101.6 M 1x                      | \$12.12 M     | \$8.97 M    |

- Funding Tabs:
  - Transportation Investment Fund (TIF)
  - Transportation Fund
  - Highway Federal Funds
  - Transit Transportation Investment Fund (TTIF)
  - Rural Transit
  - Aeronautics

- Revenue Tab:
  - Shows where the funding is from.
- Expenditures Tab:
  - Shows how we are spending our allocated funds.



# Projects

## PROJECTS



PROJECTS

- **Projects Page:**
  - Link to the Project App
  - Project UVision
  - Graphs and Charts of Projects
  - Overview of Funded, Future, and Planned Projects

## UTAH'S TRANSPORTATION VISION

Pathway to Quality of Life

THE VISION

QUALITY OF LIFE

OVERVIEW

STAKEHOLDER COMMITTEE

IMPLEMENTATION



# Quality of Life

## DATA AND INPUT FOR PLANNING

DATA



ECONOMIC GROWTH



POPULATION



PUBLIC INPUT



COLLABORATION AND PLANNING



MODELING



UVISION

UTAH'S TRANSPORTATION VISION  
Pathway to Quality of Life

LONG RANGE PLANS



UNIFIED PLAN



PROJECTS



## Tabs in the Project App:

- **UVision**
  - Describes Utah's Transportation Vision
- **Unified Plan**
  - Highways, Transit, Active Transportation, Corridor Preservation
- **Programs**
  - STIP Program - Funding
- **Prioritization List**
  - All Projects with Scores
- **TIF**
  - Map of all Projects Funded Through TIF
- **Funded Projects**
  - GIS Map of all Projects
- **Construction Projects**
  - GIS Map of all Projects



# Tactical and Division Measures

## TACTICAL MEASURES AND PERFORMANCE METRICS

UNDER DEVELOPMENT AND SUBJECT TO CHANGE

TRAVEL TIMES AND  
SPEEDS



TRANSPORTATION  
COMMISSION



FEDERAL  
PERFORMANCE  
MEASURES



ROADWAY  
PERFORMANCE  
METRICS



## 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



# Tactical and Division Measures

## FHWA Federal Performance Measure

Currently MPO data not available so county data is used as a substitute

Statewide Cache Dixie MAG Rural WFR

Year Filter

2012

2020

**\*\*Data Note - If the county is not assigned in the data, it will not show accurately in the MPO breakdown\*\***

### Safety Metrics

**Number of fatalities:** ADD the number of fatalities for the consecutive 5 years, DIVIDE by 5, ROUND to the nearest thousandth decimal

**Rate of fatalities per 100M Vehicle Miles of Travel (VMT):** Fatality rate for consecutive 5 years ROUNDED to the hundredth decimal (ratio of the total number of fatalities to the VMT)

**Number of suspected serious injuries:** ADD the number of serious injuries for 5 consecutive years, DIVIDE the sum by 5 and ROUND to the 10th decimal.

**Rate of suspected serious injuries per 100M VMT:** Calculate the rate of serious injuries per 100 VMT, rounded to the thousandth decimal place for each year.

Number of non-motorized fatalities and suspected serious injuries: Add the

## Highway Safety

by MPO Substitute (\* county values not MPO values)

### Number of Fatalities\*



### Statewide Fatality Rate and Suspected Serious Injury Rate (per 100M VMT)



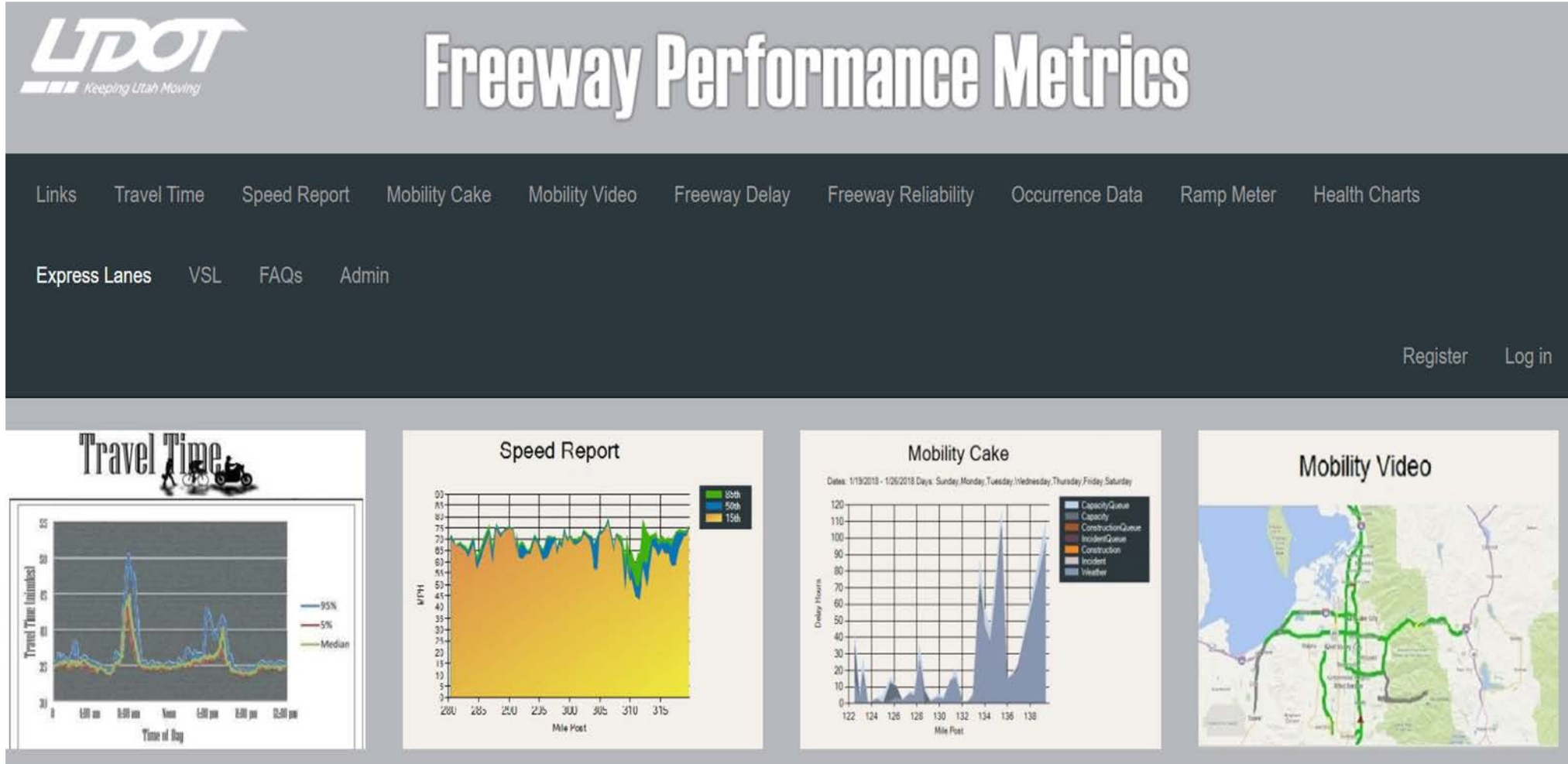
### Number of Suspected Serious Injuries\*



### Total Number of Non-Motorized Fatalities and Suspected Serious Injuries\*



# Tactical and Division Measures

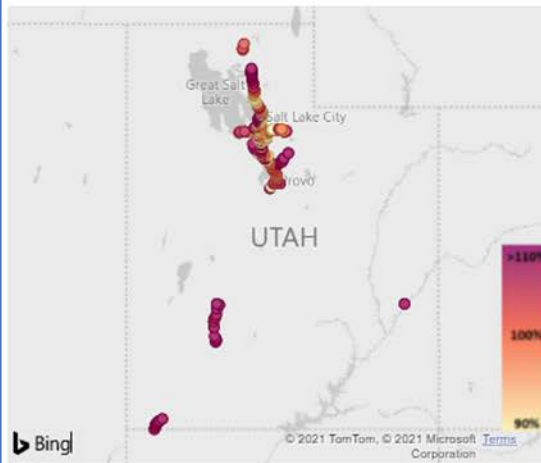


# Tactical and Division Measures

## 2020-2021 Traffic Volume

**Trends |** Highways and  
Freeways

**Number of Stations |** 753



**Year-to-Date |** Total of all days in 2020 or 2021 compared to all days in 2019 to the current date.

**Selected Month |** Average of 2020 or 2021 volume divided by 2019 volume for selected month.

**7-Day Rolling Average |** percentages are calculated using a rolling average of the previous 7 days. All filtered sites are weighted based on volume. Volumes include mainline general purpose lanes only.

**Metrics |** 2020-2021 Relative to 2019 7-Day Rolling Average

**2020**

All Days  
**90%**

Weekdays  
**90%**

Weekends  
**88%**

Most Recent 7-Day  
Average  
**98%**

**2021**

All Days  
**101%**

Weekdays  
**100%**

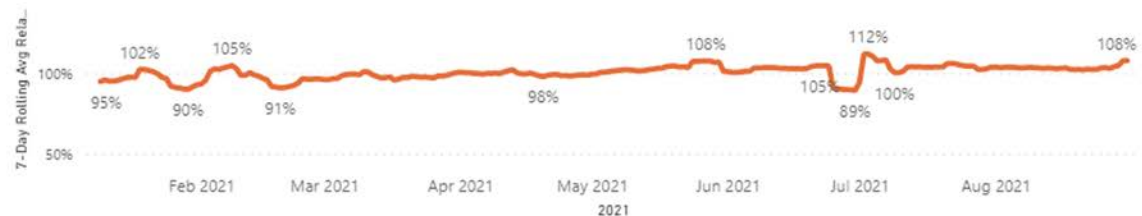
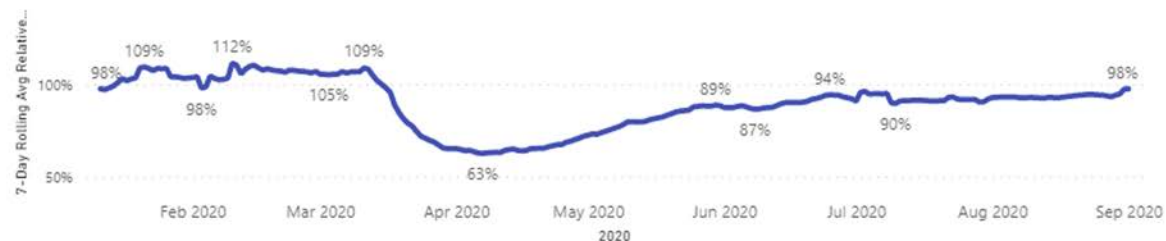
Weekends  
**104%**

Most Recent 7-Day  
Average  
**108%**

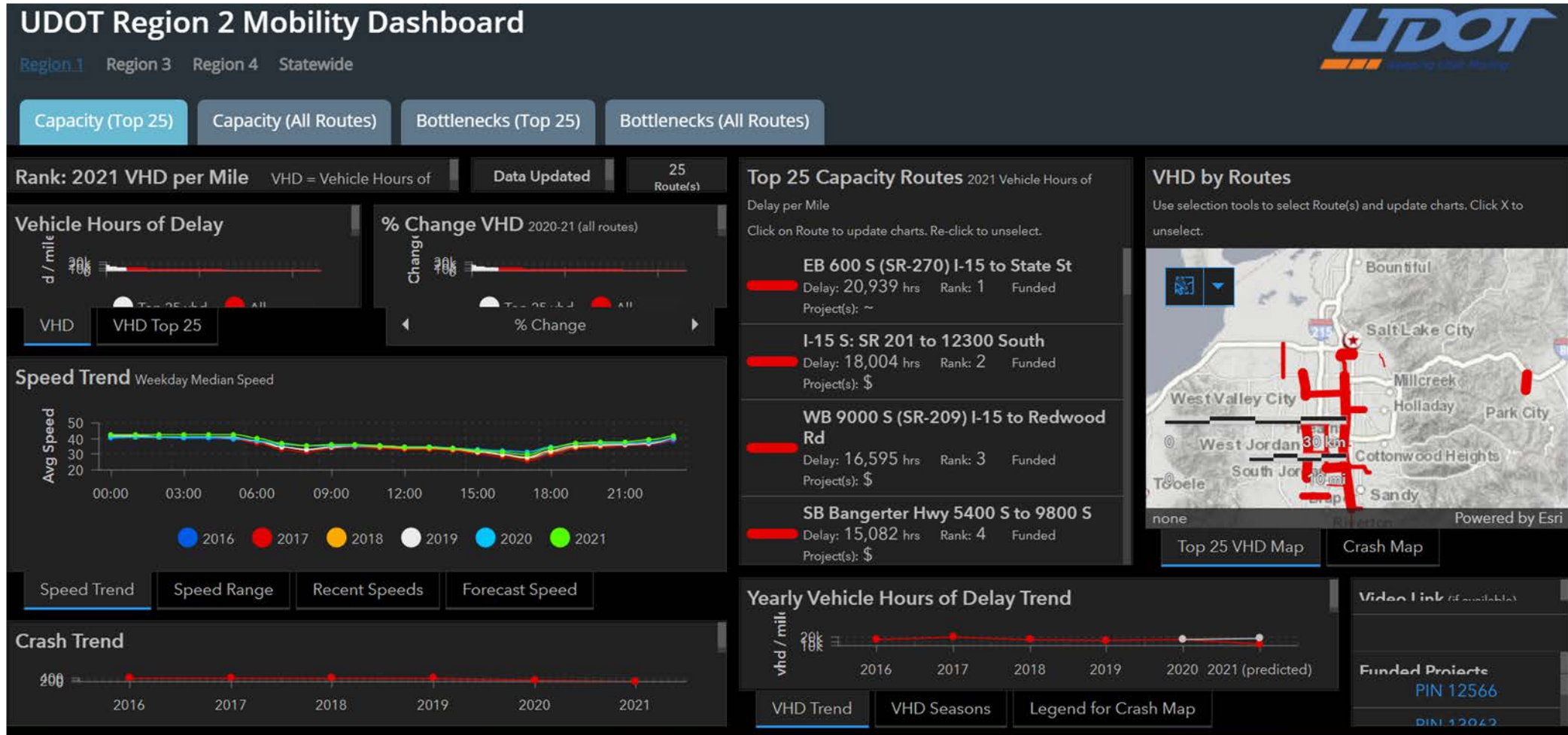
**20-21 Selected State Route Traffic Volume Relative to 2019 |** 7-Day Rolling Average



### Multiple Stations Selected



# Tactical and Division Measures





# Tactical and Division Measures

## Program Delivery Dashboard

The Program Delivery Dashboard (PDD) is utilized to evaluate the delivery of roadway projects in three different areas: schedule, budget, and scope.

### Preconstruction Advertising Status

|          |                                |  |                |
|----------|--------------------------------|--|----------------|
| 8        | 14                             | 119  | 141            |
| Past Due | To Advertise<br>Within 60 Days | Advertising Date<br>More Than 60<br>Days Out | Total Projects |



# Tactical and Division Measures



TRAFFIC AND SAFETY

Traffic and Safety

## Performance Management Metrics



Region 1

Region 2

Region 3

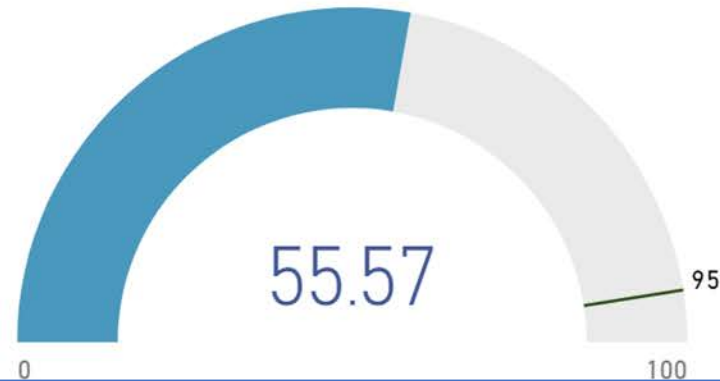
Region 4

Statewide



Safety Index vs. Target

Vehicular Crash Index vs. Target Index



Employee Related Incidents Index vs. Target Index



# Strategic Direction Website SWOT Analysis

## Utah Strategic Direction Dashboard



### Strengths

- Easy to use site with visualizations and metrics
- Group and Division participation

### Weakness

- Lacks a uniformed flow
- Need to incorporate performance measures throughout

### Opportunity

- Learn best practices from other states
- Implement best practices to improve the site layout and development

### Threat

- Time and resources required to improve the site
- Metrics displayed are not meaningful



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Performance Manager  
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# **WSDOT's Performance Data Visualization and Dashboards**

Sreenath Gangula, P.E., PTOE  
Assistant Director, Performance Management  
**Transportation Safety and Systems Analysis Division**  
**Washington State Department of Transportation**

Roger Millar, Secretary of Transportation

Amy Scarton, Deputy Secretary of Transportation

# How data visualization works

- The Washington State Department of Transportation has been using its data to tell the agency's performance stories for two decades.
- The Gray Notebook tells these stories to a varied audience – includes everyone from the Governor and legislature to executives, cities, counties, tribes and the general public – by using performance journalism to explain complex topics and issues in easy-to-understand terms.
- The GNB primarily uses well-written text balanced with vetted data, which is visualized through charts, graphs and infographics to better reach its readership.
- The GNB's secret is analysts' collaboration and coordination with agency programs on the articles. It gets discussions going and breaks down silos as needed to ensure performance (both positive and negative) is reported accurately and transparently.



# Infographics share highlights

PERFORMANCE HIGHLIGHTS reported for the quarter ending December 31, 2020



Over  
the next  
**10**  
YEARS

with current funding levels WSDOT  
will be **unable to preserve pavement** on  
ramps, lower-level freight corridors and  
roads with speed limits below 45 mph



**1**

**Connecting Washington** project  
completed during the sixth quarter  
of the 2019-2021 biennium

**23**  
PERCENT

of WSDOT's  
passenger vehicle  
fleet was **Electric  
Vehicles** in 2020

**68**  
PERCENT

of highway  
maintenance  
targets met in  
2020

**\$19.6**  
MILLION

in economic benefit  
provided by WSDOT's  
**Incident Response**  
teams clearing  
10,000 incidents  
during the quarter

**9**  
PERCENT

decrease in **travel**  
volumes on state  
highways from 2019  
due to response  
to the COVID-19  
pandemic

# Infographics share highlights

PERFORMANCE HIGHLIGHTS reported for the quarter ending September 30, 2020

## 292 BRIDGES



owned by WSDOT  
are currently over  
80 YEARS OLD

## 35 PERCENT

decrease in  
**Thanksgiving Day**  
**travel** volumes on  
state highways from  
2019 due to response  
to the COVID-19  
pandemic

## 106

stormwater **treatment facilities**  
were constructed by WSDOT in fiscal  
year 2020

## \$20.5 MILLION

in economic benefit  
provided by WSDOT's  
**Incident Response**  
teams clearing  
11,254 incidents  
during the quarter

## 6

additional **Connecting Washington**  
projects and contracts completed by  
WSDOT during the fifth quarter of the  
2019-2021 biennium

## 59 PERCENT

farebox recovery  
rate by **WSDOT-**  
**sponsored Amtrak**  
**Cascades** in fiscal  
year 2019

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

## 383

## WSDOT SURPASSED ITS 95% GOAL



## FOR REGISTRATION COMPLIANCE WITH 6,733 WASHINGTON AIRCRAFT RENEWED

# Always keeping our state's policy goals in mind

## Statewide transportation policy goals

Laws enacted in 2007 established policy goals for transportation agencies in Washington (RCW 47.04.280). Throughout its editions, WSDOT's Gray Notebook reports on progress toward the six statewide transportation policy goals that include:

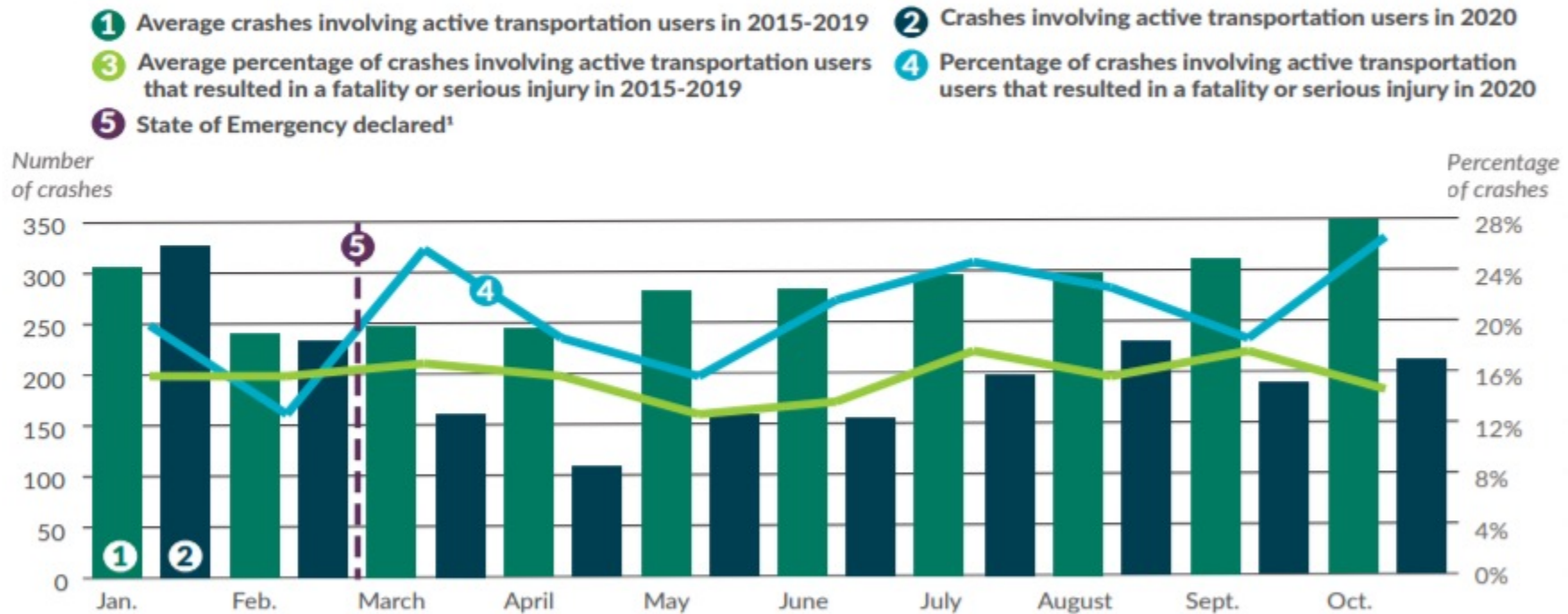
- **Safety:** To provide for and improve the safety and security of transportation customers and the transportation system;
- **Preservation:** To maintain, preserve, and extend the life and utility of prior investments in transportation systems and services;
- **Mobility:** To improve the predictable movement of goods and people throughout Washington, including congestion relief and improved freight mobility;
- **Environment:** To enhance Washington's quality of life through transportation investments that promote energy conservation, enhance healthy communities, and protect the environment;
- **Economic Vitality:** To promote and develop transportation systems that stimulate, support, and enhance the movement of people and goods to ensure a prosperous economy; and
- **Stewardship:** To continuously improve the quality, effectiveness, and efficiency of the transportation system.



# Visualizing Safety

**Total crashes involving active transportation users decline during the pandemic, but a higher percentage resulted in a fatality or serious injury compared to pre-pandemic average**

2015-2019 average and 2020; Crashes involving active transportation users by month; Percentage of crashes involving active transportation users



Data source: WSDOT Transportation Data, GIS and Modeling Office.

Notes: Due to data processing times, the most recent available monthly crash data is for October 2020. 1 Gov. Jay Inslee declared a State of Emergency due to the COVID-19 pandemic on February 29, 2020.

**GNB 79**  
Sept. 2020

# Visualizing Safety

## WSDOT's agency-wide RIR and DART rates improve between 2019 and 2020

2016 through 2020; Recordable incident rate and days away, restricted or transferred rate for every 100 full-time employees per year

| Recordable Incident rate <sup>1</sup> | 2016 | 2017 | 2018 | 2019 | 2020 | 1-year % change <sup>2</sup> | 5-year % change <sup>2</sup> |
|---------------------------------------|------|------|------|------|------|------------------------------|------------------------------|
| WSDOT                                 | 4.3  | 4.3  | 4.3  | 3.8  | 3.5  | -10.5%                       | -20.9%                       |
| WSF <sup>3</sup>                      | 5.4  | 5.9  | 7.0  | 7.1  | 7.0  | -1.4%                        | +29.6%                       |
| Agency-wide <sup>3</sup>              | 4.6  | 4.7  | 5.0  | 4.7  | 4.4  | -6.4%                        | -4.3%                        |
| <b>DART rate<sup>1</sup></b>          |      |      |      |      |      |                              |                              |
| WSDOT                                 | 1.6  | 1.7  | 2.4  | 2.1  | 1.9  | -9.5%                        | +18.8%                       |
| WSF <sup>3</sup>                      | 3.6  | 3.7  | 5.1  | 4.8  | 4.9  | +2.1%                        | +36.1%                       |
| Agency-wide <sup>3</sup>              | 2.2  | 2.3  | 3.1  | 2.8  | 2.7  | -3.6%                        | +22.7%                       |

Data source: WSDOT Office of Human Resources and Safety.

**GNB 80**  
Dec. 2020



# Visualizing Safety



Fauntleroy toll booth ticket seller employee Lawrence Grohall wears a face mask behind sneeze guard extends selfie stick credit card reader to a customer. WSF Eagle Harbor Maintenance Facility staff built and installed customized Plexiglas sneeze guards for all ferry tollbooths and WSF information technology team designed and implemented the self-swipe credit card reader attached to a selfie stick. Read more about [WSF's COVID-19 response on the WSDOT Blog](#).

**GNB 80**  
Dec. 2020

# Visualizing Preservation

## WSDOT has 130 load restricted or load posted bridges

June 2016 through June 2020; Number of bridges with weight restrictions



Data sources: WSDOT Bridge and Structures Office, WSDOT Local Programs Office.

Notes: **1** A "load restricted" bridge cannot be legally used by an overloaded truck. **2** A "load posted" bridge limits the allowable weight of trucks to below typical legal weights.

**GNB 79**  
Sept. 2020

# Visualizing Preservation

**WSDOT has 105 concrete bridge decks either due or past due for repair as of June 2020, an increase of 24% from 85 in June 2016**

*2016 through 2020; Number of bridges by status of repair need*



Data source: WSDOT Bridge and Structures Office.

**GNB 79**  
Sept. 2020

## Percentage of WSDOT's pavement in very poor condition decreases between 2015 and 2019

Actual values for 2015 and 2019; Characteristics of pavement at each condition; Percentage of lane miles and vehicle miles traveled (VMT) by condition category

| WHAT DRIVERS SEE   | WHAT IS HAPPENING  | 2015   | 2019           | Trend <sup>1</sup> | Desired trend    |
|--|--|--|----------------|--------------------|------------------|
| <b>GOOD/VERY GOOD</b><br> |    | By lane miles 76.4%<br>By VMT <sup>2</sup> 75.2% | 75.5%<br>76.3% | ↓<br>↑             | ↑                |
|  | <p>This pavement is in good condition with minimal deterioration</p> <p>Road users experience a smooth road with minimal cracks, ruts or potholes</p>  |  |                |                    |                  |
| <b>FAIR</b><br>           |    | By lane miles 16.7%<br>By VMT <sup>2</sup> 17.8% | 17.5%<br>17.7% | ↑<br>↓             | N/A <sup>3</sup> |
|  | <p>It is most cost-effective to resurface or repair a road when it is in fair condition. The surface of pavement in fair condition shows wear, but the underlying structure is undamaged</p> <p>Preventive preservation (maintenance and rehabilitation) repairs at this stage can maximize the road's service life</p>  |  |                |                    |                  |
| <b>POOR</b><br>           |   | By lane miles 5.1%<br>By VMT <sup>2</sup> 5.4%   | 5.3%<br>4.7%   | ↑<br>↓             | ↓                |
|  | <p>Restoring a road in poor condition to good condition costs 1.5 to 2 times more than restoring a road in fair condition to good condition because of the damage to the pavement's underlying structure</p> <p>Roads in poor condition cause more wear on vehicles and higher fuel use</p>  |  |                |                    |                  |
| <b>VERY POOR</b><br>    |    | By lane miles 1.8%<br>By VMT <sup>2</sup> 1.6%   | 1.8%<br>1.3%   | —<br>↓             | ↓                |
|  | <p>Repairing pavement in poor condition costs 3 to 5 times as much as repairing pavement in fair condition, because deep pavement failure requires reconstruction</p> <p>Roads in very poor condition require reactive repairs to hold them together until reconstruction, which is not a good strategy for minimizing costs over the life of the pavement</p> |  |                |                    |                  |

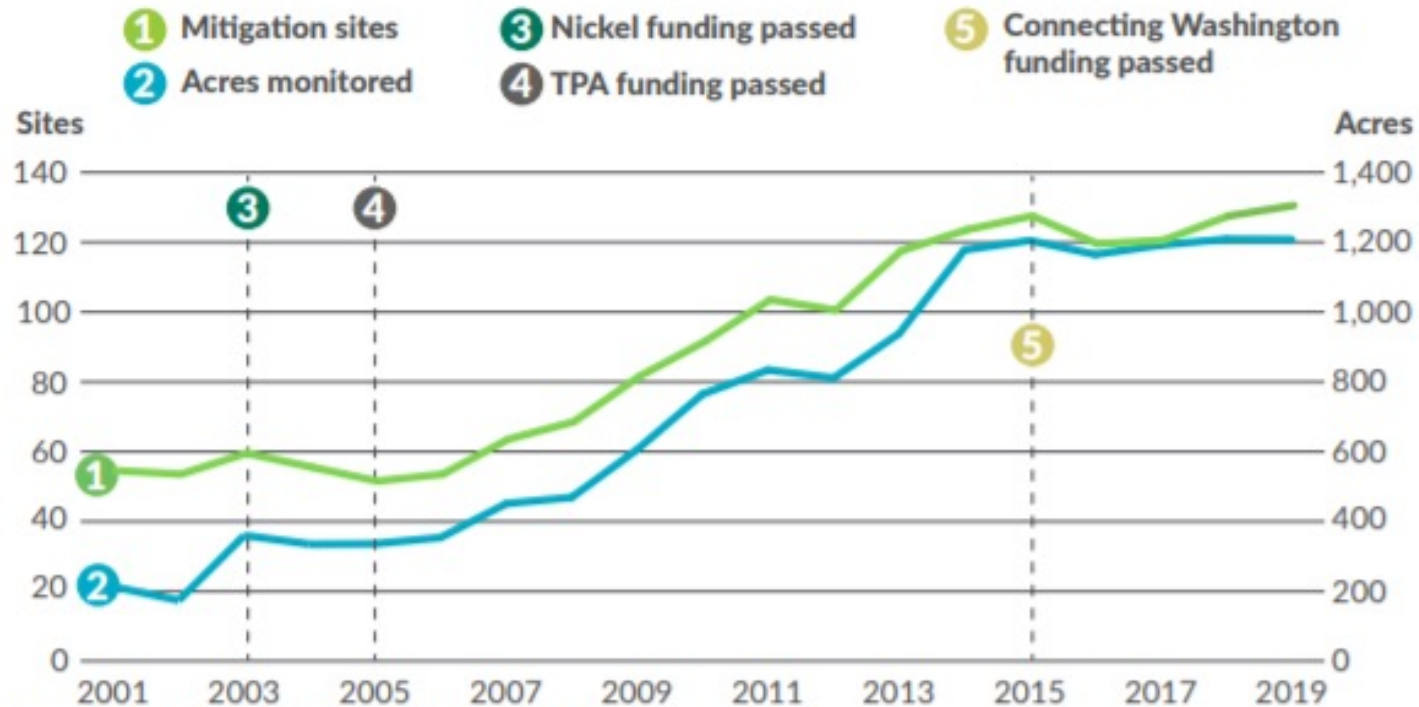
**GNB 80**  
Dec. 2020



# Visualizing the Environment

## WSDOT's monitored mitigation site acreage increases to 1,208 in 2019

2001 through 2019; Number of sites and acres monitored

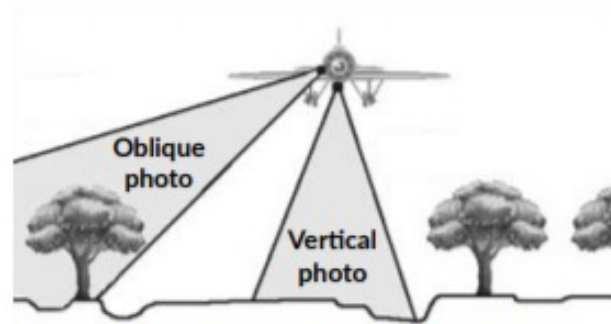


Data source: WSDOT Environmental Services Office.

**GNB 77**  
March 2020



# Visualizing the Environment



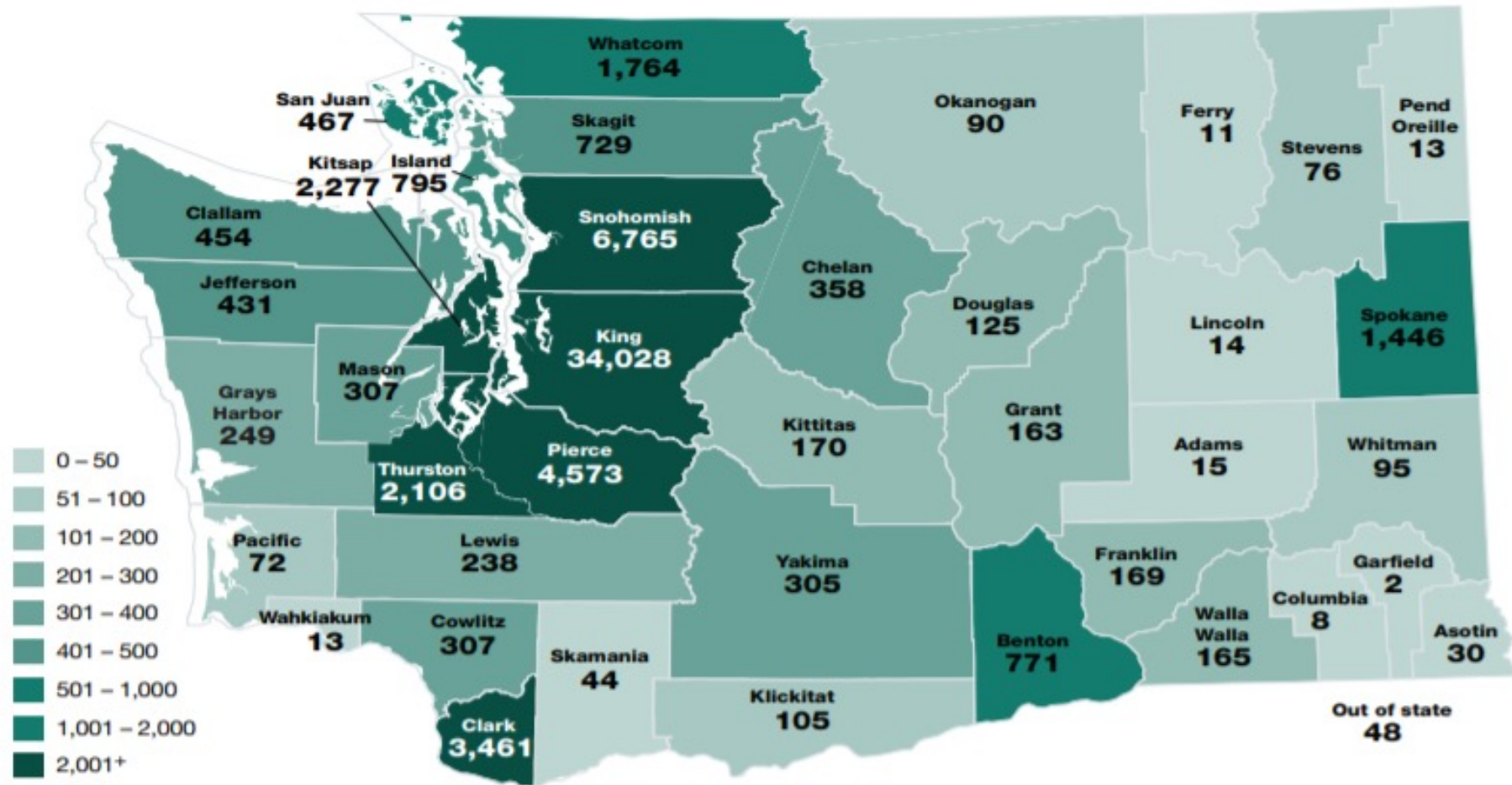
Above: Oblique aerial photographs are taken from precise points in the sky and result in repeatable, low-cost and high-quality data.  
At right: A vertical aerial photograph of a WSDOT project site.  
Below and below right: Oblique aerial photographs of the same project site, gathered using drones.



**GNB 77**  
March 2020

## Washington's total registered plug-in electric vehicles top 63,000

Number of plug-in electric vehicle registrations by county; As of December 31, 2020



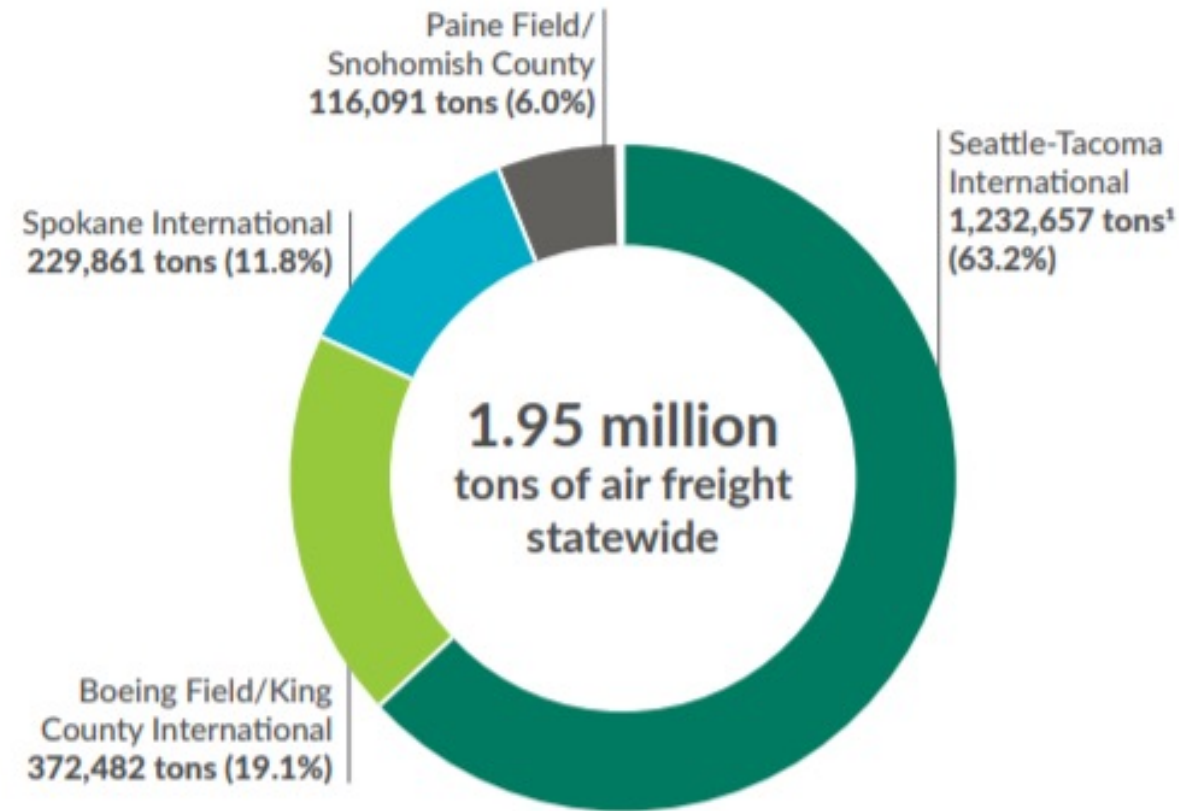
Data source: Washington State Department of Licensing.

**GNB 80**  
Dec. 2020

# Visualizing Economic Vitality

## Seattle-Tacoma airport moves majority of state's air freight in 2018

*Tonnage and percentage share of air freight per airport in Washington state*



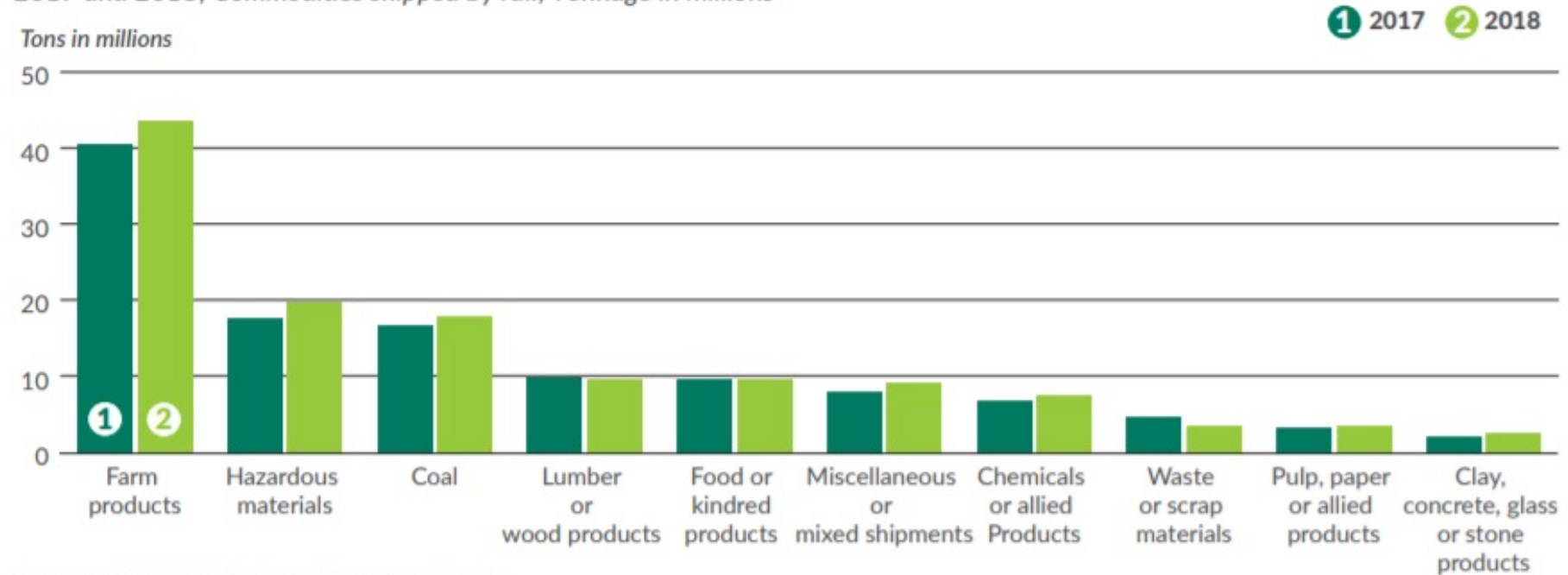
Data source: Federal Aviation Administration.

**GNB 78**  
June 2020

# Visualizing Economic Vitality

## Farm products continue to make up largest share of freight shipped by rail in Washington state in 2018

2017 and 2018; Commodities shipped by rail; Tonnage in millions



Data source: WSDOT Rail, Freight, and Ports Division.

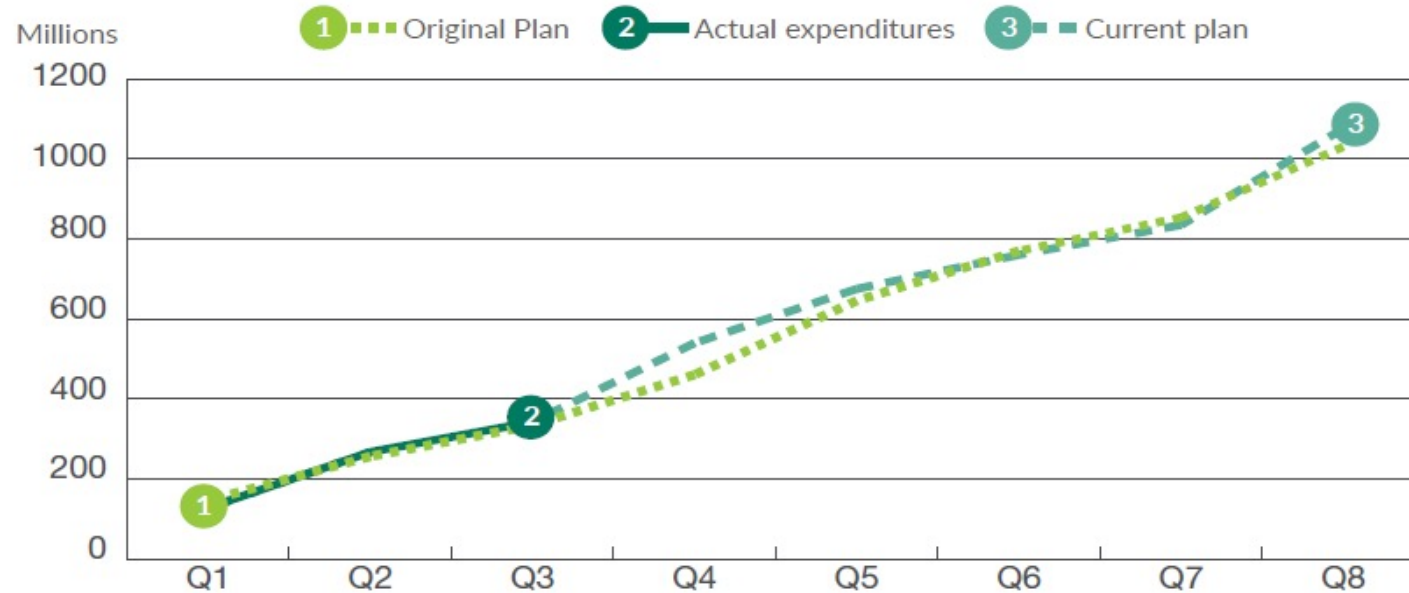
**GNB 78**  
June 2020



# Visualizing Stewardship

**Cumulative Pre-existing Funds improvement and preservation combined cash flows during the 2019-2021 biennium slightly higher than planned**

*Quarter ending March 31, 2020; Planned vs. actual expenditures and current plan; Dollars in millions*



Data source: WSDOT Capital Program Development and Management.

Note: Q3 refers to the third quarter (January through March 2020) of the 2019-2021 biennium, which runs from July 2019 through June 2021.

**GNB 77**  
March 2020



# Visualizing Stewardship

## WSDOT advertises 115 PEF projects during the 2019-2021 biennium

| Advertisement status             | Quarter <sup>1</sup> | Cumulative <sup>2</sup> |
|----------------------------------|----------------------|-------------------------|
| Advanced <sup>3</sup>            | 0                    | 0                       |
| On time                          | 29                   | 85                      |
| Emergent <sup>4</sup>            | 13                   | 17                      |
| Early <sup>5</sup>               | 1                    | 3                       |
| Late                             | 9                    | 12                      |
| <b>Total projects advertised</b> | <b>52</b>            | <b>115</b>              |
| Delayed within the biennium      | 29                   | 65                      |
| Deferred out of the biennium     | 0                    | 0                       |
| Deleted                          | 1                    | 4                       |

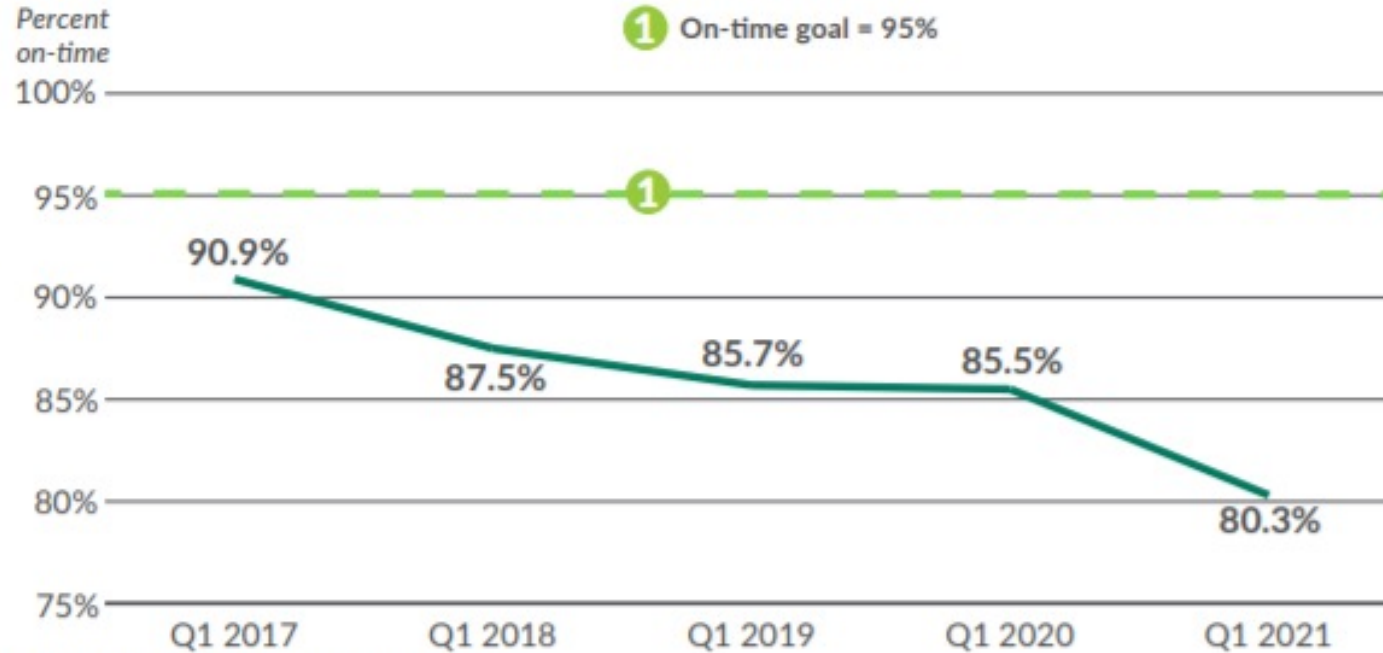
Data source: WSDOT Capital Program Development and Management.

**GNB 77**  
March 2020

# Visualizing Mobility

## On-time performance for WSF hits five-year low during COVID-19 pandemic

First quarters; Fiscal years 2017 through 2021; Percent of ferry trips reported as on-time<sup>1</sup>



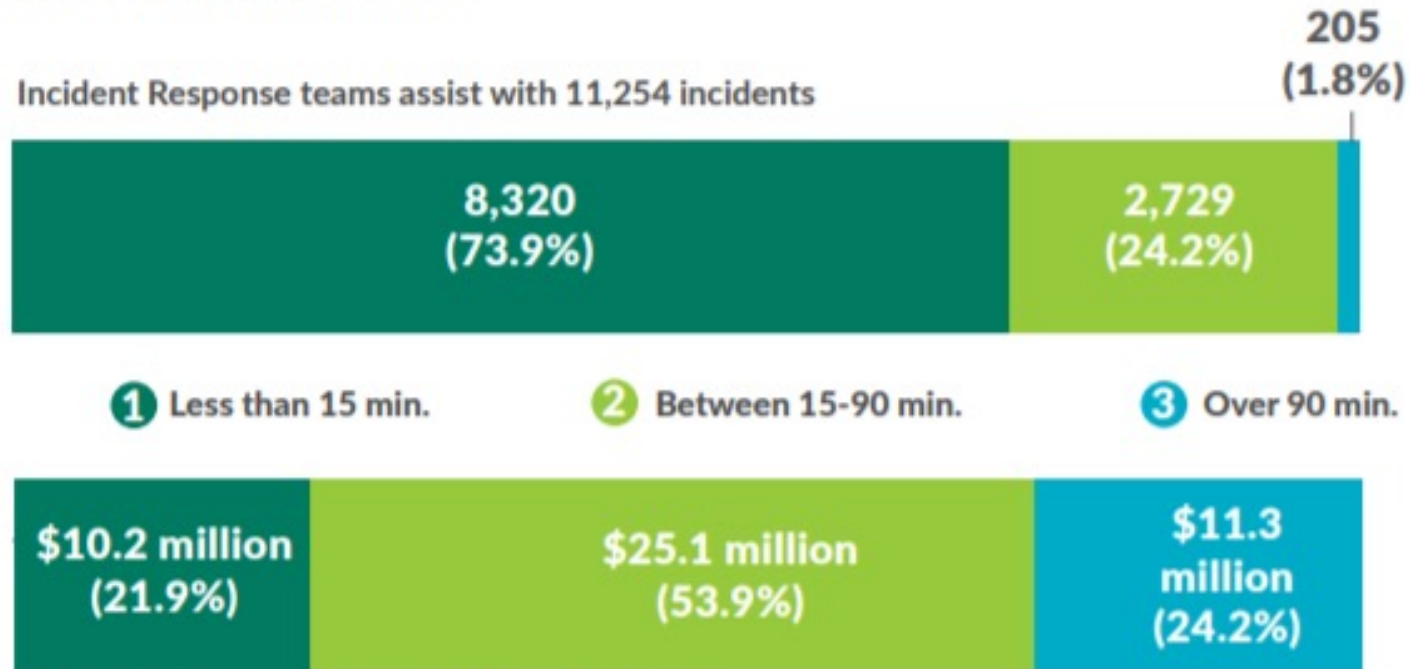
Data source: Washington State Ferries.

**GNB 79**  
Sept. 2020

# Visualizing Mobility

## Cost of incident-induced delay not proportional to response numbers

Third quarter 2020; Number and percentage of incidents; Cost of incident induced delay; Time to clear incidents



Total Cost of incident induced delay \$46.6 million

Data source: Washington Incident Tracking System.

**GNB 79**  
Sept. 2020

# Pandemic furthers need for dashboards

## Fast, fact-based, data-driven decisions

We had already been working to move the Gray Notebook and the Multimodal Mobility Report (formerly the Corridor Capacity Report) to an online dashboard format when the pandemic hit, but progress was slow.

When called upon, our office made the jump to lightspeed and responded with a WSDOT first: the COVID-19 Multimodal Transportation System Performance Dashboard

- Completed in **three weeks**
- Decision-making tool for all transportation modes used at the highest levels of state government
- Governor recognized team with 2021 Extra Mile Award

# Pandemic furthers need for dashboards

## Fast, fact-based, data-driven decisions

[State Highways](#)

[Toll Facilities](#)

[Ferries](#)

[Transit](#)

[Passenger Rail](#)

[Freight](#)

[Active Transportation](#)

[Safety](#)

[Aviation](#)

[Counties Data](#)

The COVID-19 dashboard provided immediate analysis of the latest travel changes

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



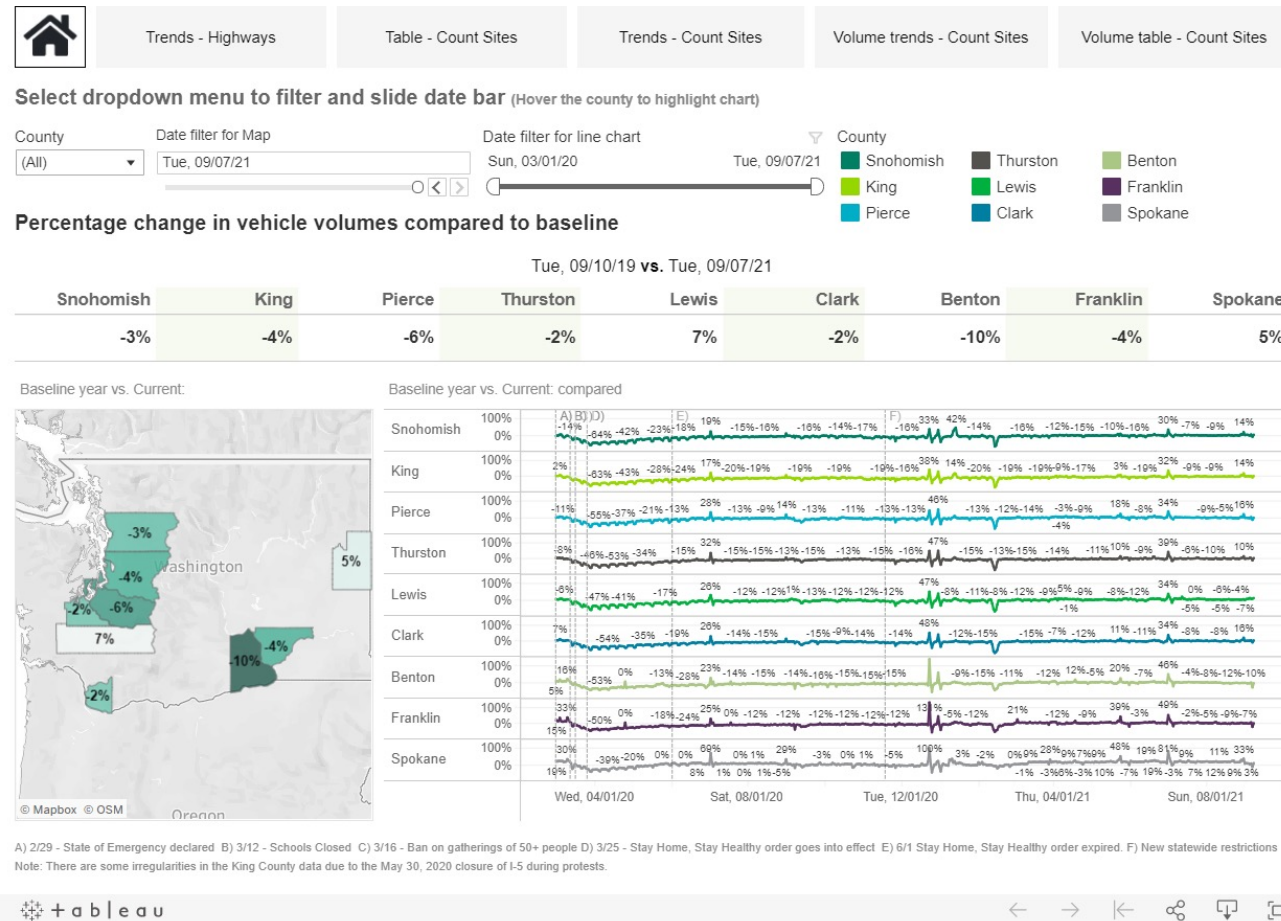
# Pandemic furthers need for dashboards

Fast, fact-based, data-driven decisions

The COVID-19 dashboard allowed immediate analysis of the latest transportation changes.

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

## WSDOT COVID-19 State Transportation System Report – for Highway Traffic Volumes



Source: WSDOT Transportation Safety and Systems Analysis Division and WSDOT TRACFLOW (<https://tracflow.wsdot.wa.gov/>)

Note: Baseline is defined as volume number from the same weekday of the same month from the baseline year\*. For example, Wednesday, April 3, 2019 would serve as the baseline for comparing the volume data from Wednesday, April 1, 2020. \*Baseline year is defined as March 2019 to Feb 2020. The dramatic increase shown for Thursday, July 2, 2020 is because the comparison day aligns with Thursday, July 4, 2019 and the holiday travel associated with that date. The increase shown for Wednesday, December 22, 2020 is because the comparison day aligns with Wednesday, December 24, 2019 and the holiday travel pattern associated with that date.

# Dashboards serve our customers' needs

## Accessible information for everyone









WSDOT's COVID-19 dashboard gave decision-making tools to the people who needed them most, including:

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



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

# Multimodal mobility reporting moves to interactive dashboard

| Executive Summary (Click on image to view details)  |  |   | Export to PDF  | Year  | 2019  |
|---|--|---|--|---|---|
| <b>Highway</b><br>               | State highway vehicle miles traveled (VMT) (billion)<br>35.4<br>▲ 0.1% | Reliable person miles traveled<br>77.0%<br>▲ 4.3% | <b>Ferries</b><br>                | Ridership (in millions)<br>24.3<br>▼ -1.3%                            | Trip reliability<br>99.4%<br>▲ 0.2%                                 |
| <b>Public Transportation</b><br> | Passenger trips (in millions)<br>239.9<br>▼ -0.5%                      | Average vanpool operations<br>3,122<br>▼ -3.4%    | <b>Freight</b><br>                | Truck miles traveled on state highways (in billions)<br>3.5<br>▲ 1.4% | Truck travel time reliability index (interstate)<br>1.54<br>▼ -4.3% |
| <b>Passenger Rail</b><br>       | Ridership Washington Segment Only<br>753,000<br>▲ 3.0%                 | On-time performance<br>58.0%<br>▲ 15.3%           | <b>Active Transportation</b><br> | Bicycles on trains<br>7,100<br>▲ 4.4%                                 | Percentage of commuters bicycling<br>0.9%<br>■ 0%                   |
| <b>Aviation</b><br>            | Enplanements (in millions)<br>28.0<br>▲ 5.3%                           | Cargo tonnage (in millions)<br>2.0<br>▲ 1.9%      | <b>Incident Response</b><br>    | Number of incidents<br>63,404<br>▲ 6.0%                               | Average incident clearance time<br>13.0min<br>■ 0%                  |

<https://wsdot.wa.gov/about/data/Multimodal-mobility-dashboard/default.htm>

# Dashboard visualizations

WSDOT COVID dashboard updated daily

[WSDOT - COVID-19 Multimodal Transportation System Performance Dashboard \(wa.gov\)](https://wsdot.wa.gov/about/covid-19-transportation-report/) (<https://wsdot.wa.gov/about/covid-19-transportation-report/>)

WSDOT Multimodal Mobility Dashboard (test site)

[WSDOT - Multimodal Mobility Dashboard \(wa.gov\)](https://wsdot.wa.gov/about/data/Multimodal-mobility-dashboard/default.htm)  
(<https://wsdot.wa.gov/about/data/Multimodal-mobility-dashboard/default.htm>)

WSDOT Accountability website - Gray Notebook, Corridor Capacity Report, MAP-21, and other reports.

[WSDOT accountability | WSDOT \(wa.gov\)](https://wsdot.wa.gov/accountability/home) (<https://wsdot.wa.gov/accountability/home>)

## **For additional information contact:**

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Transportation Safety and Systems Analysis Division

Phone: (360) 705 6888; Email: [GangulS@wsdot.wa.gov](mailto:GangulS@wsdot.wa.gov)

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