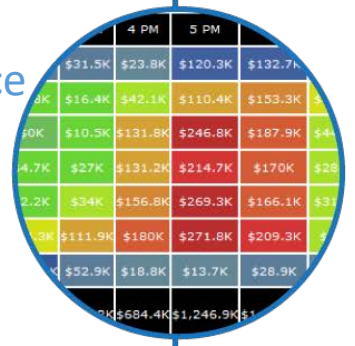
Overview of New TIM Capabilities in RITIS

Empowering agencies with data, tools, and visualization capabilities

Performance Measures



Planning

Operations

Communications

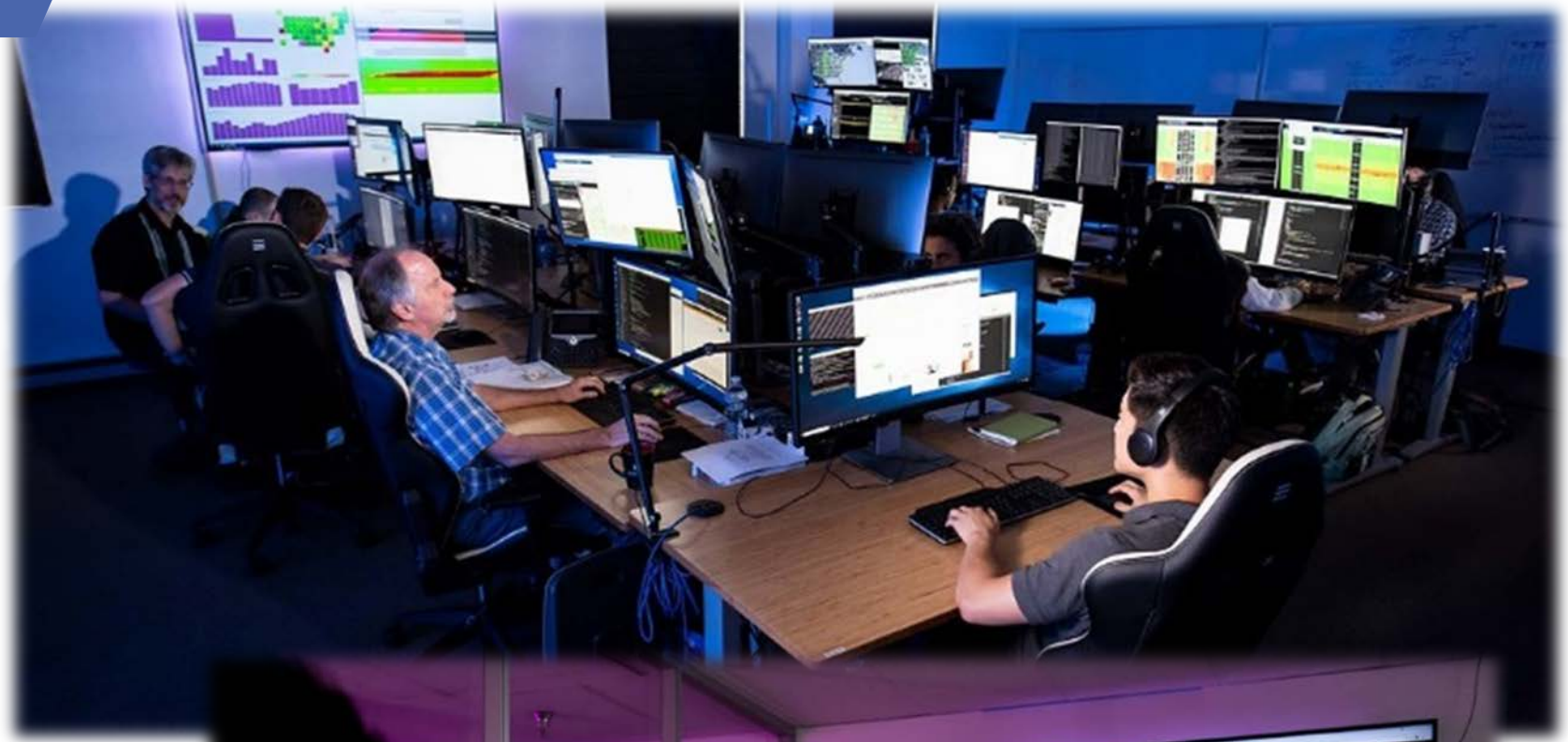
CATT LABORATORY

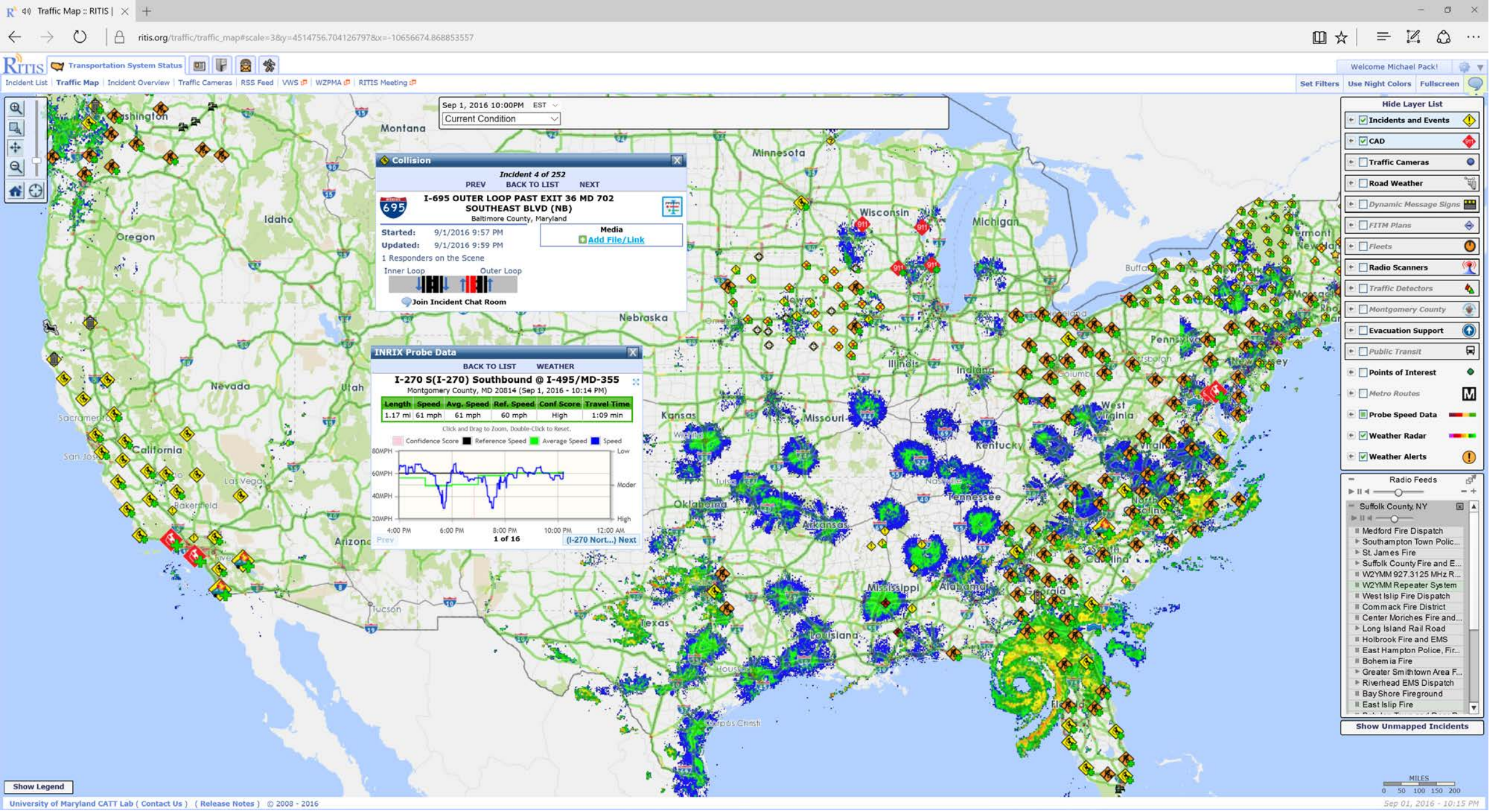
UNIVERSITY OF MARYLAND 18 56

Enabling Decision Making & Effective Communication

The CATT Lab

- 75+ Professional Staff of
  - Software Developers
  - Data Scientists
  - Artists (UI/UX Designers)
  - Program Managers
  - IT & Network Engineers
- 30-60 Students
  - Transportation
  - Computer Science
  - Human Computer Interaction
- Nonprofit R&D for Transportation




Traffic Map :: RITIS |
ritis.org/traffic/traffic_map#scale=3&y=4514756.704126797&x=-10656674.868853557
RITIS
Transportation System Status
Welcome Michael Pack!
Incident List | Traffic Map | Incident Overview | Traffic Cameras | RSS Feed | VWS | WZPMA | RITIS Meeting
Set Filters | Use Night Colors | Fullscreen
Sep 1, 2016 10:00PM EST
Current Condition
Collision
Incident 4 of 252
PREV BACK TO LIST NEXT
I-695 OUTER LOOP PAST EXIT 36 MD 702 SOUTHEAST BLVD (NB)
Baltimore County, Maryland
Started: 9/1/2016 9:57 PM
Updated: 9/1/2016 9:59 PM
1 Responders on the Scene
Inner Loop
Outer Loop
Media
Add File/Link
Join Incident Chat Room
INRIX Probe Data
BACK TO LIST WEATHER
I-270 S(I-270) Southbound @ I-495/MD-355
Montgomery County, MD 20814 (Sep 1, 2016 - 10:14 PM)
Length | Speed | Avg. Speed | Ref. Speed | Conf Score | Travel Time
1.17 mi | 61 mph | 61 mph | 60 mph | High | 1:09 min
Click and Drag to Zoom, Double-Click to Reset.
Confidence Score
Reference Speed
Average Speed
Speed
80MPH
60MPH
40MPH
20MPH
Low
Moder
High
4:00 PM
6:00 PM
8:00 PM
10:00 PM
12:00 AM
Prev
1 of 16
(I-270 Nort...) Next
Hide Layer List
Incidents and Events
CAD
Traffic Cameras
Road Weather
Dynamic Message Signs
FITM Plans
Fleets
Radio Scanners
Traffic Detectors
Montgomery County
Evacuation Support
Public Transit
Points of Interest
Metro Routes
Probe Speed Data
Weather Radar
Weather Alerts
Radio Feeds
Suffolk County, NY
Medford Fire Dispatch
Southampton Town Polic...
St. James Fire
Suffolk County Fire and E...
W2YMM 927.3125 MHz R...
W2YMM Repeater System
West Islip Fire Dispatch
Commack Fire District
Center Moriches Fire and...
Long Island Rail Road
Holbrook Fire and EMS
East Hampton Police, Fir...
Bohemia Fire
Greater Smithtown Area F...
Riverhead EMS Dispatch
Bay Shore Fireground
East Islip Fire
Show Unmapped Incidents
Show Legend
MILES
0 50 100 150 200
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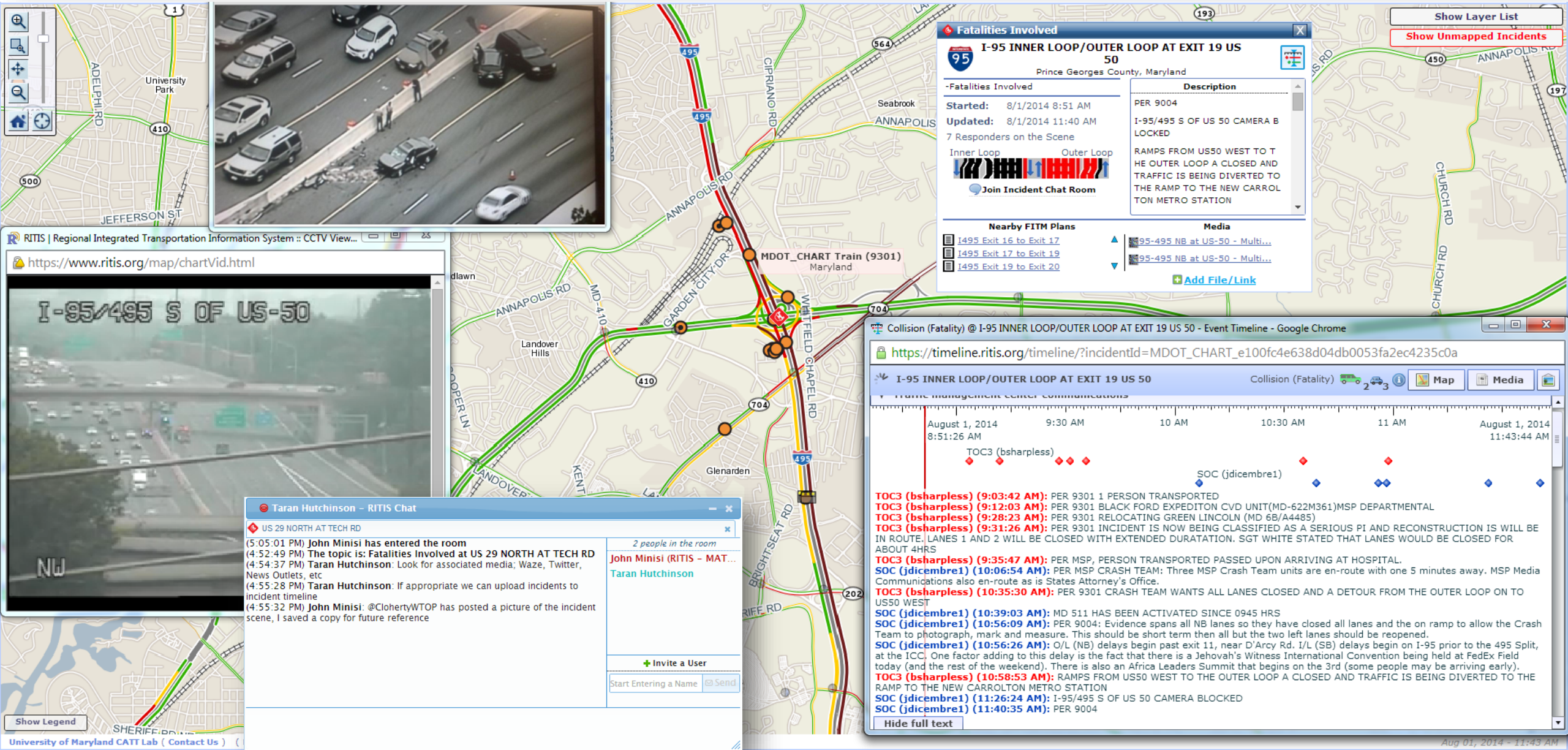
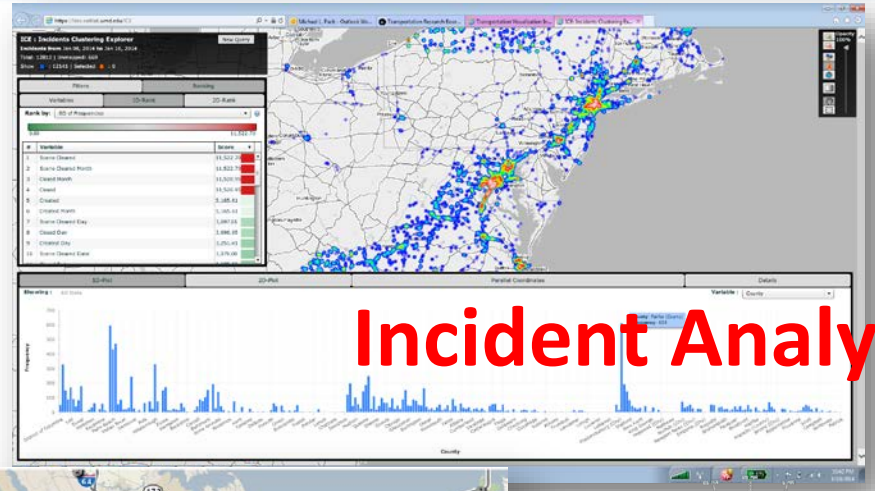
Sep 01, 2016 - 10:15 PM

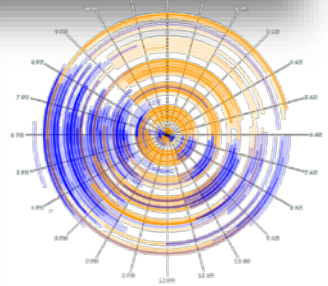
Communicating with colleagues, evaluating detours, and visualizing the location of responders and assets



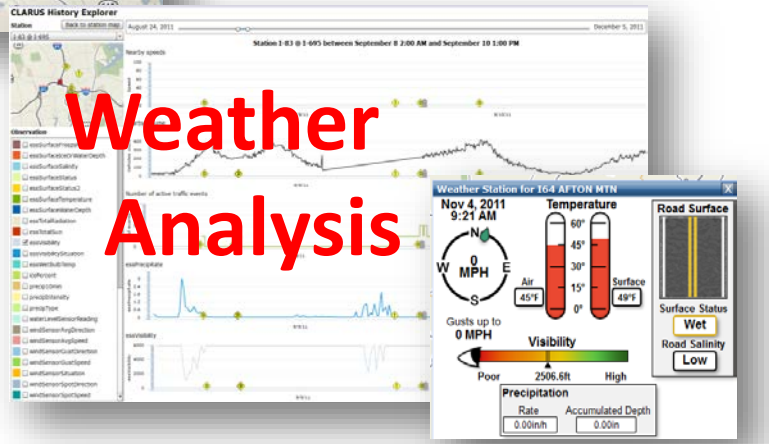
Archived Data Analytics

Incident Analysis

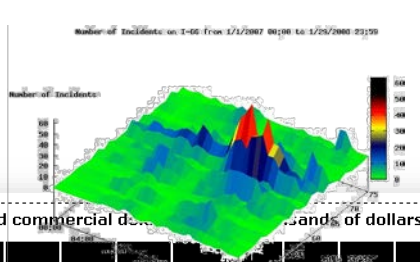


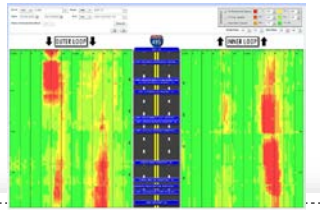


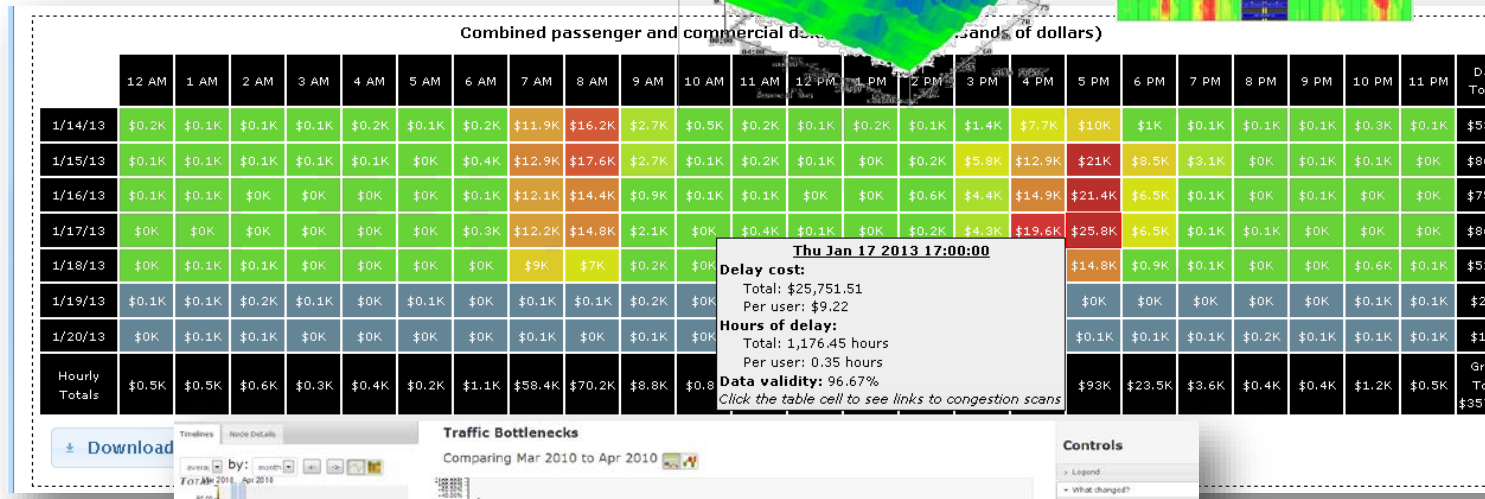
Weather Analysis

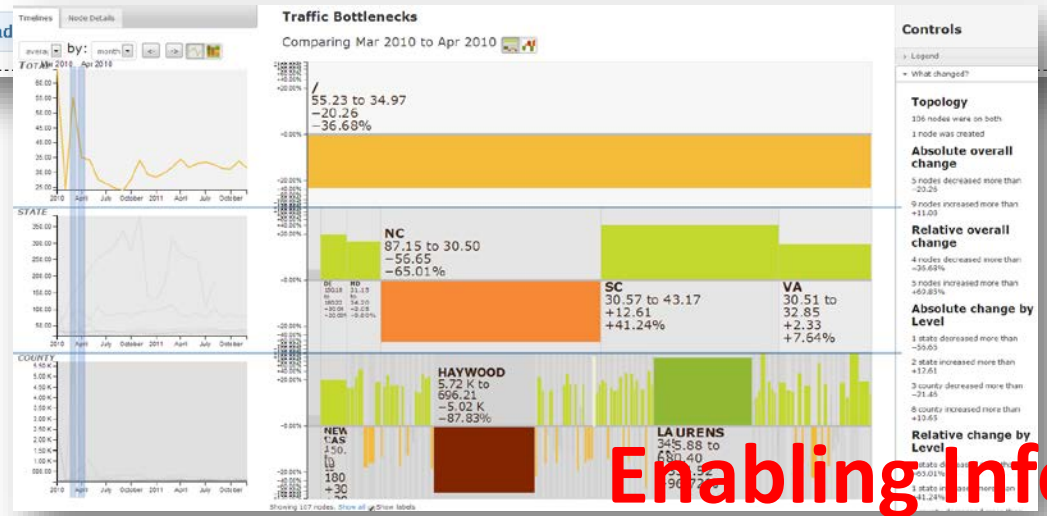


Congestion Analysis

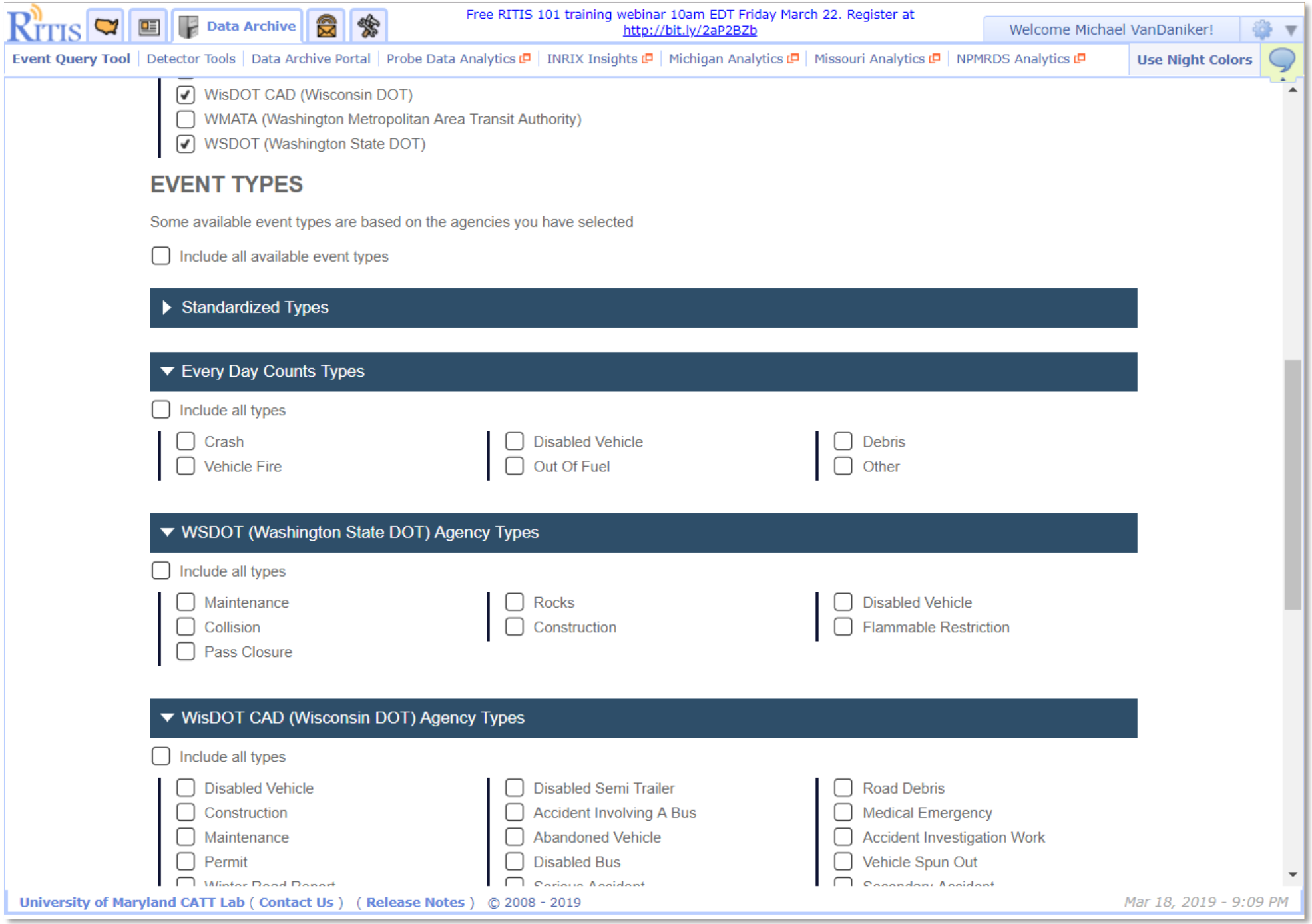








Enabling Informed Decision Making


Data Archive
Free RITIS 101 training webinar 10am EDT Friday March 22. Register at http://bit.ly/2aP2BZb
Welcome Michael VanDaniker!
Event Query Tool | Detector Tools | Data Archive Portal | Probe Data Analytics | INRIX Insights | Michigan Analytics | Missouri Analytics | NPMRDS Analytics
Use Night Colors
WisDOT CAD (Wisconsin DOT)
WMATA (Washington Metropolitan Area Transit Authority)
WSDOT (Washington State DOT)
EVENT TYPES
Some available event types are based on the agencies you have selected
Include all available event types
Standardized Types
Every Day Counts Types
Include all types
Crash
Vehicle Fire
Disabled Vehicle
Out Of Fuel
Debris
Other
WSDOT (Washington State DOT) Agency Types
Include all types
Maintenance
Collision
Pass Closure
Rocks
Construction
Disabled Vehicle
Flammable Restriction
WisDOT CAD (Wisconsin DOT) Agency Types
Include all types
Disabled Vehicle
Construction
Maintenance
Permit
Disabled Semi Trailer
Accident Involving A Bus
Abandoned Vehicle
Disabled Bus
Road Debris
Medical Emergency
Accident Investigation Work
Vehicle Spun Out
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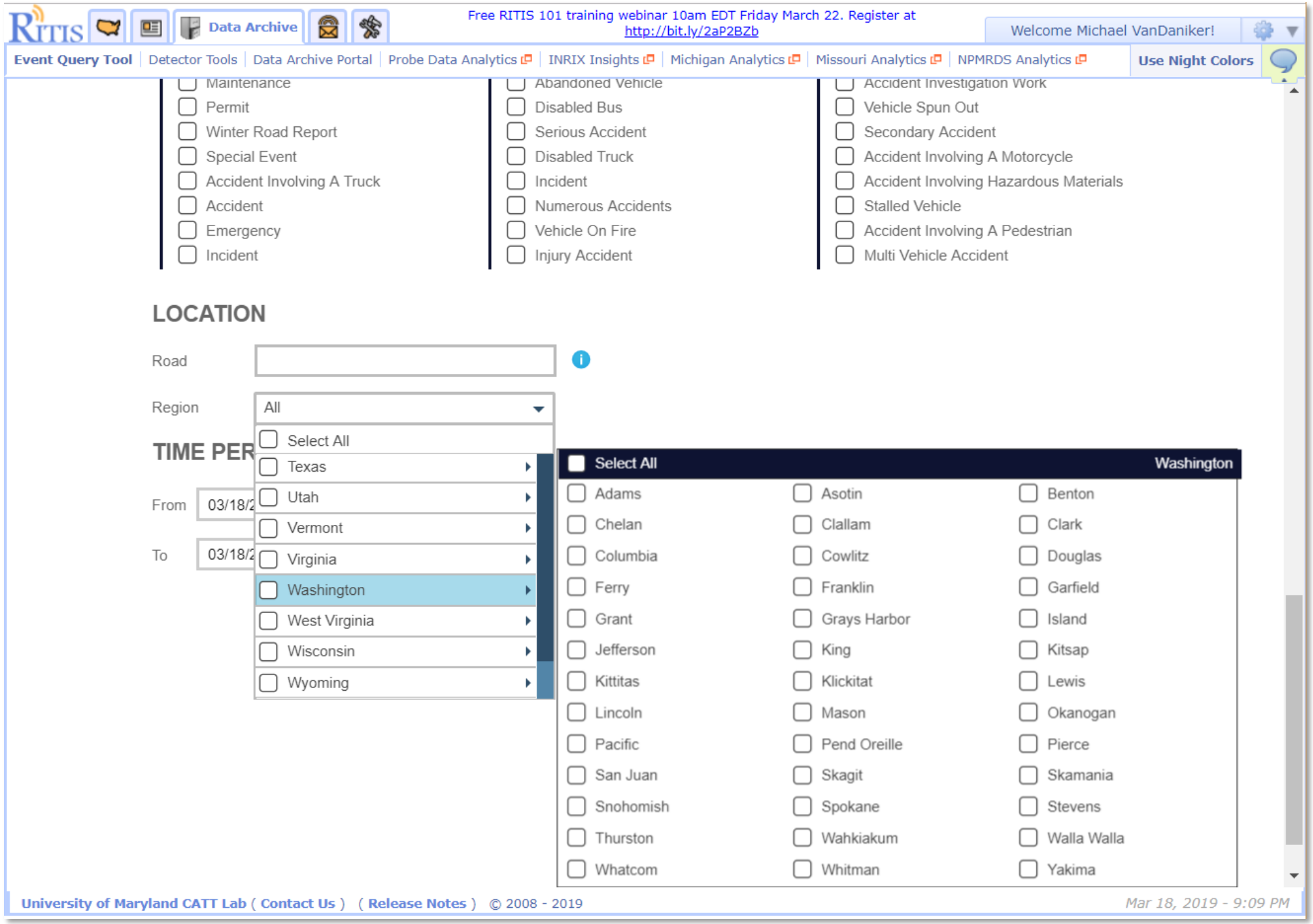
Mar 18, 2019 - 9:09 PM


RITIS
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Event Query Tool | Detector Tools | Data Archive Portal | Probe Data Analytics | INRIX Insights | Michigan Analytics | Missouri Analytics | NPMRDS Analytics
Use Night Colors
Maintenance
Permit
Winter Road Report
Special Event
Accident Involving A Truck
Accident
Emergency
Incident
Abandoned Vehicle
Disabled Bus
Serious Accident
Disabled Truck
Incident
Numerous Accidents
Vehicle On Fire
Injury Accident
Accident Investigation Work
Vehicle Spun Out
Secondary Accident
Accident Involving A Motorcycle
Accident Involving Hazardous Materials
Stalled Vehicle
Accident Involving A Pedestrian
Multi Vehicle Accident
LOCATION
Road
Region
All
TIME PER
From
03/18/2
To
03/18/2
Select All
Texas
Utah
Vermont
Virginia
Washington
West Virginia
Wisconsin
Wyoming
Select All
Washington
Adams
Asotin
Benton
Chelan
Clallam
Clark
Columbia
Cowlitz
Douglas
Ferry
Franklin
Garfield
Grant
Grays Harbor
Island
Jefferson
King
Kitsap
Kittitas
Klickitat
Lewis
Lincoln
Mason
Okanogan
Pacific
Pend Oreille
Pierce
San Juan
Skagit
Skamania
Snohomish
Spokane
Stevens
Thurston
Wahkiakum
Walla Walla
Whatcom
Whitman
Yakima
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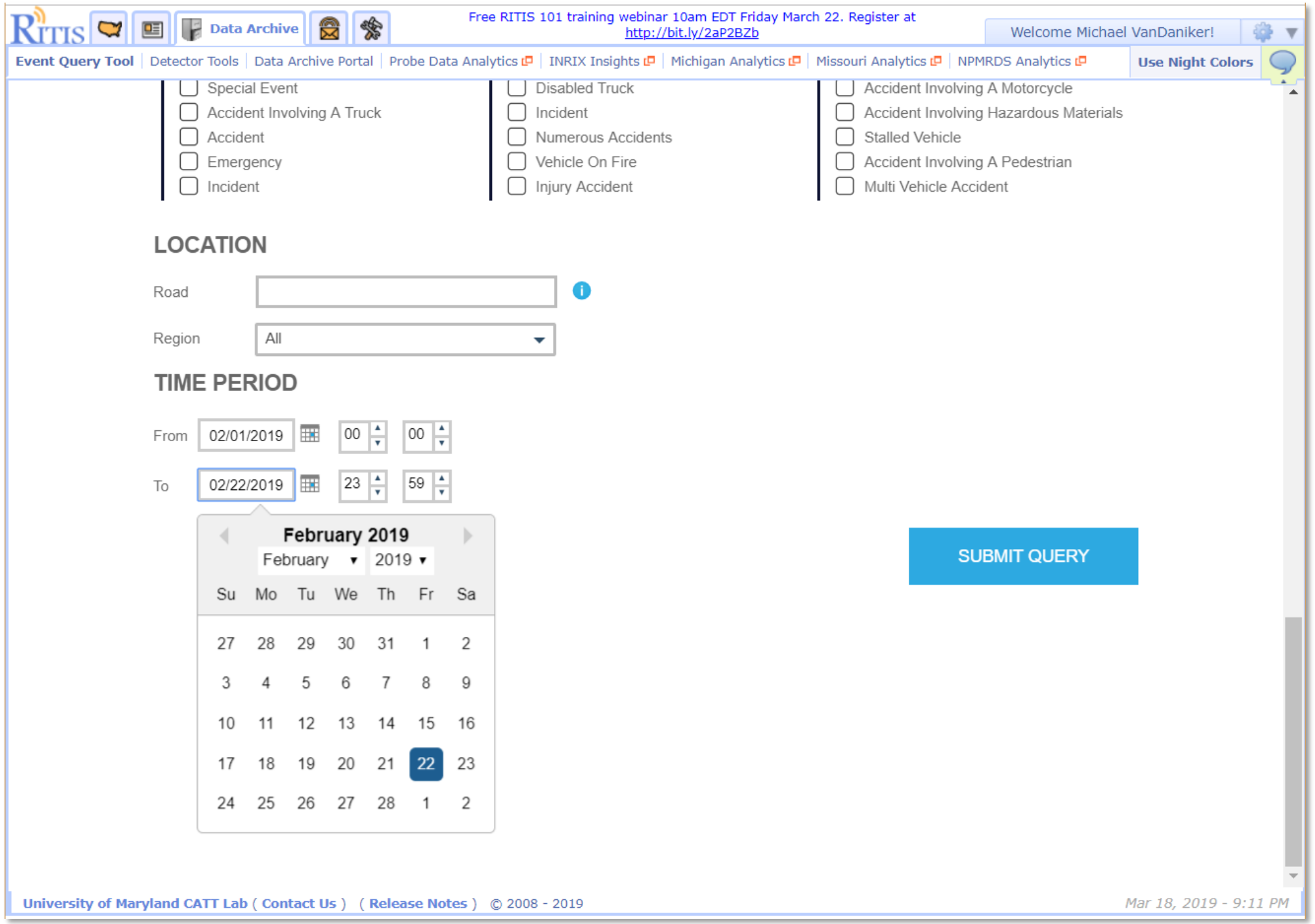
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Vehicle On Fire
Injury Accident
Accident Involving A Motorcycle
Accident Involving Hazardous Materials
Stalled Vehicle
Accident Involving A Pedestrian
Multi Vehicle Accident
LOCATION
Road
Region
All
TIME PERIOD
From
02/01/2019
00
00
To
02/22/2019
23
59
February 2019
February
2019
Su Mo Tu We Th Fr Sa
27 28 29 30 31 1 2
3 4 5 6 7 8 9
10 11 12 13 14 15 16
17 18 19 20 21 22 23
24 25 26 27 28 1 2
SUBMIT QUERY
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RITIS
Data Archive
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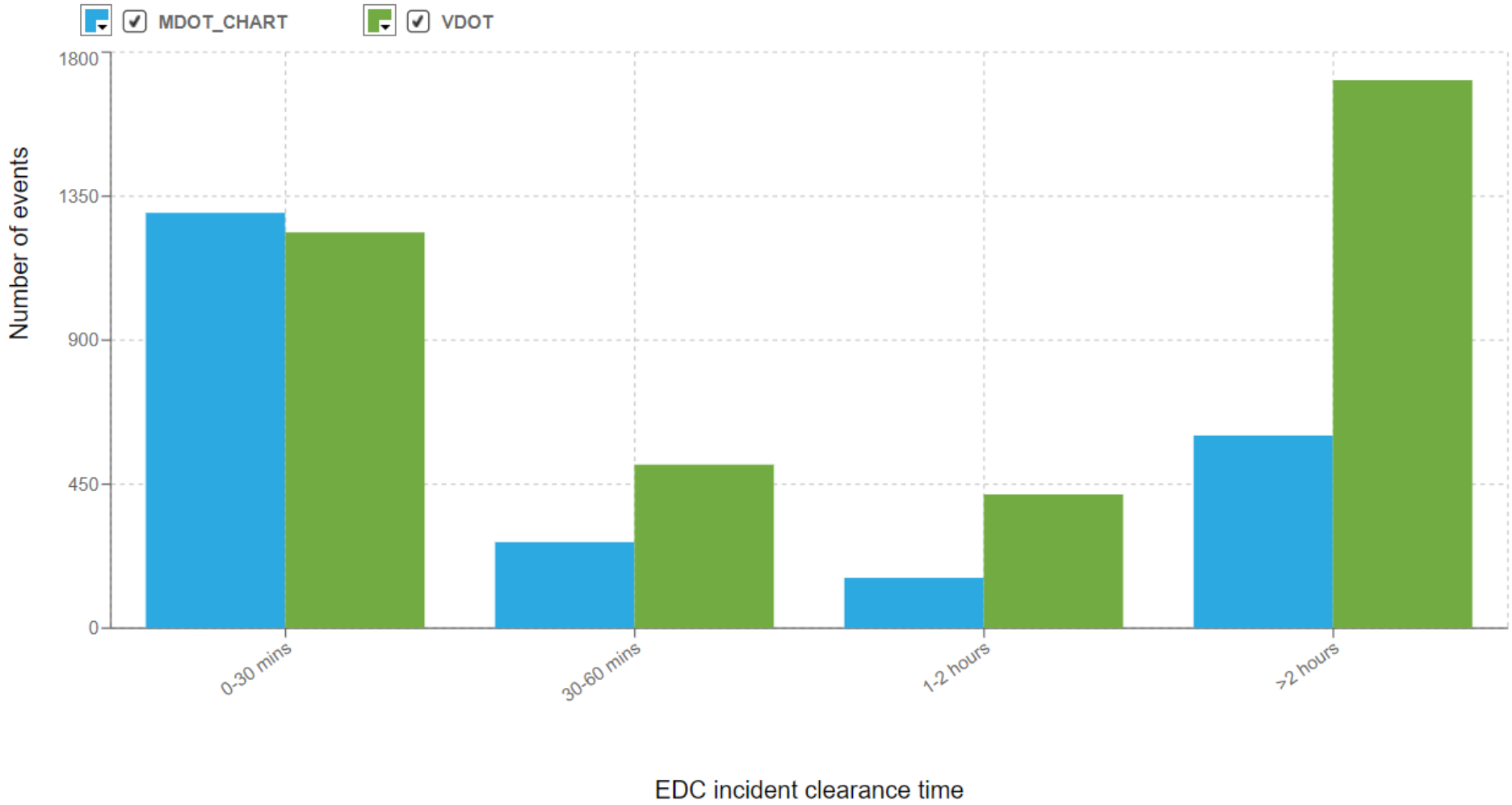
Welcome Michael VanDaniker!
Event Query Tool | Detector Tools | Data Archive Portal | Probe Data Analytics | INRIX Insights | Michigan Analytics | Missouri Analytics | NPMRDS Analytics
Use Night Colors
NEW SEARCH
Events from MDOT CHART and VDOT that started between February 1, 2019 and February 7, 2019
Showing 6,205 of 6,205 events
AGENCY | STANDA... | AGENCY... | START T... | CLOSED... | LOCATION | OP CEN... | DURATION | OPERAT... | RESPO... | MAX LA...
Type to filte
MDDOT | Disabled Vehicle | Disabled vehicle | 2/5/19 2:56 PM -0500 | 2/5/19 2:57 PM -0500 | I-495 OUTER LOOP PRIOR TO EXIT 29 MD | SOC | 1 minute | 1
MDDOT | Road Maintenance Operations | Planned roadway closure | 2/5/19 9:03 AM -0500 | 3/10/19 1:38 AM -0500 | WORCESTEI COUNTY: MD-528 SOUTH | SOC | 32 days 16 hours 34 minutes | 1
MDDOT | Disabled Vehicle | Disabled vehicle | 2/4/19 2:05 PM -0500 | 2/4/19 2:10 PM -0500 | I-270 NORTH PAST EXIT 6. MD 28 W MONTGOME | SOC | 4 minutes | 1
MDDOT | Disabled Vehicle | Disabled vehicle | 2/3/19 7:13 AM -0500 | 2/3/19 7:18 AM -0500 | I-95 NORTH FRENCHTOV RD (I-95 AT JOHN F. | AOC Central | 4 minutes | 1
MDDOT | Road Maintenance Operations | Planned roadway closure | 2/5/19 9:41 AM -0500 | 2/5/19 2:50 PM -0500 | WASHINGTC COUNTY: I-7 EAST PRIOR TO COUNTY | TOC7 | 5 hours 9 minutes | 2
MDDOT | Road Maintenance Operations | Planned roadway closure | 2/7/19 10:54 AM -0500 | 3/10/19 1:43 AM -0500 | US 50 WEST AT MP 34.3 (BAY BRIDGE)LAN | AOC South | 30 days 14 hours 49 minutes | 1
MDDOT | Road Maintenance Operations | Planned roadway closure | 2/5/19 8:49 AM -0500 | 2/5/19 2:50 PM -0500 | MD 103 NOR BETWEEN O MONTGOME RD AND | SOC | 6 hours 1 minute | 2
MDDOT | Disabled | Disabled | 2/6/19 11:41 AM | 2/6/19 11:41 AM | I-70 EAST | TOC7 | 14 seconds | 1
University of Maryland CATT Lab (Contact Us) (Release Notes) © 2008 - 2019
Mar 18, 2019 - 9:20 PM

NEW SEARCH

Events from MDOT CHART and VDOT that started between February 1, 2019 and February 7, 2019

Showing 6,205 of 6,205 events

Show number of events by: EDC incident clearance time



NEW SEARCH

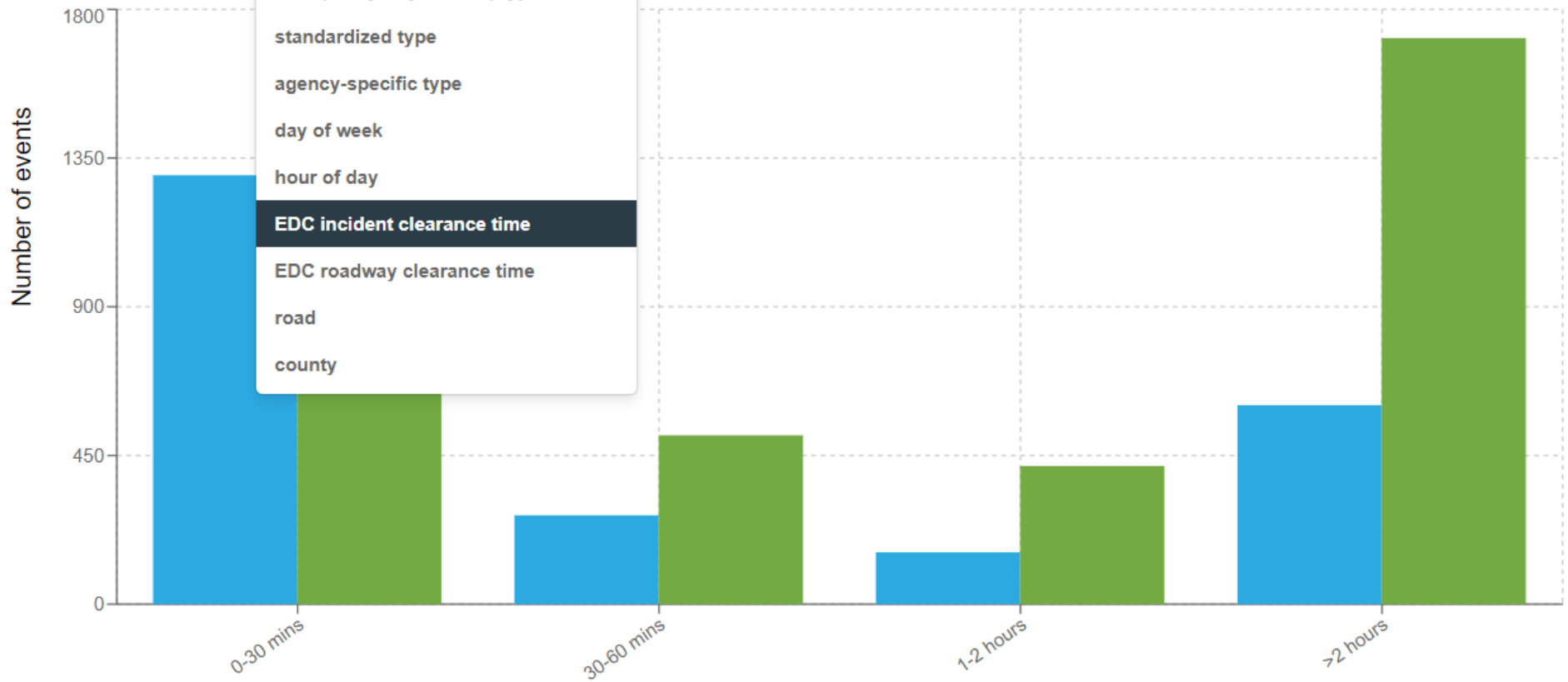
Events from MDOT CHART and VDOT that started between February 1, 2019 and February 7, 2019

Showing 6,205 of 6,205 events

Show number of events by: EDC incident clearance time

- EDC (Every Day Counts) type
- standardized type
- agency-specific type
- day of week
- hour of day
- **EDC incident clearance time**
- EDC roadway clearance time
- road
- county

MDOT_CH

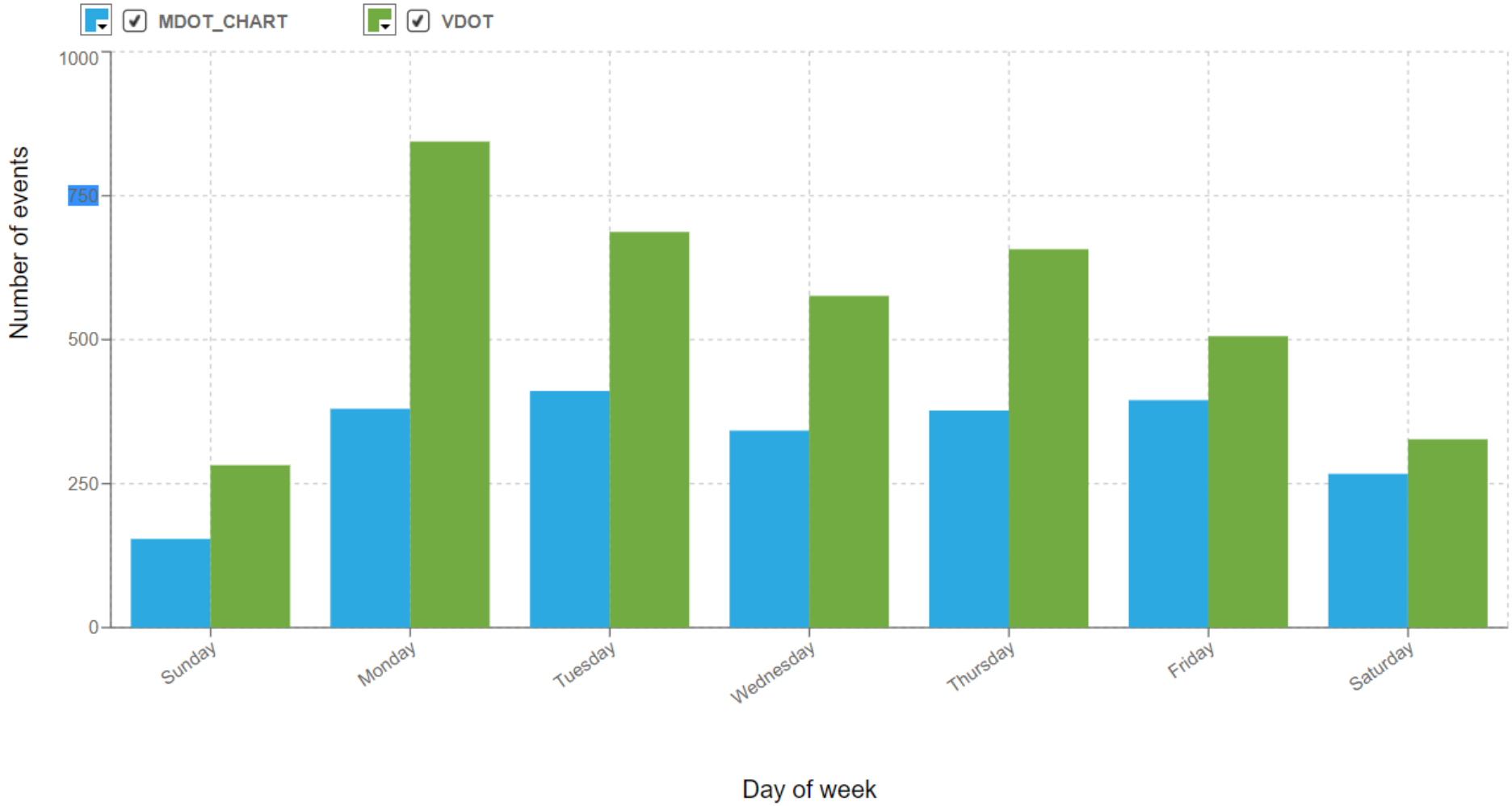


NEW SEARCH

Events from MDOT CHART and VDOT that started between February 1, 2019 and February 7, 2019

Showing 6,205 of 6,205 events

Show number of events by: day of week



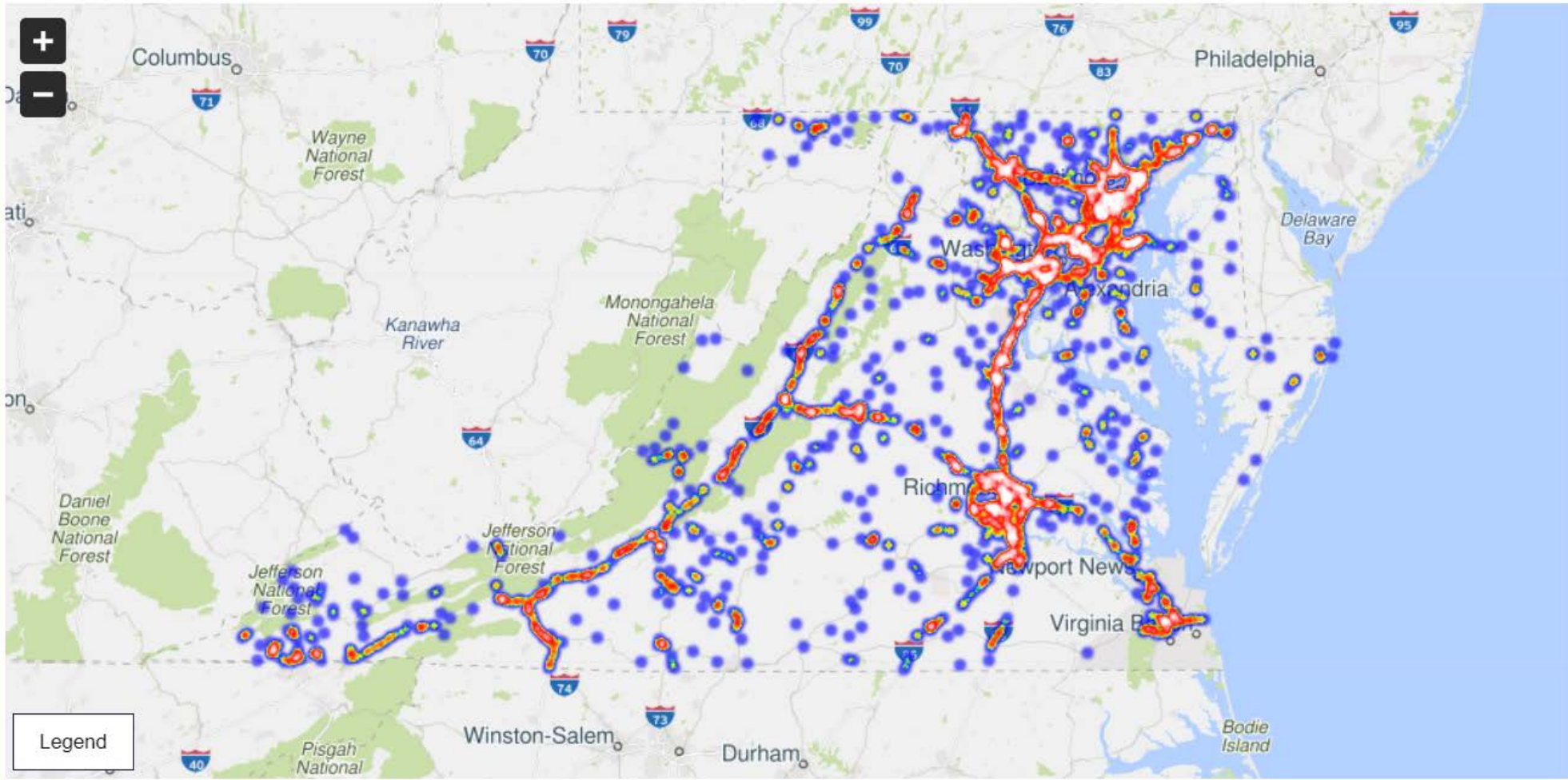
NEW SEARCH

Events from MDOT CHART and VDOT that started between February 1, 2019 and February 7, 2019

Showing 6,205 of 6,205 events

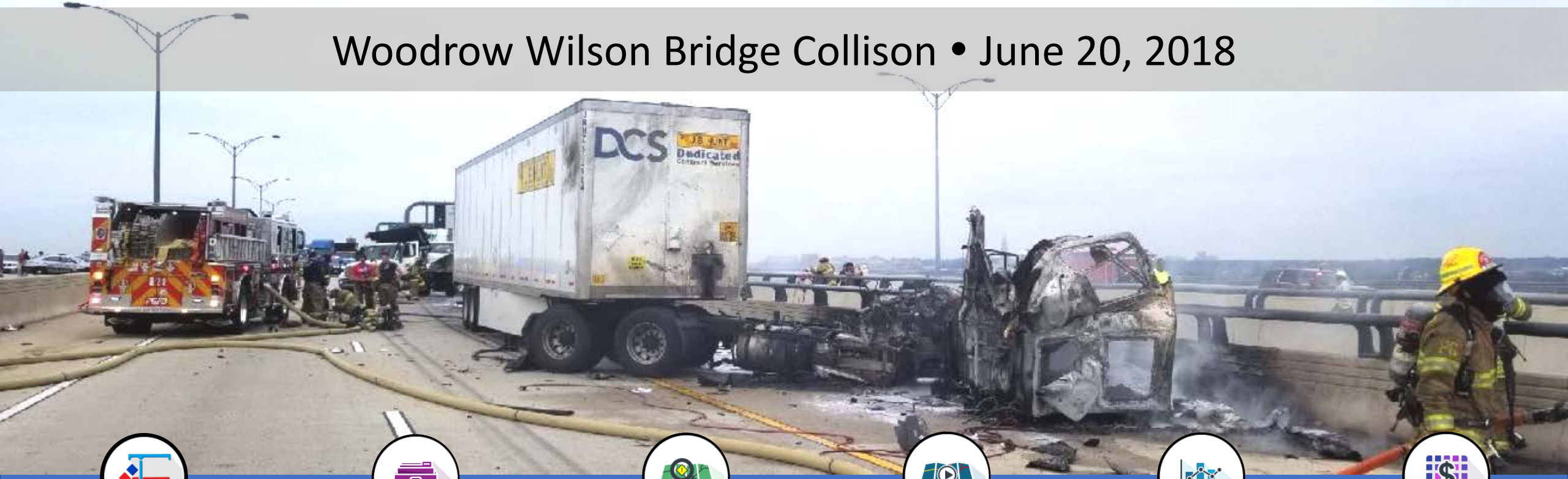
Opacity

0% 100%



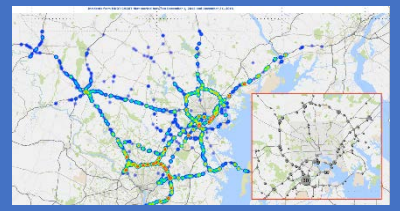
After-action Review

Woodrow Wilson Bridge Collison • June 20, 2018

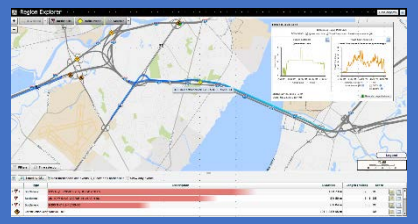


Incident Timeline

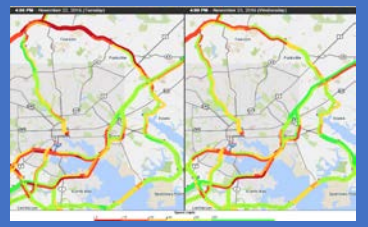
Event Query Tool



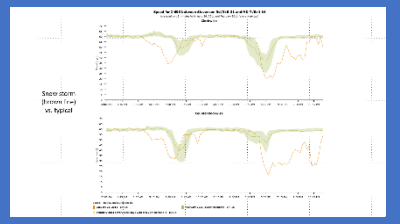
Region Explorer



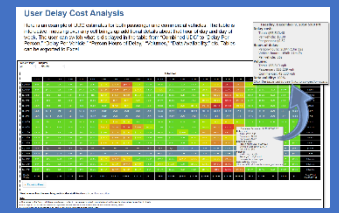
Trend Map



Performance Charts

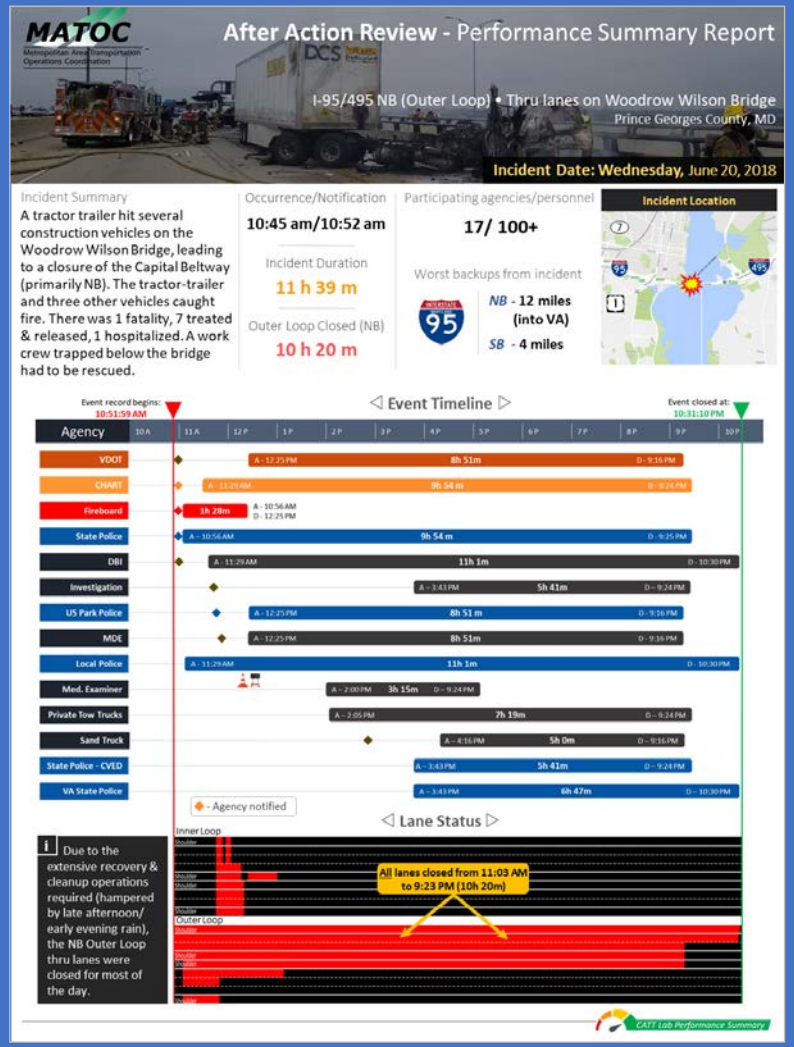


User Delay Cost

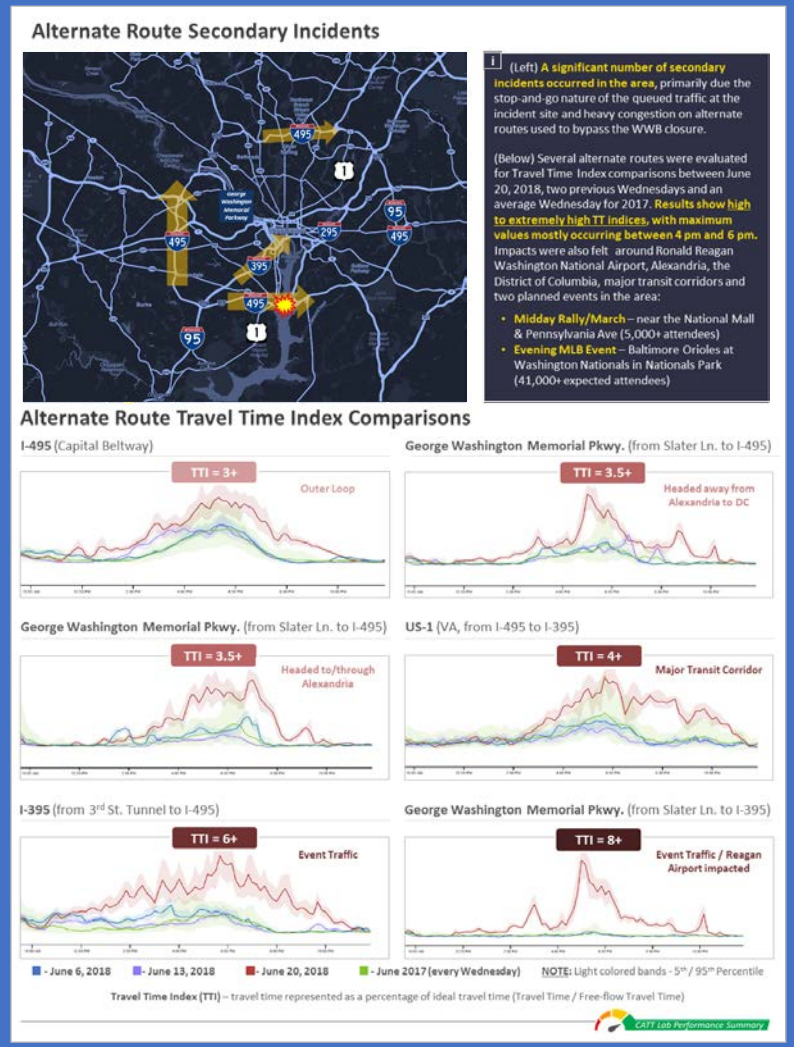


AAR Reporting (select pages)

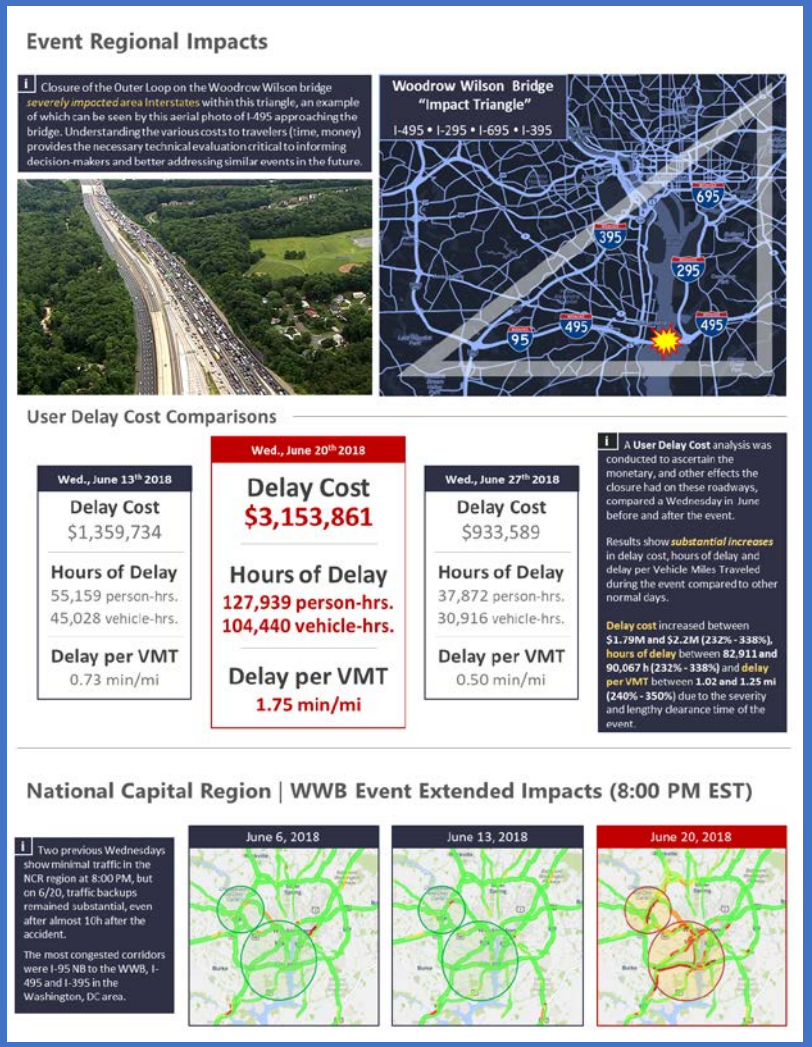
Event Summary



Alternate Route Impacts



Other Impacts



After-Action Reviews (one-pager)

Event Summary

A tractor trailer hit several construction vehicles on the Woodrow Wilson Bridge, leading to a closure of the Capital Beltway (primarily NB). The tractor-trailer and three other vehicles caught fire. There was 1 fatality, 7 treated & released, 1 hospitalized. A work crew trapped below the bridge had to be rescued.

Some Key Aspects

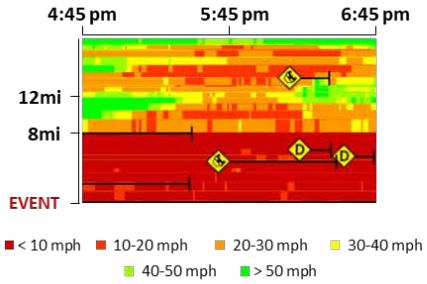
Participating agencies/personnel

17/ 100+

Worst backups from incident

NB 12 miles (into VA)
SB 4 miles (into MD)

Backups of 8 miles were common, increasing at times to 12 miles. There were numerous minor secondary incidents in the queued traffic (worst hours shown below).

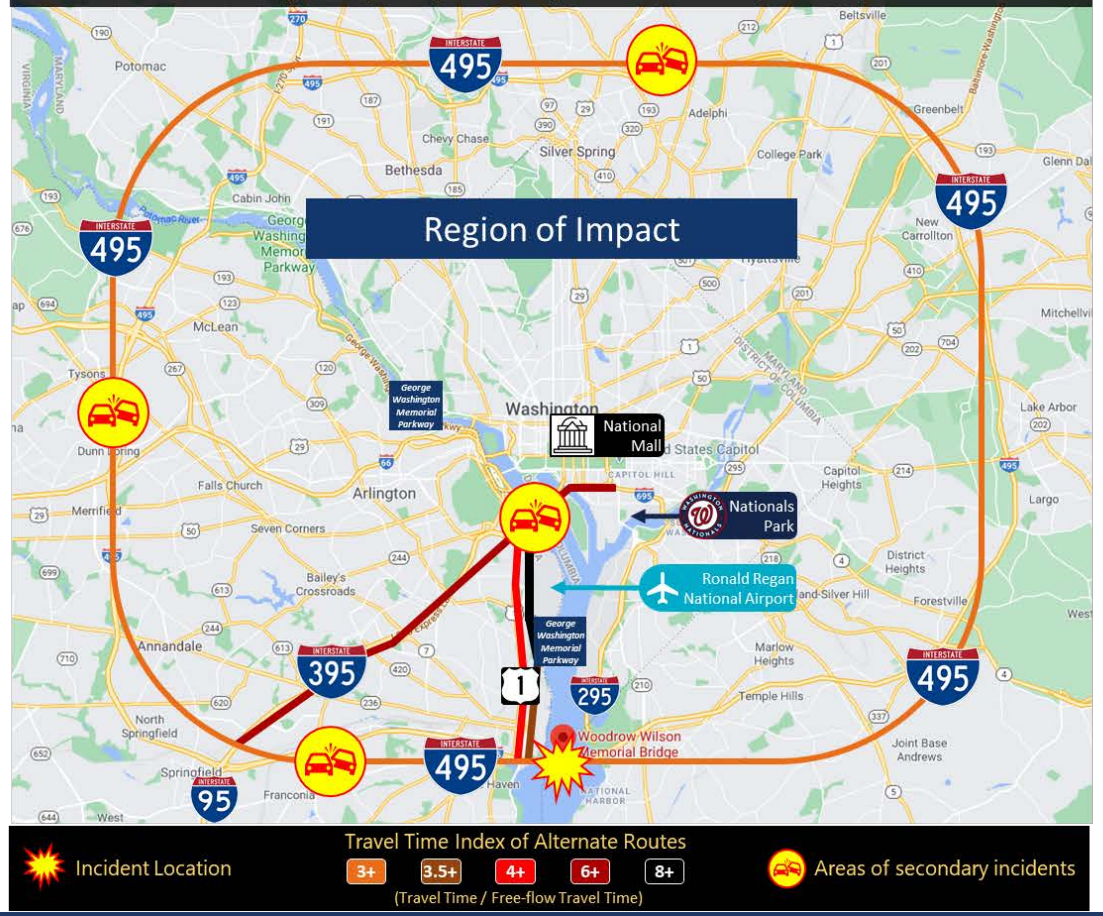


MATOC
Metropolitan Area Transportation Operations Coordination

After Action Review - Performance Summary Report

I-95/495 NB (Outer Loop) • Thru lanes on Woodrow Wilson Bridge
Prince Georges County, MD

Incident Date: Wednesday, June 20, 2018 | Occurrence/Notification: 10:45 am/10:52 am | Duration: 11h 39m



Lane Status

Due to the extensive recovery & cleanup operations required (hampered by late afternoon/ early evening rain), the NB Outer Loop thru lanes were closed for most of the day - from 11:03 AM to 9:23 PM (10h 20m).

User Delay Cost Comparisons

Delay Cost	% Increase
For the region on this day	compared to typical Wednesdays
$3,153,861	285% ▲

Hours of Delay	% Increase
For the region on this day	compared to typical Wednesdays
127,939 per.-hrs.	285% ▲
104,440 veh.-hrs.	295% ▲

Other Regional Impacts

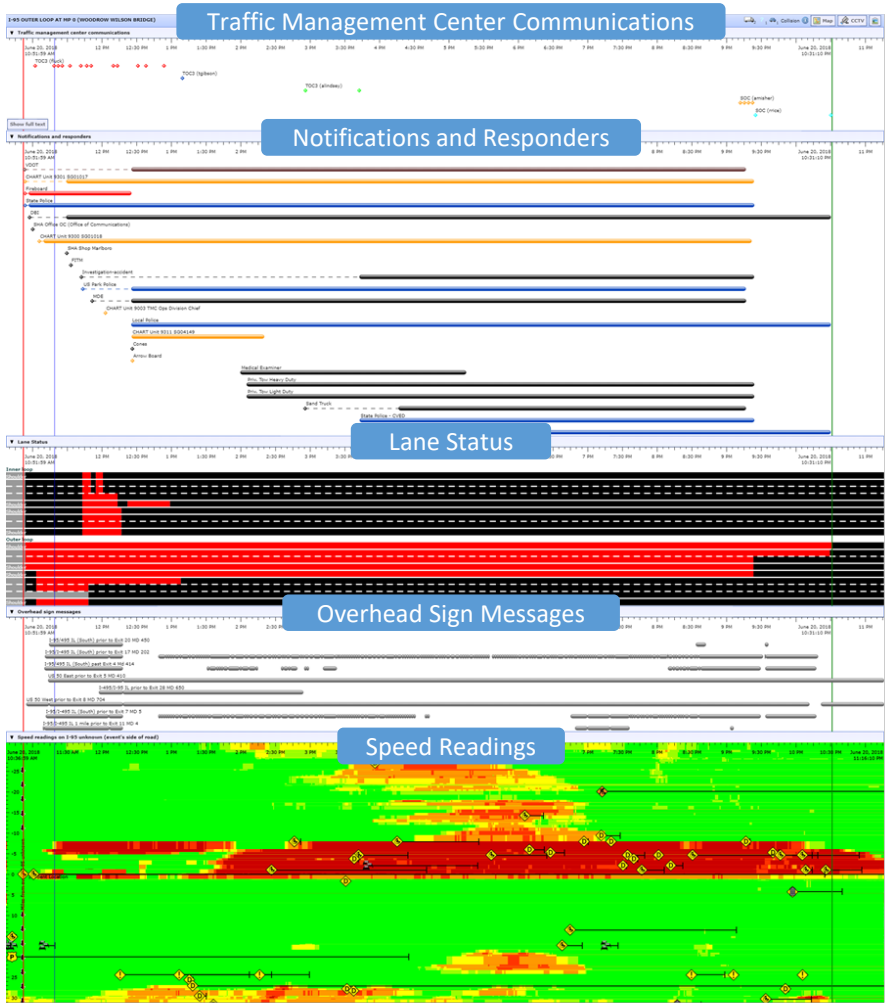
Significant Impacts were also felt around **Ronald Reagan Washington National Airport**, Alexandria, the District of Columbia, major transit corridors (particularly along Route 1) and two planned events in the area:

National Mall Midday Rally/March near the National Mall & Pennsylvania Ave (**5,000+ attendees**)

Nationals Park The Baltimore Orioles at Washington Nationals in Nationals Park (**41,000+ attendees**, late afternoon / early evening)

After-Action Reviews (one-pager – possible flip side)

Summary Results from **Incident Timeline**



After Action Review **Takeaways**

What worked well?

Overall the response was a success given the complicated nature of the incident; there were no single points of failure.

What needs improvement?

Some DOT response trucks could have been delayed in responding to the incident given they are not classified as emergency response vehicles.

Delays in opening retractable barriers to bleed off queued traffic lead to additional delays in opening lanes.

Queued motorists upstream from the incident sometimes self-diverted, often reversing down on-ramps which created additional hazards; other factors to consider are knowledge of alternate routes and the influence of personal navigation devices.

There were numerous minor secondary incidents in queued traffic, including an increase in incidents on roadways that served as alternate routes.

Local transit bus operations in the area were severely impacted (but rail services served as a good alternate).

Recommendations

- Examine Unified Command & Command Post locations as they related to the WWB
- Regularly train responders on how to operate and open the retractable barriers to address staff turnover (and get the barrier(s) back into a state of good repair)
- Explore opportunities to conduct bridge related training for DOTs and responders
- Expand TMARS access to select field users like Incident Management Coordinators
- Consider periodic reporting via conference calls for major incidents
- Update and share Maryland and Virginia FITM plans; including updates in RITIS
- Explore conducting a broader multi-jurisdiction/multi-discipline AAR for this incident

Next Steps

Develop an on-going and comprehensive training program for transportation agencies – DOTs, transit, etc. – law enforcement, fire, safety, contractors and others that focuses on high-profile facilities and catastrophic events. Investigate **Virtual Incident Management Training** to supplement and enhance traditional training methods.

After-Action Reviews (one-pager – alternate flip side)

Event **Photos**

Add Photo captions or descriptions here

After Action Review **Takeaways**

What worked well?

Overall the response was a success given the complicated nature of the incident; there were no single points of failure.

What needs improvement?

Some DOT response trucks could have been delayed in responding to the incident given they are not classified as emergency response vehicles.

Delays in opening retractable barriers to bleed off queued traffic lead to additional delays in opening lanes.

Queued motorists upstream from the incident sometimes self-diverted, often reversing down on-ramps which created additional hazards; other factors to consider are knowledge of alternate routes and the influence of personal navigation devices.

There were numerous minor secondary incidents in queued traffic, including an increase in incidents on roadways that served as alternate routes.

Local transit bus operations in the area were severely impacted (but rail services served as a good alternate).

Recommendations

- Examine Unified Command & Command Post locations as they related to the WWB
- Regularly train responders on how to operate and open the retractable barriers to address staff turnover (and get the barrier(s) back into a state of good repair)
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Corridor Performance Report (one-pager)

Corridor Performance Report
I-495 to Fort Meade Rd.

Year 2019

Region of Study:
US-1 between I-495 and Fort Meade Rd.

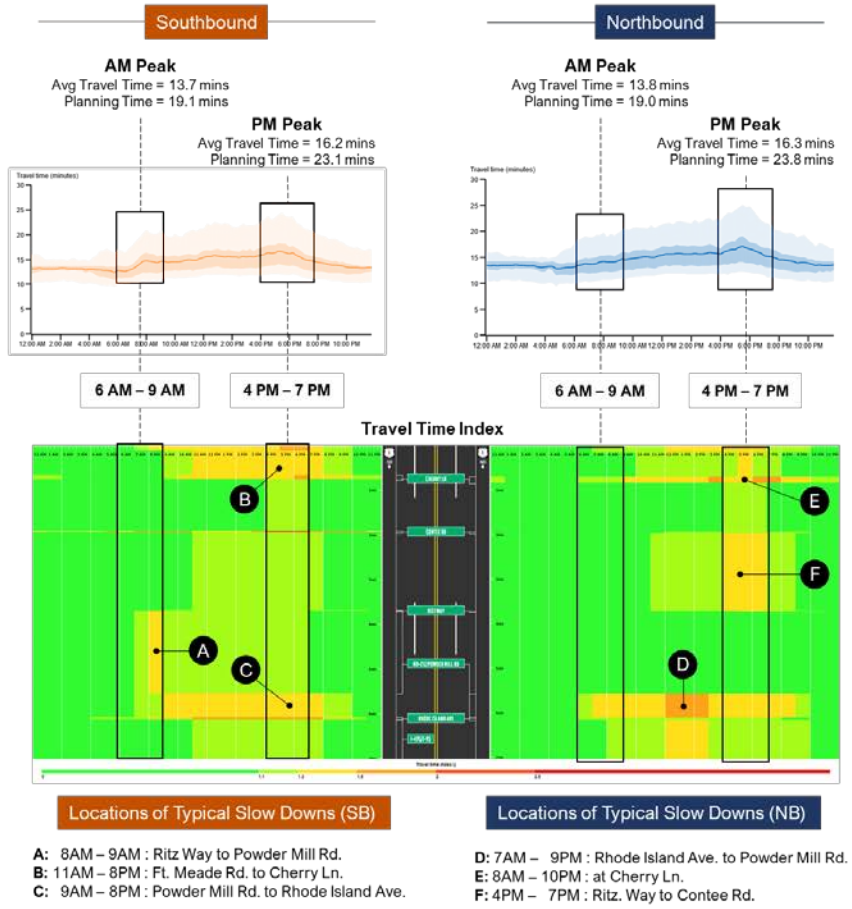
U.S. Highway 1 is the primary north-south corridor connecting Beltsville and Laurel, Maryland. This portion of US-1 is paralleled by Interstate 95 to the west and the Baltimore Washington Parkway to the east. All three of the routes connect Washington, DC and Baltimore, MD.

This seven-mile section of US-1 between I-495 and Fort Meade Rd. is mostly a four-lane undivided highway. Some sections are four-lane divided, four lane with bi-directional median turns, and six-lane divided.

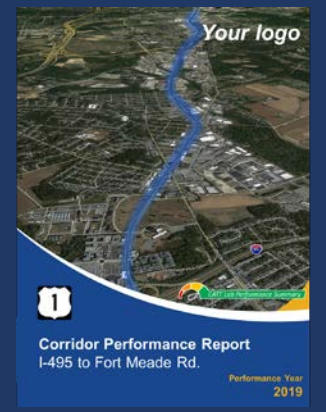
Average bidirectional weekday daily traffic for this section of highway in 2018 ranged from 41,000 near I-495 to 35,500 in Laurel to 31,500 between MD-200 and MD-212.

Purpose of Study:
This annual study examines the yearly performance of this critical business corridor and compares it to performance in previous years.

2019 Corridor Travel Times
Weekday travel times for the US-1 corridor were aggregated over the entire year and are presented below. This corridor does not exhibit a clear peak travel direction in either the AM or PM peak periods. Instead, the PM peak travel times are consistently higher than the AM peak travel times. In each direction, the average PM peak travel time is approximately 3 minutes longer than the AM peak period travel time, with the planning time being approximately 4 minutes longer. The heat map at the bottom of the page shows the geographic location of typical congestion through the day.



How-to Guide example (new format & layout)



How to make the cover page

1 Create a background map image (from Google Earth Pro)

1. Click Save Image

2. Click Map Options and select options.

3. Click Resolution and select Maximum.

4. Save image as a JPEG, then import into PowerPoint.

(A desaturated color base map was used for this example.)

2 Overlay a road highlight

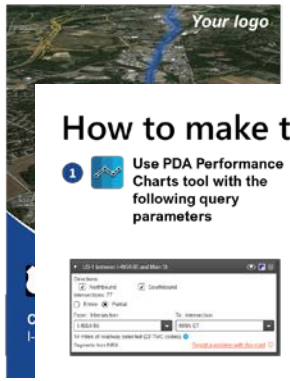
1. Select "Curved Line" from the shape menu.

2. Left-click along the path of the roadway to draw the line. Double-click to end the curve. Right-click the finished line to bring up an edit menu to add or move curve point.

3. Under Shape Effects, apply **Glow**. Using the Format Shape dialog, change the color to the same color as the line. Adjust the size and transparency bars to produce the effect based on your personal preferences.

3 Add some finishing touches

1. Insert your logo at the top of the cover.
2. Add a bottom graphic that allows for text, matching your color palette
3. Include things like report title, Route, location, analysis timeframe, etc.



How to make the hourly travel time graph

1 Use PDA Performance Charts tool with the following query parameters

Data Source: INRIX
Granularity: 15 minutes

2 Tailor chart using the settings below

3 Save chart using the "customize image export" tool

4 Change the image size to improve legibility at the scale you will be utilizing

Change image size to a width of 750 and a height of 500.

You can turn off the legend display here.

5 In PowerPoint, into document "Picture" butt "Images" tool

How to make the travel time column charts (part 2)

4 Create a combo chart with free flow travel time shown as a line. Show planning time and travel time as clustered columns.

5 The resulting chart looks like this. We need to do some work to clean up the visualization.

6 Label the horizontal axis by month

1. Right click on a column and pick "Select Data…"
2. Edit the horizontal axis labels
3. Highlight the month range in your Excel workbook, press enter, and then OK.

7 Name each data series

1. Right click on a column and pick "Select Data…"
2. Edit the Legend Entries (Series)
3. Under Edit Series, click the cell in the Excel worksheet that contains the corresponding category. Repeat for all three series.

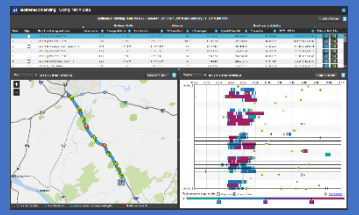
8 Under Format Data Series, use Series Options to overlap the data columns.

Change the series order if the planning time column obscures the travel time column.

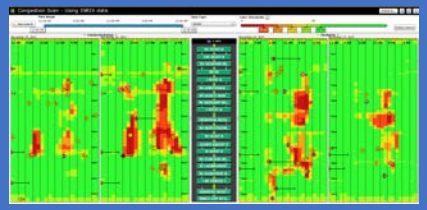
Holiday Travel Guide (Forecast Infographic)

Interstate Travel Forecast for the Baltimore, MD region

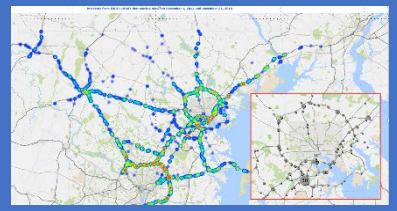
Bottleneck Ranking



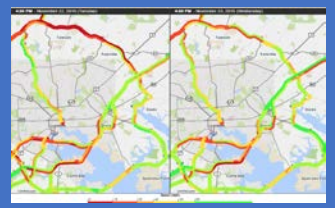
Congestion Scan



Event Query Tool



Trend Map



Predicting holiday travel

Using the VPP Suite and RITIS apps, you can create graphics like this:

Thanksgiving Week 2016

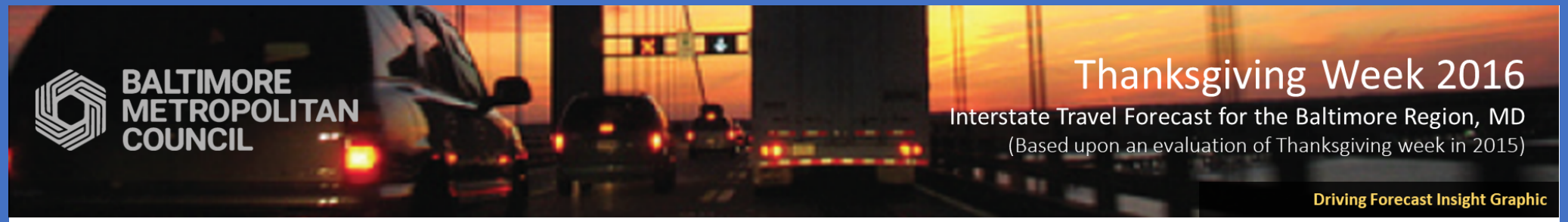
Interstate Travel Forecast for the Baltimore, MD region
(Based upon an evaluation of Thanksgiving week in 2015)

"Thanksgiving holiday travel is expected to increase from 2015 by 3 percent in Maryland, according to AAA Mid-Atlantic. That's 31,000 more Marylanders on the road from Wednesday, November 23, through Sunday, November 27."

As quoted in BMC's "Cog Quarterly" (Fall / 2016)

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 3PM – 7PM	Avoid 2PM – 5PM	Great day to drive!	Great day to drive!	Great day to drive!	Drive Carefully!	Avoid 3PM – 6PM
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. 	**INSIGHT** Low usage all day. Black Friday shows a lower usage than an average Friday. Expect Mall congestion!!	**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**

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.

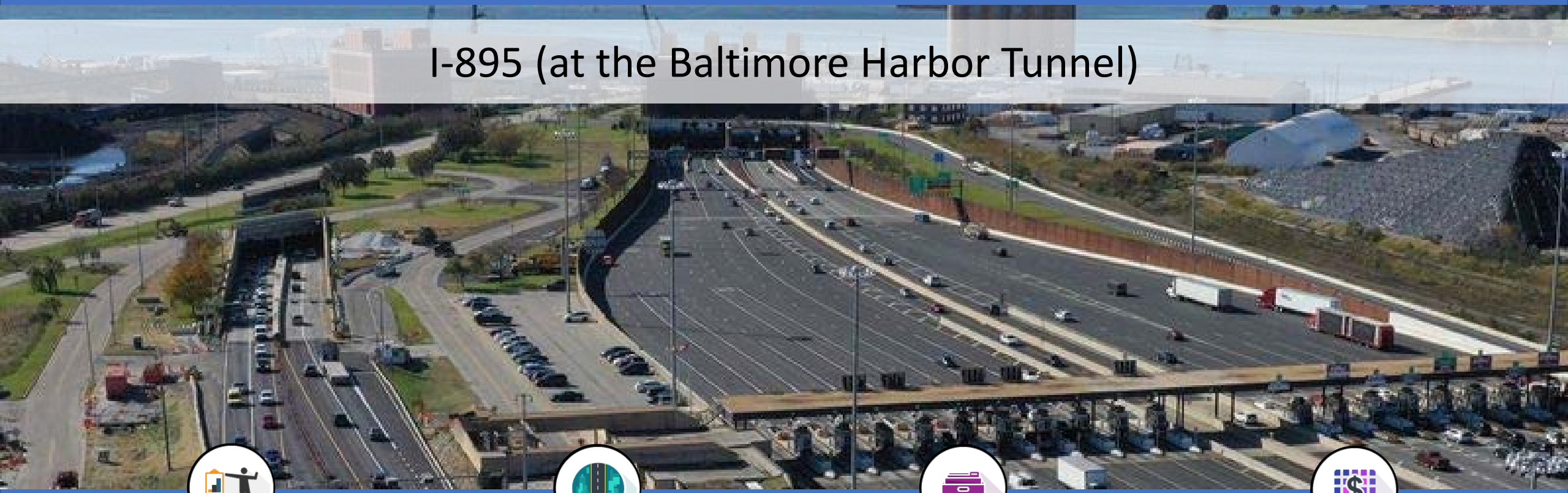
LOCATION MAP

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)

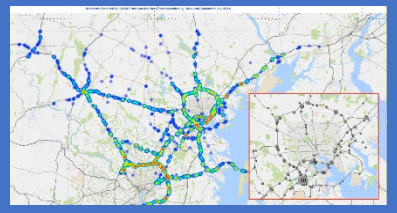
I-895 (at the Baltimore Harbor Tunnel)



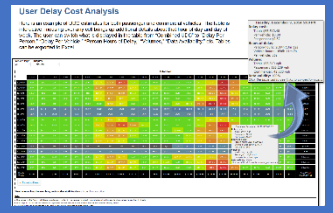
Work Zone Dashboard

Congestion Scan

Event Query Tool



User Delay Cost



Work Zone Dashboard Beta INRIX ▾ logged in as Michael Pack | logout

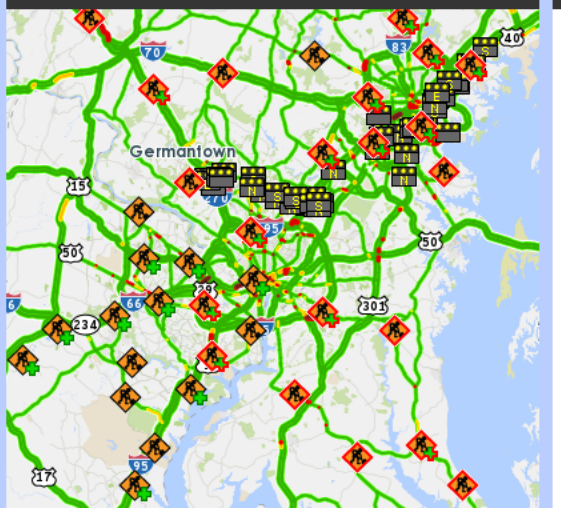
CURRENT WORK ZONES

REGION/EVENT	# OF NEARBY INCIDENTS	QUEUE LENGTH (MI)	USER DELAY COST ($)
District of Columbia (3)	39	0	$0.5M
Florida (404)	9725	0	$0.3M
Georgia (57)	444	0.1	$2.2M
Maryland (66)	211	4.3	$0.3M
Anne Arundel (4)	67	1.2	$23.5K
MD 173 NORTH/SOUTH BET...	-	1.2	$497
MD 258 WEST AT SOUTHERN...	5	0	$1.9K
MD 174 EAST BETWEEN OLD...	-	0	$41
I-895 SOUTH - SOUTH OF EX...	62	0	$21.1K
Baltimore (16)	43	0	$25.4K
I-695 INNER LOOP AT EXIT 1...	-	0	-
I-95 NORTH PAST EXIT 67A ...	-	0	$44
MD 45 SOUTH BETWEEN HIL...	-	-	$374
BALTIMORE COUNTY: I-95 S...	11	0	-
I-695 INNER LOOP AT EXIT 1...	-	0	$27
MD 140 NORTH BETWEEN C...	-	0	$285
I-695 INNER LOOP FROM EXI...	-	0	$2.4K
I-95 SOUTH FROM SOUTHW...	7	0	$2
I-95 SOUTH FROM EXIT 47A-...	2	0	$3.8K
I-695 EAST BETWEEN YORK ...	1	0	$55
MD 700 EAST/WEST BETWE...	-	0	$55
I-695 INNER LOOP BETWEEN...	5	-	$19
BALTIMORE COUNTY: I-695 I...	7	0	$4
BALTIMORE COUNTY: MD-45...	1	0	$364
BALTIMORE COUNTY: MD-54...	-	0	$131
I-895 NORTH-NORTH OF I-6...	9	0	$17.9K
Baltimore City (5)	8	0.8	$2.6K
BALTIMORE CITY: I-895 NOR...	-	0.5	$891

TOP CRITICAL WORK ZONES

SEVERITY/EVENT	LANE STATUS	QUEUE LENGTH (MI)	USER DELAY COST ($)
Critical (6)		19.6	$0.4M
Roadwork on I-78 eastbound between Exit 49A: PA 100 SOUTH - TREXLERTOWN and Exit 51: US 22 EAST / TO I-476 / TO PA-309 NORTH / PA TURNPIKE / L...		3.6	$6.8K
I-64W west @ MM 294.500		3.2	$78.9K
I-64W west @ MM 294.500		3.2	$78.9K
I-64W west @ MM 294.500		3.2	$78.9K
I-81N north @ MM 164.000		3.2	$67.8K
I-81N north @ MM 164.000		3.2	$67.8K
Major (3)		6.1	$23.0K
I-95		2.2	$301
Roadwork on I-81 northbound between .4 miles south of Exit 168: HIGHLAND PARK BLVD/WILKES-BARRE and .6 miles north of Exit 168: HIGHLAND PARK ...		2	$12.1K
Roadwork on I-81 southbound between .6 miles north of Exit 175B: PA 315 NORTH - DUPONT and .2 miles north of Exit 175B: PA 315 NORTH - DUPONT. T...		1.9	$10.6K

WORK ZONE LOCATIONS



USER DELAY COST BY CORRIDOR AND DAY OF WEEK

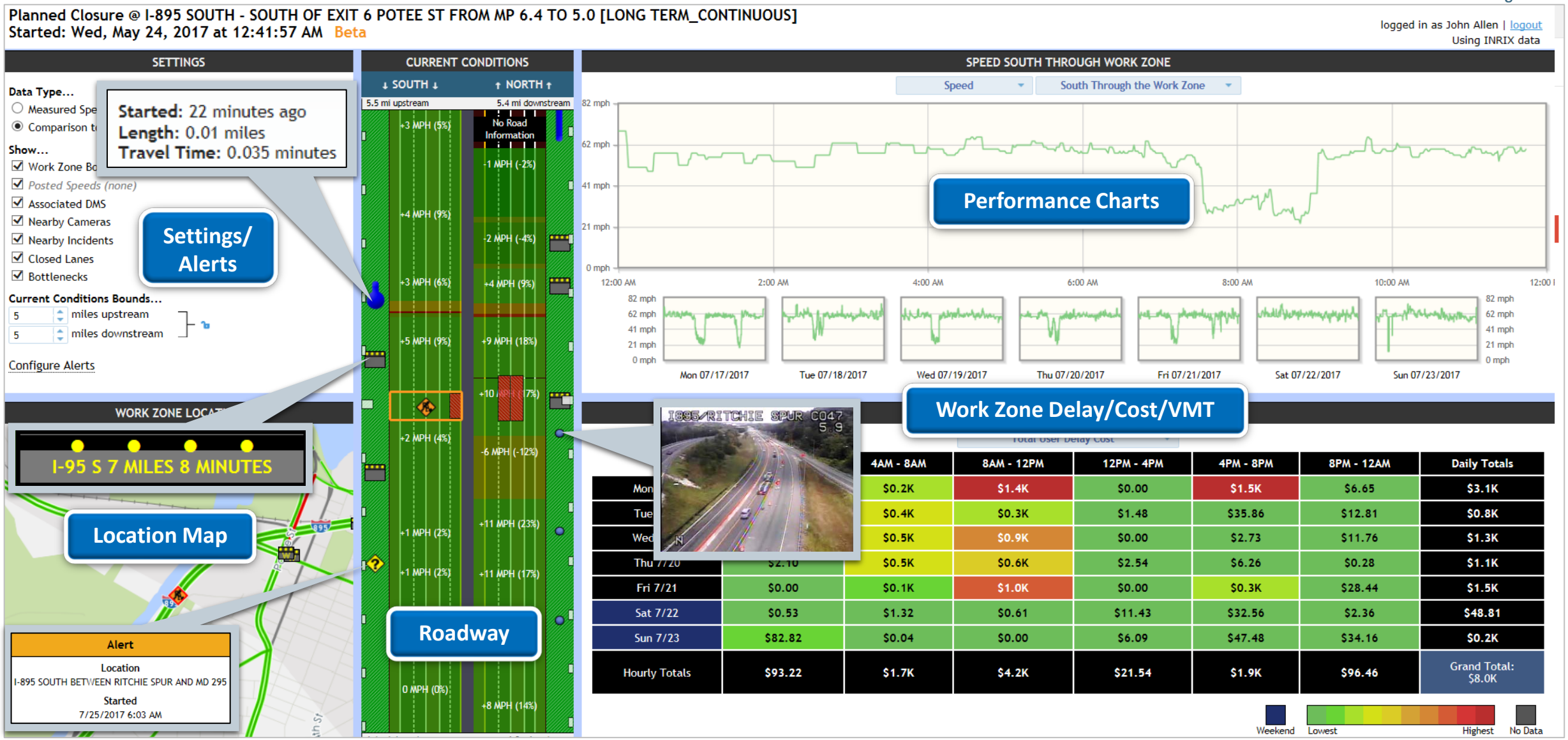
Total User Delay Cost

	I-270 (MD)	I-95 (MD)	I-495 (MD)	MD-32 (MD)	Daily Totals
Wed 7/19	$147.1K	$320.7K	$787.2K	$43.2K	$1.3M
Thu 7/20	$145.6K	$898.1K	$940.2K	$45.4K	$2.0M
Fri 7/21	$62.9K	$198.6K	$791.3K	$26.2K	$1.1M
Sat 7/22	$51.9K	$86.4K	$486.8K	$10.7K	$635.8K
Sun 7/23	$67.3K	$262.4K	$235.3K	$9.7K	$574.8K
Mon 7/24	$90.8K	$128.0K	$593.7K	$31.0K	$843.5K
Tue 7/25	$171.4K	$80.8K	$580.3K	$38.4K	$870.9K
Wed 7/26	$152.2K	$152.0K	$990.3K	$34.2K	$1.3M
Corridor Totals	$889.3K	$2.1M	$5.4M	$238.8K	Grand Total: $8.7M

Weekend Lowest Highest No Data

RITIS: Work zone delay monitoring

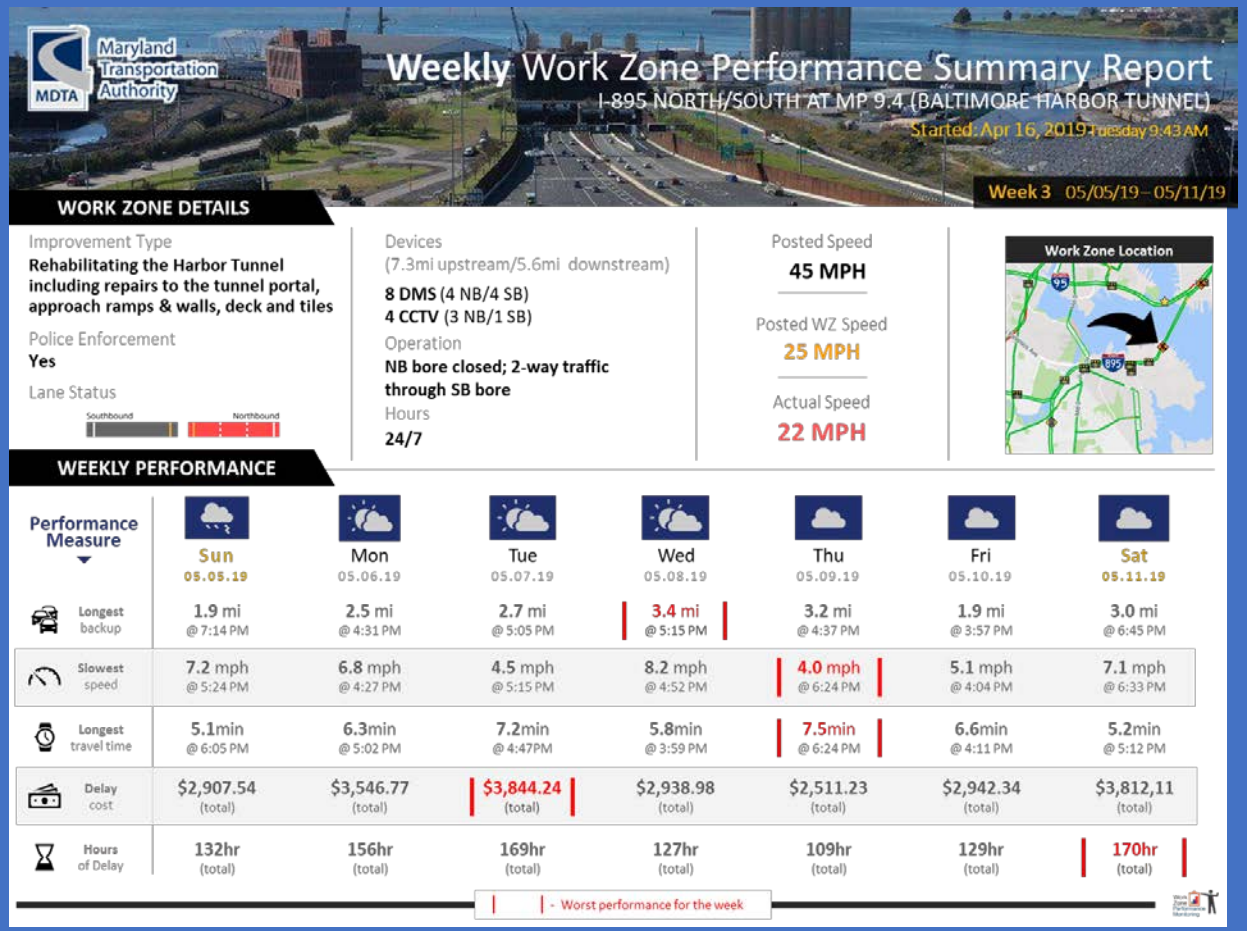
Work Zone Performance Monitoring



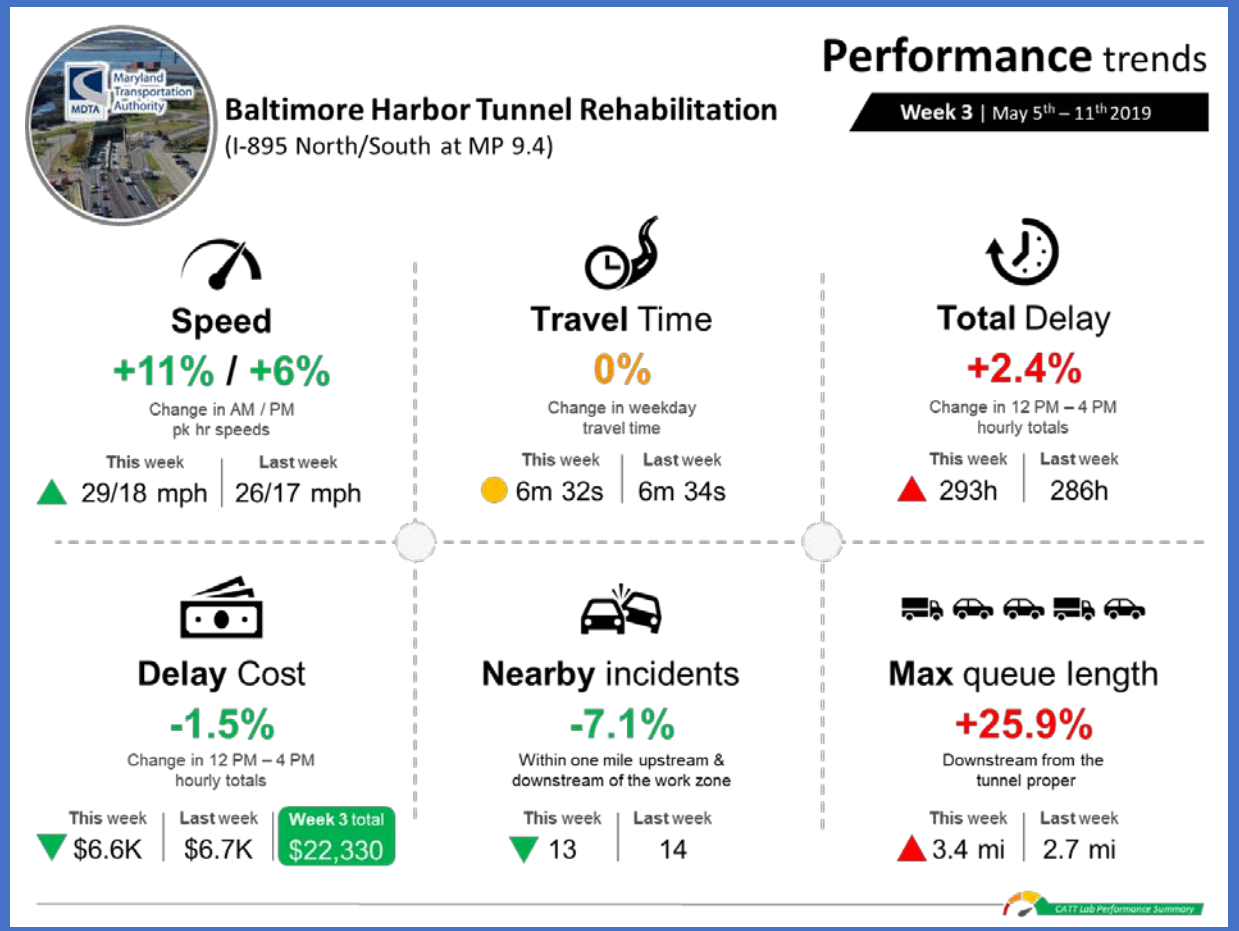
Dashboard-style work zone analytics with current conditions, performance charts, user delay cost and custom alerts.

Work Zone Impact (weather infographic style)

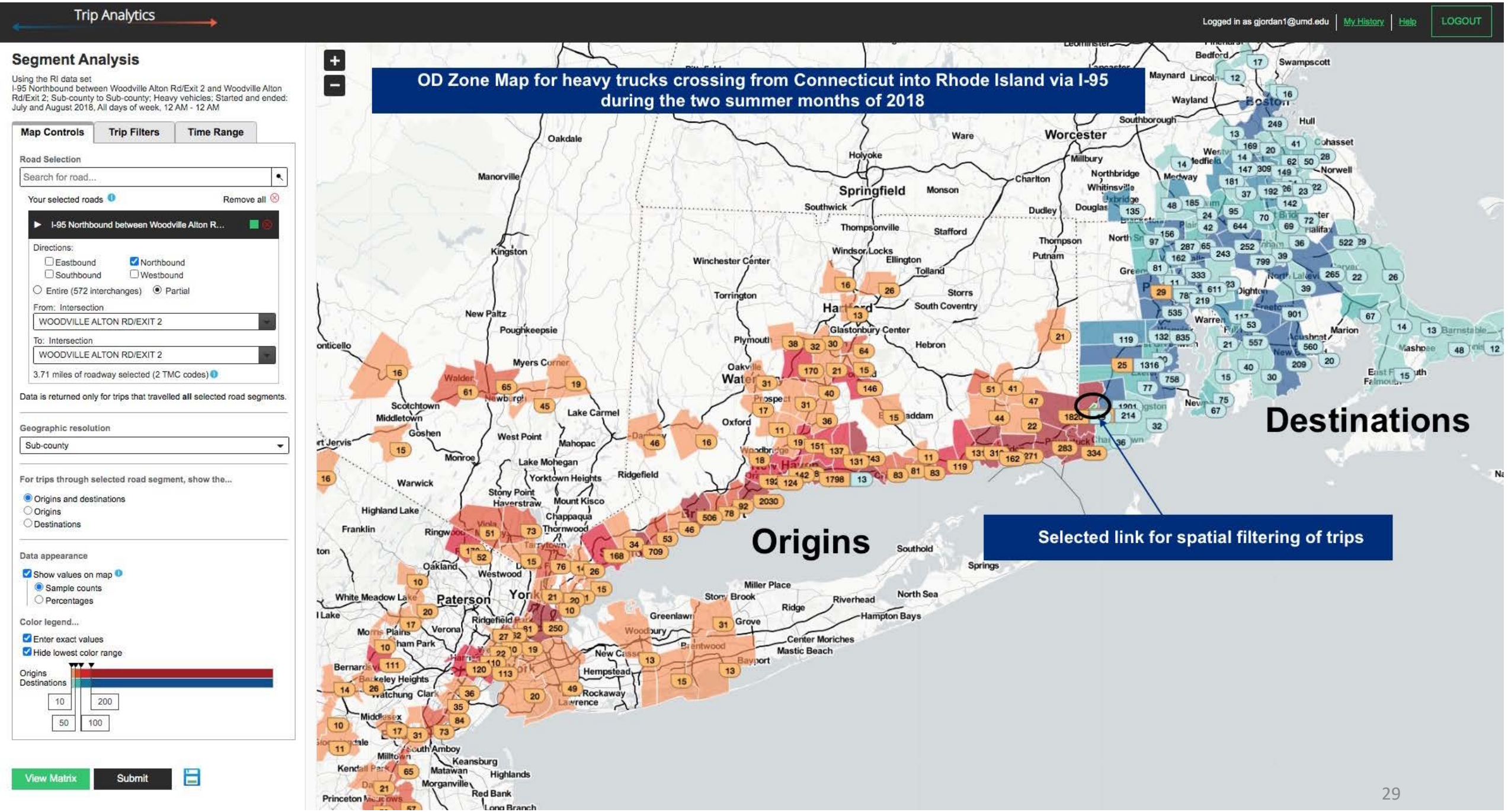
Weekly Performance (front)



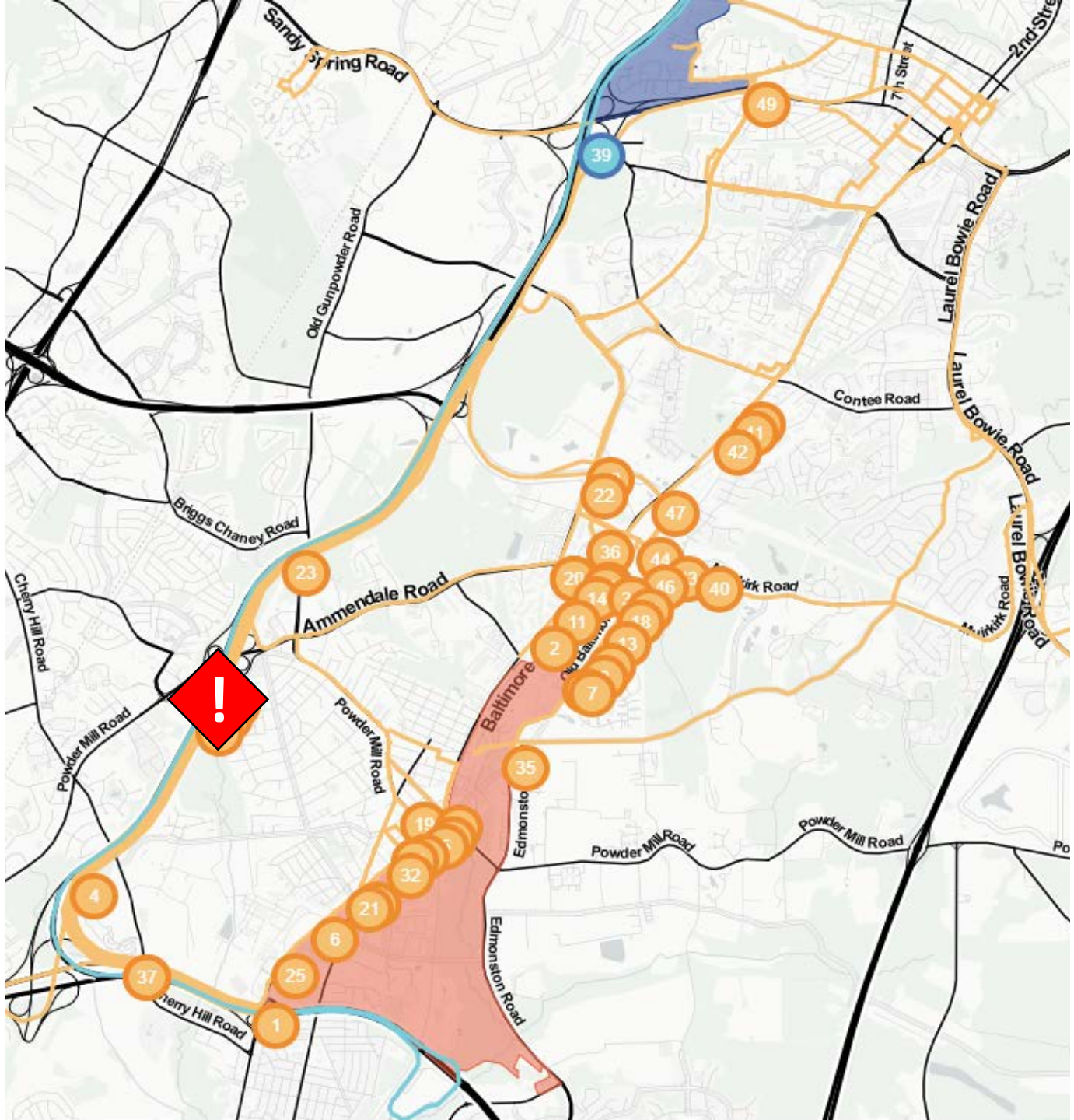
Performance Trends (back)



Analyzing People Movement for Operations

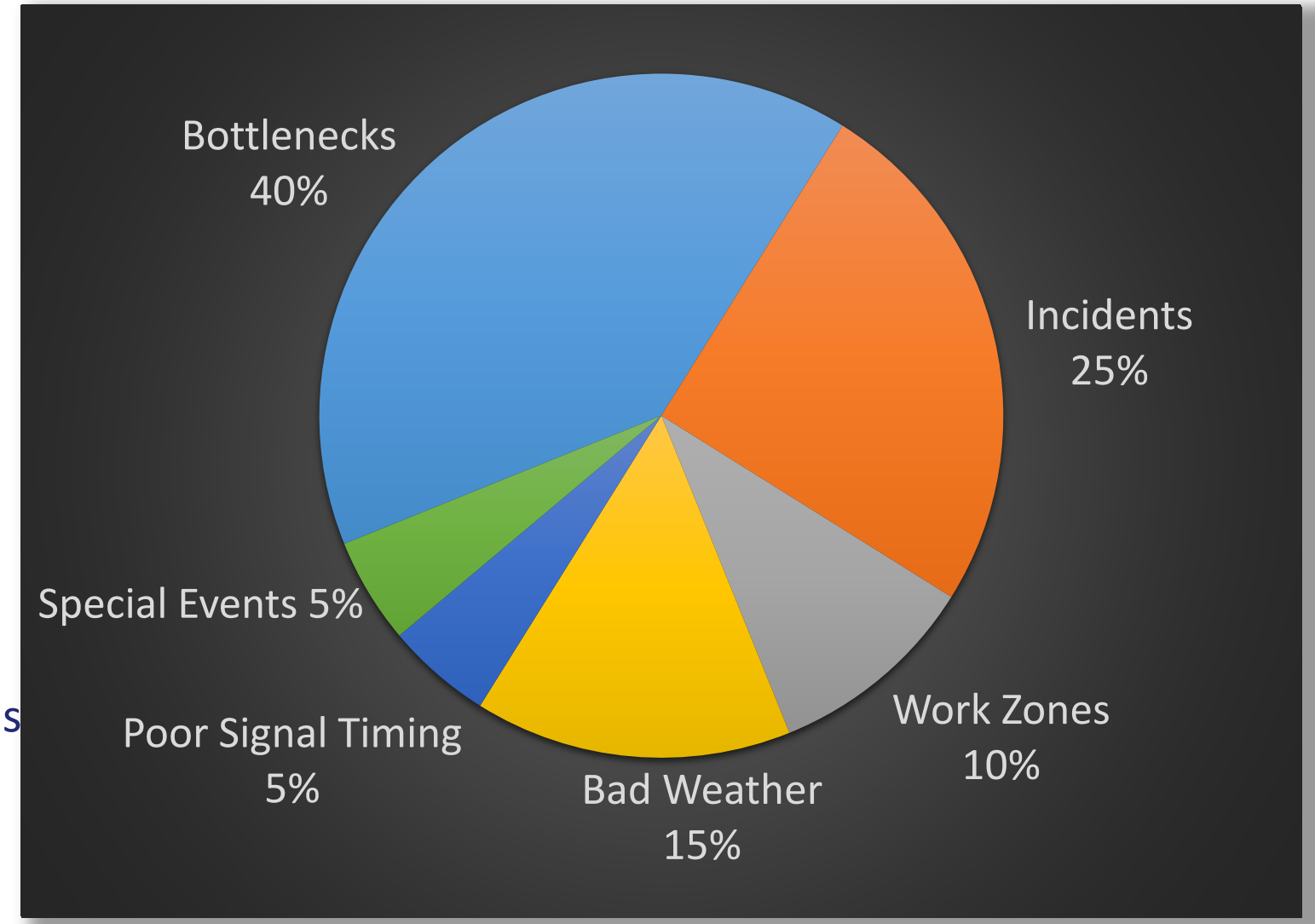

Trip Analytics
Logged in as gjordan1@umd.edu | My History | Help | LOGOUT
Segment Analysis
Using the RI data set
I-95 Northbound between Woodville Alton Rd/Exit 2 and Woodville Alton Rd/Exit 2; Sub-county to Sub-county; Heavy vehicles; Started and ended: July and August 2018, All days of week, 12 AM - 12 AM
Map Controls
Trip Filters
Time Range
Road Selection
Search for road...
Your selected roads
Remove all
I-95 Northbound between Woodville Alton R...
Directions:
Eastbound
Northbound
Southbound
Westbound
Entire (572 interchanges)
Partial
From: Intersection
WOODVILLE ALTON RD/EXIT 2
To: Intersection
WOODVILLE ALTON RD/EXIT 2
3.71 miles of roadway selected (2 TMC codes)
Data is returned only for trips that travelled all selected road segments.
Geographic resolution
Sub-county
For trips through selected road segment, show the...
Origins and destinations
Origins
Destinations
Data appearance
Show values on map
Sample counts
Percentages
Color legend...
Enter exact values
Hide lowest color range
Origins
Destinations
10
200
50
100
View Matrix
Submit
OD Zone Map for heavy trucks crossing from Connecticut into Rhode Island via I-95 during the two summer months of 2018
Destinations
Origins
Selected link for spatial filtering of trips

Ops Detour Analysis & Planning



The *Causes of Highway Congestion* pie chart…

- National statistic
- 14+ years old
- Largely modeled
- Still used extensively for BIG investment and spending decisions



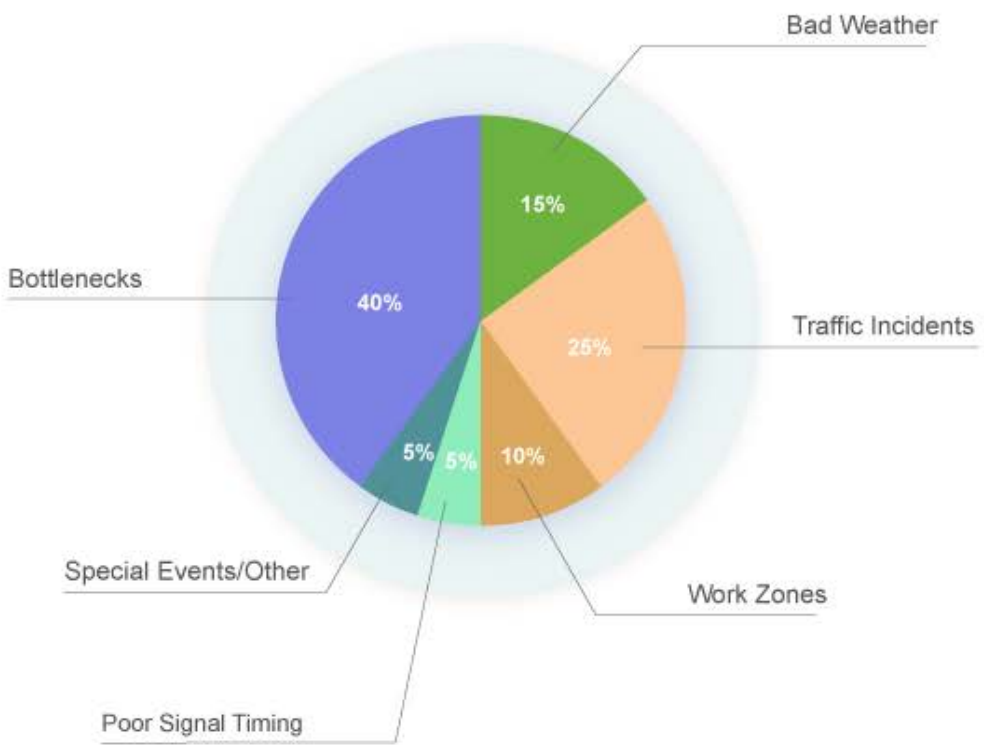
Select Year 2018

Select a state

Sort By State Name A to Z

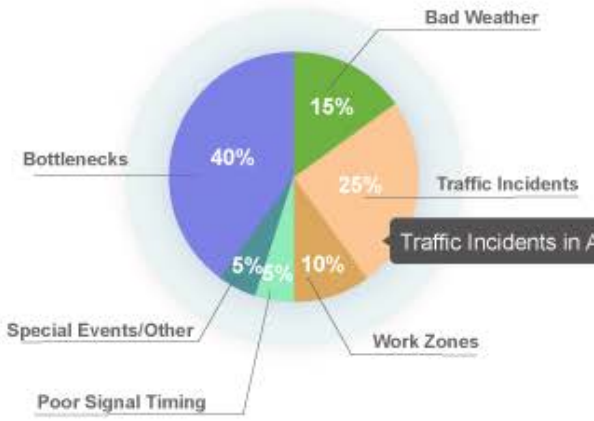
Sources of Congestion **Nation Wide** in 2018

Rated by Vehicle Miles Traveled



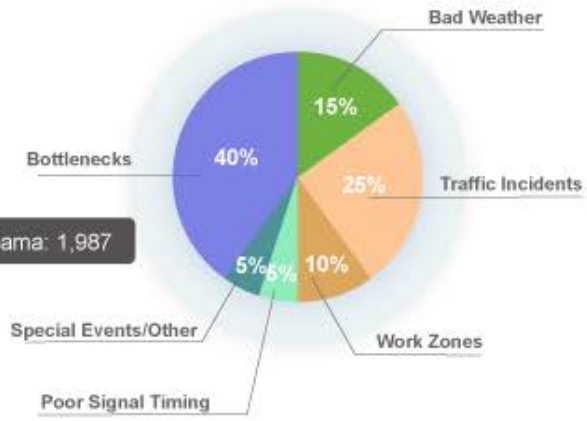
Alabama

Rated by Vehicle Miles Traveled



Alaska

Rated by Vehicle Miles Traveled

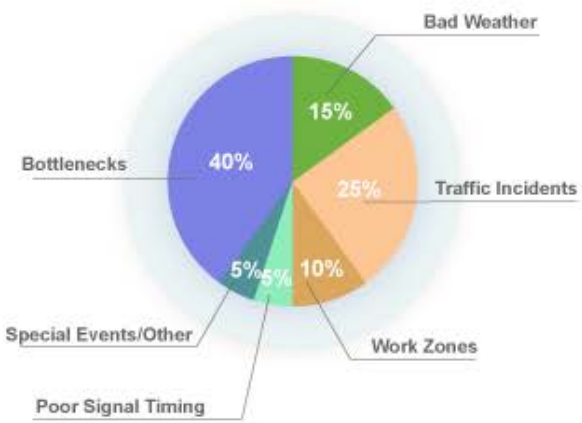


Arizona

Rated by Vehicle Miles Traveled

Arkansas

Rated by Vehicle Miles Traveled



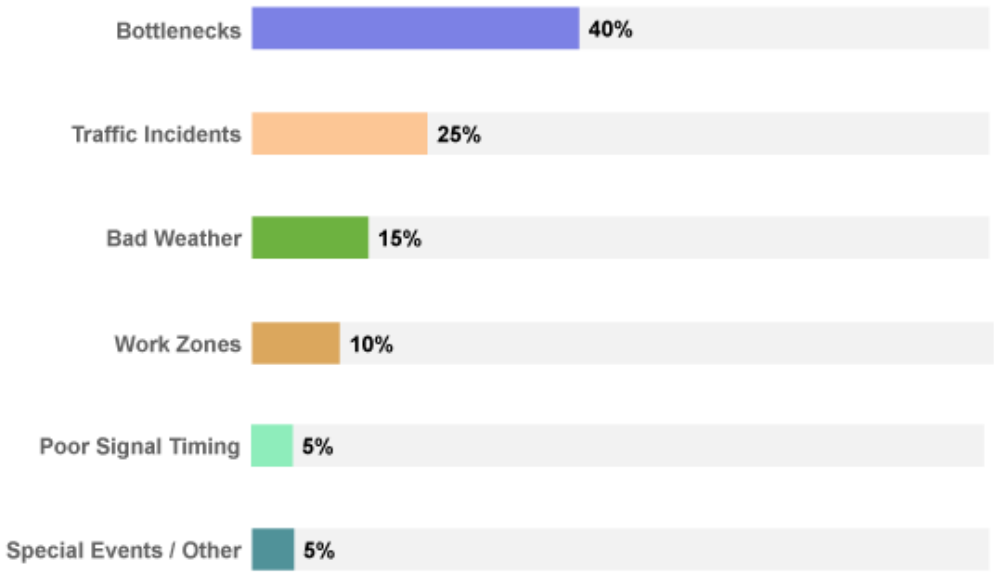
Select Year 2018

Select a state

Sort By State Name A to Z

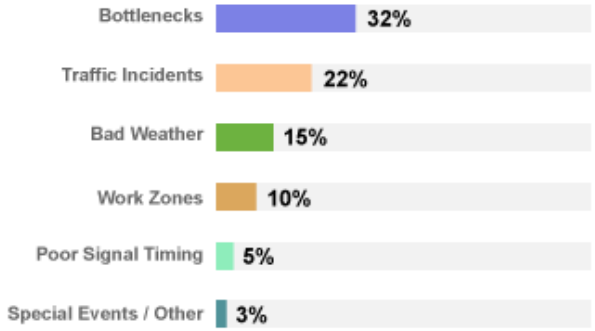
Sources of Congestion **Nation Wide** in 2018

Rated by Vehicle Miles Traveled



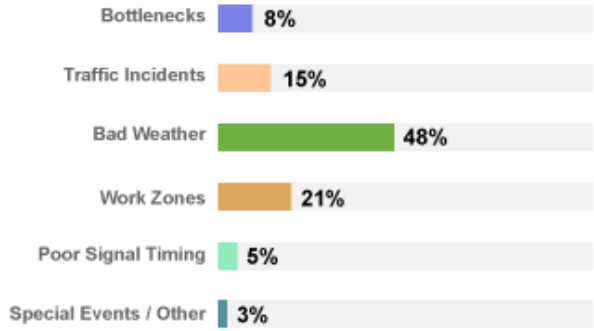
Alabama

Rated by Vehicle Miles Traveled



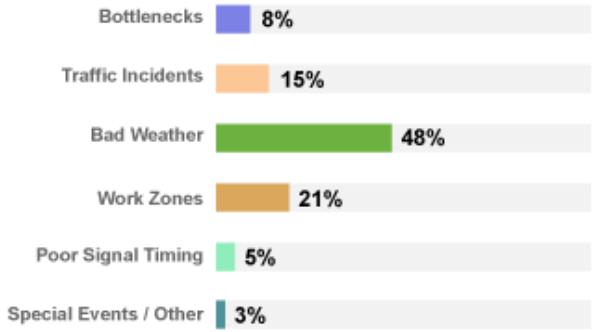
Alaska

Rated by Vehicle Miles Traveled



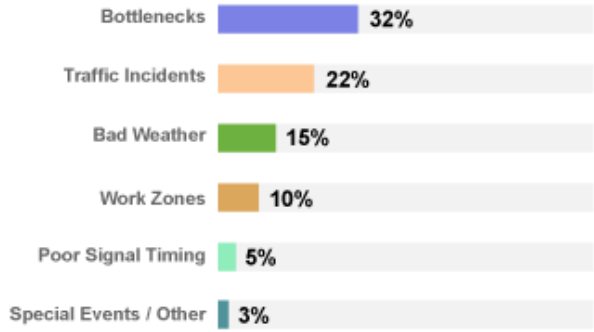
Arizona

Rated by Vehicle Miles Traveled



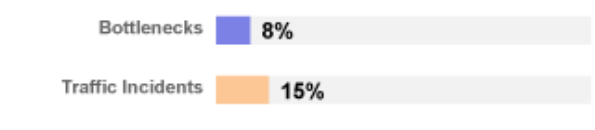
Arkansas

Rated by Vehicle Miles Traveled



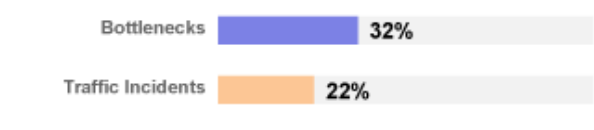
California

Rated by Vehicle Miles Traveled



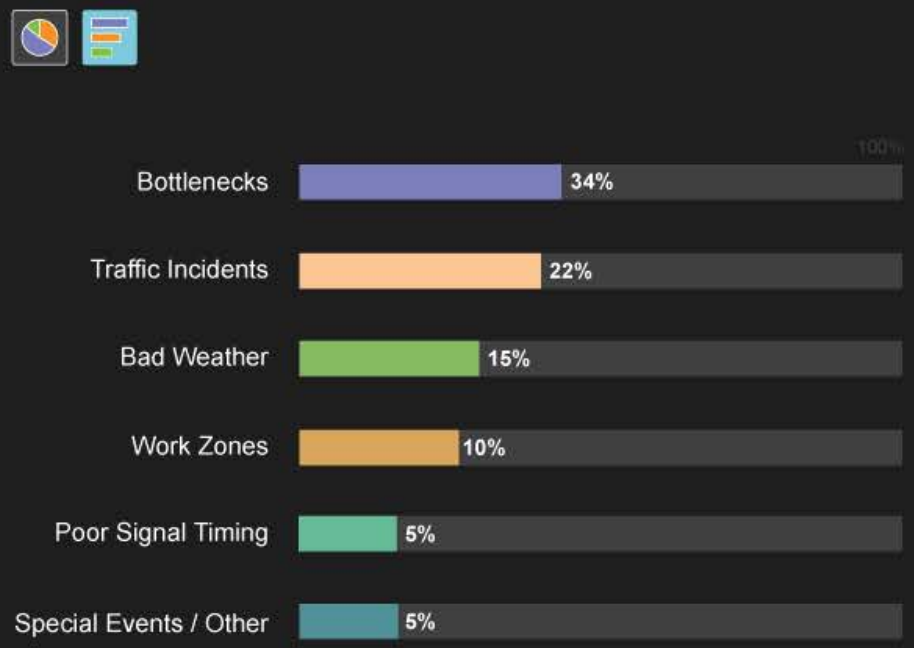
Colorado

Rated by Vehicle Miles Traveled



DELAWARE

Wednesday December 19, 2018 to Wednesday, December 26th, 2018



Summary

The numbers represent the total number of events for the entire county.

Bottlenecks: 1,982

Traffic Incidents : 1,120

Bad Weather: 434

Work Zone : 329

Poor Signal Timing : 109

Special Events / Other: 59

Delay Cost

- Total: $51,000
- Per VMT: $50

Hours of Delay:

- Person-hours: 343
- Vehcile-hours: 120

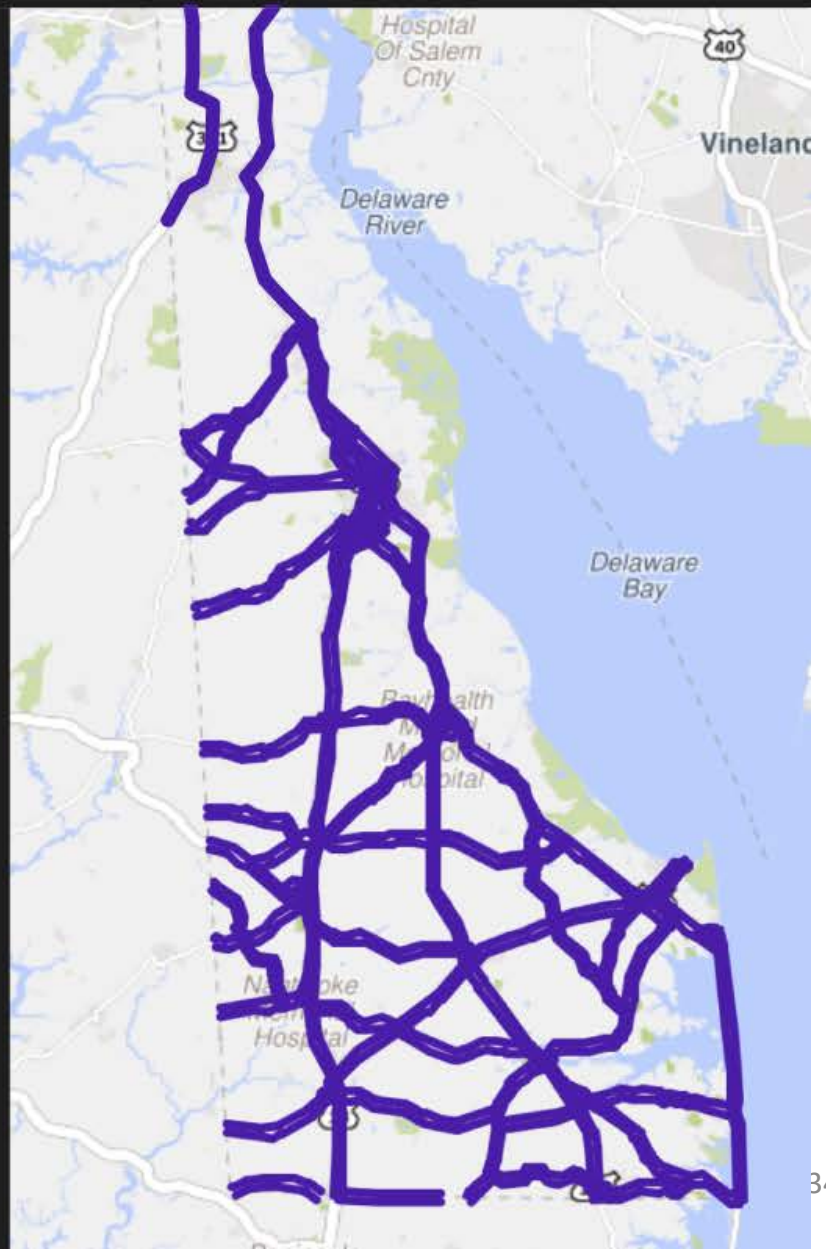
Vehicle miles traveled (VMT):

- Total: 873,000 miles
- Passenger: 230,000 miles
- Commercial: 643,00 miles

Delay per VMT:

- 33 mins / mile

Data validity: 100%



UNIVERSITY OF MARYLAND

COVID-19 Impact Analysis Platform

MARYLAND TRANSPORTATION INSTITUTE

CATT LABORATORY

States | Counties

From August 27, 2020 to August 27, 2020

Select metrics: Mobility and Social Distancing | COVID and Health | Economic Impact | Vulnerable Population

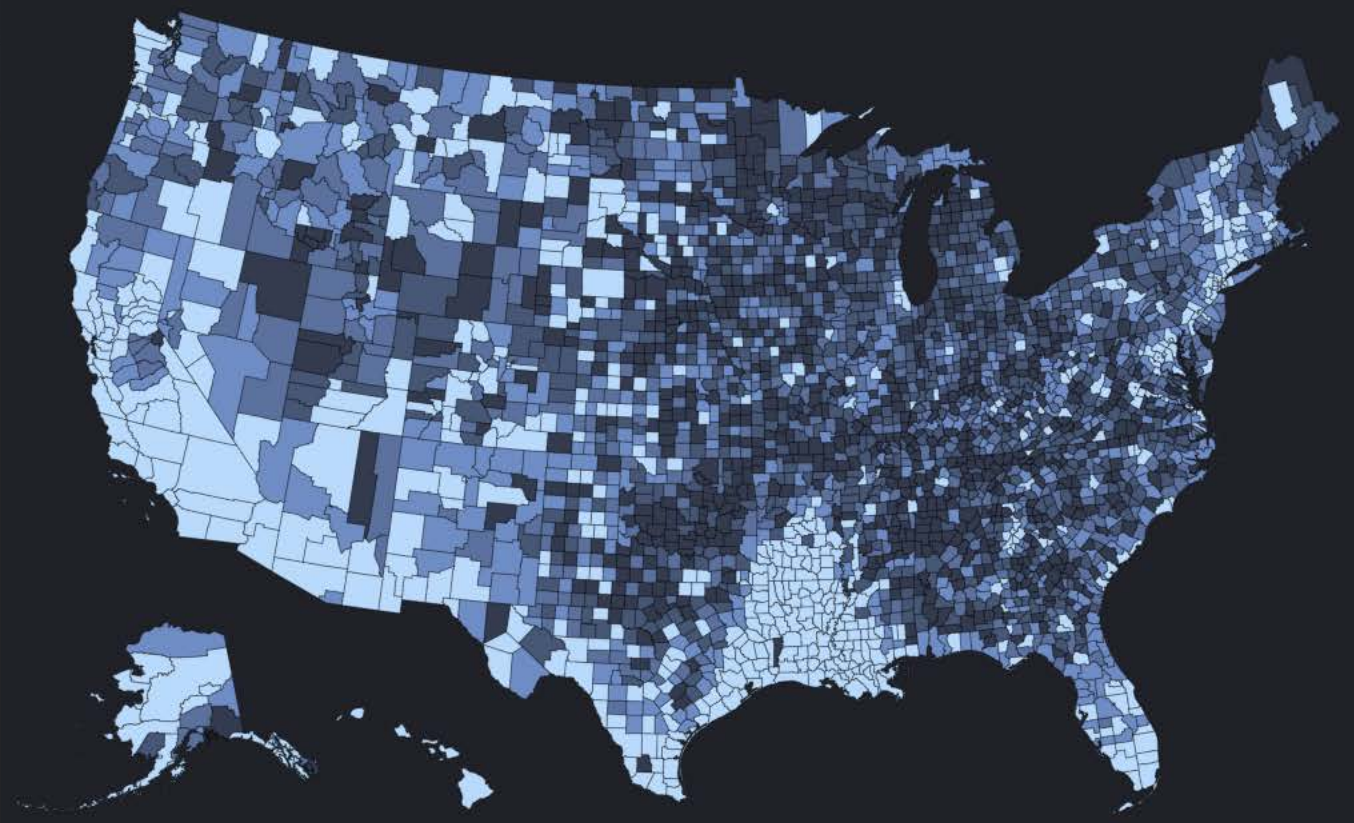
Search for a county

County ▲	Social distancing index	% staying home	Imported COVID cases	% change in consumption	COVID death rate	
Abbeville County, South Carolina	15	18%	173	13.7%	1.68%	SERA
Acadia Parish, Louisiana	44	32%	401	-20.7%	2.49%	SERA

Accomack County, Virginia 19 18% 75 0.2% 1.65% SERA

Zoom to All states | Show Social distancing index | Show National Statistics

Showing data for August 27, 2020



Social distancing index

0 | 18 | 21 | 24 | 29+

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COVID-19 **Key Insights**

UMD COVID-19 Impact Analysis Platform: data.covid.umd.edu

https://data.covid.umd.edu/

Resources (how to learn more)

- www.ritis.org (basic info and account requests)
- www.ritis.org/tutorials/ (tutorial videos)
- https://matoc.org/training/ (training webinar schedules)

Or send me an email @ PackML@umd.edu

Michael L. Pack

Director, CATT Laboratory

PackML@umd.edu

240.676.4060

Michael L. Pack

Director, CATT Laboratory

PackML@umd.edu

240.676.4060