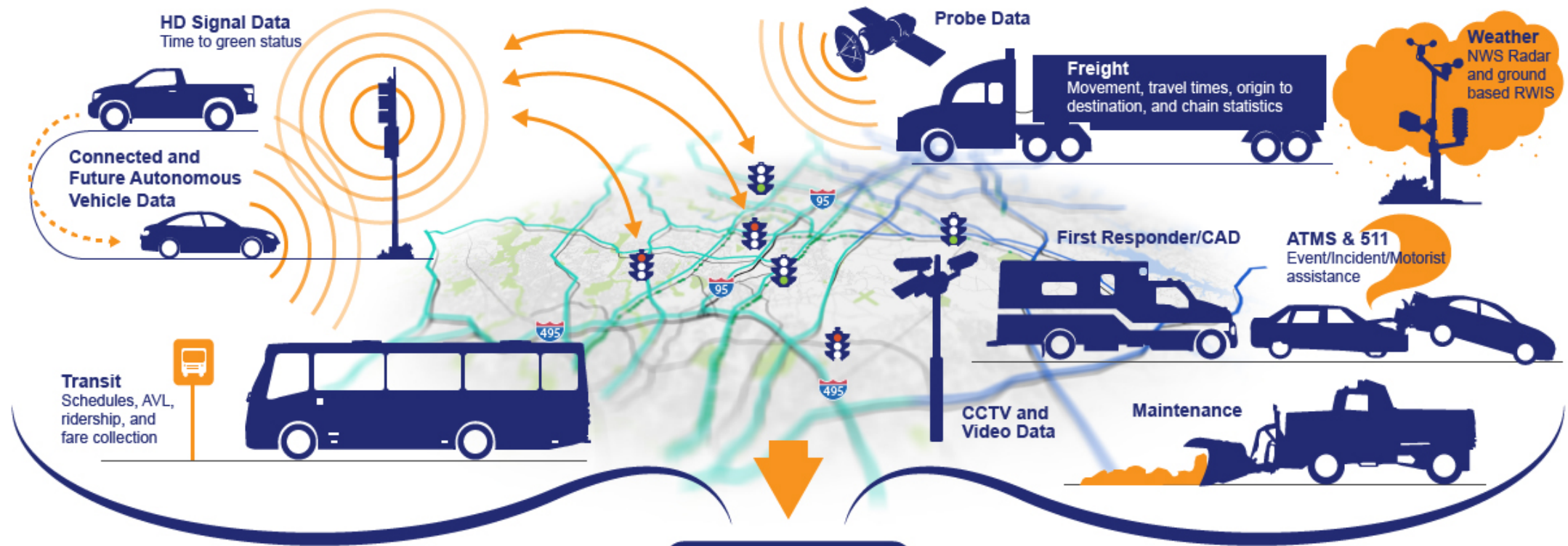


# RITIS & TIM Performance Measures

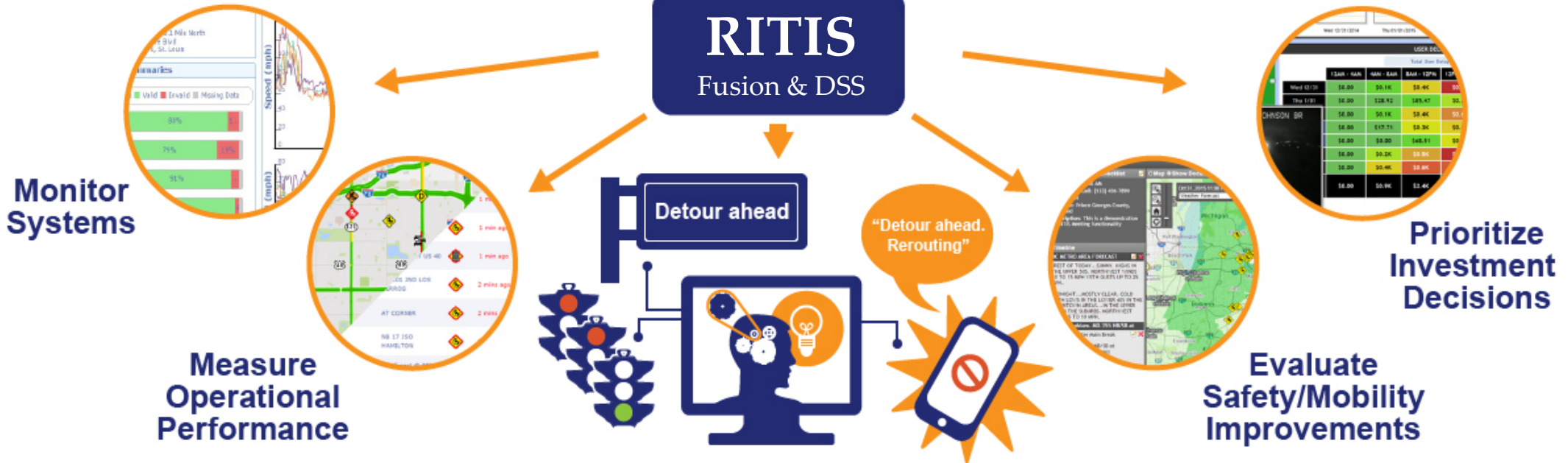
Michael VanDaniker, CATT Laboratory



Enabling agencies through better communication, data-based decision making, advanced insights discovery, and enhanced operations and planning capabilities.



# RITIS Fusion & DSS





RTIS

Transportation System Status

Incident List

Traffic Map

Incident Overview

Traffic Cameras

RSS Feed

VWS

WZPMA

RTIS Meeting

Welcome Michael Pack!

Set Filters

Use Night Colors

Fullscreen

Map navigation controls

Map of the United States with incident markers

Sep 1, 2016 10:00PM EST

Current Condition

Collision

Incident 4 of 252

PREV BACK TO LIST NEXT

I-695

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

Join Incident Chat Room

Media

Add File/Link

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

4:00 PM

6:00 PM

8:00 PM

10:00 PM

12:00 AM

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

University of Maryland CATT Lab ( Contact Us ) ( Release Notes ) © 2008 - 2016

Sep 01, 2016 - 10:15 PM

3



# Radio/Scanners

The screenshot displays the RITIS (Regional Integrated Transportation Information System) web application. The main area is a map of the United States, densely populated with red and green pins representing radio feed locations. The pins are concentrated in the eastern half of the country, particularly in the Northeast and Southeast. The interface includes a sidebar on the left with a 'Radio Feeds' list, a top navigation bar, and a bottom status bar.

**Radio Feeds List (Left Sidebar):**

- Marin County, CA
  - California Highway Patrol...
  - Marin County Fire Agenc...
  - WIN System Amateur R...
- Santa Cruz County, CA
  - Santa Cruz County Fire ...
  - WIN System Amateur R...
  - San Mateo County Fire a...
  - Amateur Radio Repeater...
  - Amateur Radio Repeater...
- San Mateo County, CA
  - BART - Bay Area Rapid T...
  - California Highway Patrol...
  - Hillsborough Police Depa...
  - San Mateo County ARES...
  - N6NFI 145.230 Mhz Rep...
  - San Mateo County Fire a...
  - San Francisco Bay Area ...
  - San Mateo County Law E...
  - WIN System Amateur R...
  - SFO Airport and Oakland...
- District of Columbia County
  - Metropolitan Washington
  - Airports Authority (MWAA)
  - Public Safety

**Map Interface (Top):**

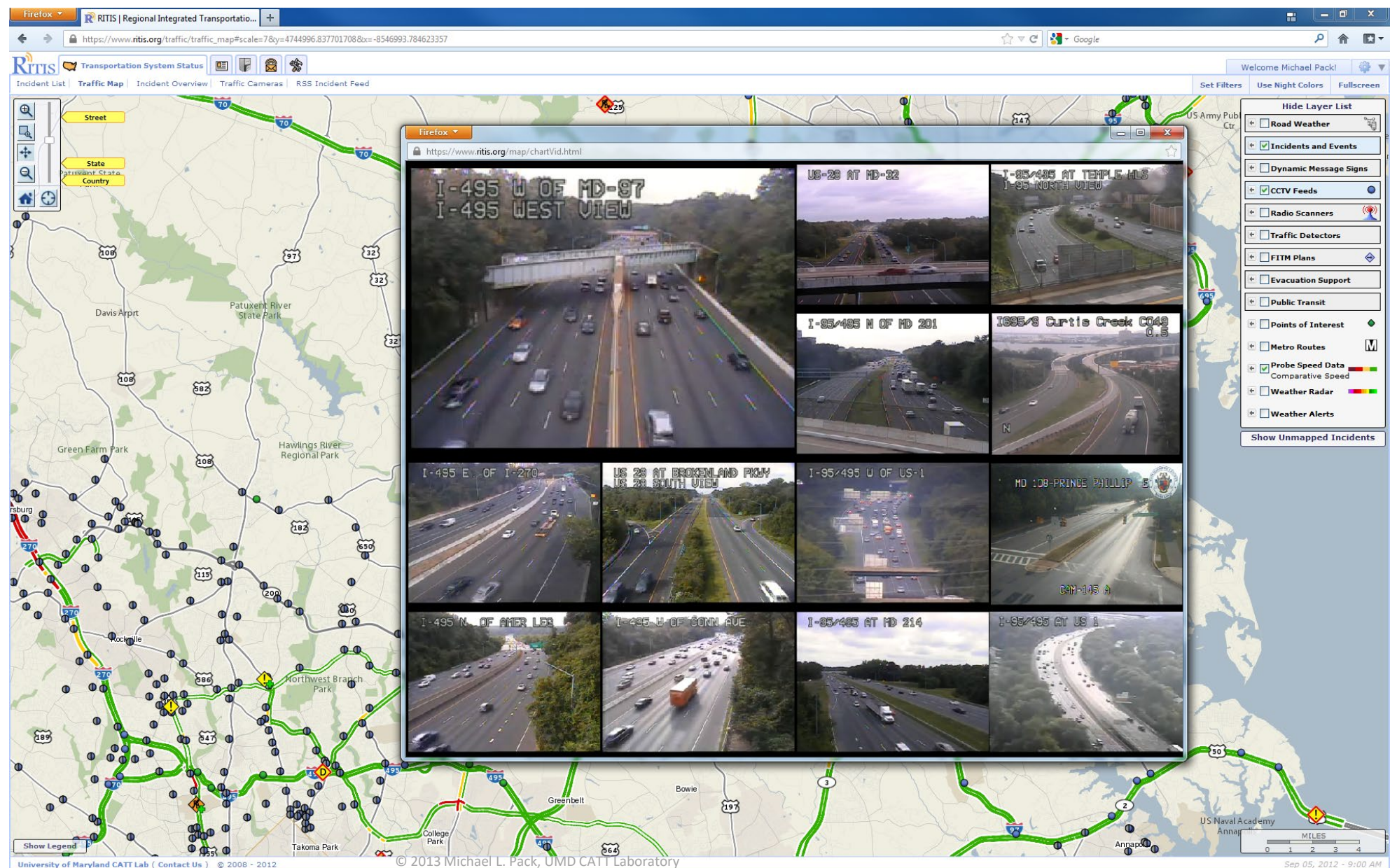
- Browser: Firefox
- Page Title: RITIS | Regional Integrated Transportation...
- URL: https://www.ritis.org/traffic/traffic\_map#scale=18&y=4722774.504487587&x=-10844661.325475901
- Navigation: Incident List, Traffic Map (selected), Incident Overview, Traffic Cameras, RSS Incident Feed
- User: Welcome Michael Pack!
- Buttons: Set Filters, Use Night Colors, Fullscreen

**Map Interface (Bottom):**

- Show Legend
- Scale: 0 50 100 150 200 MILES
- Status: Sep 05, 2012 - 9:04 AM



# CCTV Personal Media Wall





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

The screenshot displays the RITIS interface, which is used for managing transportation incidents. The main map shows the location of the incident on I-95/495 S of US-50 in Prince Georges County, Maryland. A video feed in the top left corner shows a car accident scene with several vehicles involved. A chat window in the bottom left corner shows a conversation between Taran Hutchinson and John Minisi. An event timeline in the bottom right corner provides a detailed account of the incident, including the time of the crash, the arrival of responders, and the status of the road.

**Fatalities Involved**  
I-95 INNER LOOP/OUTER LOOP AT EXIT 19 US 50  
Prince Georges County, Maryland

**-Fatalities Involved**  
Started: 8/1/2014 8:51 AM  
Updated: 8/1/2014 11:40 AM  
7 Responders on the Scene  
Inner Loop Outer Loop  
Join Incident Chat Room

**Description**  
PER 9004  
I-95/495 S OF US 50 CAMERA B LOCKED  
RAMPS FROM US50 WEST TO THE OUTER LOOP A CLOSED AND TRAFFIC IS BEING DIVERTED TO THE RAMP TO THE NEW CARROLTON METRO STATION

**Nearby FITM Plans**  
1495 Exit 16 to Exit 17  
1495 Exit 17 to Exit 19  
1495 Exit 19 to Exit 20

**Media**  
95-495 NB at US-50 - Multi...  
95-495 NB at US-50 - Multi...  
Add File/Link

**MDOT\_CHART Train (9301)**  
Maryland

**US 29 NORTH AT TECH RD**  
2 people in the room  
John Minisi (RITIS - MAT...)  
Taran Hutchinson

**Event Timeline**  
August 1, 2014 8:51:26 AM TOC3 (bsharpless)  
August 1, 2014 9:03:42 AM TOC3 (bsharpless) (9:03:42 AM): PER 9301 1 PERSON TRANSPORTED  
August 1, 2014 9:12:03 AM TOC3 (bsharpless) (9:12:03 AM): PER 9301 BLACK FORD EXPEDITON CVD UNIT(MD-622M361)MSP DEPARTMENTAL  
August 1, 2014 9:28:23 AM TOC3 (bsharpless) (9:28:23 AM): PER 9301 RELOCATING GREEN LINCOLN (MD 6B/A4485)  
August 1, 2014 9:31:26 AM TOC3 (bsharpless) (9:31:26 AM): PER 9301 INCIDENT IS NOW BEING CLASSIFIED AS A SERIOUS PI AND RECONSTRUCTION IS WILL BE IN ROUTE, LANES 1 AND 2 WILL BE CLOSED WITH EXTENDED DURATION. SGT WHITE STATED THAT LANES WOULD BE CLOSED FOR ABOUT 4HRS  
August 1, 2014 9:35:47 AM TOC3 (bsharpless) (9:35:47 AM): PER MSP, PERSON TRANSPORTED PASSED UPON ARRIVING AT HOSPITAL.  
August 1, 2014 10:06:54 AM SOC (jdicembre1) (10:06:54 AM): PER MSP CRASH TEAM: Three MSP Crash Team units are en-route with one 5 minutes away. MSP Media Communications also en-route as is States Attorney's Office.  
August 1, 2014 10:35:30 AM TOC3 (bsharpless) (10:35:30 AM): PER 9301 CRASH TEAM WANTS ALL LANES CLOSED AND A DETOUR FROM THE OUTER LOOP ON TO US50 WEST  
August 1, 2014 10:39:03 AM SOC (jdicembre1) (10:39:03 AM): MD 511 HAS BEEN ACTIVATED SINCE 0945 HRS  
August 1, 2014 10:56:09 AM SOC (jdicembre1) (10:56:09 AM): PER 9004: Evidence spans all NB lanes so they have closed all lanes and the on ramp to allow the Crash Team to photograph, mark and measure. This should be short term then all but the two left lanes should be reopened.  
August 1, 2014 10:56:26 AM SOC (jdicembre1) (10:56:26 AM): O/L (NB) delays begin past exit 11, near D'Arcy Rd. I/L (SB) delays begin on I-95 prior to the 495 Split, at the ICC. One factor adding to this delay is the fact that there is a Jehovah's Witness International Convention being held at FedEx Field today (and the rest of the weekend). There is also an Africa Leaders Summit that begins on the 3rd (some people may be arriving early).  
August 1, 2014 10:58:53 AM TOC3 (bsharpless) (10:58:53 AM): RAMPS FROM US50 WEST TO THE OUTER LOOP A CLOSED AND TRAFFIC IS BEING DIVERTED TO THE RAMP TO THE NEW CARROLTON METRO STATION  
August 1, 2014 11:26:24 AM SOC (jdicembre1) (11:26:24 AM): I-95/495 S OF US 50 CAMERA BLOCKED  
August 1, 2014 11:40:35 AM SOC (jdicembre1) (11:40:35 AM): PER 9004

University of Maryland CATT Lab ( Contact Us )

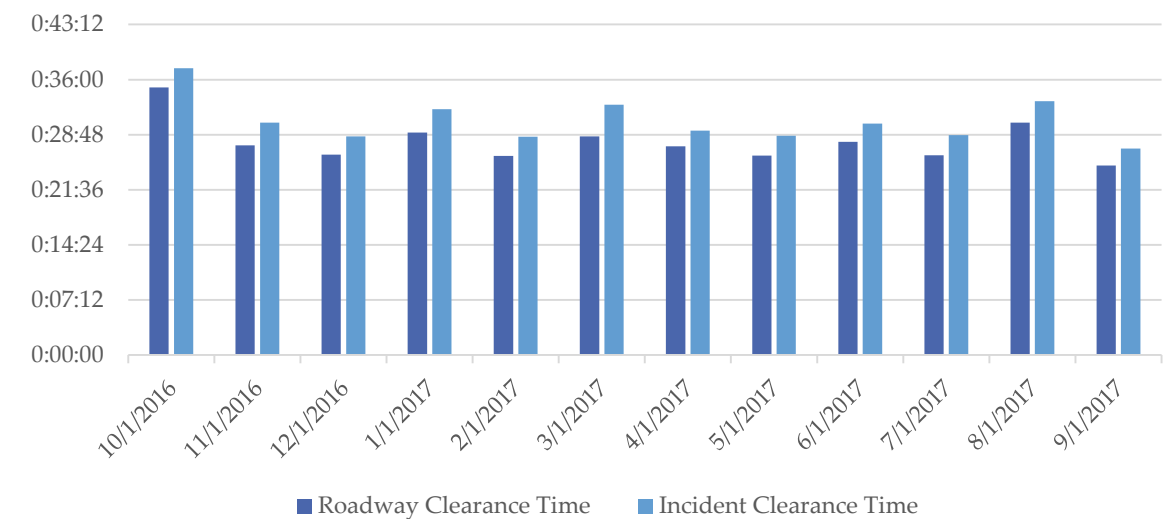
How well are we responding to incidents?

# TIM Performance Measures Initiative

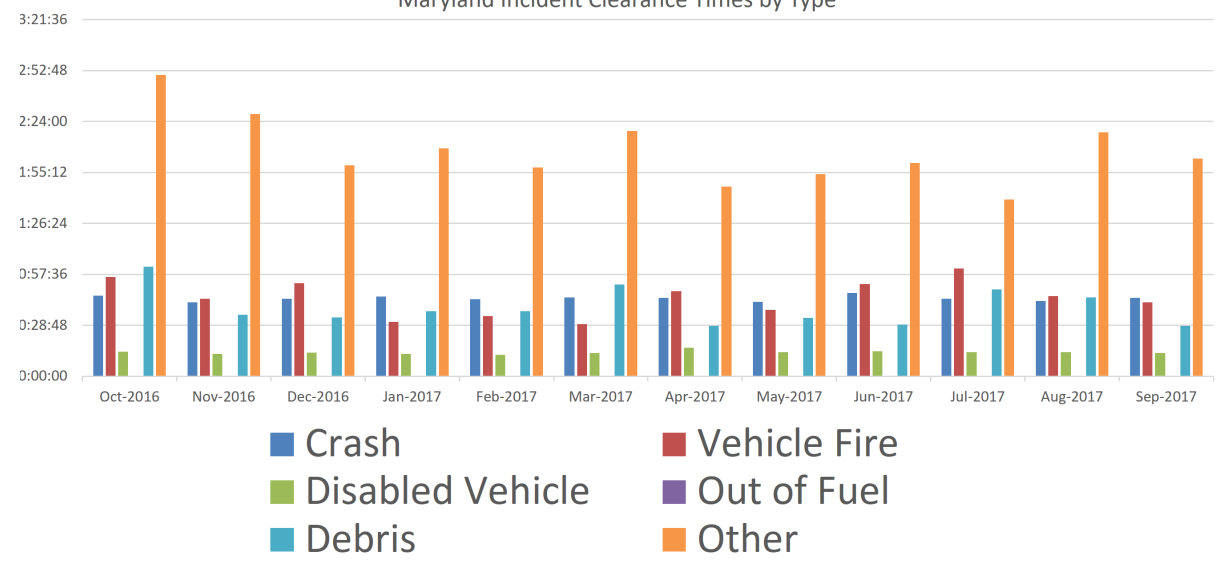
## Goal

- To provide insights into *clearance times* for events in the EDC database.
- Provide as much flexibility as possible for additional analysis and comparison

RCT & ICT for Maryland



Maryland Incident Clearance Times by Type

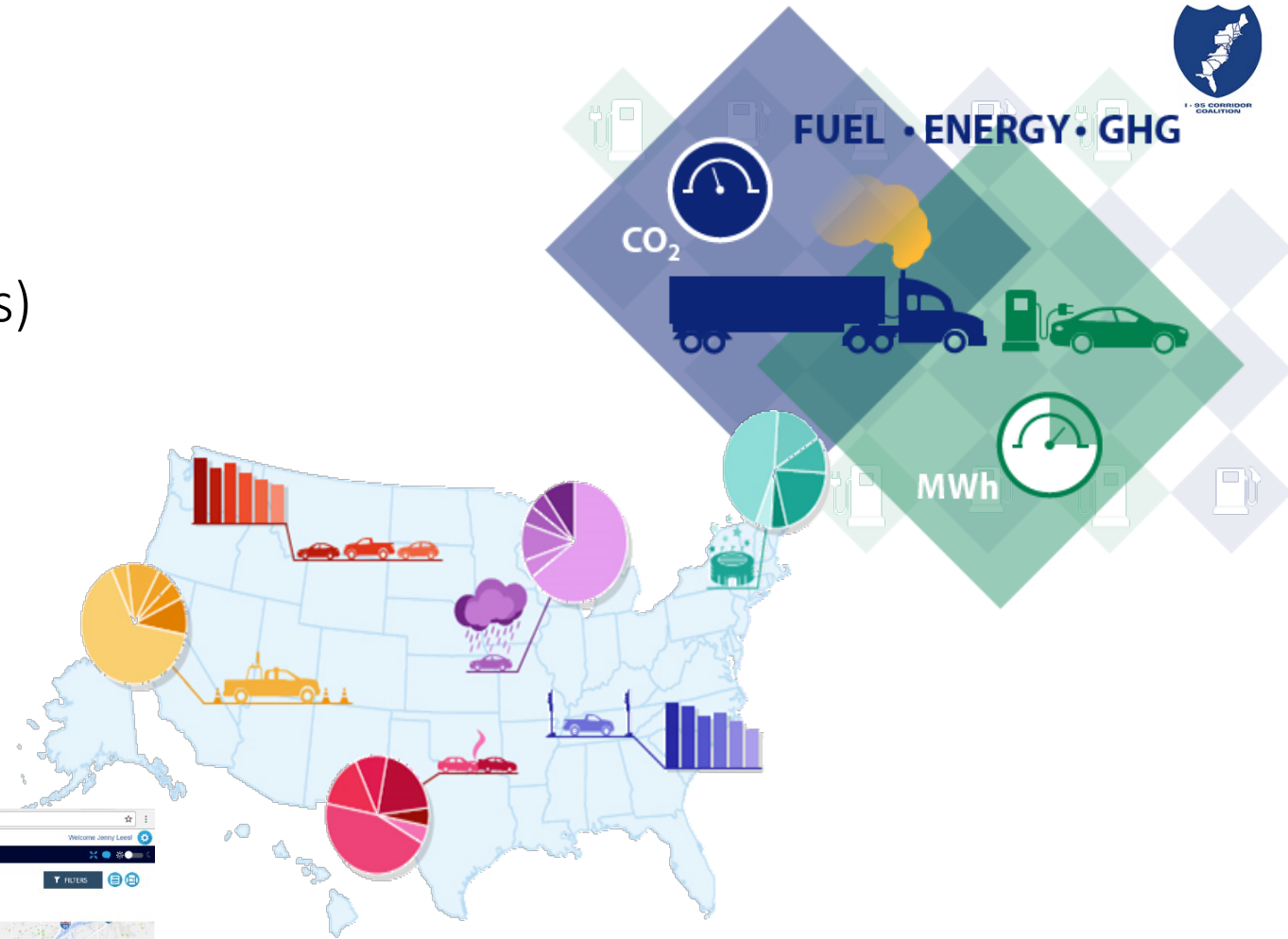
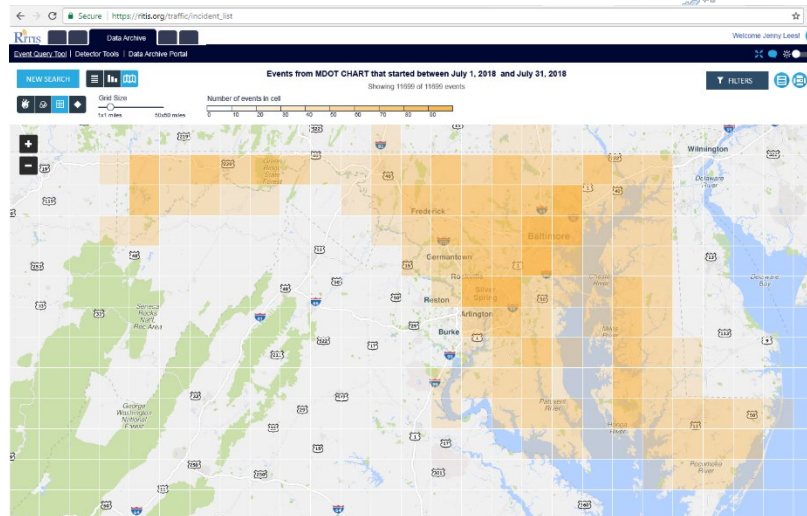




# RITIS Event Query Tool Demo

# In Development

- TIM Performance Measures Dashboard(s)
- Energy Analytics (DOE funded)
- One-button AARs
- Incident Costs (similar to UDC)
- Causes of Congestion (USDOT BTS)
- And more...





Michael VanDaniker

[mvandani@umd.edu](mailto:mvandani@umd.edu)

thank  
you!



The Event Query Tool allows you to query for events during a specific time range, for specific agencies, and within specific geographies. If you only want to look at specific event types, the option to query for any number of events by type is also available. After running your query you will get a number of different visualizations to explore the applicable events.

## AGENCIES

Search agencies

☐ Include all agencies

- ☐ 511NY (New York and Connecticut Traveller Information)
- ☐ Austin, TX
- ☐ Caltrans (California DOT)
- ☐ DDOT CapTOP (Washington DC DOT)
- ☐ DelDOT (Delaware DOT)
- ☐ Dallas/Fort Worth 511
- ☐ FDOT (Florida State DOT)
- ☐ GDOT (Georgia State DOT)
- ☐ Howard County CAD
- ☐ Iowa DOT
- ☐ MDOT CHART (Maryland DOT)
- ☐ MassDOT (Massachusetts DOT)
- ☐ Michigan DOT
- ☐ MoDOT (Missouri DOT)
- ☐ MS TRAFFIC (Mississippi DOT)
- ☐ NCDOT (North Carolina DOT)
- ☐ NJDOT (New Jersey DOT)
- ☐ ODOT (Ohio DOT)
- ☐ PennDOT (Pennsylvania DOT)
- ☐ Pennsylvania Turnpike
- ☐ Prince George's County, Maryland (CAD Center)
- ☐ Prince George's County, Maryland (TRIP Center)
- ☐ SCDOT (South Carolina DOT)
- ☐ TXDOT (Texas State DOT)



- ☒ 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

☐ Winter Road Report

☐ Disabled Semi Trailer

☐ Accident Involving A Bus

☐ Abandoned Vehicle

☐ Disabled Bus

☐ Serious Accident

☐ Road Debris

☐ Medical Emergency

☐ Accident Investigation Work

☐ Vehicle Spun Out

☐ Secondary Accident

- ☐ 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

Washington		
<input type="checkbox"/> Adams	<input type="checkbox"/> Asotin	<input type="checkbox"/> Benton
<input type="checkbox"/> Chelan	<input type="checkbox"/> Clallam	<input type="checkbox"/> Clark
<input type="checkbox"/> Columbia	<input type="checkbox"/> Cowlitz	<input type="checkbox"/> Douglas
<input type="checkbox"/> Ferry	<input type="checkbox"/> Franklin	<input type="checkbox"/> Garfield
<input type="checkbox"/> Grant	<input type="checkbox"/> Grays Harbor	<input type="checkbox"/> Island
<input type="checkbox"/> Jefferson	<input type="checkbox"/> King	<input type="checkbox"/> Kitsap
<input type="checkbox"/> Kittitas	<input type="checkbox"/> Klickitat	<input type="checkbox"/> Lewis
<input type="checkbox"/> Lincoln	<input type="checkbox"/> Mason	<input type="checkbox"/> Okanogan
<input type="checkbox"/> Pacific	<input type="checkbox"/> Pend Oreille	<input type="checkbox"/> Pierce
<input type="checkbox"/> San Juan	<input type="checkbox"/> Skagit	<input type="checkbox"/> Skamania
<input type="checkbox"/> Snohomish	<input type="checkbox"/> Spokane	<input type="checkbox"/> Stevens
<input type="checkbox"/> Thurston	<input type="checkbox"/> Wahkiakum	<input type="checkbox"/> Walla Walla
<input type="checkbox"/> Whatcom	<input type="checkbox"/> Whitman	<input type="checkbox"/> Yakima



- ☐ Special Event
- ☐ Accident Involving A Truck
- ☐ Accident
- ☐ Emergency
- ☐ Incident

- ☐ Disabled Truck
- ☐ Incident
- ☐ Numerous Accidents
- ☐ 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

## 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

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 filter	Type to filter	Type to filter	Type to filter	Type to filter	Type to filter	Type to filter	Type to filter	Type to filter	Type to filter	Type to filter
		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	WORCESTER 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 FRENCHTOWN 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	WASHINGTON COUNTY: I-70 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 NORTH BETWEEN O MONTGOME RD AND	SOC	6 hours 1 minute			2
		MDDOT	Disabled Vehicle	Disabled vehicle	2/6/19 11:41 AM	2/6/19 11:41 AM	I-70 EAST AT MD 97	TOC7	14 seconds		1	



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



Operation logs for VADOT — Disabled Vehicle — I-66E east @ MM 45.000



Timestamp	Username	Message
02/04/19 08:55 AM		QAQC -DS
02/04/19 08:53 AM		Driver cleared, SSP 969 provided traffic control and went back in service, scene clear, CMS blanked
02/04/19 08:23 AM		Per CCTV, no change in status
02/04/19 07:50 AM		CCTV 0449
02/04/19 07:48 AM		CMS 0421 posted, only one CMS available
02/04/19 07:47 AM		SSP 969 on scene with a disabled vehicle blocking the right lane



VADOT

Disabled Vehicle

Disabled Vehicle

2/4/19 4:22 PM -0500

2/4/19 5:06 PM -0500

I-395S south @ MM 3.200

Unknown

43 minutes

6

1

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

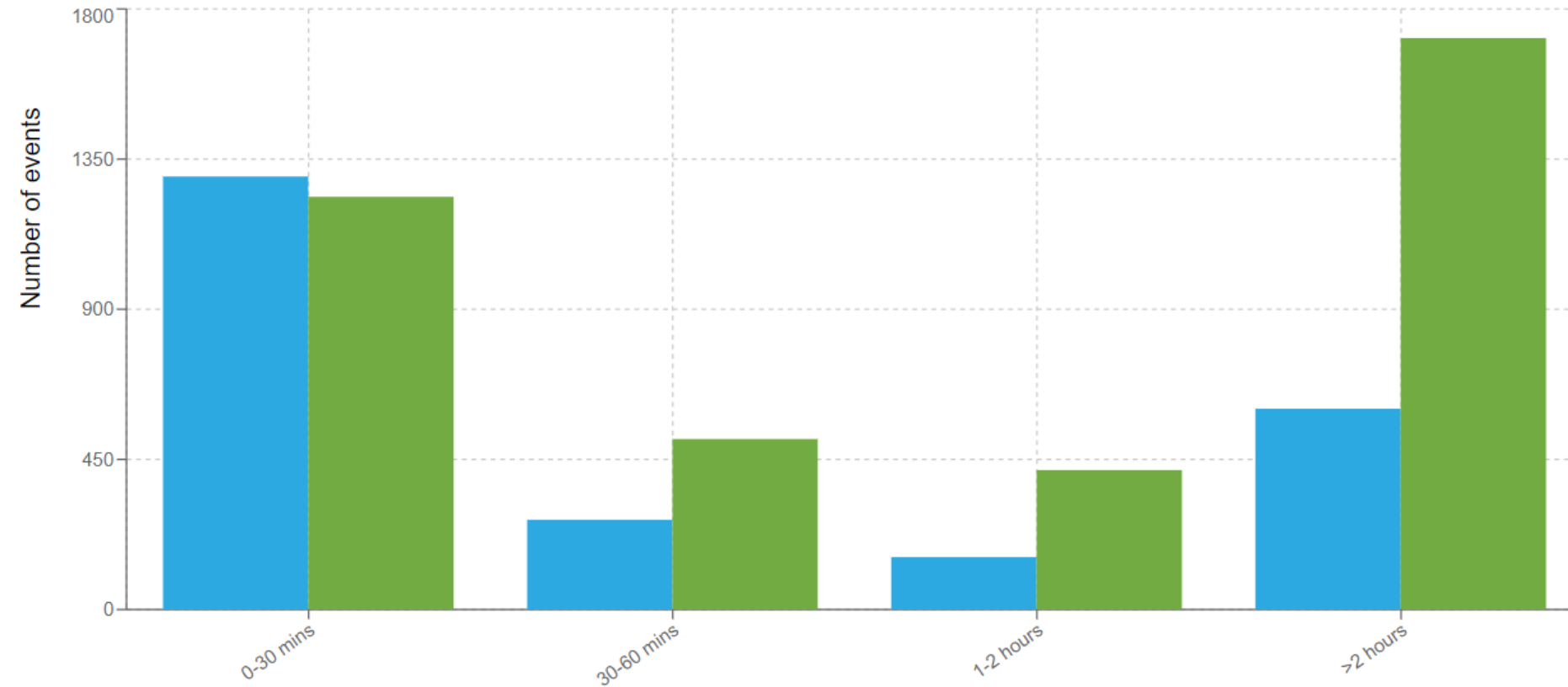
EDC incident clearance time



☒ MDOT\_CHART



☒ VDOT



EDC incident clearance time



NEW SEARCH



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

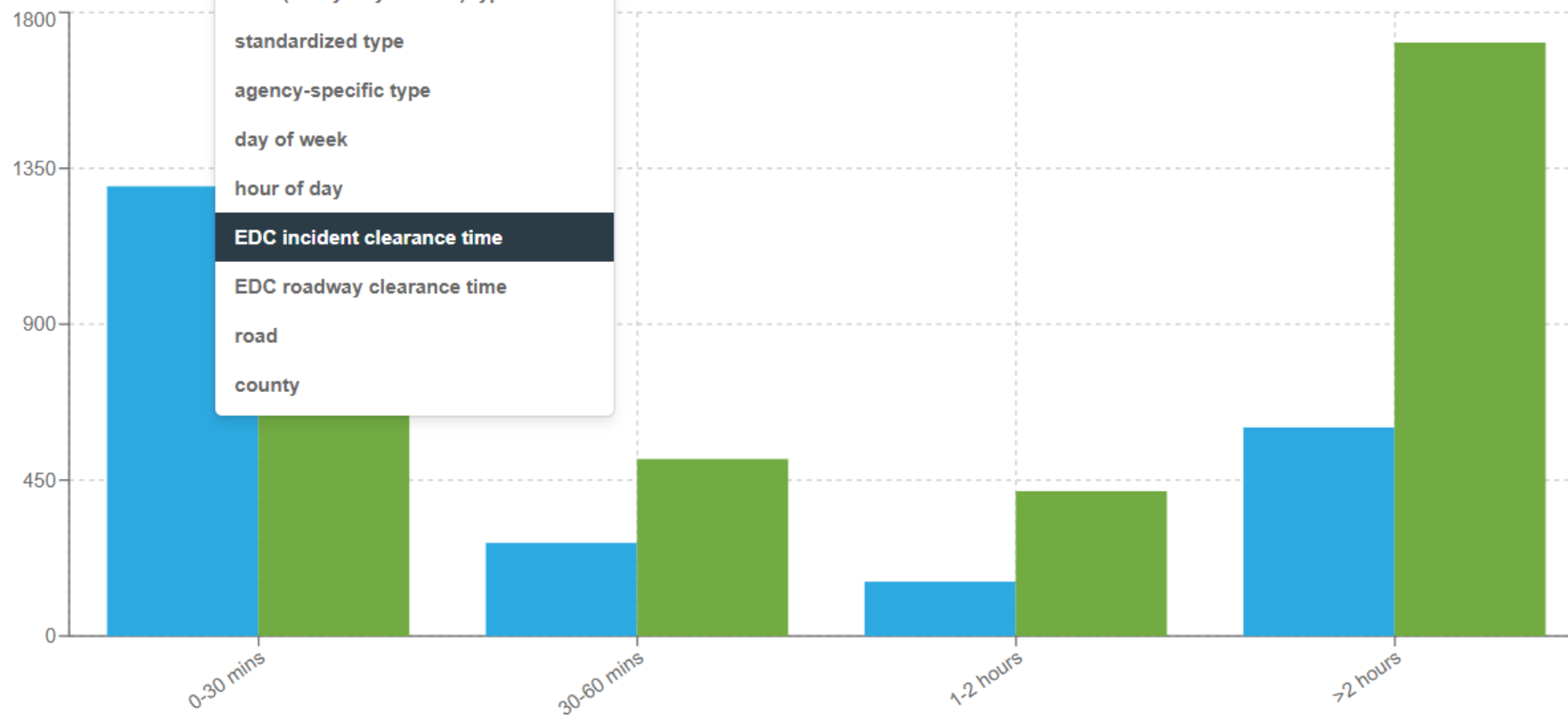
Showing 6,205 of 6,205 events

Show number of events by

EDC incident clearance time

☒ MDOT\_CH

Number of events



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

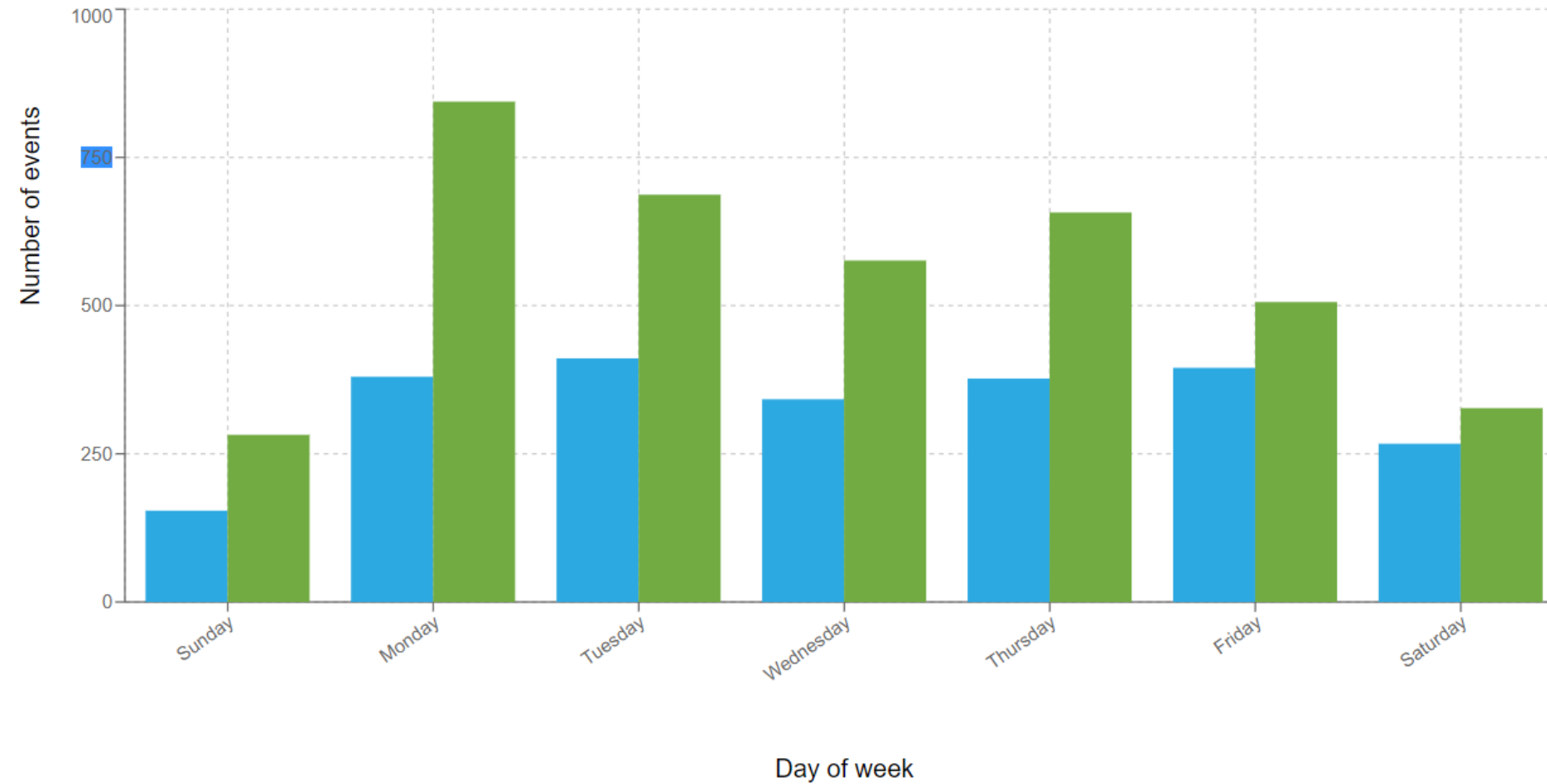
day of week



☒ MDOT\_CHART



☒ VDOT



NEW SEARCH

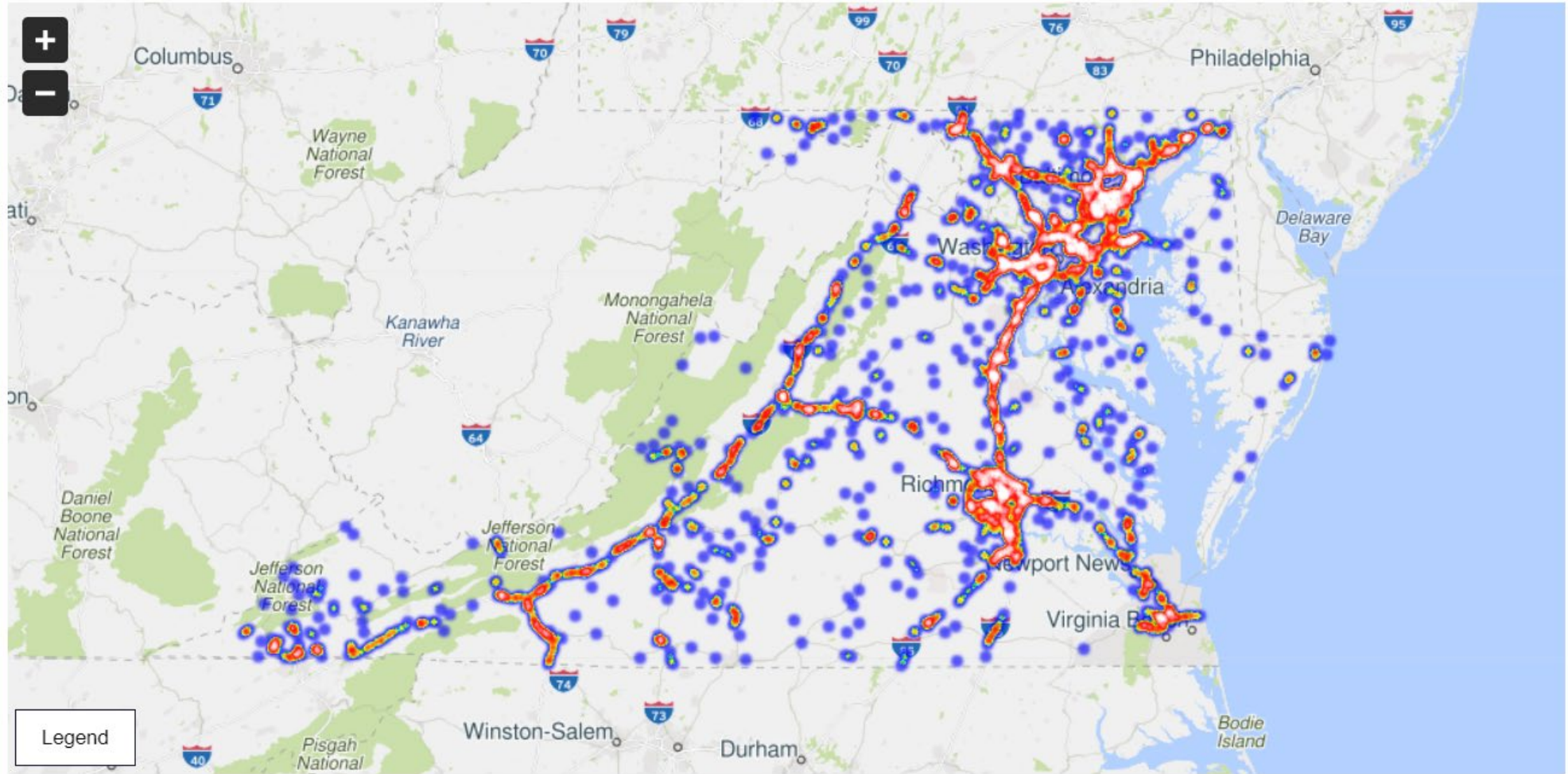


### Events from MDOT CHART and VDOT that started between February 1, 2019 and February 7, 2019

Showing 6,205 of 6,205 events



Opacity
 
 0% 100%





NEW SEARCH



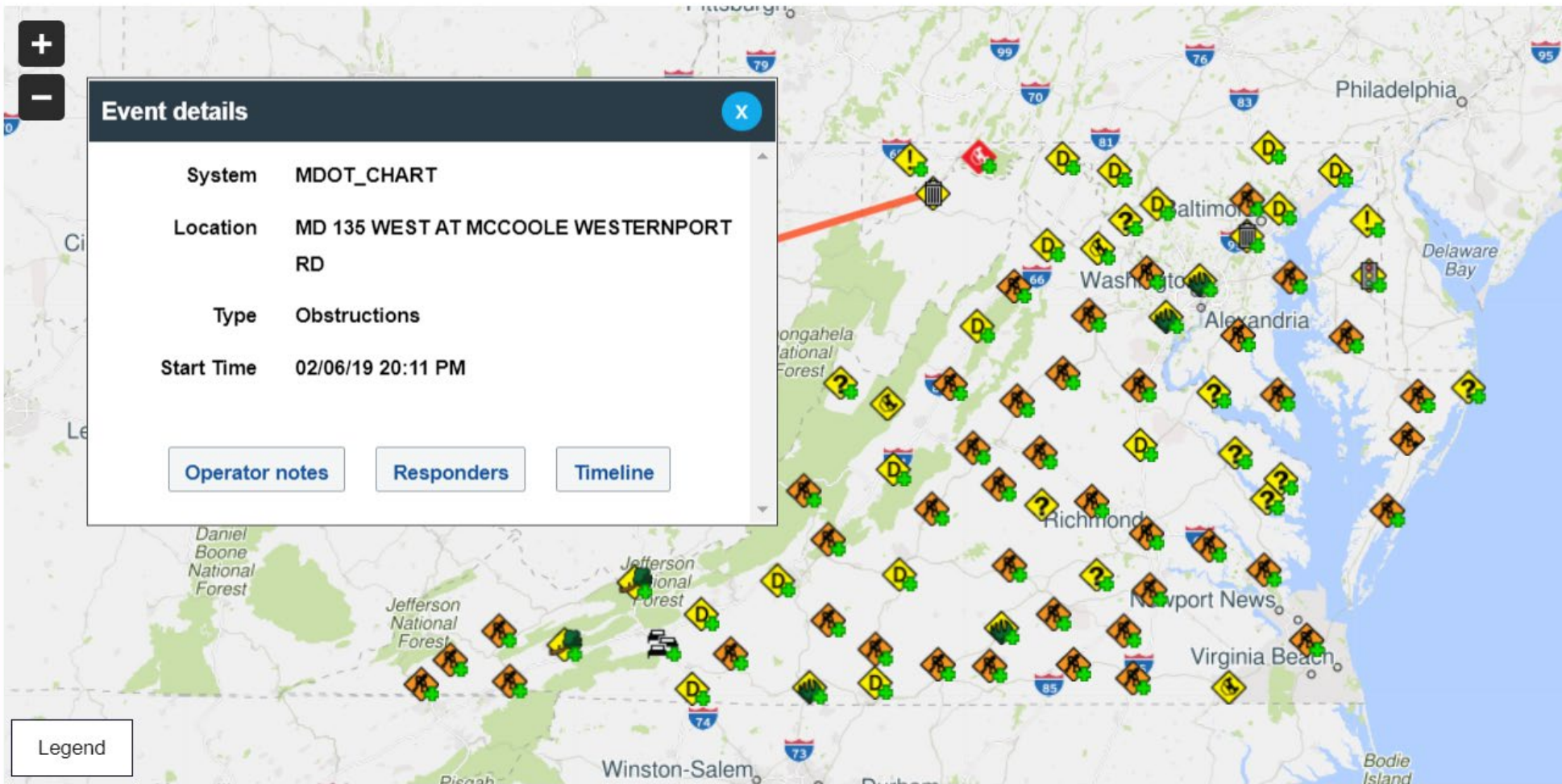
## Events from MDOT CHART and VDOT that started between February 1, 2019 and February 7, 2019

Showing 6,205 of 6,205 events



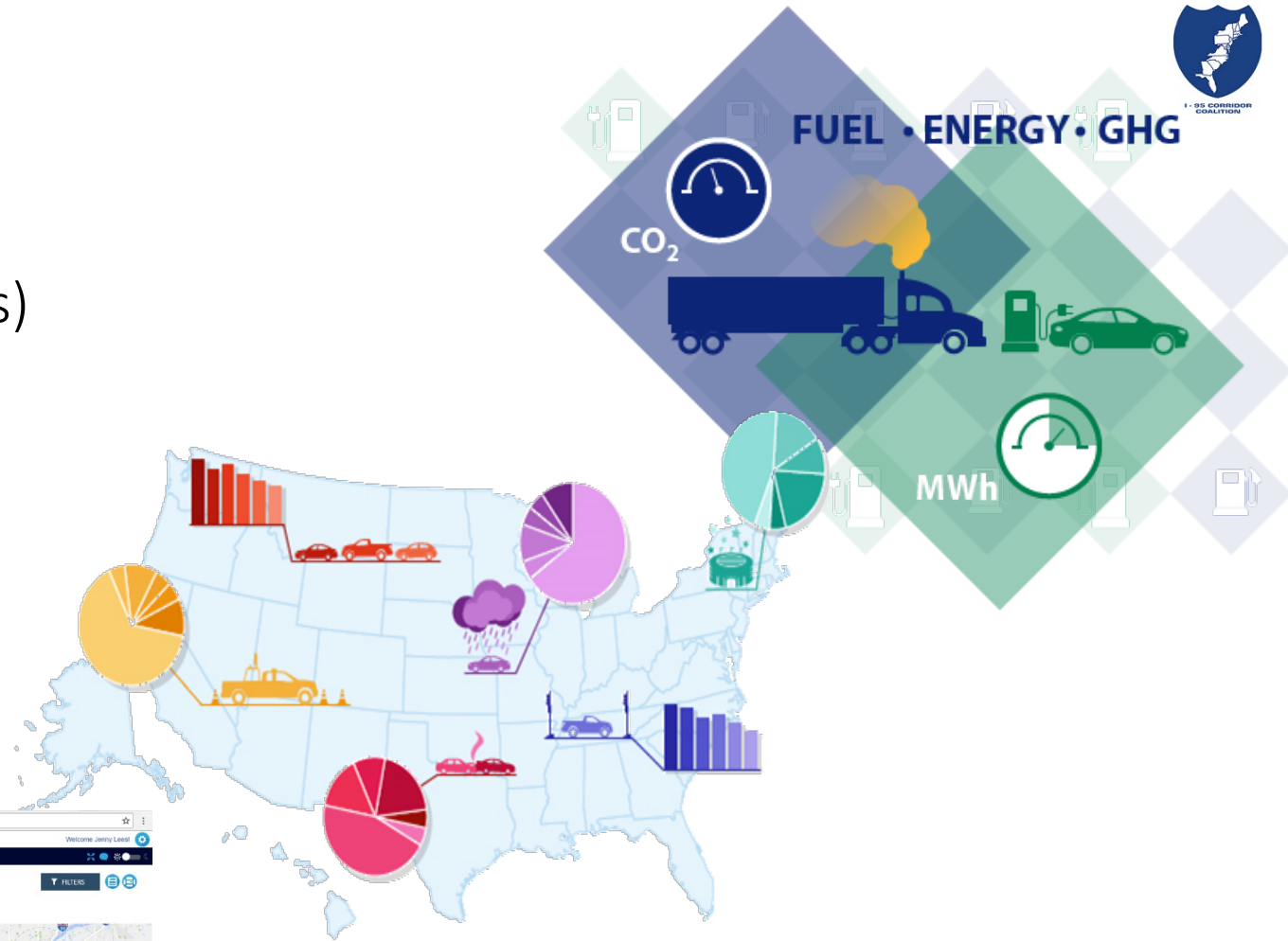
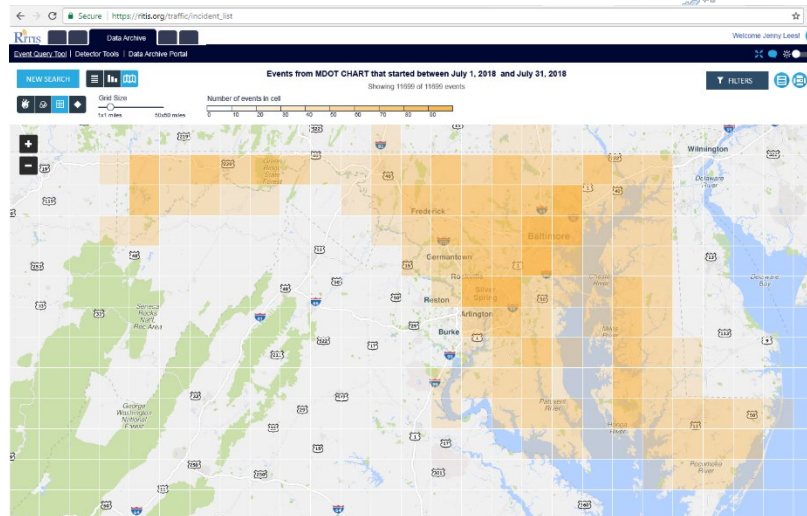
Opacity

0% 100%



# In Development

- TIM Performance Measures Dashboard(s)
- Energy Analytics (DOE funded)
- One-button AARs
- Incident Costs (similar to UDC)
- Causes of Congestion (USDOT BTS)
- And more...



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thank  
you!

