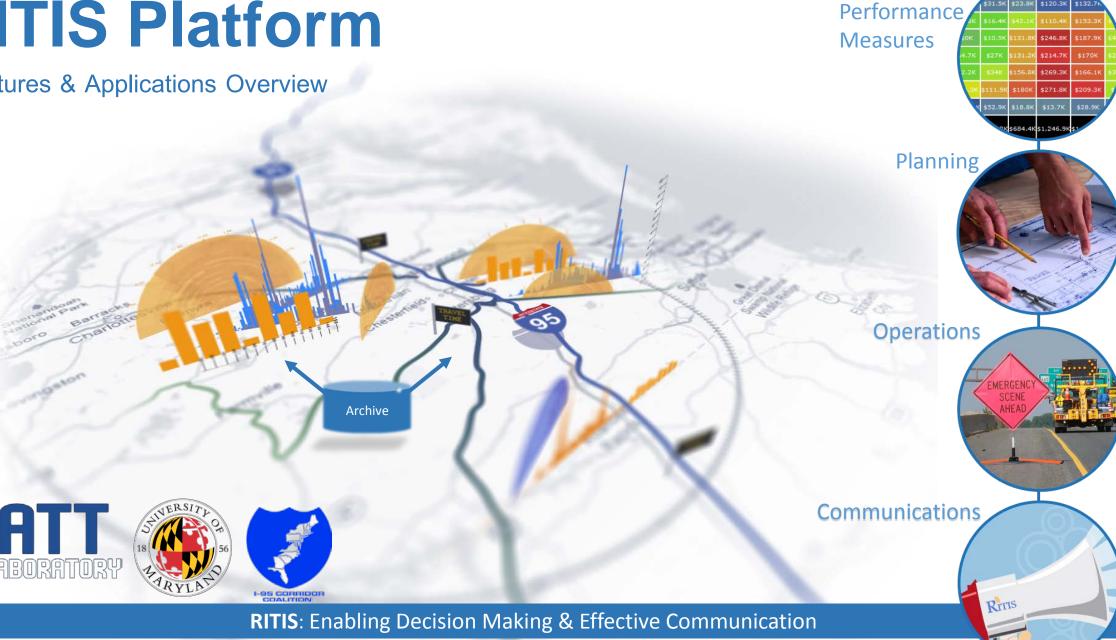
# **RITIS Platform** Features & Applications Overview



# Integrating the State & Regional Systems

#### **State Agencies**

Maine DOT

Maine Turnpike

New Hampshire DOT

Vermont AOT

Massachusetts DOT

Rhode Island DOT

Connecticut DOT

New York State DOT

NY State Thruway

Port Authority of New York &

New Jersey

New Jersey DOT\*

New Jersey Turnpike\*

Pennsylvania DOT

Pennsylvania Turnpike

Delaware DOT

Maryland SHA-CHART

Maryland Transportation

Authority

Washington DC DOT

Virginia DOT

North Carolina DOT

South Carolina DOT

Georgia DOT

Florida DOT

#### **Regional Systems**

New England Regional 511

NITTEC

Transcom

RIMIS

RITIS

STIX

Etc.

#### Others

Law Enforcement

EMAs

Towing & Recovery

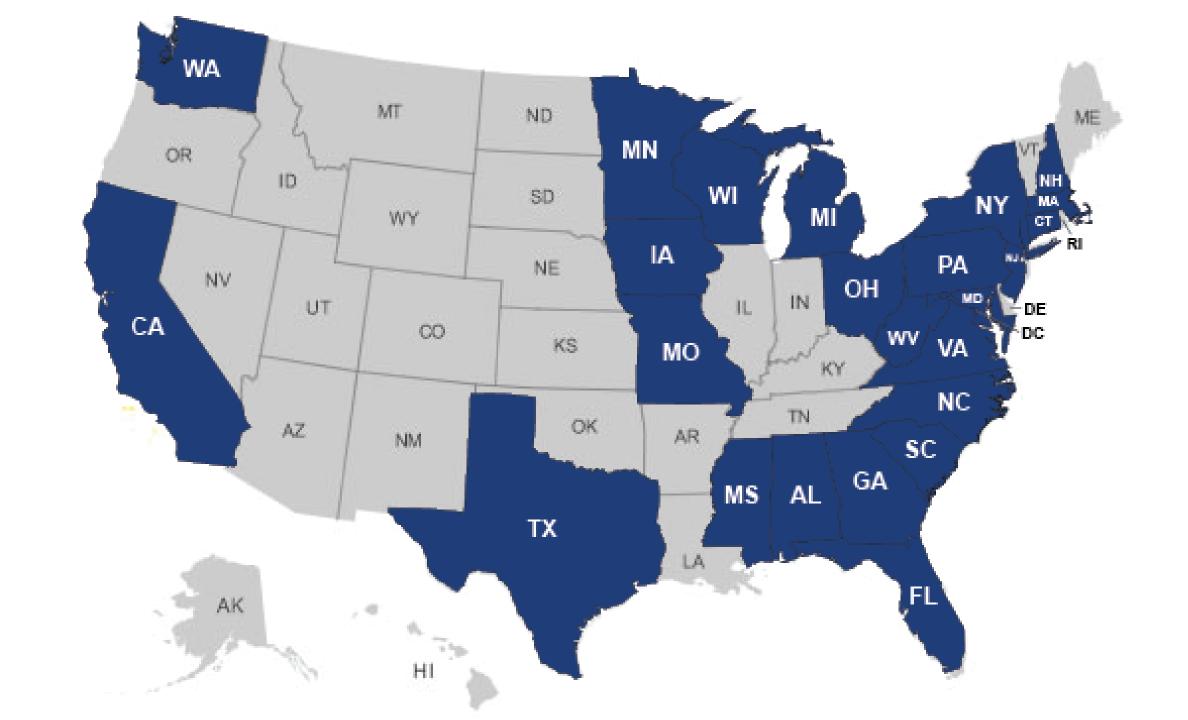
3<sup>rd</sup> Party Providers

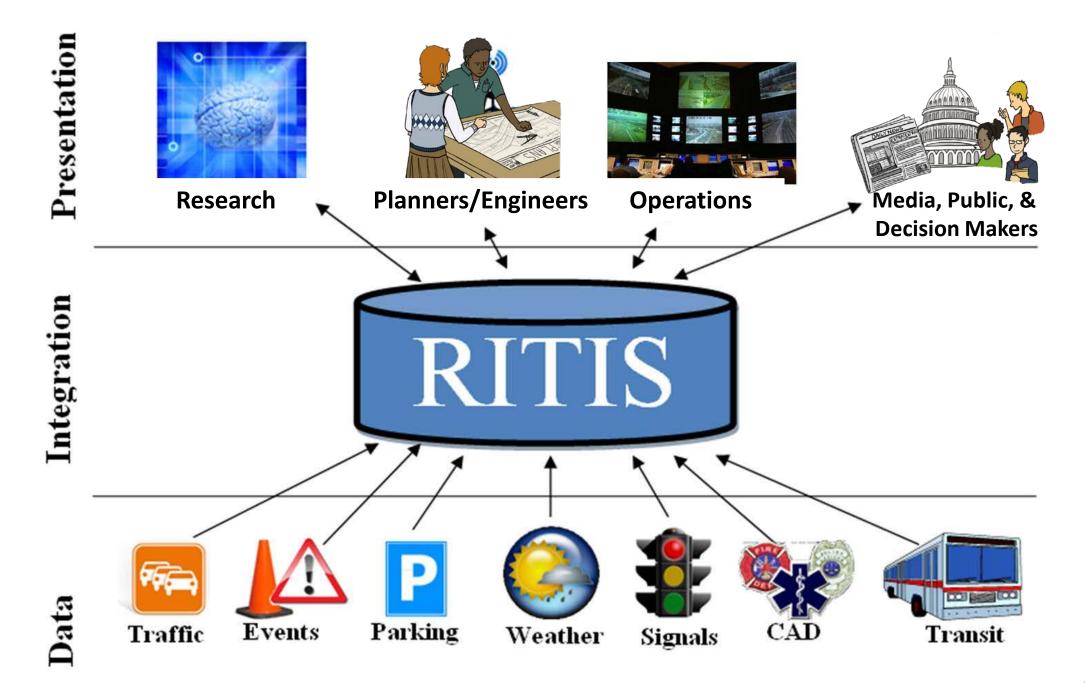
TransUrban

Etc.

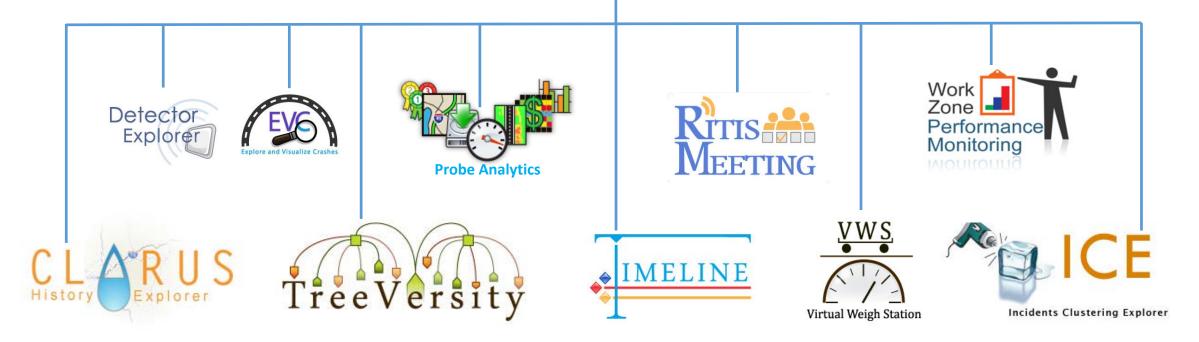
# Coordinated & Informed Coalition Members











# **Existing Transportation Data**

One of our Systems Today:

• Traffic accidents: 40,000 records per day: 0.001 Gb/day

• Traffic detectors: 35,000,000 records per day: 5 Gb/day

• Probe vehicle data: 4,200,000,000 records per day: 550 Gb/day

• CCTV, weather, radio, etc: NO,STA,TSK,EPT records per day: ??? Tb/day

• V2X & Automation data: ?,???,???,??? records per day: ??? ?b/day

#### This data is:

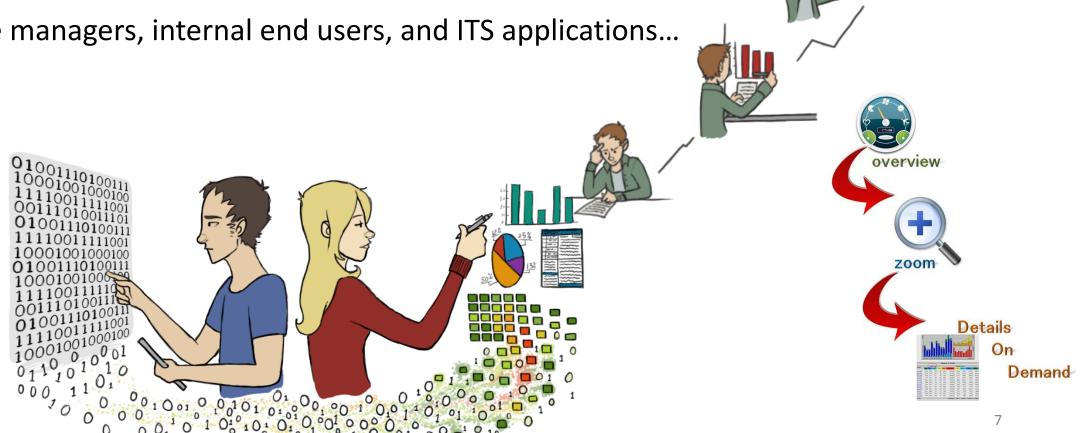
- Redistributed in Real-Time to Coalition Member through
  - Websites
  - Data Feeds
- Permanently Archived
- Used for Analytics and Performance Measures
  - Growing Suite of tools

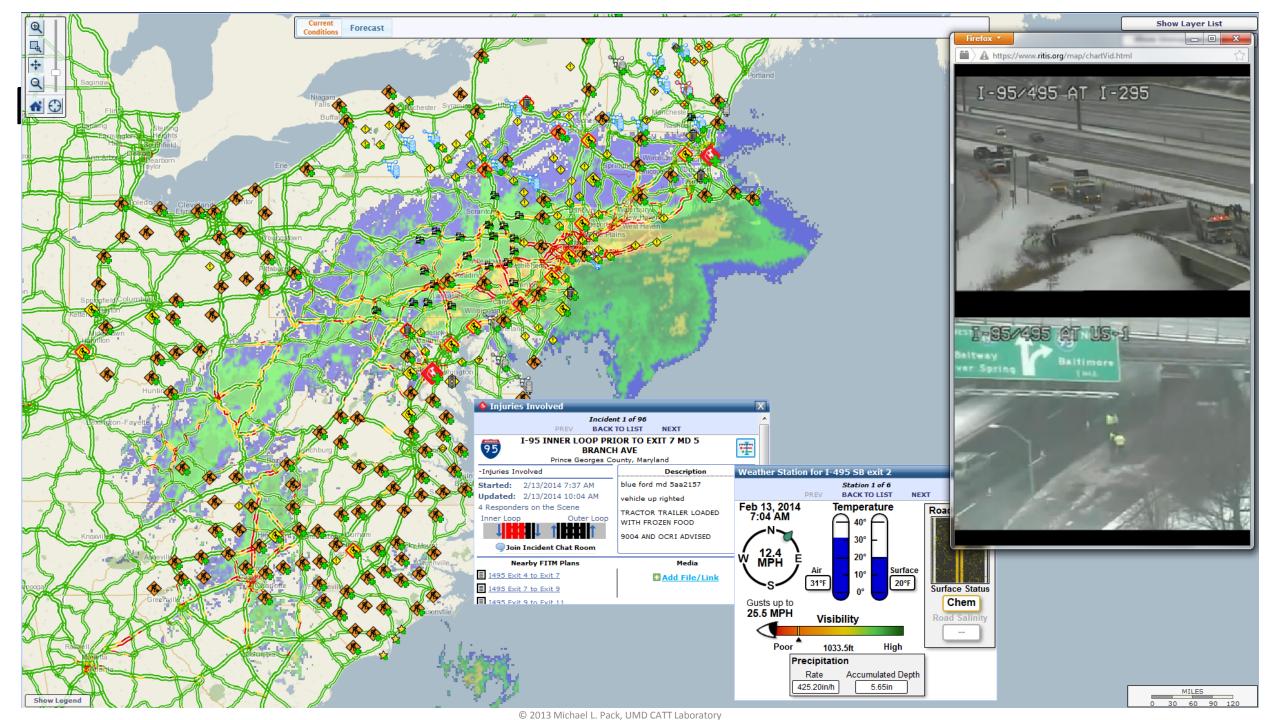


# Our goal has been to...

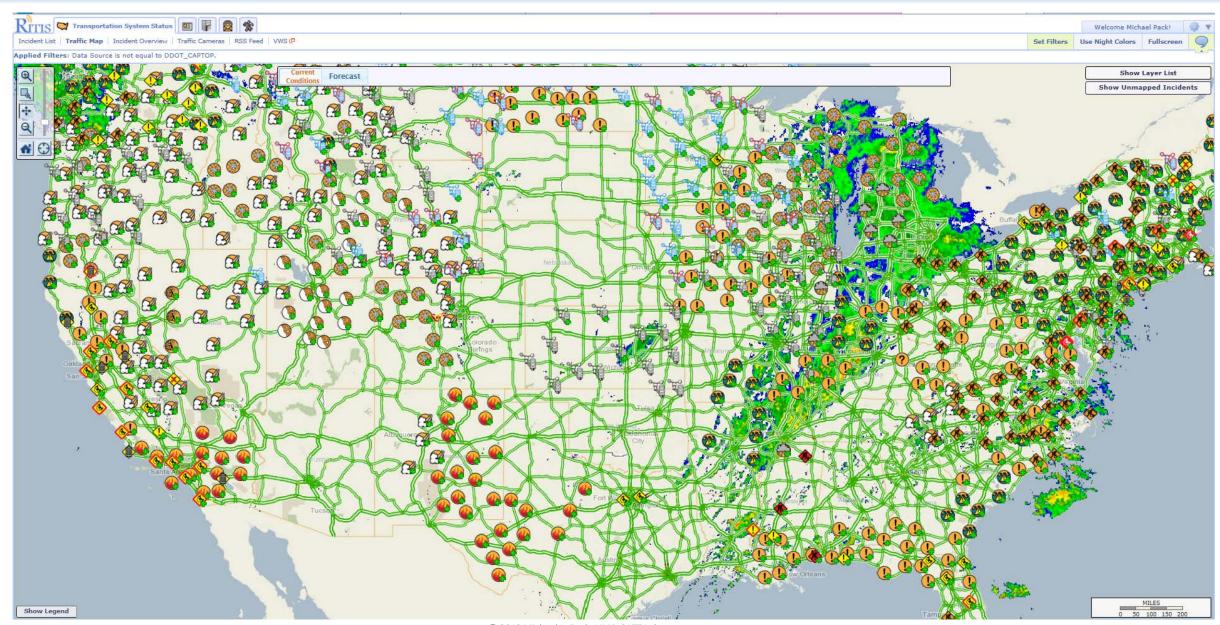
- Provide tools to make agency data
  - easily accessible,
  - usable, and
  - understandable

To these managers, internal end users, and ITS applications...

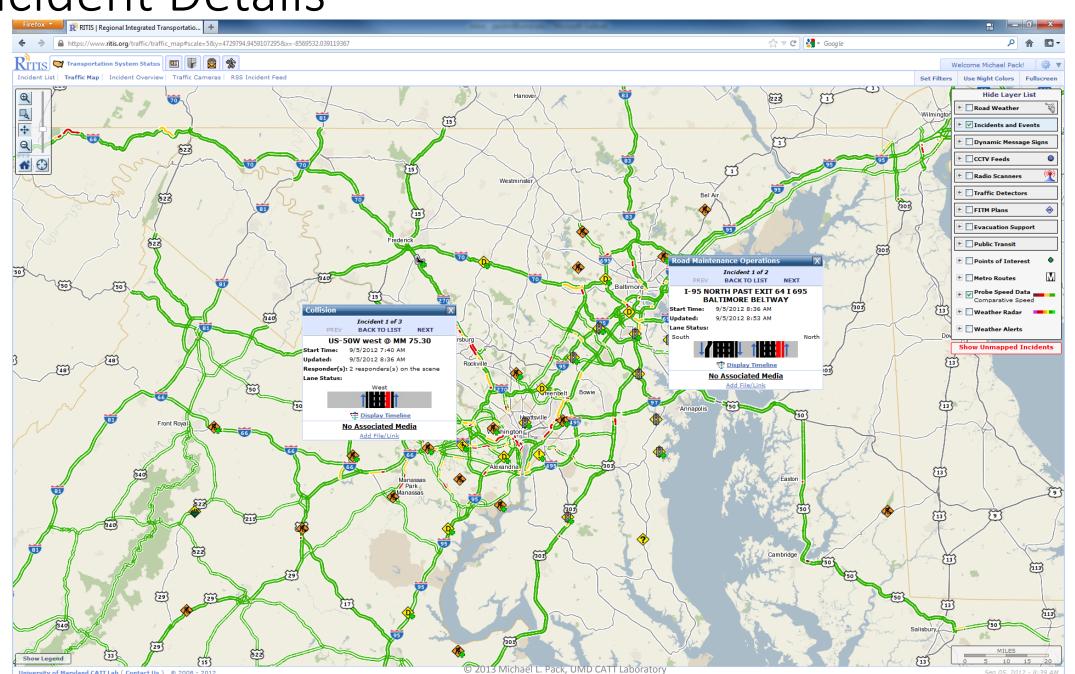




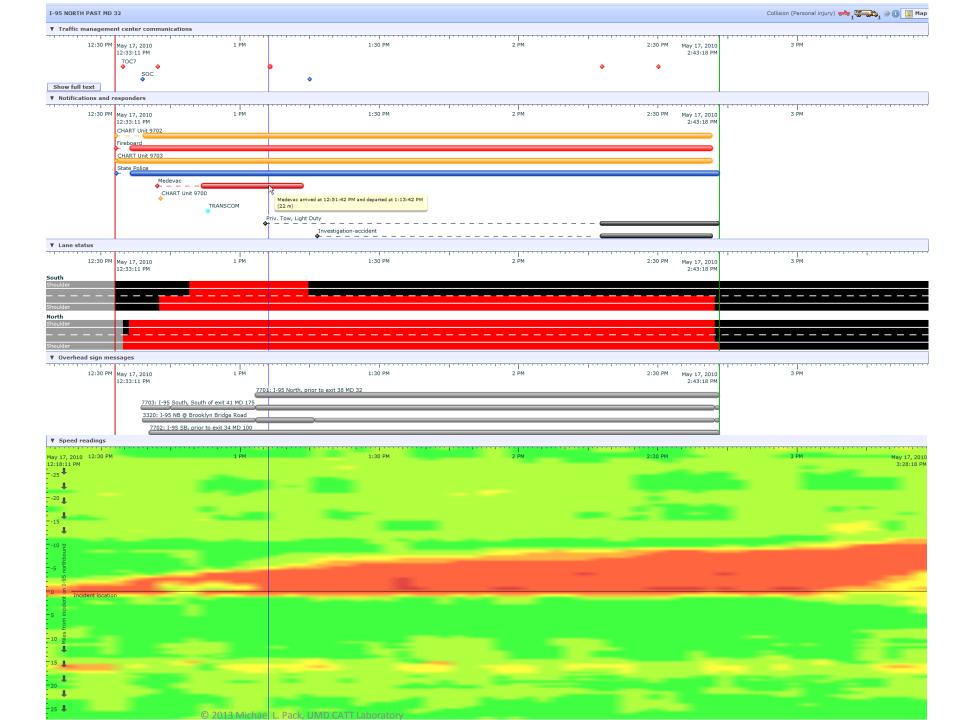
# Nationwide Support



## Incident Details

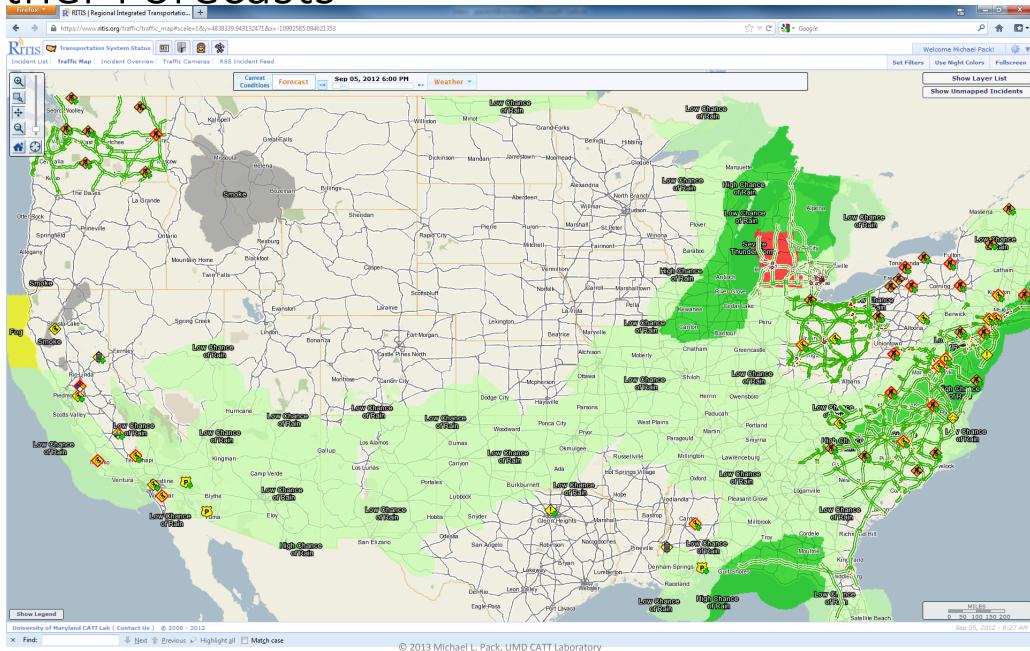


Real-time and Historic Timeline Incident Activity

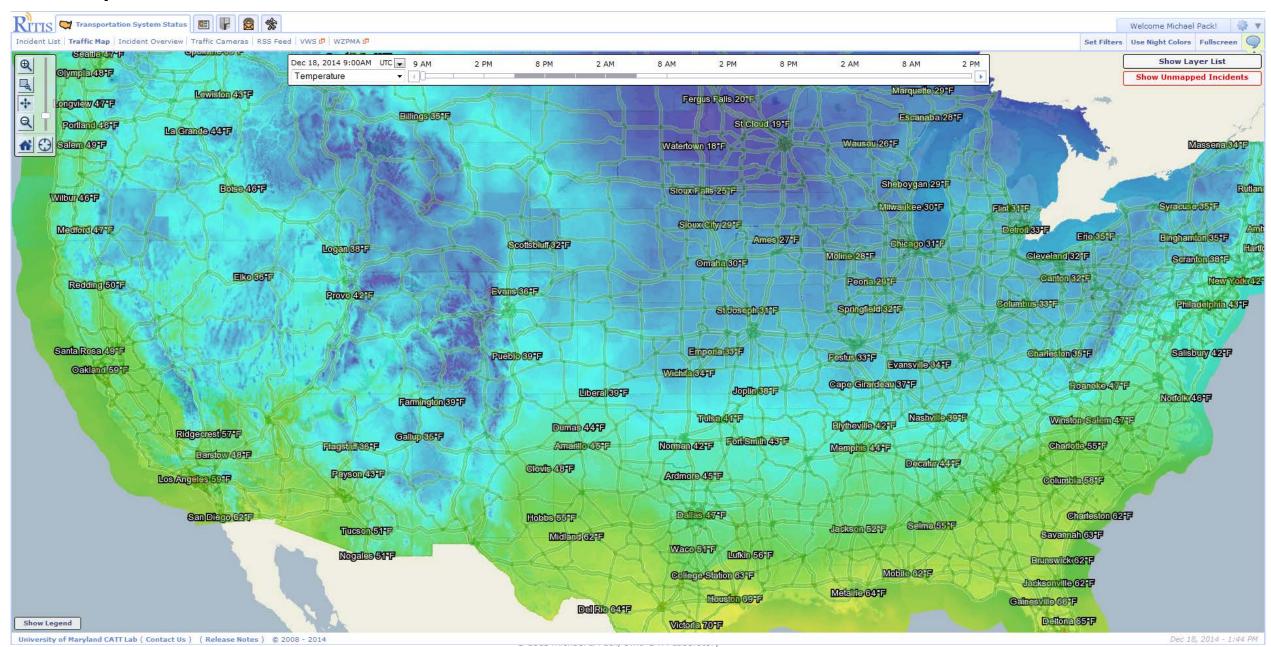


Weather Forecasts

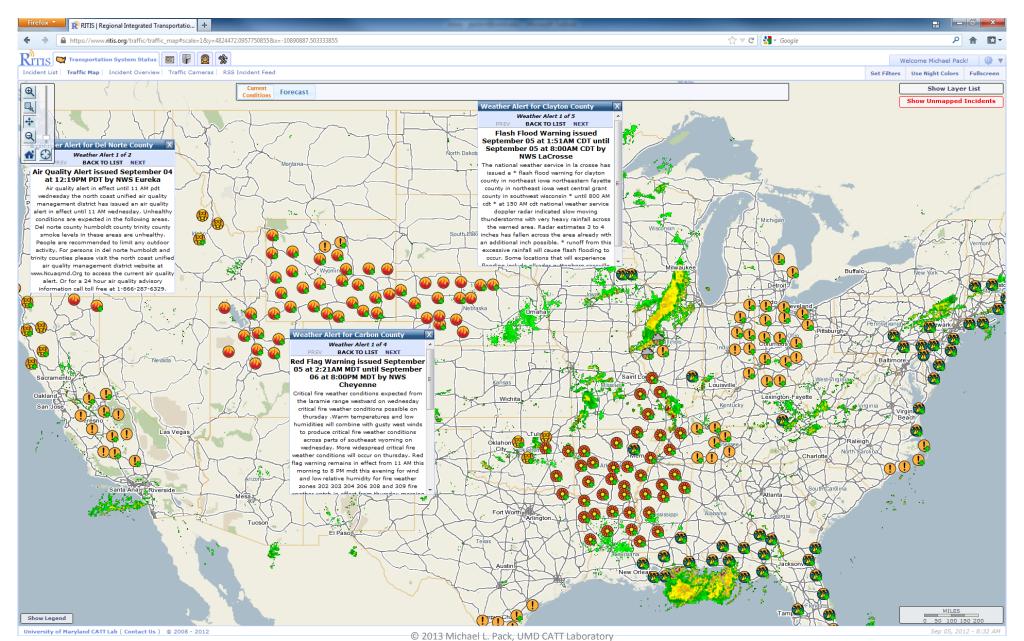
| Prince |



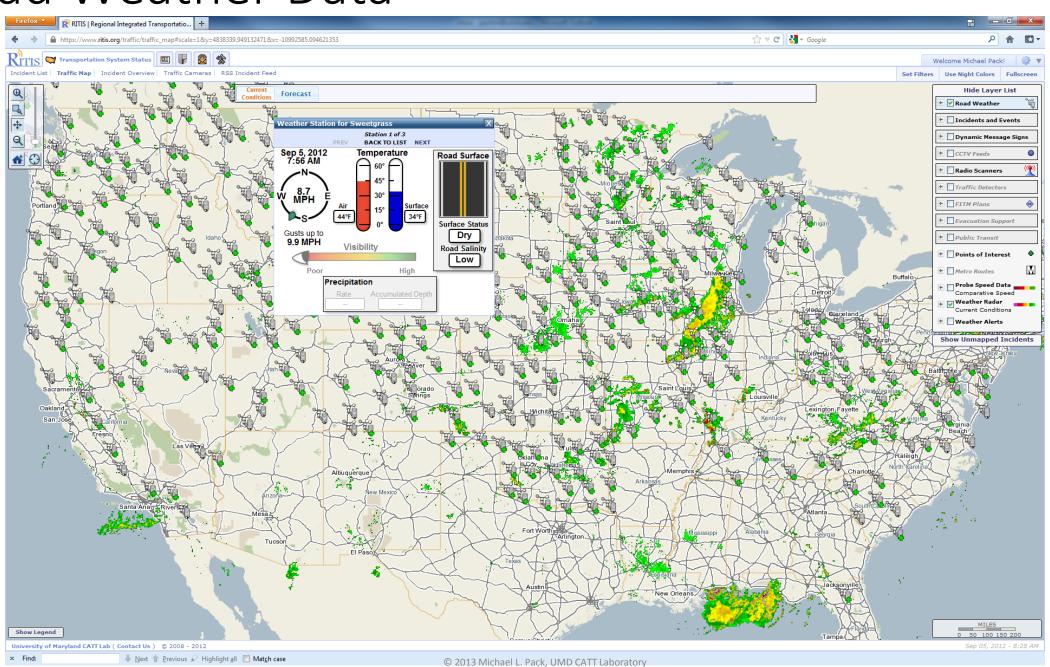
# Temperature Forecasts



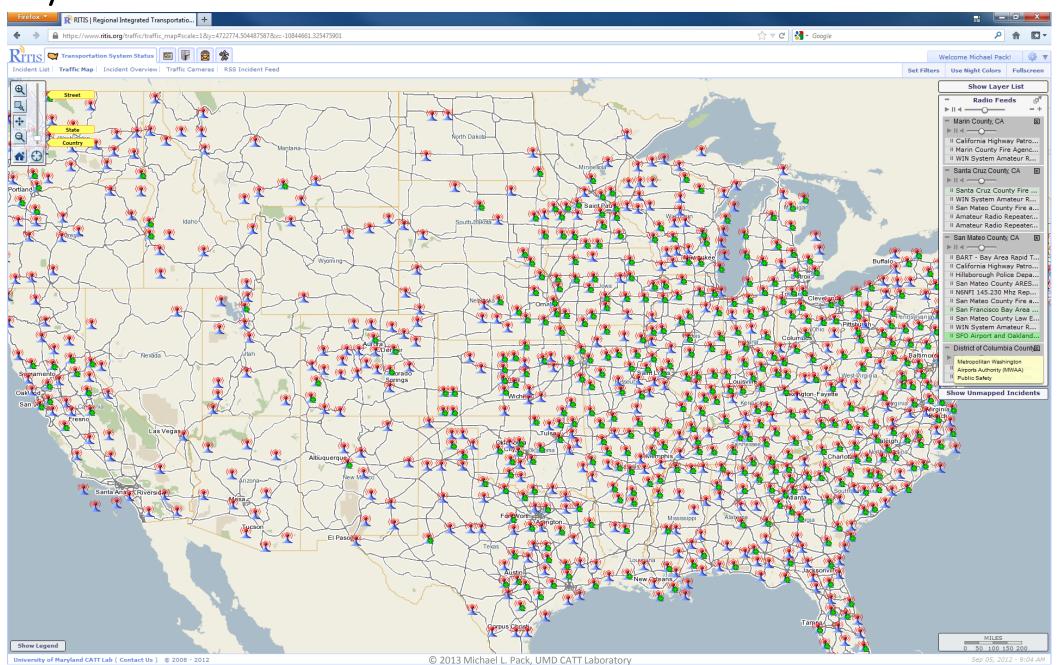
## Weather Alerts



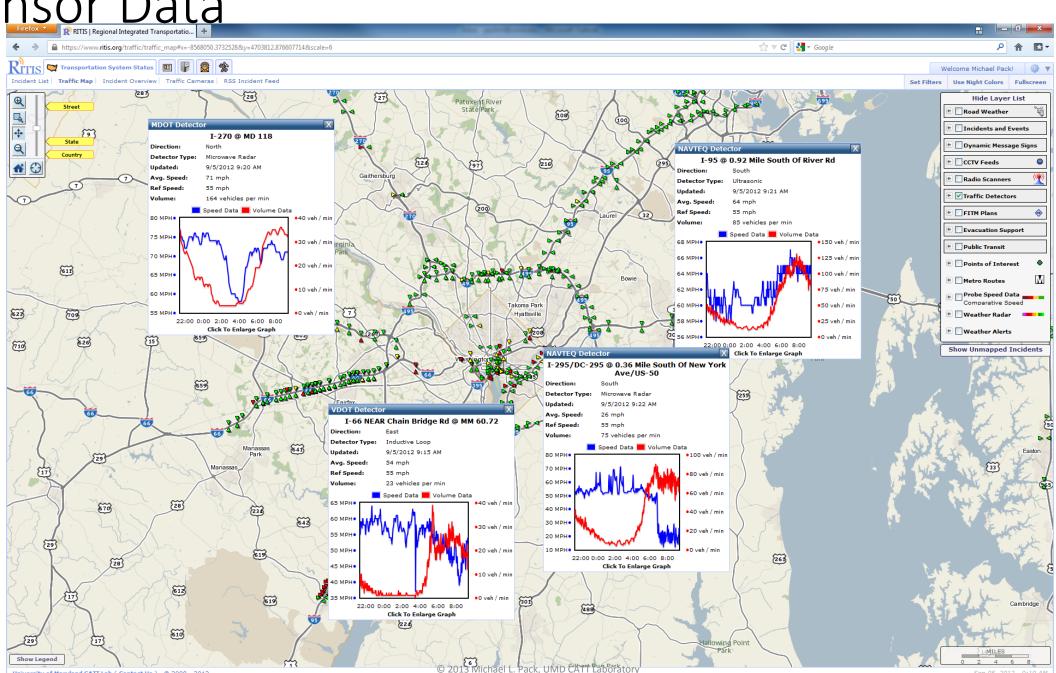
# Road Weather Data



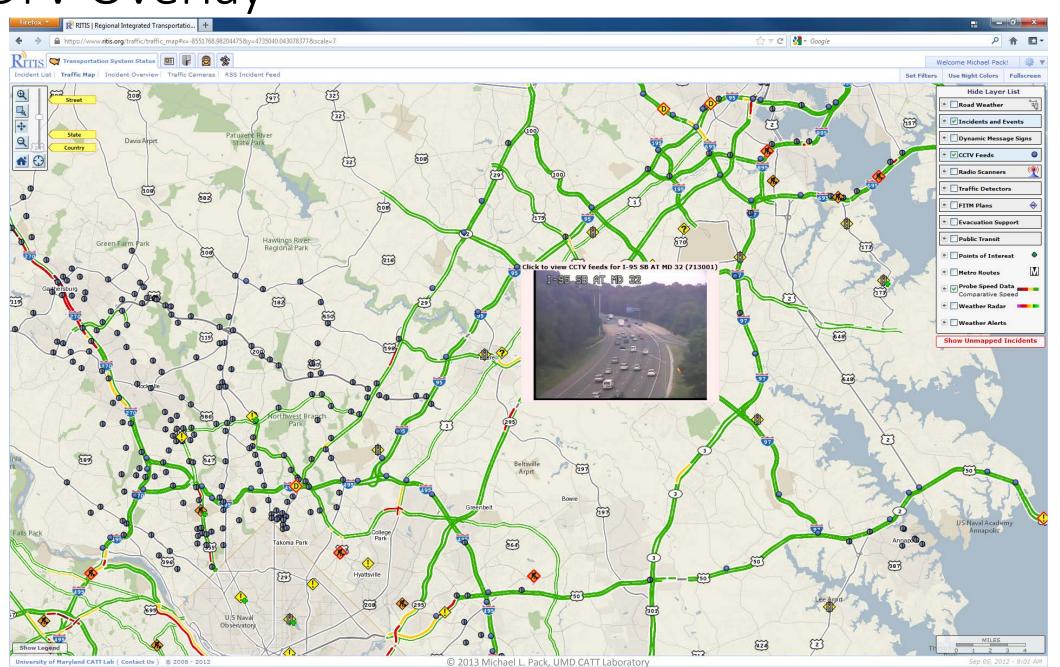
# Radio/Scanners



Sensor Data



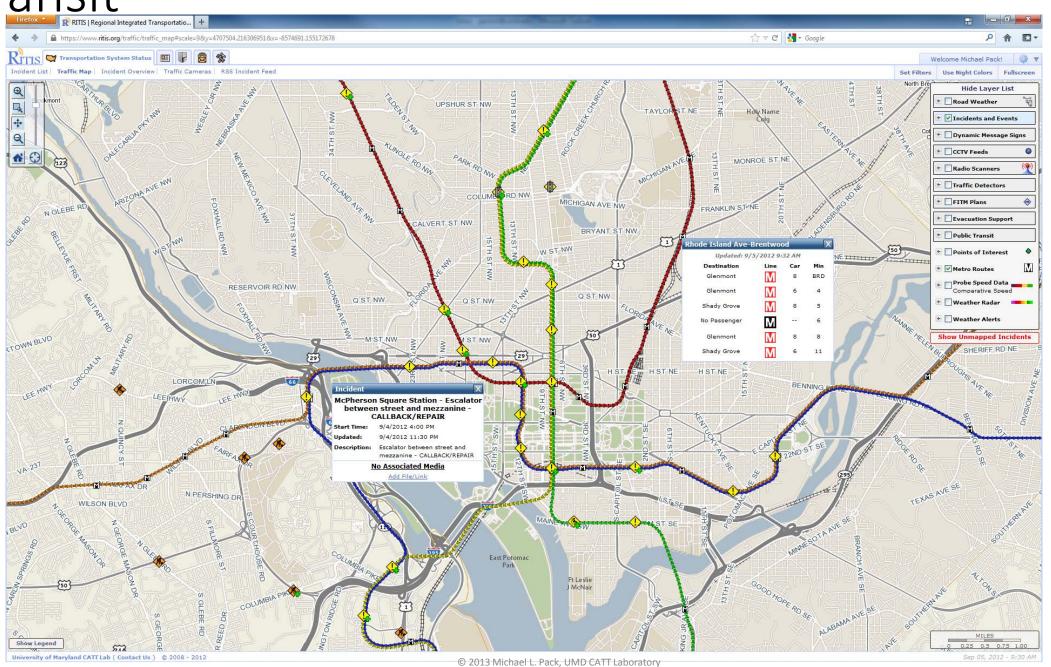
# CCTV Overlay



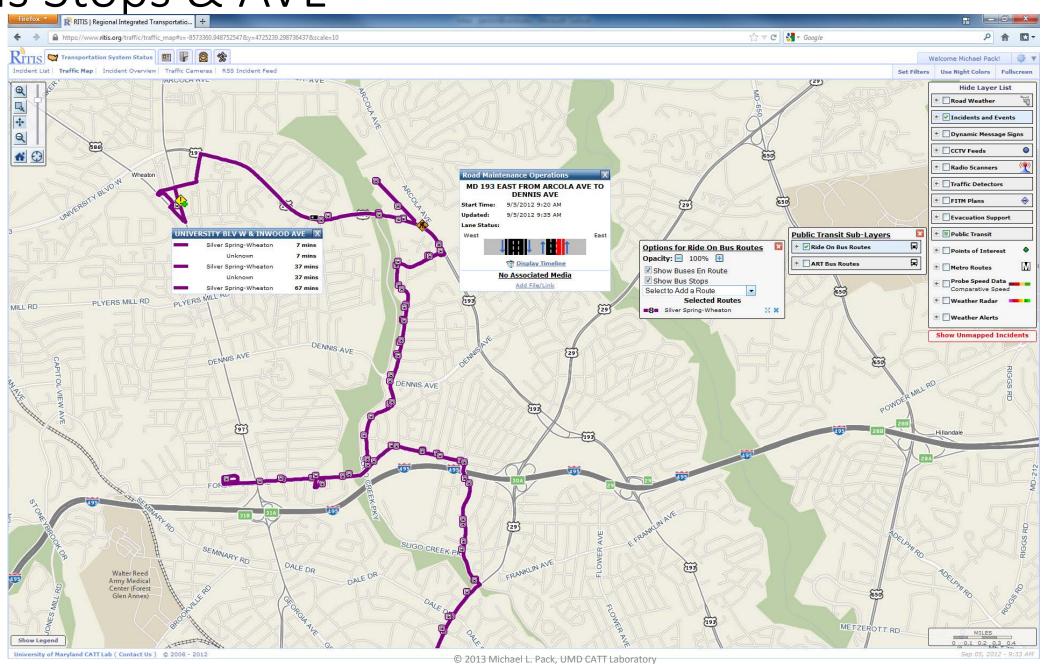
# CCTV Personal Media Wall



#### **Transit**



Bus Stops & AVL



# Virtual Weigh Stations

Virtual Weigh Station

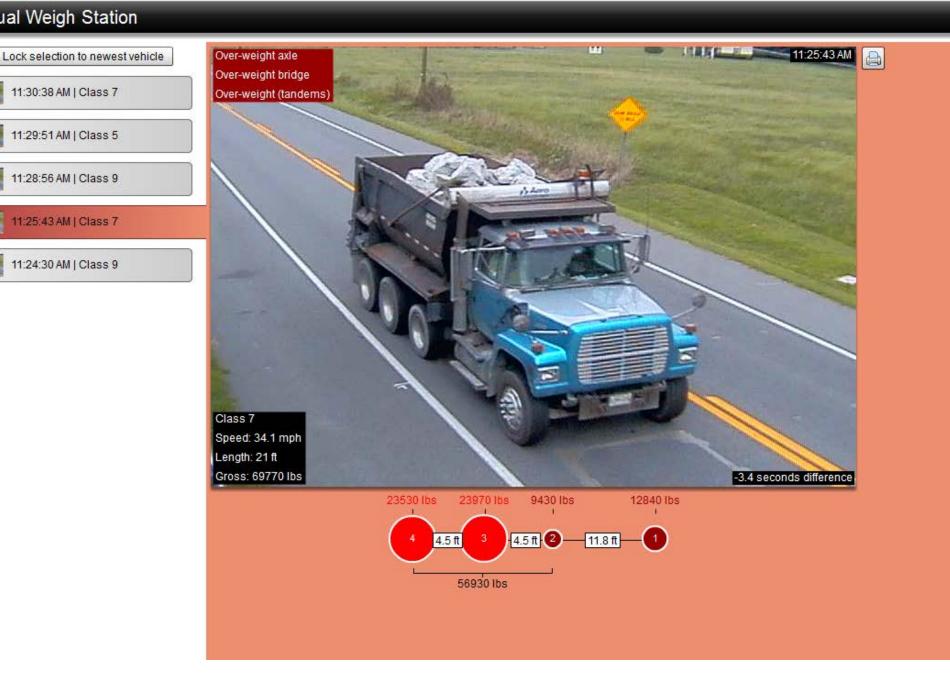
11:30:38 AM | Class 7

11:29:51 AM | Class 5

11:28:56 AM | Class 9

11:25:43 AM | Class 7

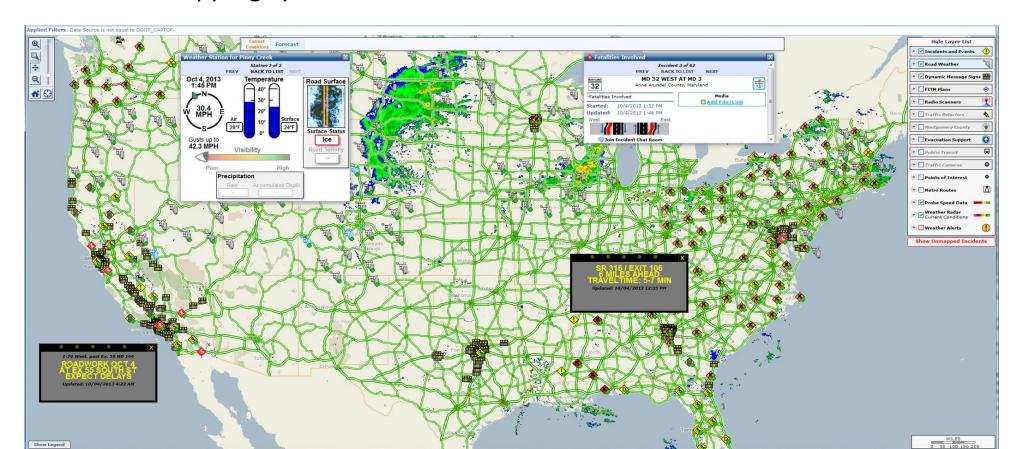
11:24:30 AM | Class 9



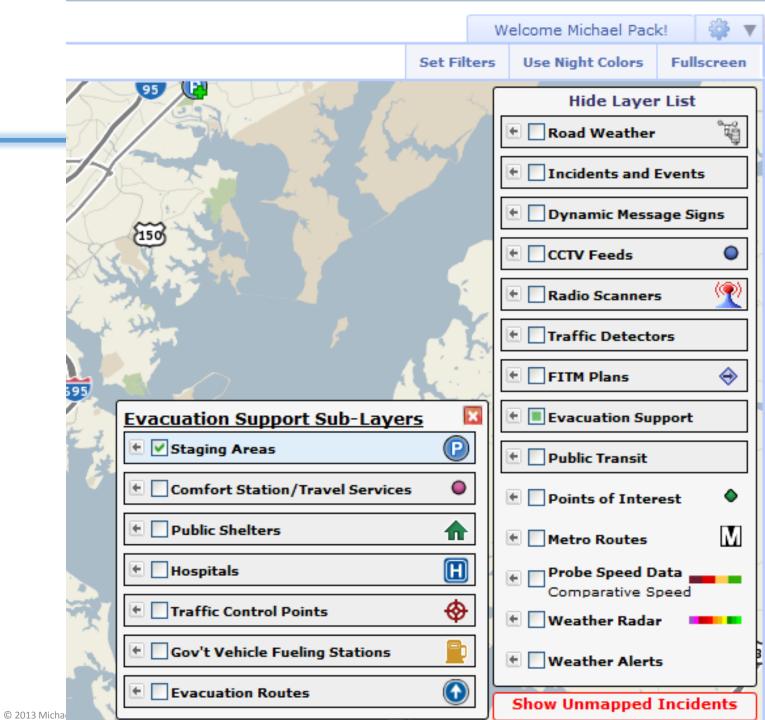
### Evacuation Plans for 6-states

- Digitization
- Border issues
- Mapping systems

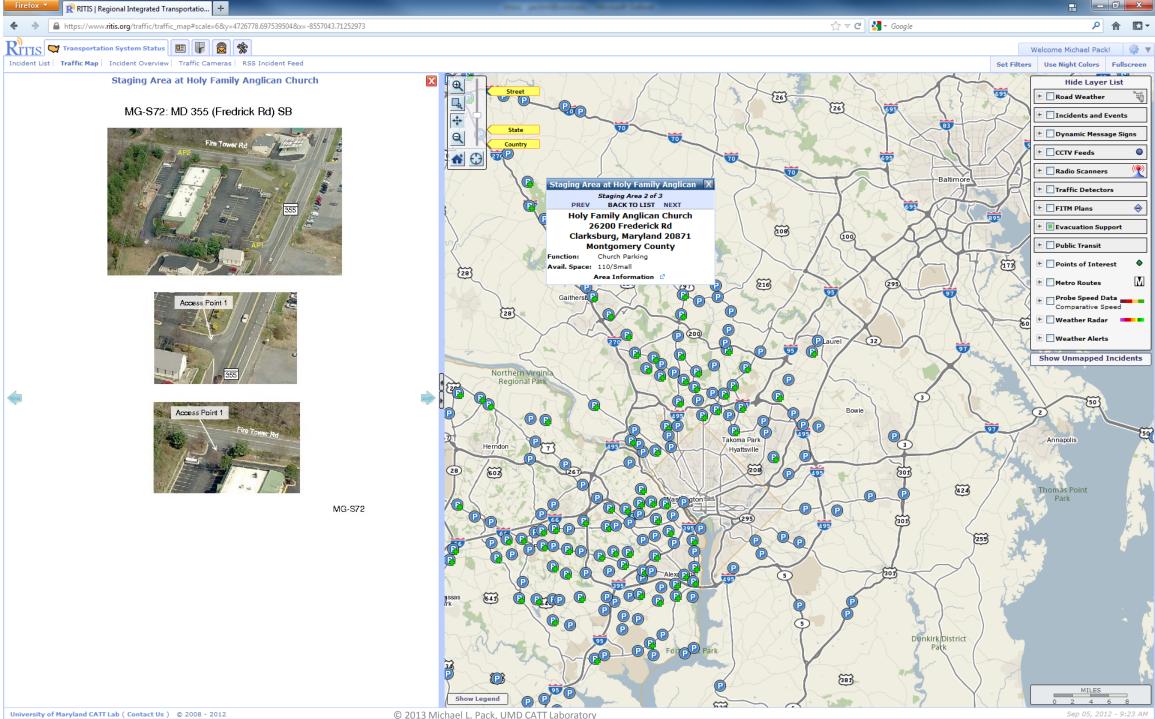
- Getting to the meat of it all
- GDX-hub
- RITIS



## **Evacuation Data**

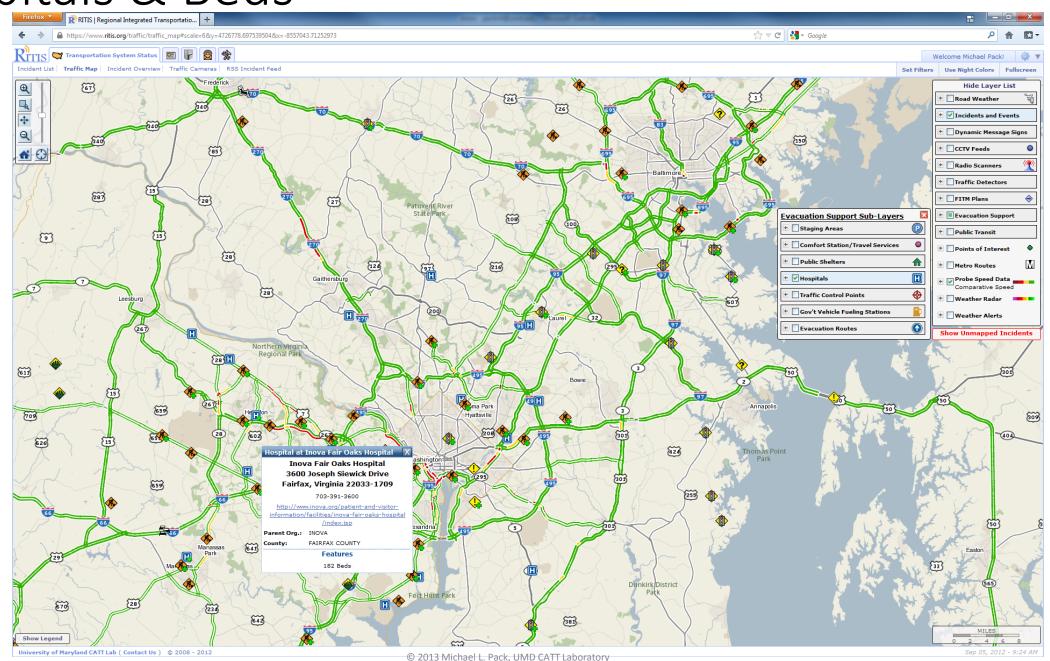


# Staging Areas

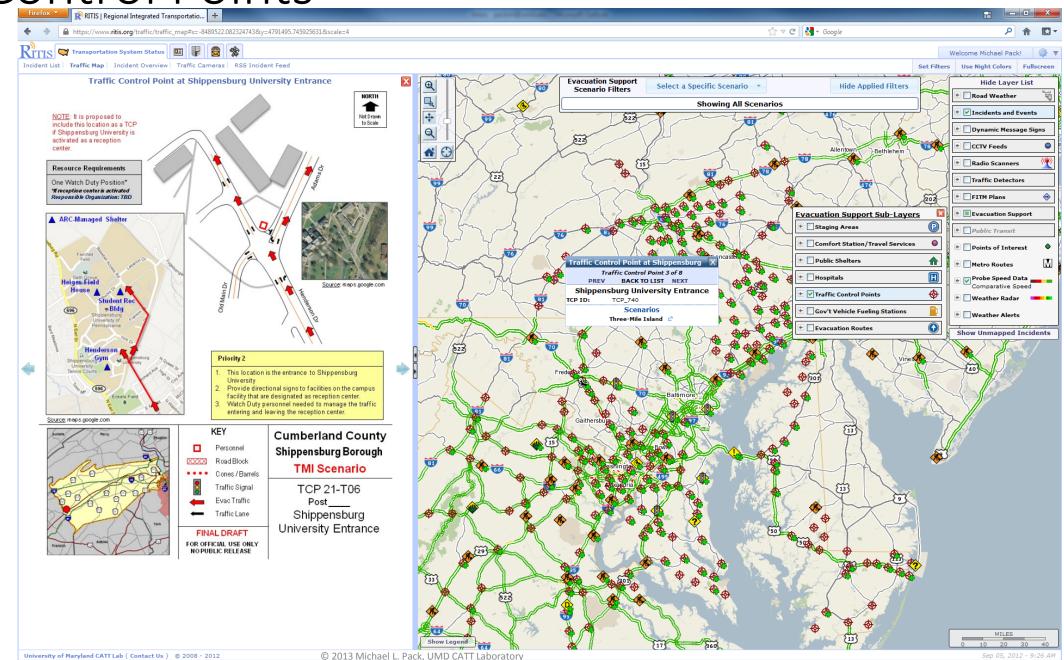


Hospitals & Beds

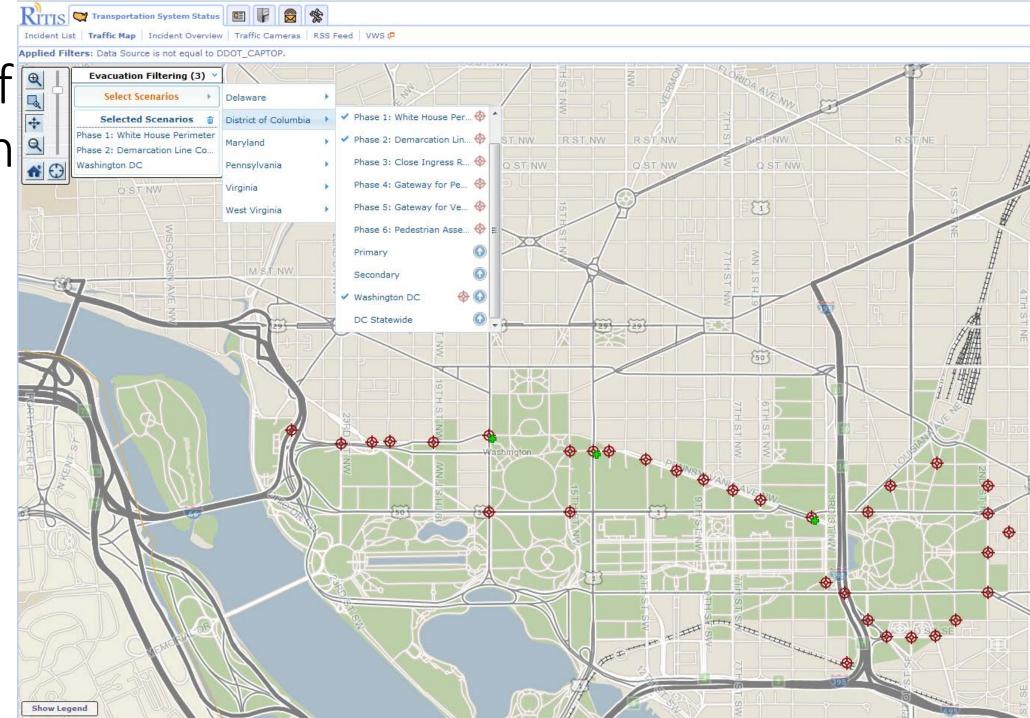
RITIS | Regional Integrated Transportatio... +



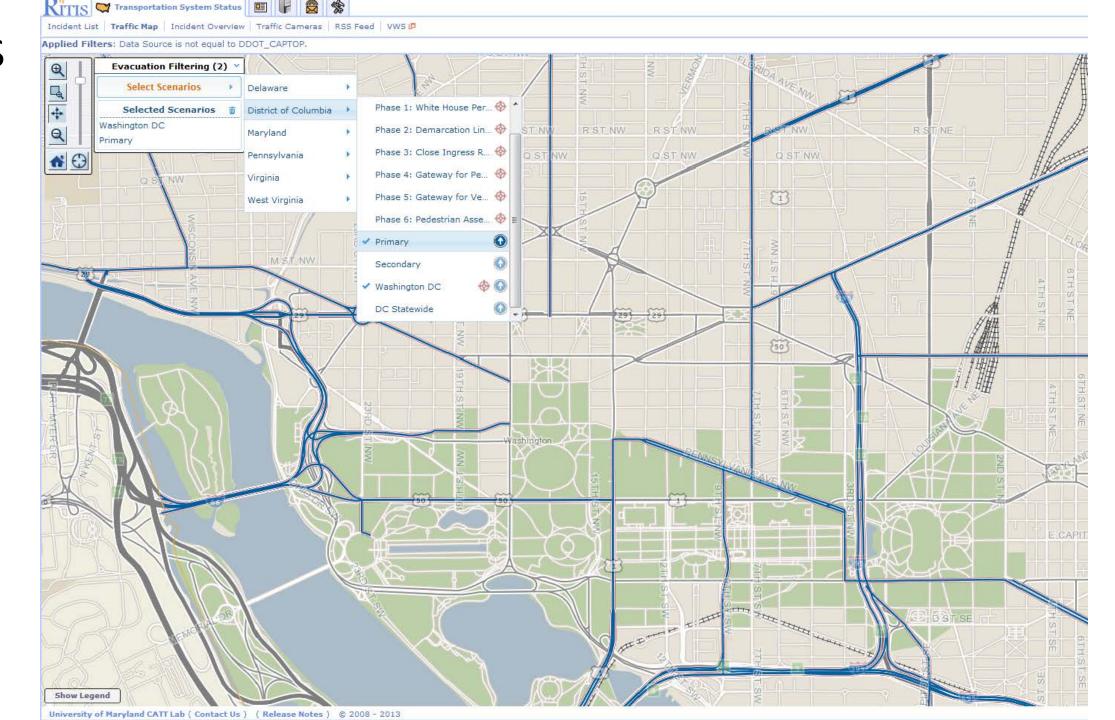
# Traffic Control Points



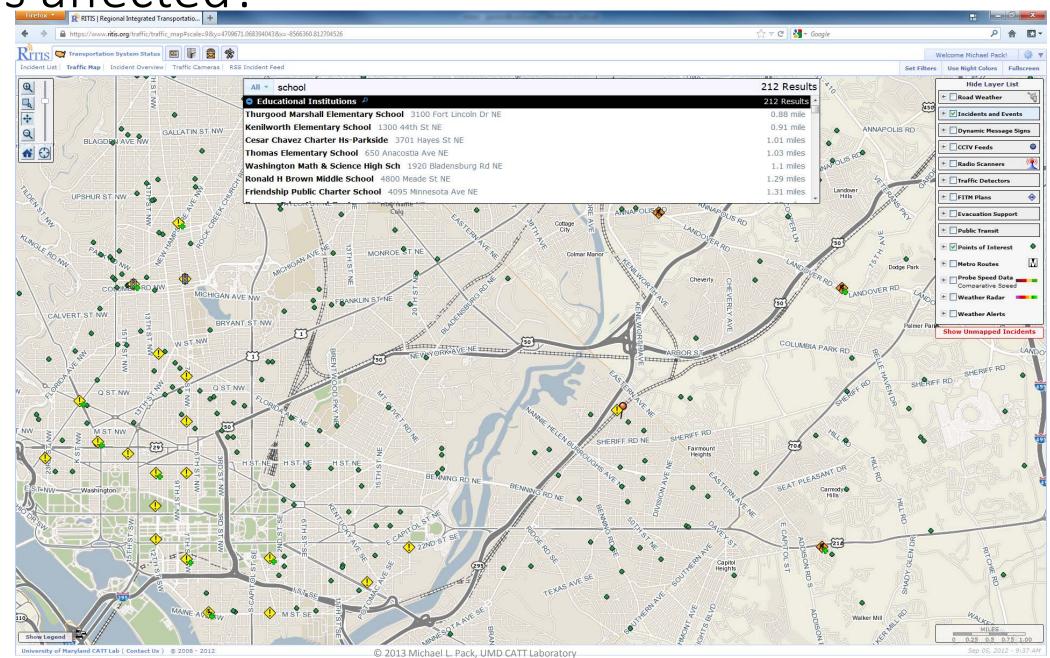
# Filtering of Evacuation Data



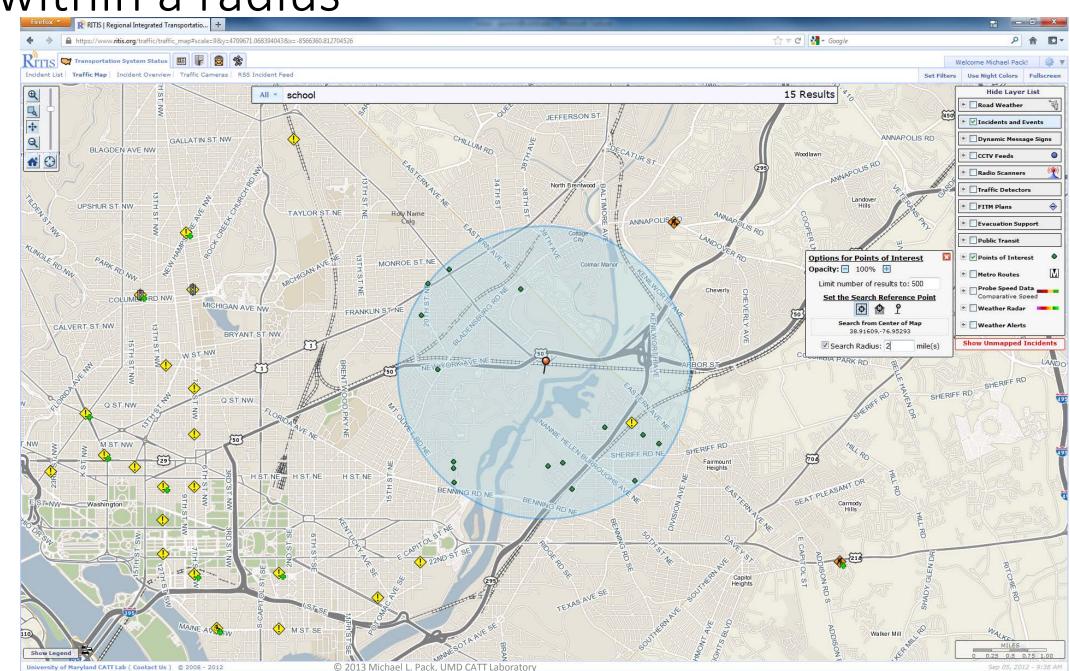
## Routes



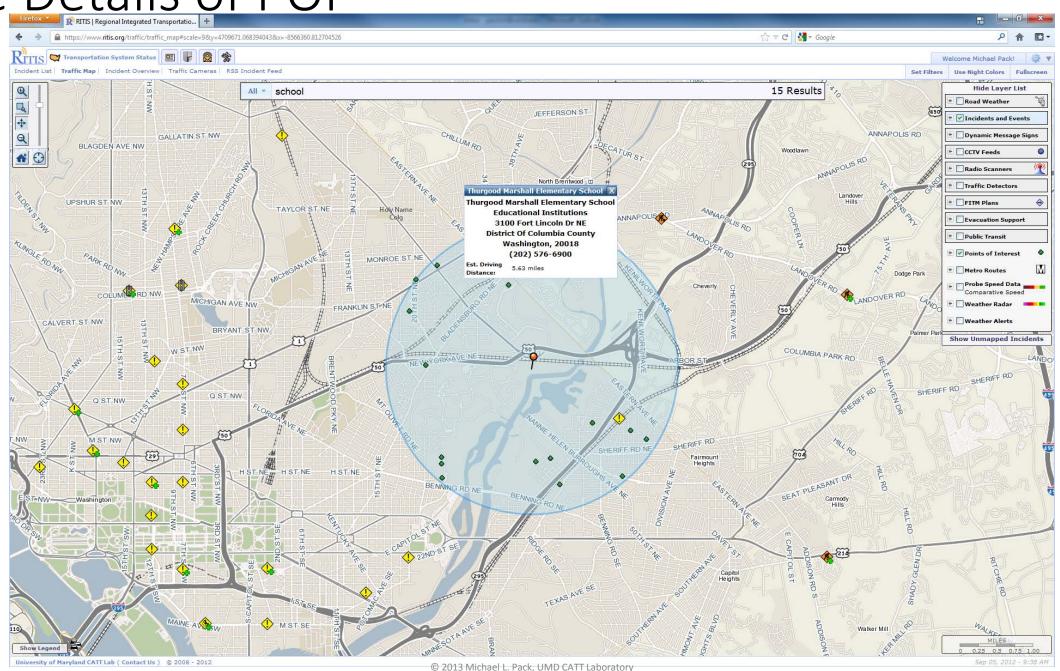
Who is affected?



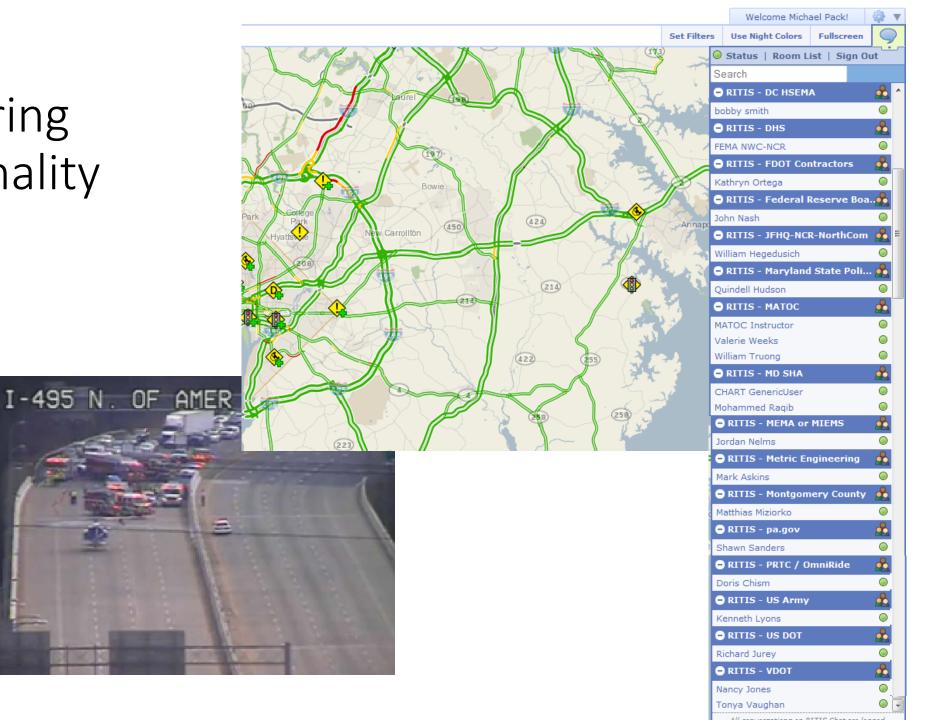
# Search within a radius



See Details of POI



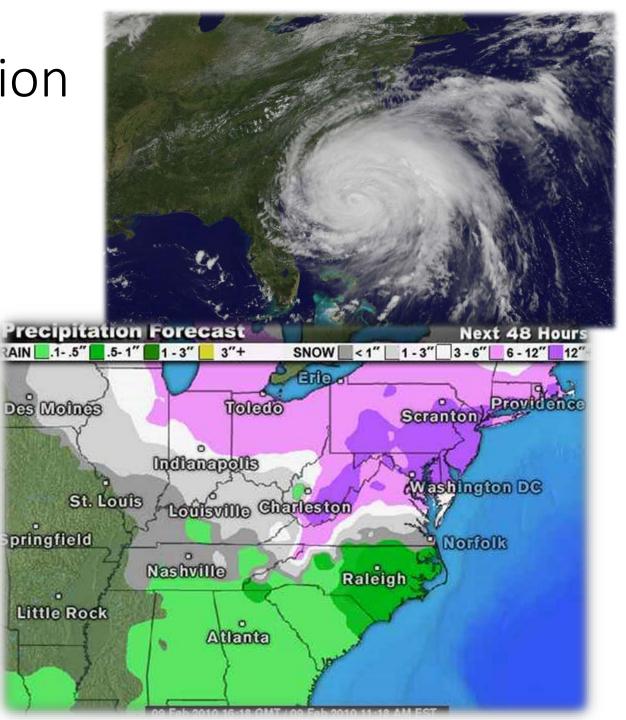
Chat & File Sharing Functionality



# Significant Event Coordination

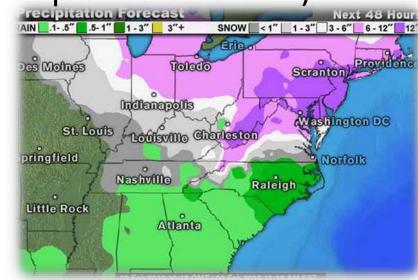






# Significant Event Coordination Process in the NCR

- Something bad is happening or is on the way. (example—snowstorm)
- Someone requests a conference call to discuss.
- Official announcement goes out
- Call is held (usually at 3AM)
- Decision is made:
  - evac. shelter in place, early release, close gov., etc.
- Repeat every X-hours until resolved
  - MPO is facilitator
  - Transportation hates these calls because...



#### **Collaborative Decision Making Tools for Significant Event Coordination**



RITIS has built-in "webinar" functionality that can be used to coordinate multi-agency, multi-user response to significant events like:

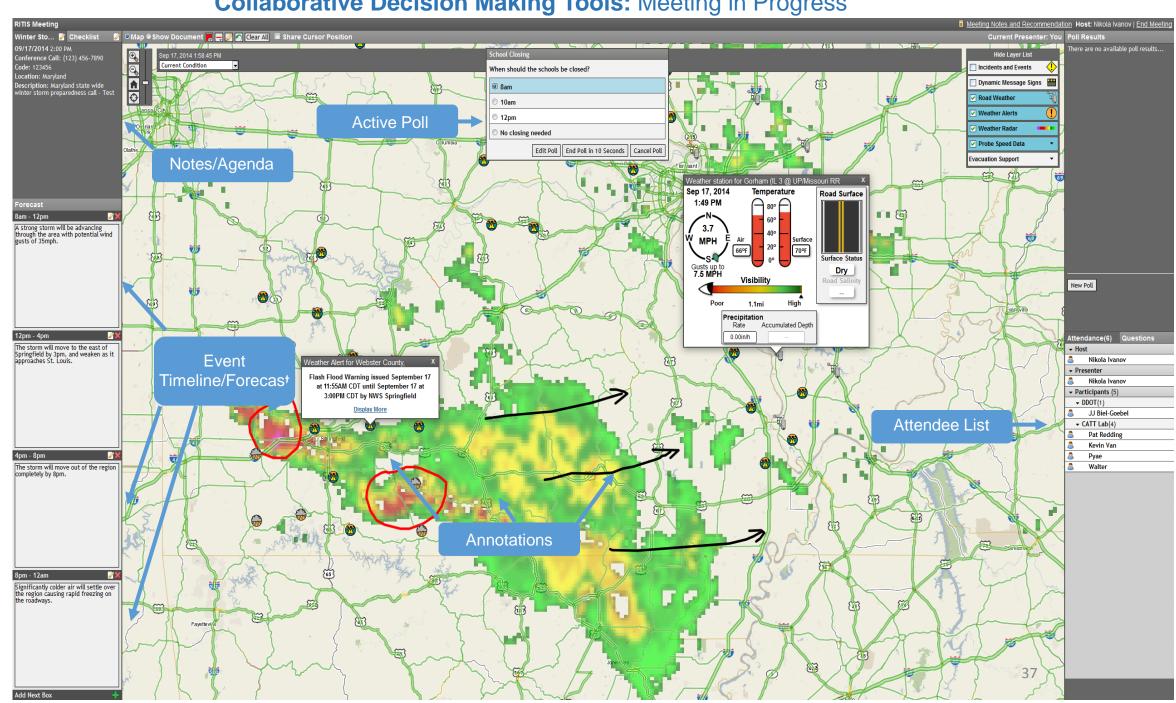
- Hurricanes
- Winter Weather Events
- Terrorism
- Etc.

The system does not require any specialized software/browser add-ons, and allows the sharing of screens, documents, event timelines, and attendee polling.

Meeting minutes, logs, list of attendees, etc. can be printed out and shared with all meeting attendees at the conclusion of a meeting.

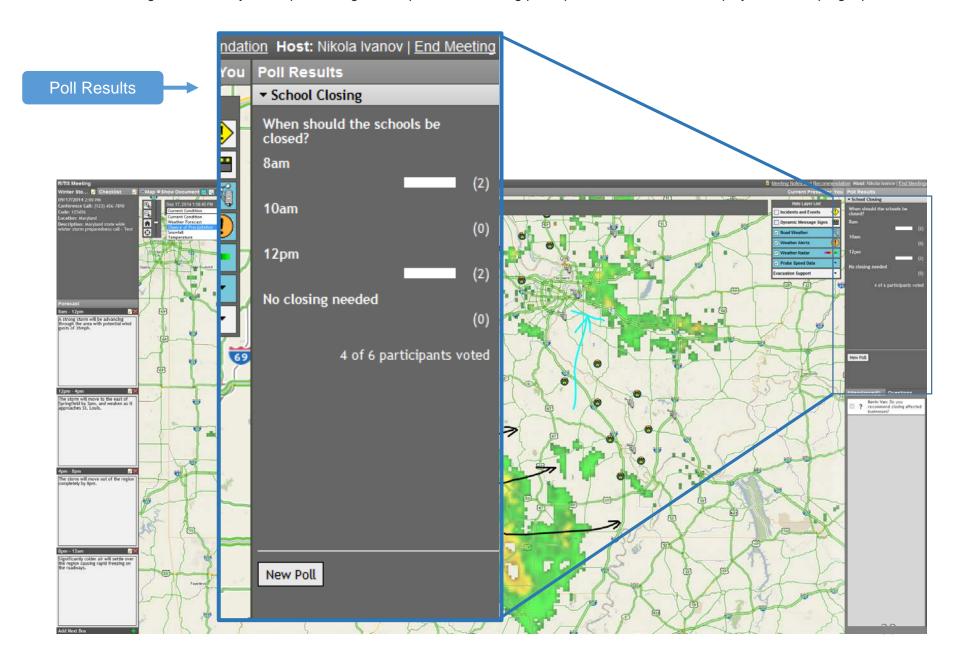
Users can annotate/draw over the screen.

**Collaborative Decision Making Tools:** Meeting in Progress



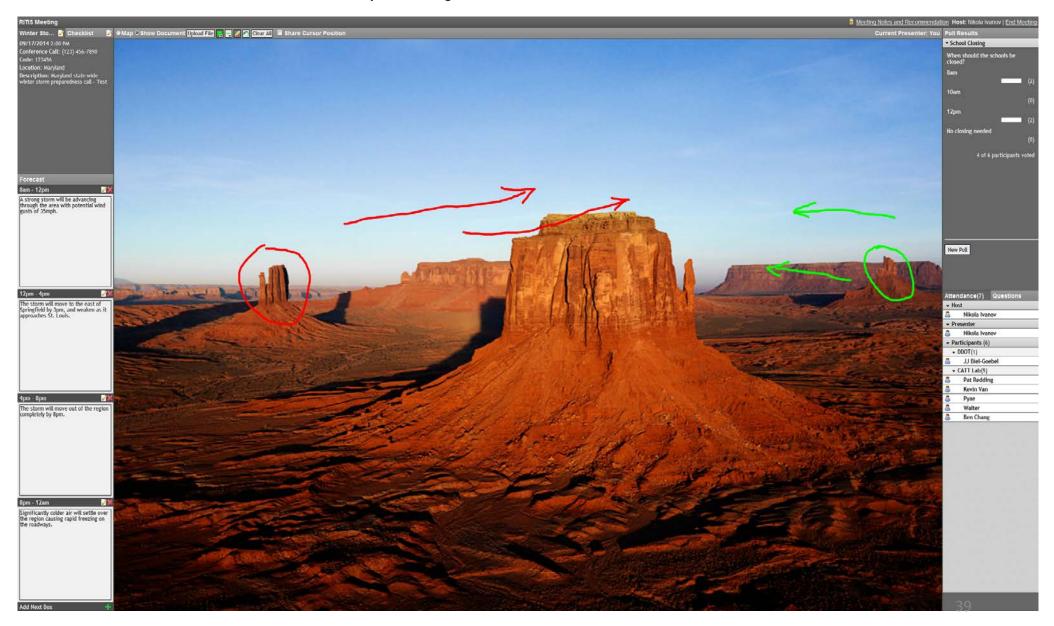
## **Collaborative Decision Making Tools:** Meeting in Progress

Running a Poll The host of a meeting has the ability to run polls and get the input of the meeting participants. Poll results are displayed in the top right panel.



## **Collaborative Decision Making Tools:** Meeting in Progress

The host of the meeting or a designated presenter can share images and documents during the meeting. This person can add and remove annotations on the files they are sharing.



## **Collaborative Decision Making Tools:** Meeting Log

A Meeting Log is generated after every meeting. This log keeps track of all of the information shared in the meeting and is sent out too all the participants after the meeting's end.

### MATOC Weather Call: January 26 Event

1/25/15 2:00 PM

Host: Taran Hutchinson District of Columbia

This is the RITIS Meeting for MATOC Severe Weather Coordination Working Group to discuss the anticipated winter weather event forcasted to impact the region Sunday night into Monday (1/26) morning.

#### Recommendation:

Recommend MWCOG Snow Call for 3AM Monday (1/26)

We will have a follow up MATOC Weather Call at 2PM Monday (1/26) to discuss how the event is progressing and impacts to PM rush as well as impacts for Tuesday AM rush.

Number of Attending: 9

#### Forecast:

#### **Current Advisory**

NATIONAL WEATHER SERVICE BALTIMORE MD/WASHINGTON DC 1040 AM EST SUN JAN 25 2015

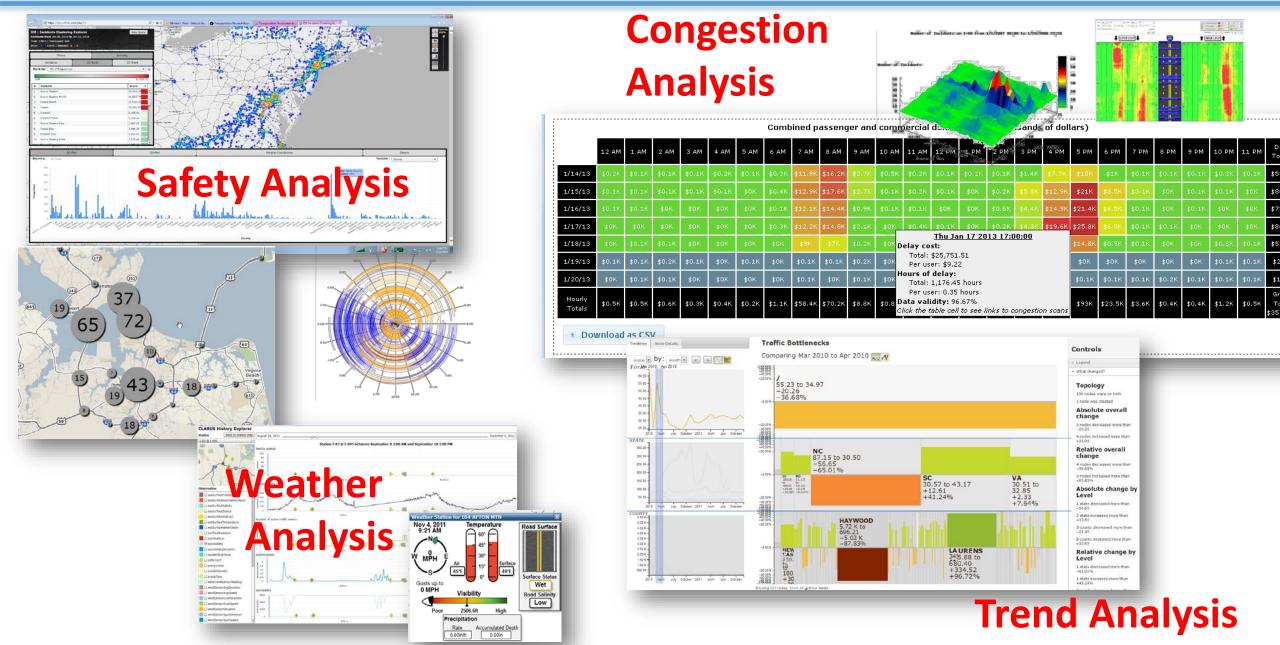
- ...WINTER WEATHER ADVISORY REMAINS IN EFFECT FROM 2 AM TO 6 PM EST MONDAY...
- \* PRECIPITATION TYPE...SNOW...POSSIBLY HEAVY AT TIMES.
- \* ACCUMULATIONS...1 TO 2 INCHES.
- \* TIMING...SNOW WILL BEGIN LATE TONIGHT AND CONTINUE THROUGH LATE MONDAY AFTERNOON. THE HEAVIEST SNOWFALL WILL OCCUR BETWEEN EARLY MONDAY MORNING AND MONDAY AFTERNOON.
- \* TEMPERATURES...IN THE LOWER 30S.
- \* WINDS...NORTHEAST 10 TO 15 MPH.
- \* IMPACTS...ROADS WILL BE SNOW COVERED AND SLIPPERY WITH VISIBILITIES BEING REDUCED TO NEAR ONE-QUARTER MILE AT TIMES. THE COMBINATION OF SNOW COVERED ROADS AND LOW VISIBILITY WILL MAKE TRAVELING DANGEROUS.
- \* OUTLOOK...SNOW WILL CONTINUE MONDAY NIGHT INTO TUESDAY...WITH ADDITIONAL ACCUMULATION POSSIBLE.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A WINTER WEATHER ADVISORY FOR SNOW MEANS THAT PERIODS OF SNOW WILL CAUSE PRIMARILY TRAVEL DIFFICULTIES. BE PREPARED FOR SNOW COVERED ROADS AND LIMITED VISIBILITIES...AND USE CAUTION WHILE DRIVING. Polls: Poll #1 2:08 PM When do you recommend a MWCOG Snow Sunday afternoon (late) (0)Sunday evening Monday morning (early, 3AM) Monday morning (late) 5 of 8 Attendance Voted Shared Media: Uploaded by: Taran Hutchinson Time: 1:46 PM Description: MATOC Road Conditions Table Suggested terminology and TABLE 1: Transportation system status levels PIO templates 'treacherous", "impassable Road Condition 5: IMPASSABLE/ DANGEROUS/ langerous" Be where you need to be TREACHEROUS et where you need to be before the Some roads could be temporarily impassable. This may be the result of severe weather (low eather gets bad visibility, etc.) or road conditions (drifting, excessive unplowed snow, glare, ice, accidents, tay where you are. stranded vehicles, etc.) Skeletal transit services. Limited above-ground rail service if more than 8" of accumulation. Lane drops in certain sections Road Condition 4: ICY/SNOW PACKED delays" Be where you need to be by The pavement surface is covered with packed snow and/or ice. There may be loose snow <time>. Avoid or postpone travel for on top of the icy or packed snow surface. Transit lifeline services only with significant delays next <hours> Stay at the office an extra <hour>, o for rail and bus, Refreeze possible. Lane drops in certain sections. leave early, to avoid travel during a "caution", "passable Road Condition 3: SNOW AND/OR SLUSH COVERED Avoid being stranded at hus stons The pavement surface has continuous stretches of packed snow with or without loose snow Avoid or postpone travel for next on top of the packed snow or ice. Core bus services only, delays in rail services. Lane drops Stay off the road: on certain sections of roadways. Stay at the office an extra <hour>, or leave early, to avoid travel during a winter storn Road Condition 2: SNOW / SLUSH COVERED W/ Avoid discretionary travel. Road crews WHEEL TRACKS EXPOSED engaged in clearing activities. Accumulations of loose snow or slush up to 2 inches are found on the pavement surface. Curtail "elective" travel, Avoid Packed and bonded snow and ice are not present. Regular transit services with some minor exceptions and detours for buses. Drifting snow. "passable" Road Condition 1: CLEAR WET/DRY Clear and wet/dry payement surface is the general condition. There are occasional areas having snow or ice accumulations resulting in drifting, sheltering, cold spots, frozen meltwater, etc. Transit operations per schedules.

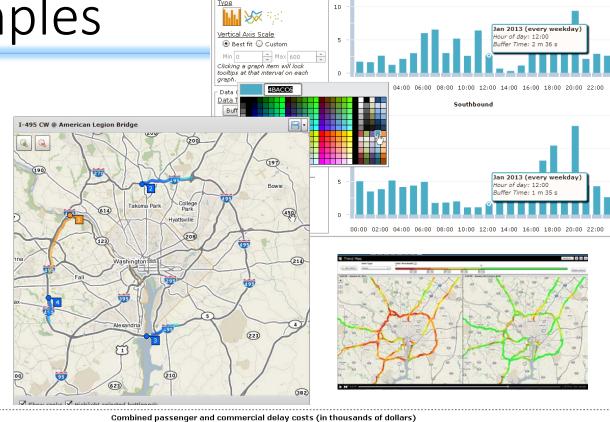
2/8

# A Growing Suite of Empowering Visual Analytics



# Congestion Reporting Examples

- System Performance Reporting
- Problem Identification
- Project Prioritization
- After Action Incident Review
- Before & After Studies
- Operations
- Travel Time Analysis
- Work Zone Monitoring
- Press Releases



	12 AM	1 AM	2 AM	З АМ	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 РМ	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Da Tot
1/14/13	\$0.2K	\$0.1K	\$0.1K	\$0.1K	\$0.2K	\$0.1K	\$0.2K	\$11.9K	\$16.2K	\$2.7K	\$0.5K	\$0.2K	\$0.1K	\$0.2K	\$0.1K	\$1.4K	\$7.7K	\$10K	\$1K	\$0.1K	\$0.1K	\$0.1K	\$0.3K	\$0.1K	\$53.
1/15/13	\$0.1K	\$0.1K	\$0.1K	\$0.1K	\$0.1K	\$0K	\$0.4K	\$12.9K	\$17.6K	\$2.7K	\$0.1K	\$0.2K	\$0.1K	\$0K	\$0.2K	\$5.8K	\$12.9K	\$21K	\$8.5K	\$3.1K	\$0K	\$0.1K	\$0.1K	\$0K	\$86.
1/16/13	\$0.1K	\$0.1K	\$0K	\$0K	\$0K	\$0K	\$0.1K	\$12.1K	\$14.4K	\$0.9K	\$0.1K	\$0.1K	\$0K	\$0K	\$0.6K	\$4.4K	\$14.9K	\$21.4K	\$6.5K	\$0.1K	\$0K	\$0.1K	\$0K	\$0K	\$75.
1/17/13	\$0K	\$0K	\$0K	\$0K	\$0K	\$0K	\$0.3K	\$12.2K	\$14.8K	\$2.1K	\$0K	\$0.4K	\$0.1K	\$0K	\$0.2K		\$19.6K	\$25.8K	\$6.5K	\$0.1K	\$0.1K	\$0K	\$0K	\$0K	\$86.
1/18/13	\$0K	\$0.1K	\$0.1K	\$0K	\$0K	\$0K	\$0K	\$9K	\$7K	\$0.2K	\$OK D	elay cos	st:		13 17:0	<u>10:00</u>		\$14.8K	\$0.9K	\$0.1K	\$0K	\$0K	\$0.6K	\$0.1K	\$51
1/19/13	\$0.1K	\$0.1K	\$0.2K	\$0.1K	\$0K	\$0.1K	\$OK	\$0.1K	\$0.1K	\$0.2K	\$0K	Per use	\$25,751. er: \$9.22					\$OK	\$0K	\$0K	\$0K	\$0K	\$0.1K	\$0.1K	\$2.
1/20/13	\$0K	\$0.1K	\$0.1K	\$0K	\$0K	\$0K	\$0K	\$0.1K	\$0K	\$0.1K	\$OK	lours of Total: :	<b>delay:</b> 1,176.45	hours				\$0.1K	\$0.1K	\$0.1K	\$0.2K	\$0.1K	\$0.1K	\$0.1K	\$1.
Hourly Totals	\$0.5K	\$0.5K	\$0.6K	\$0.3K	\$0.4K	\$0.2K	\$1.1K	\$58.4K	\$70.2K	\$8.8K	\$0.8 D	Per use ata vali lick the to	er: 0.35 i <b>dity:</b> 96 a <i>ble cell</i>	.67%	inks to a	ongestio	n scans	\$93K	\$23.5K	\$3.6K	\$0.4K	\$0.4K	\$1.2K		Gra To: \$357

### Customizable Dashboards

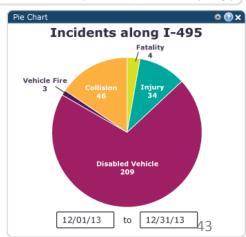
### Each widget can be laid out in a single page view that can be recalled by the user quickly and easily.

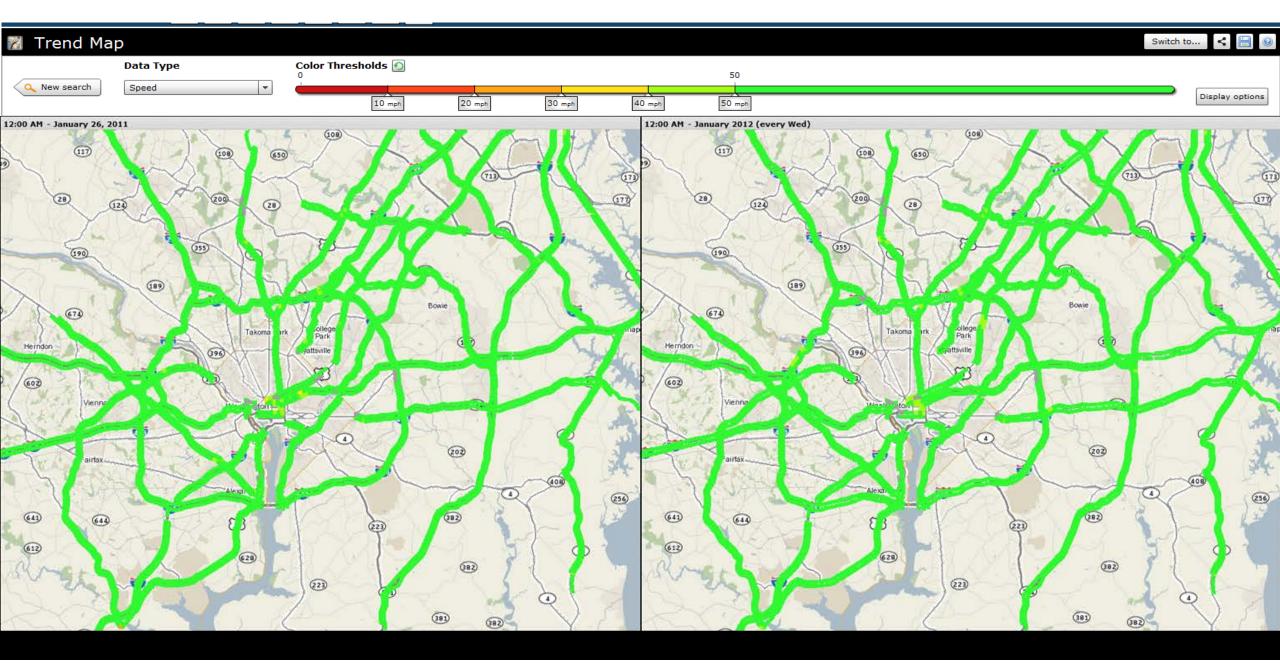


				•
Тор	Bottlene	cks		🌣 📵 :
	State	Location	Length (miles) •	Duration
1	NJ	NJ-35 N @ HERBERT ST	6.6	12 min 📳
2	VA	I-95 N @ VA-7100/EXIT 166	5.4	25 min
3	MD	I-495 CW @ MD-4/PENNSYLVANIA AVE/EXIT 11	4.7	34 min 📳
4	MD	MD-355 S @ MONTROSE RD/RANDALPH RD	3.3	12 min
5	VA	I-66 E @ VA-7/LEESBURG PIKE/EXIT 66	3.1	5 h 35 min
6	MD	MD-295 S @ I-195	2.9	38 min
7	NJ	RTE-581 S @ NJ-49/QUINTON RD	2.9	14 min
8	DC	CLARA BARTON PKWY E @ MARYLAND AVE	2.6	2 h 36 min
9	NJ	NJ-72 E @ W BAY AVE	2.4	12 min
10	VA	FURNACE RD S @ US-1/RICHMOND HWY (LORTON) (WEST)	2.3	1 h 02 min
			Updated Dec 5,	2014 9:55 AM (44s ago)
Mary	land Perf	ormance		ф <b>(</b> ):
		Average Speed		Travel Time

Maryland Performance								🌣 🔞 :
		А	verage Speed			Т	ravel Time	
Corridor	Differ	rential	Current	Historic	Differ	ential	Current	Historic
I-270 Northbound Between MD-28/MONTG	<b></b>	10	55 mph	45 mph	+	5	15 min	20 min
I-270 Southbound Between MD-28/MONTG	+	-2	45 mph	47 mph	<b>+</b>	3	22 min	19 min
I-495 Clockwise Between MD-295/MD-193	+	-18	24 mph	42 mph	•	8	30 min	22 mir
I-495 Counter Clockwise Between MD-295	+	-37	10 mph	47 mph	<b>+</b>	9	28 min	19 mir
Route 29 Northbound		-	45 mph	45 mph		-	22 min	22 mir
					Update	d Dec 5,	2014 9:55 AM	1 (44s ago



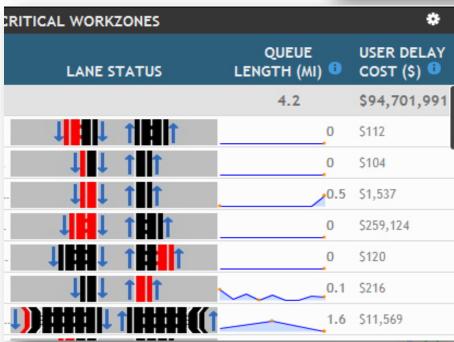


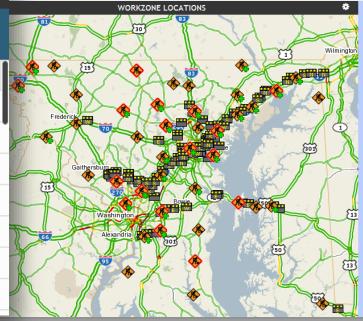


**Snowmageddon 2011 (during TRB)** 



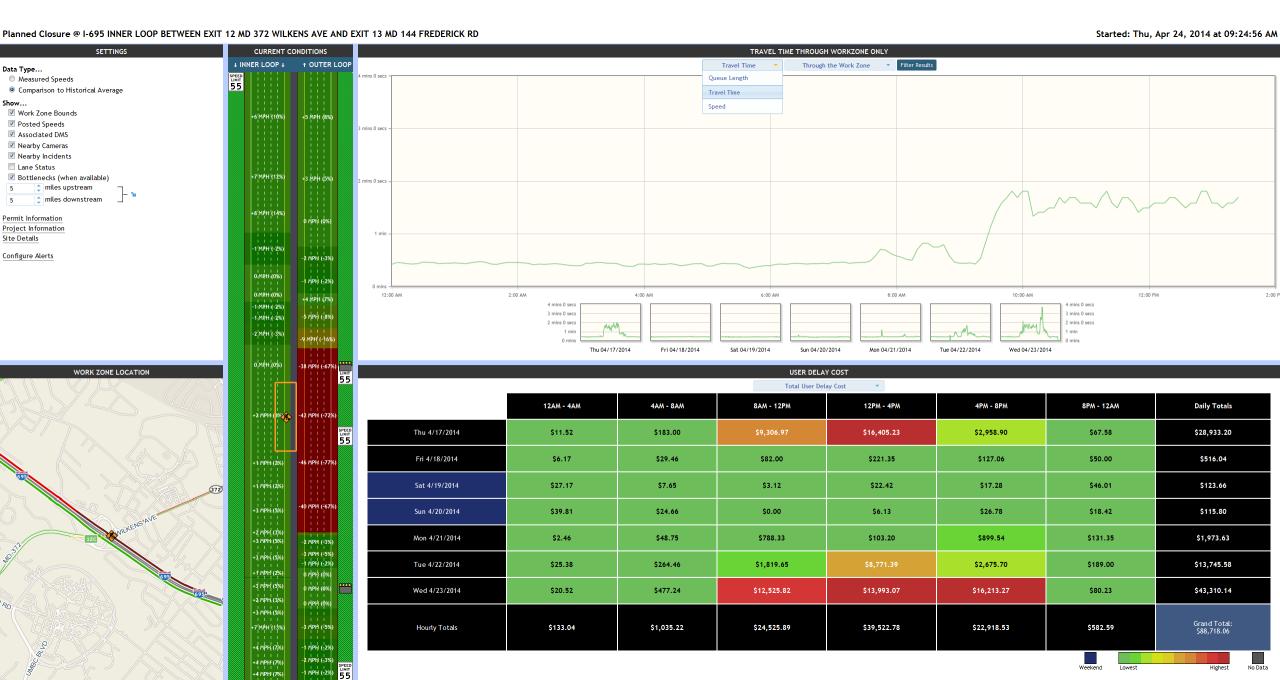
### **CURRENT WORKZONES IN MARYLAND # OF NEARBY** QUEUE **USER DELAY** INCIDENTS 0 LENGTH (MI) COST (\$) **REGION/EVENT** \$94,701,991 ▼ Maryland (74) 627 4.2 ▼ Carroll (3) 0.2 \$128 0 MD 30 SOUTH/NORTH BETWEEN BRODBECK RD A ... 0 50 MD 27 NORTH AT GROVES MILL RD 1 54 MD 140 EAST/WEST AT DEDE RD 1 5124 ▼ Cecil (2) 0.8 \$200 0





I		USER D	ELAY COST BY CORRI	DOR AND DAY OF WE	EEK	•	
			Total User Del				
		1-95	I-695	US-50	I-70	Daily Totals	
	Wed 4/09/2014	\$2,678,358.64	\$626,606.88	\$229,861.28	\$48,652.15	\$3,583,478.94	
	Thu 4/10/2014	\$1,239,852.54	\$1,050,702.81	\$301,406.33	\$77,104.65	\$2,669,066.33	
	Fri 4/11/2014	\$1,806,342.05	\$1,105,801.53	\$474,634.47	\$107,010.25	\$3,493,788.29	
	Sat 4/12/2014	\$3,367,462.75	\$179,057.99	\$107,675.02	\$6,721.70	\$3,660,917.46	
1	Sun 4/13/2014	\$2,548,281.10	\$37,468.98	\$83,927.57	\$8,015.17	\$2,677,692.82	
	Mon 4/14/2014	\$2,661,674.91	\$323,977.01	\$198,868.28	\$184,730.13	\$3,369,250.33	
	Tue 4/15/2014	\$2,838,798.60	\$905,736.49	\$258,710.91	\$125,311.87	\$4,128,557.87	
	Wed 4/16/2014	\$2,937,018.16	\$500,186.92	\$212,687.02	\$83,203.90	\$3,733,096.00	
=	Corridor Totals	\$20,077,788.75	\$4,729,538.59	\$1,867,770.87	\$640,749.82	Grand Total: \$27,315,848.03	
			w	eekend Lowest		Highest No Data	

## Individual Work Zone



# Usage Statistics & Growth Plans

- 5,200+ Website Users
- Hundreds of active feed subscribers (both public & private sector)
- 50% Transportation
- 50% "Other" -This is VERY Important!!!
- 25 State DOTs
- 340+ Agencies & Private Sector Providers
- Well over 1-Trillion Records Downloaded in just 6-months

## **Users Include:**

- DOTs (Federal, State, and Local)
- Transit Providers
- Metropolitan Planning Organizations
- Emergency
   Management Agencies
- FEMA
- US Army, Air Force, Navy, Coast Guard
- NorthCom
- U.S. Secret Service
- U.S. Capitol & Park Police
- Fire & Rescue
- Law Enforcement (state & local)

- U.S. Joint Forces Headquarters
- NSA
- US Office of Personnel Management
- 3<sup>rd</sup> Party Trav Info Providers
- University Researchers
- Consultants working on projects for the DOTs
- Social Security
- Pentagon Force Protection
- Etc.

## **Public Feeds Rolling out this Summer**

# Questions & Discussion

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