

# PROBE DATA ANALYTICS SUITE

u s e r g r o u p

Web Meeting  
December 14, 2017



# Webcast and Audio Information

- The call-in phone number is: **1-xxx-xxx-xxxx & enter xxxxxxx#** at the prompt
- **Participants will be in “Listen Only” mode throughout the webinar**
- Please press \*0 to speak to an operator for questions regarding audio
- Please call 484-557-7009 for difficulties with the web or audio application
- The webinar will be recorded
- All materials will be available to participants after the web meeting



# Asking Questions



- Please pose your questions using the **chat box**
- Questions will be monitored then answered by the speakers at the end of the webinar

Chat (Everyone)

Type your question in the box, then click here →

Everyone



# Welcome

## Jesse Buerk

DVRPC, PDA Suite User Group Co-chair



# Participating Agencies

Agency			
Anne Arundel County	ITE	North Carolina DOT	TRANSCOM
Baltimore Metropolitan Council	Maricopa AOG (AZ)	North Jersey TPA	University of Virginia
City of Norwalk	Maryland DOT - SHA	North Virginia Transportation Authority	Vermont AOT
CORE MPO (GA)	MetroPlan Orlando	NREL	Virginia DOT / VTRC
Delaware Valley Regional Planning Commission	Missouri DOT	PEMA	Volvo Group North America
District DOT	MWCOG (DC)	Pennsylvania DOT	UMD – CATT Lab & CATT Works
Florida DOT	New Hampshire DOT - TSMO	Rockingham Planning Commission	I-95 Corridor Coalition & support
Florida's Turnpike Enterprise	New Jersey DOT (and NJIT)	South Carolina DOT	
Georgia DOT	New York State Thruway Authority	Texas Transportation Institute	



# Topics for today

- Coalition Update
- Follow-ups from the Last Meeting
- PDA Suite: What's New / Coming Soon
- **FDOT: Use of RITIS to Assess Traffic Impacts of Hurricane Irma Evacuation**
- **BMC's Thanksgiving Travel Advisory Review**
- Agency Input Session
- Wrap-up / Next Meeting
- **Instant Polls throughout**



The CATT Lab's new state-of-the-art Conference Room





# Introductions



**Denise Markow, PE**  
I-95 Corridor Coalition  
Director



**John Allen**  
UMD CATT Lab  
Agency Support



**Ed Style**  
Baltimore Metropolitan Council  
Planner Analyst



**Derek Vollmer, PE**  
Florida DOT  
State ITS Software Engineer





# Coalition Update





# Coalition Update

## > Recent Meetings

- CAV Workshop – December 11 & 12, 2017
- TIM Heavy Towing Workshop – December 1, 2017
- Volume & Turning Movement Steering Committee meeting – November 9, 2017
- CAD Integration Webinar – October 12, 2017
- Crowdsourcing Summit (Member Agencies & Waze) – Sept 14, 2017

## > Upcoming Meetings

- RITIS User Group Meeting – RITIS User Group meeting (via web)- January 18, 2018

## > **Reminder**

- We will be changing the PDA Suite User Group meeting schedule, from once every quarter to once every four months





# Action Item Follow-up

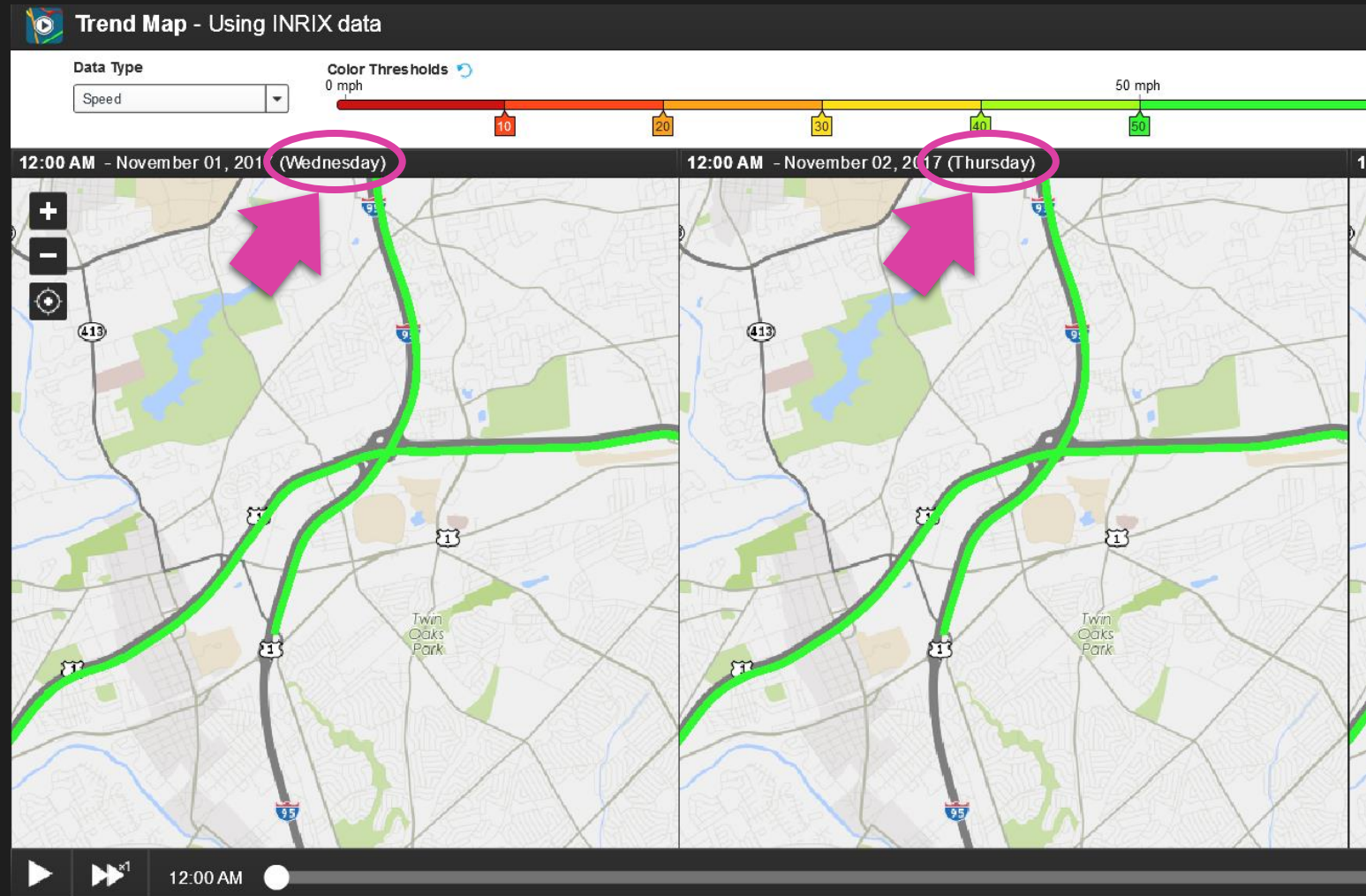


# Action Item Follow-up

(from the 08.17.17 Meeting)

- 1 Members suggested adding the “day of week” to the date header in Trend Map

✓ Deployed & available

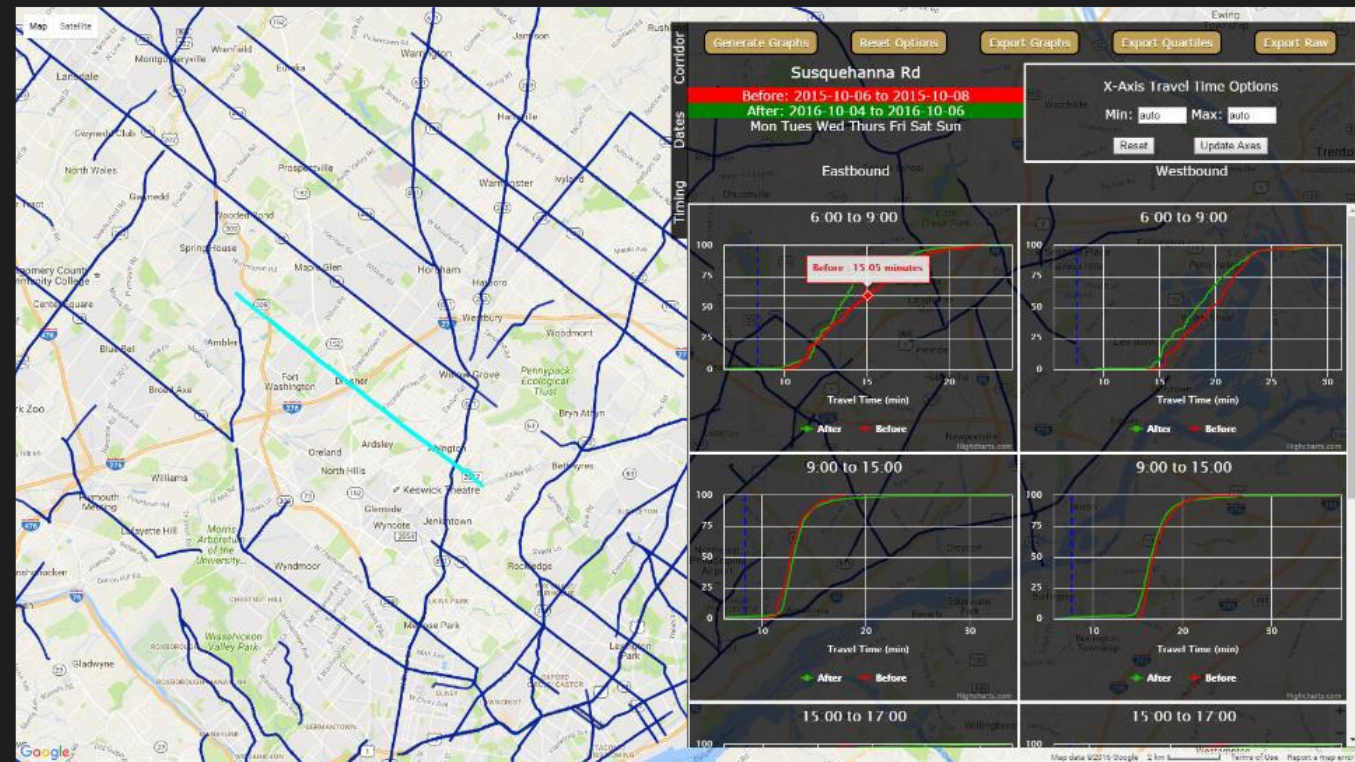


# Action Item Follow-up

(from the 08.17.17 Meeting)

- 2 Kelly Wells (NCDOT) mentioned that she would like better capabilities in PDA Suite for arterial signal system analysis; importantly for signal system prioritization and evaluation
- ✓ PennDOT is funding a project to build arterial performance measure capabilities in PDA Suite

## Before / After Travel time Comparisons (Susquehanna Rd)



A joint effort between UMD's CATT Lab & Purdue University






# Action Item Follow-up

(from the 08.17.17 Meeting)

## 3 Enable MPO boundaries (MPAs) in the MAP-21 Dashboard

✓ Deployed & available

**MAP-21**

 Our MAP-21 widgets are fully up to date with the final MAP-21 ruling.

**1. Select geography:**

☐ State

☒ MPAs

☐ UZAS

**2. Select mode:**

☐ Percent Travel Time

☐ Percent Travel Time (Interstate)

☐ Percent Travel Time (Reliable (the Non-Interstate))

☐ Truck Time

☐ Annual Average Daily Traffic

☐ Provide

**3. Select year:**

2017

**4. Show data as:**

☐ Graph

☐ Map

**5. Name MAP-21 widget(s)**

[+ ADD WIDGET](#)





# What's new...



# Selecting Ramps in Suite Tools region query screen

Probe Data Analytics Suite

Welcome, John | [My History](#) | [Help](#) | [Tutorials](#) | [Logout](#)

## Trend Map

The Trend Map allows you to create animated maps showing changes in congestion over the course of time at various granularities. The maps can be exported to animated GIFs and MP4s.

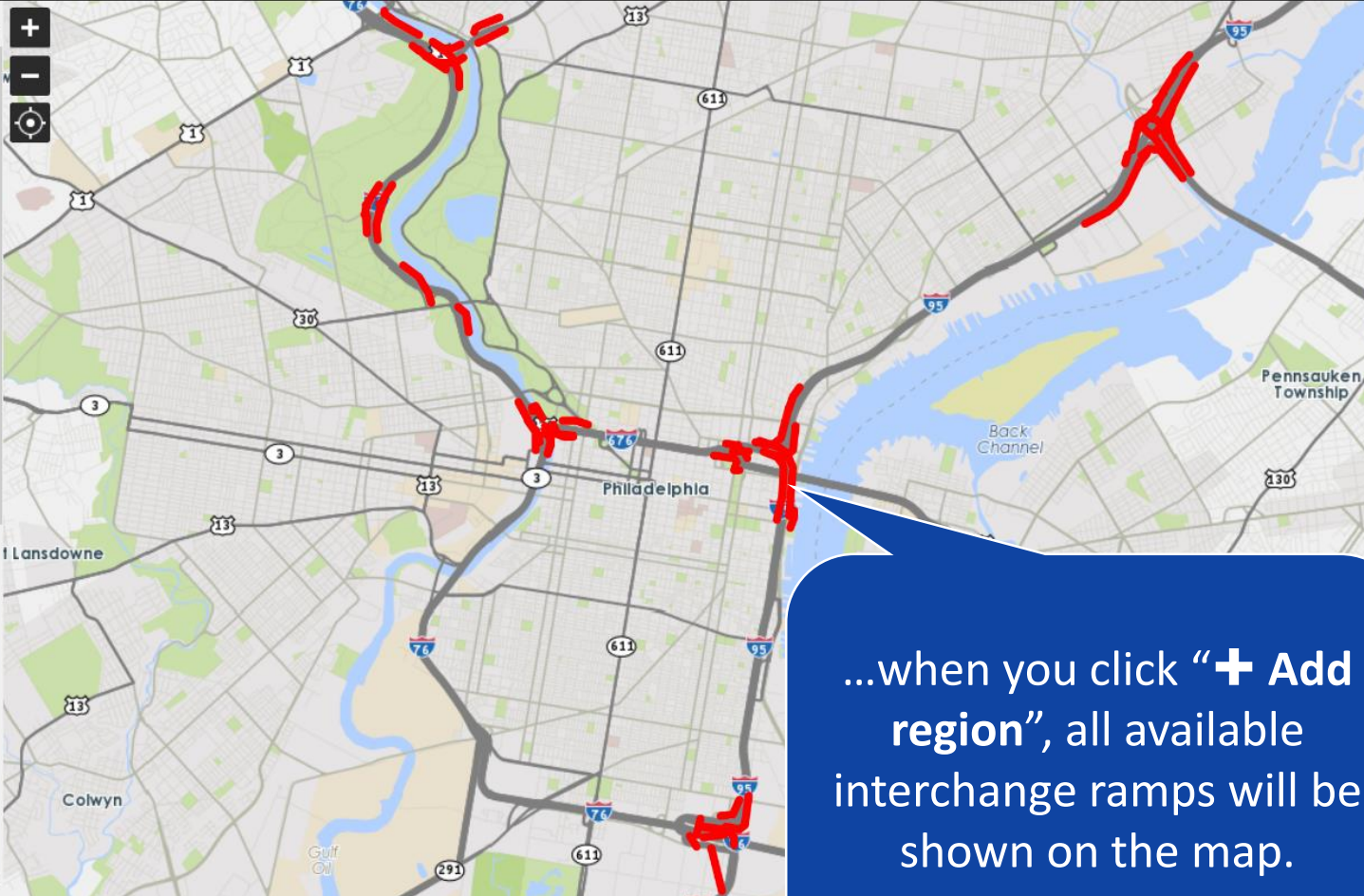
### 1. Select roads

Road	Region	List of TMC codes	Map	Saved TMC Set
TMCs from	INRIX			
States and counties	Philadelphia, Pennsylvania			
Directions	All			
Zip codes	Example: 20742,20904			
Road Classes	Interchange			

[+ Add region](#)

Your selected roads [Remove all](#)

[Save as TMC set](#)



...when you click “+ Add region”, all available interchange ramps will be shown on the map.

Under **Region**, select a state and/or county, then “Interchange” in the **Road Classes** dropdown...





# Selecting Ramps in Suite Tools **map query screen**

The screenshot displays the 'Probe Data Analytics Suite' interface. On the left, the 'Trend Map' tool is active, showing a sidebar with a '1. Select roads' section. This section includes tabs for 'Road', 'Region', 'List of TMC codes', 'Map', and 'Saved TMC Set'. The 'Map' tab is selected, and a dropdown menu for 'Road Classes' is open, showing 'Interchange' as the selected option. A blue callout bubble points to this dropdown with the text: 'Under Map, choose "Interchange" in the Road Classes dropdown...'. Below the sidebar, there is a '2. Select one or more time period' section with buttons for 'Day(s)', 'Month(s)', and 'Year'. A green '+ Add TMCs' button is also visible. On the right, a map of the I-95 corridor is shown. A green circular selection shape is drawn on the map, covering a section of the highway. A blue callout bubble points to this shape with the text: '...then draw a shape to select interchange desired ramps.' The map includes various street names and highway shields.

Probe Data Analytics Suite

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### Trend Map

The Trend Map allows you to create animated maps showing changes in congestion over the course of time at various granularities. The maps can be exported to animated GIFs and MP4s.

#### 1. Select roads

Road Region List of TMC codes **Map** Saved TMC Set

8 tmc's within currently selected geometry

TMCs from INRIX ☒ Preview TMCs on map

States All

Road Classes Interchange

+ Add TMCs

#### 2. Select one or more time period

Day(s) Month(s) Year


time period

☐ NPMRDS (Passenger vehicles)  
☐ NPMRDS (Trucks and passenger vehicles)

...then draw a shape to select interchange desired ramps.



# Performance Summaries **query screen**

NPMRDS Analytics  Welcome, John | [My History](#) | [Help](#) | [Tutorials](#) | [Logout](#)

**2. Select one or more time periods to analyze**

Day(s) | Month(s) | Year

10/16/2017 - through - 10/19/2017

☐ Create a single time period for this range  
☐ Limit to specific days of the week  
☐ Create a time period for each day within this range

**+ Add time period**

Your selected time periods Remove All

- October 03, 2017 through October 05, 2017 (3 days)
- October 10, 2017 through October 12, 2017 (3 days)
- October 16, 2017 through October 19, 2017 (4 days)

**3. Select a time range to analyze within each time period**

12:00 AM - 12:00 PM - 12:00 AM

6:00 AM - 9:00 AM

12:00 AM - 12:00 PM - 12:00 AM

4:00 PM - 7:00 PM

12:00 AM - 12:00 PM - 12:00 AM

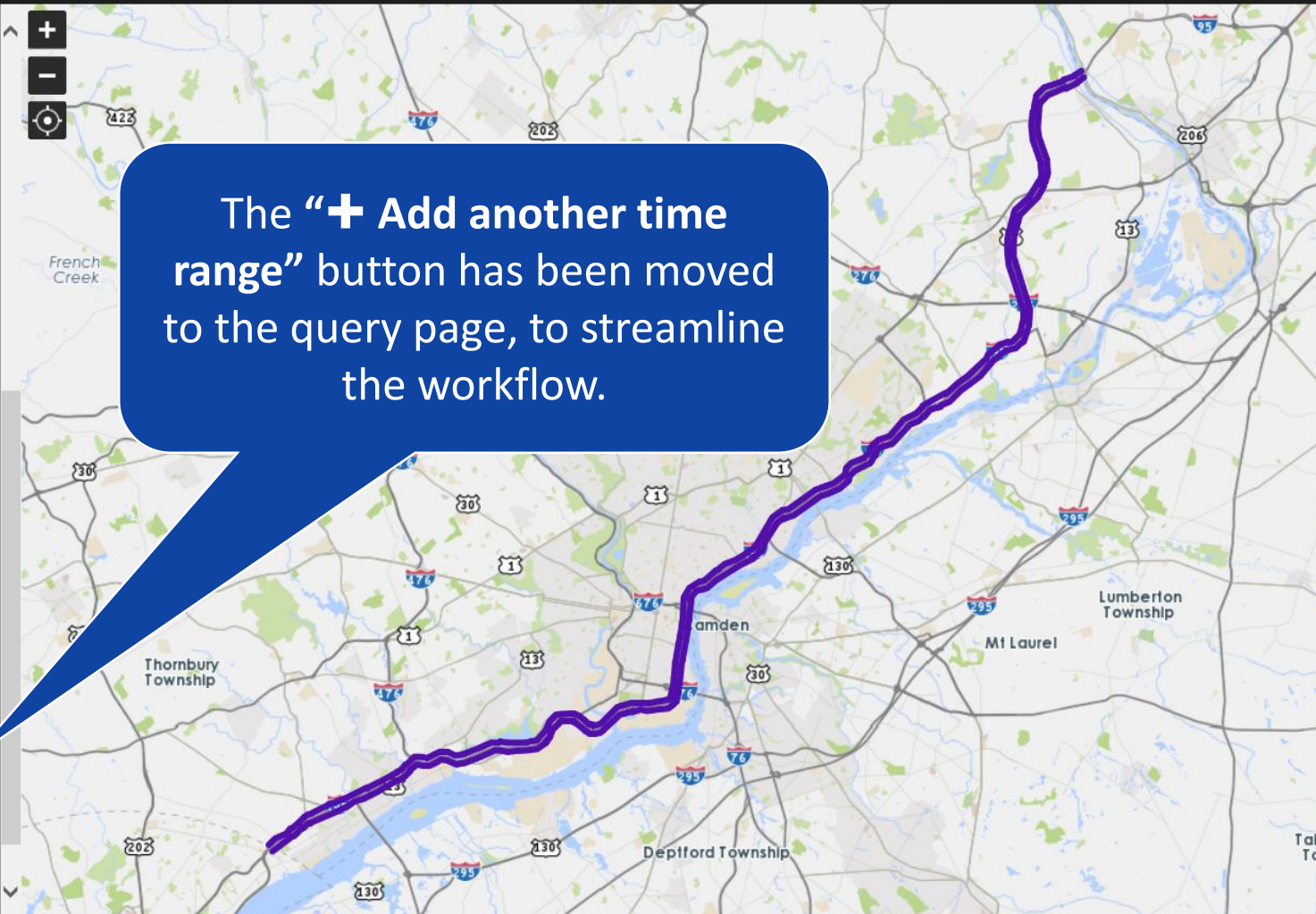
12:00 AM - 12:00 AM

**+ Add another time range**

**4. Select data sources**

- ☐ NPMRDS (Passenger vehicles)
- ☒ NPMRDS (Trucks and passenger vehicles)
- ☐ NPMRDS (Trucks)

The “+ Add another time range” button has been moved to the query page, to streamline the workflow.



# Performance Summaries results page

Performance Summaries

Open with...

?

October 03, 2017 through October 05, 2017

October 10, 2017 through October 12, 2017

October 16, 2017 through October 19, 2017

October 03, 2017 through October 05, 2017

October 10, 2017 through October 12, 2017

October 16, 2017 through October 19, 2017

I-95 Northbound using NPMRDS (Trucks and passenger vehicles) data

October 16, 2017 through October 19, 2017

	Speed (mph)			Buffer time (minutes)			Buffer index			Planning time (minutes)			Planning time index			Travel time (minutes)			Travel time index			
	6 AM - to - 9 AM	4 PM - to - 7 PM	12 AM - to - 12 AM	6 AM - to - 9 AM	4 PM - to - 7 PM	12 AM - to - 12 AM	6 AM - to - 9 AM	4 PM - to - 7 PM	12 AM - to - 12 AM	6 AM - to - 9 AM	4 PM - to - 7 PM	12 AM - to - 12 AM	6 AM - to - 9 AM	4 PM - to - 7 PM	12 AM - to - 12 AM	6 AM - to - 9 AM	4 PM - to - 7 PM	12 AM - to - 12 AM	6 AM - to - 9 AM	4 PM - to - 7 PM	12 AM - to - 12 AM	
Mon	51.97	48.87	55.04	28.60	51.91	30.21	0.53	0.88	0.51	82.88	111.07	89.17	1.79	2.39	1.92	62.19	66.14	58.72	1.34	1.43	1.27	Mon
Tue	49.28	43.43	53.20	39.49	51.28	42.31	0.72	0.86	0.70	94.63	110.92	102.68	2.04	2.39	2.21	65.58	74.42	60.75	1.41	1.60	1.31	Tue
Wed	35.41	45.71	52.71	148.54	39.72	55.63	2.70	0.64	0.90	203.51	102.05	117.24	4.39	2.20	2.53	91.26	70.70	61.31	1.97	1.52	1.32	Wed
Thu	49.62	37.69	53.16	47.46	84.24	41.65	0.87	1.37	0.67	102.27	145.73	103.57	2.04	3.14	2.23	65.14	85.75	60.79	1.40	1.85	1.31	Thu
Fri	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Weekdays	45.86	43.52	53.51	87.51	64.86	33.07	1.60	1.07	0.54	142.30	125.51	93.81	3.07	2.71	2.02	70.47	70.47	70.47	70.47	70.47	70.47	
Sat	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Sun	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Weekends	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
All Days	45.86	43.52	53.51	87.51	64.86	33.07	1.60	1.07	0.54	142.30	125.51	93.81	3.07	2.71	2.02	70.47	70.47	70.47	70.47	70.47	70.47	

Individual metrics tables are now combined into a single worksheet, improving readability.

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# Bottleneck Ranking table changes

Bracketed Results Groupings

Base Impact\*

Base impact weighted by<sup>†</sup>:

Magnitude  
of  
Speed Drops















Severity  
of  
Congestion

Estimated  
Total  
Delay



#1 Bottleneck Ranking - Using INRIX data

Bottleneck Ranking Table for I-95 between November 1, 2017 and November 24, 2017 (78 total)

Rank	Map	Head Location (approximate)	Bottleneck Profile			Influences		Base impact weighted by			External Tool Links
			Average ma...	Average daily d...	Total duration	All Events /Incident...	▼ Base Impact	Speed differential	Congestion	TOTAL DELAY	
1	<input type="checkbox"/>	I-95 S @ GIRARD AVE/EXIT 23	3.64	5 h 20 m	5 d 08 h 18 m	0	29,455.78	1,097,952.23	55,509.78	85,279,047,818.35	 
2	<input type="checkbox"/>	I-95 S @ PA-320/E 6TH ST/EXIT 6	1.11	5 h 10 m	5 d 04 h 24 m	2	10,485.70	375,718.64	18,220.69	25,423,377,521.51	 
3	<input type="checkbox"/>	I-95 N @ US-322/EXIT 2/EXIT 3	1.74	3 h 07 m	3 d 03 h 01 m	0	7,964.24	292,378.74	12,714.40	18,610,784,244.41	 
4	<input type="checkbox"/>	I-95 N @ PA-611/BROAD ST/EXIT 17	3.22	1 h 43 m	1 d 17 h 23 m	0	7,872.79	300,860.05	16,103.61	15,852,015,307.23	 
5	<input type="checkbox"/>	I-95 N @ DELAWARE AVE/EXIT 23	1.70	1 h 50 m	1 d 20 h 05 m	0	4,251.42	151,346.64	7,991.59	9,870,373,998.34	 
6	<input type="checkbox"/>	I-95 N @ BRIDGE ST/EXIT 27	3.61	48 m	19 h 23 m	0	4,221.97	164,392.69	10,540.36	11,705,417,162.27	 
7	<input type="checkbox"/>	I-95 N @ GIRARD AVE/EXIT 23	2.53	48 m	19 h 32 m	0	3,114.82	114,410.24	6,832.85	7,844,195,010.63	 

\* - sum of the queue lengths over the duration of the bottleneck

† - new feature being developed to toggle between value and rank



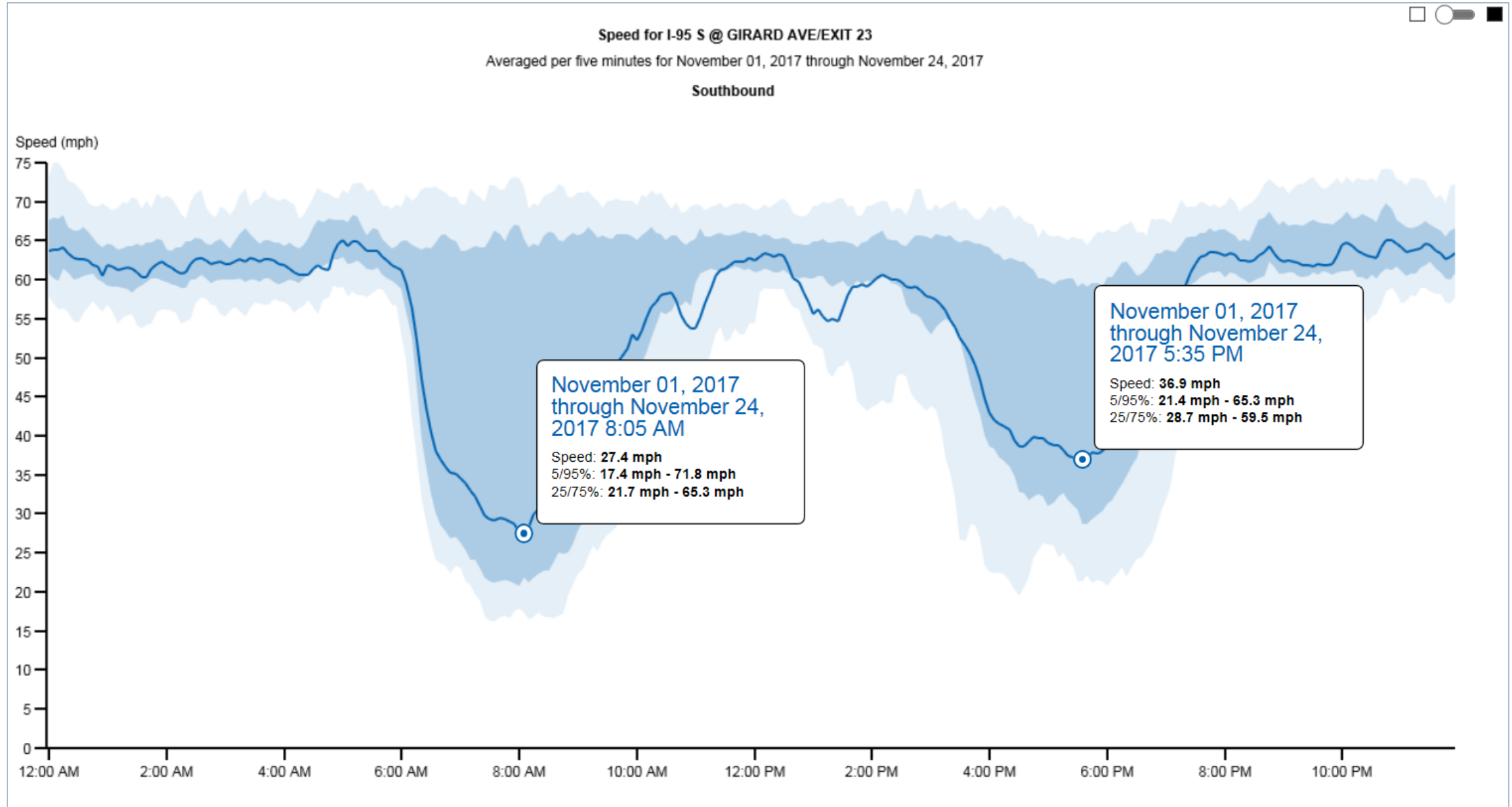
Click on a column header to sort the table to that measure



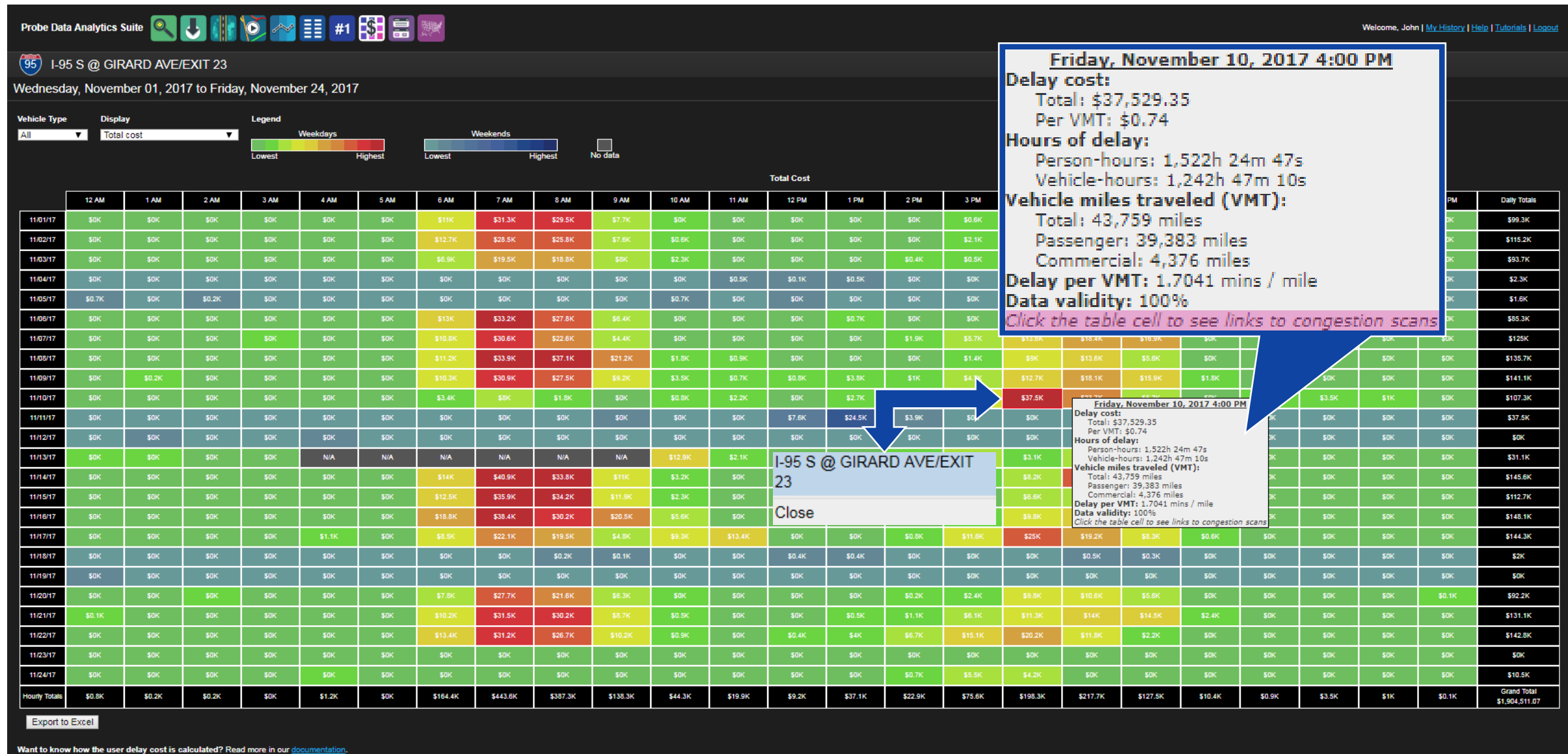
External  
Tool Links



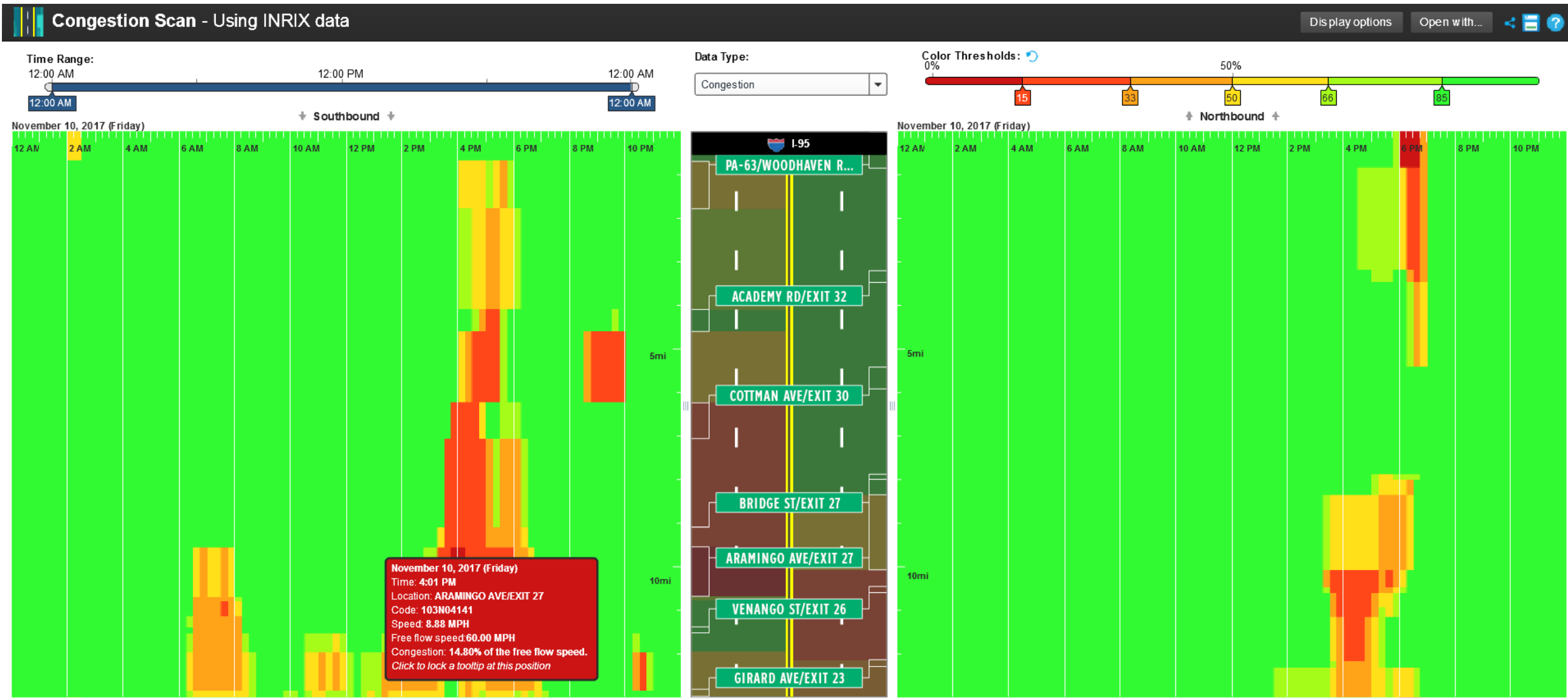
# Performance Charts [linked to bottleneck ranking](#)



# User Delay Cost linked to bottleneck ranking



# Congestion Scan linked to user delay cost





# Instant Poll

**1** Would you benefit from an exclusive Bottleneck Ranking Focus Session?  
(overview / tutorial / demo / Q&A)

☐ Yes, definitely!

☐ No thanks



# Canada/Mexico border crossing data added

Probe Data Analytics Suite

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## Massive Data Downloader

Use the Massive Data Downloader to download raw probe data from our archive for offline analysis.

### 1. Select roads

Road Region List of TMC codes Map Saved TMC Set

TMCs from NPMRDS

States and counties Border, Vermont

Directions ☐ Select All

Zip codes ☐ South Dakota

Road Classes ☐ Tennessee

☐ Texas

☐ Utah

☒ Vermont

☐ Virginia

Your selected roads 1

Border, Vermont (22)

☐ Washington

☐ West Virginia

☐ Wisconsin

Save as

### 2. Select one or more date ranges

11/29/2017 - through - 11/29/2017

+ Add another

### 3. Select days of week

☒ Sun ☒ Mon ☒ Tue ☒ Wed ☒ Thu ☒ Fri ☒ Sat

### 4. Select one or more times of day

12:00 AM - to - 11:59 PM

Access TMC segment data for Canada and Mexico (within 5 mi of US border crossings)

Map showing the I-95 Corridor and surrounding areas, including the Canada/Mexico border crossing data. A large blue arrow points to the border crossing data, which is highlighted in purple on the map. The arrow is labeled with the text "Access TMC segment data for Canada and Mexico (within 5 mi of US border crossings)".



# NPMRDS v2 now has a single resource link

<https://npmrds.ritis.org/analytics/resources>

**NPMRDS Analytics**

**Help**

**General Information**

- [NPMRDS Analytics](#)
- [NPMRDS Resources](#)
- [NPMRDS FAQs](#)
- [Data Types](#)
- [TMC Codes](#)
- [Incident/Event Icons](#)
- [MAP-21](#)
- [Support](#)

**Tools**

- [Selecting Roads](#)
- [Massive Data Downloader](#)
- [Congestion Scan](#)
- [Trend Map](#)
- [Performance Charts](#)
- [Performance Summaries](#)
- [NPMRDS Coverage Map](#)
- [Dashboard](#)
- [My History](#)

**NPMRDS Resources**

**Quick Start Guide**  
Start with a simple four-step process for getting access to the NPMRDS data and analytics, to get you up and running quickly.

**Data Sharing Agreement**  
Before accessing the NPMRDS, your agency must have signed this Data Sharing Agreement.

**FAQs**  
Get answers to your NPMRDS questions, written in plain English and with hyperlinks to many additional resources.

**Massive Data Downloader Tutorial**  
In under two minutes, learn how quick and easy it is to use the Downloader for selecting the data you need, through this narrated video.

**Shapefiles**  
Look up shapefiles for your region of interest and download them. (Requires login)

**Webinars**  
Link to **FHWA's Operations Performance Measurement Program** website to view past NPMRDS technical assistance webinars.

**Descriptive Metadata Document**  
Learn about how the NPMRDS dataset is put together, find attribute descriptions, see when data becomes available and how it meets completeness targets, and much more, through technicals easy-to-understand document.



# Major Feature Deploy Status for cy 2017

## Q1

(Jan-Mar)

- ✓ Query Submission pages Flash Player dependency removed
- ✓ “My Reports” New Functionality
- ✓ MAP-21 Final Rule Widgets
- ✓ Removal of TMC and Date range restrictions

## Q2

(Apr-Jun)

- ✓ Performance Charts - custom graph formatting for exports\*
- ✓ Bottleneck Ranking with new ranking measures\*
- ✓ NPMRDS Massive Data Downloader Update
- ✓ Dashboard Update for MAP-21 Final Ruling

## Q3

(July-Sep)

- ✓ TMC selection by map
- ✓ Download travel time in seconds (per MAP-21 specs)
- ✓ Work Zone Performance Monitoring Application
- ✓ NPMRDS Coverage Map app
- ✓ Performance Summaries enhancements
- ✓ MPO boundary selection for MAP-21 widgets

## Q4

(Oct-Dec)

- ✓ Map tiling & rendering performance updates
- ✓ Advanced Time Selection
- ✓ Basic O-D Data Analytics - Phase I \*\*
- ✓ Sub-segment Data in results pages\*\*\*
- ✓ Results pages Flash Player dependency removed (Q4+)

\* These features were funded by PennDOT

\*\* Will require purchase of O-D Data from a vendor, and may be independent of the PDA Suite

\*\*\* Requires sub-segment data from a vendor and may require additional storage

✓ - complete

✓ - in progress



# Deploy Summary Table Update

- 2017 Q3 Deploy Summary Table is available at:

<http://i95coalition.org/projects/probe-data-analytics/>

on the “New Features” tab

Probe Data Analytics User Group   PDA Suite Focus Groups   Probe Data Analytics Forum   Why Agencies choose PDA

Probe Data Analytics Tools   **New Features**   Testimonials   FAQs   Newsletters

Feature Deployment Updates

2017

- PDA Suite Deploy Table – CY2017 – Qtr. 3
- PDA Suite Deploy Table – CY2017 – Qtr. 2
- PDA Suite Deploy Table – CY2017 – Qtr. 1

2016

- PDA Suite Deploy Table – CY2016 – Qtr. 4
- VPP Suite Feature Deployment Table – CY 2016 – Q3
- VPP Suite Feature Deployment Table – CY 2016 – Q2

2015

- How to use the Multi-road Congestion Scan – deployed November 30, 2015

Probe Data Analytics Suite | Calendar Year 2017 Deployments   Q1 | Q2 | **Q3** | Q4

Summary

15 Q3 Improvements

- 3 Major New Features
- 8 Functional Enhancements
- 4 Significant Bug Fixes

30 YTD Improvements

- 8 Major New Features
- 16 Functional Enhancements
- 6 Significant Bug Fixes

Detail

Improvement	Tool(s) Affected	Description	Deploy Date
Ramps in TMC selection	PROBE DATA ANALYTICS SUITE (Except Congestion Scan)	Allows ramps to be selected using the TMC selector without requiring manual TMC entry.	09.27.2017
MPO Boundry Selection*	MAP 21	Allows users to choose MPO boundaries in creating a MAP-21 Dashboard widget.	09.27.2017
Export Truncation in Massive Data Downloader		Fixes a bug where exports larger than 4 GB would be truncated.	09.08.2017
Flash migration for Performance Summaries*		Migrates Performance Summaries to a JavaScript implementation.	08.28.2017
Wrong Provider in Speed/Travel Time Widgets		Fixes a bug where one provider would be used for all speed and travel time widgets regardless of the widget's configuration.	08.25.2017
TMC Selection by Map*	PROBE DATA ANALYTICS SUITE	Adds a new way to select TMCs: by drawing shapes on the map.	08.18.2017
Travel Time Unit Selection		In the Masive Data Downloader you can now choose to have the travel times in data exports be in minutes or seconds.	08.09.2017
Historic average speed and reference speed for NPMRDS	PROBE DATA ANALYTICS SUITE	With the addition of historic average speed and reference speed, several previously unavailable metrics are now available for the NPMRDS (Buffer Index, Planning Time Index, etc.)	08.02.2017
Better resource management for exports and UDC reports		When a large number of MDD and UDC requests are active in the system, resources are better allocated to prevent these requests from impacting throughput of other requests.	07.28.2017
GIS metadata fields for NPMRDS2		Adds new fields to the MDD TMC Inventory file for NPMRDS exports that come from the NPMRDS shapefile.	07.21.2017
UDC Report Bug Fix		Fixes a bug that caused UDC reports to not finish being created.	07.19.2017
NPMRDS FAQ Updates	PROBE DATA ANALYTICS SUITE	This update significantly expands the NPMRDS documentation in our help pages, and based on user feedback (two updates).	07.18.2017 07.21.2017
NPMRDS2 Data Set & Coverage Map*	PROBE DATA ANALYTICS SUITE	The new NPMRDS2 extends the NPMRDS dataset where the NPMRDS1 left off (Jan 2017) and includes new features, like null record handling. The Coverage Map is a new tool that allows users to see how much of the NPMRDS is covered by live probes (two updates).	07.07.2017

Large-scale, system-wide efforts (that extend beyond one quarter)

Flash Migration\*

Continuing to remove the dependence on Flash by reworking the front end and back ends to newer web standards.

Key

- Major New Features**  
Provides you with significant new abilities to interact with the tools in ways you couldn't do before.
- Functional Enhancements**  
Smaller, but important new features or functions that help existing tools work better, faster or more efficiently.
- Significant Bug Fix**  
Corrects errors, flaws or faults in the system that may have been confusing, annoying or inhibiting.
- +** Substantial and/or high-value deploys.

CATT Center for Advanced Transportation Technology Laboratory  
[www.cattlab.umd.edu](http://www.cattlab.umd.edu)

I-95 Corridor Coalition  
[www.i95coalition.org](http://www.i95coalition.org)

FYI since Q2 2016, we've deployed...

11

New  
Features

41

Functional  
Enhancements

15

Significant  
Bug Fixes



# PROBE DATA ANALYTICS SUITE



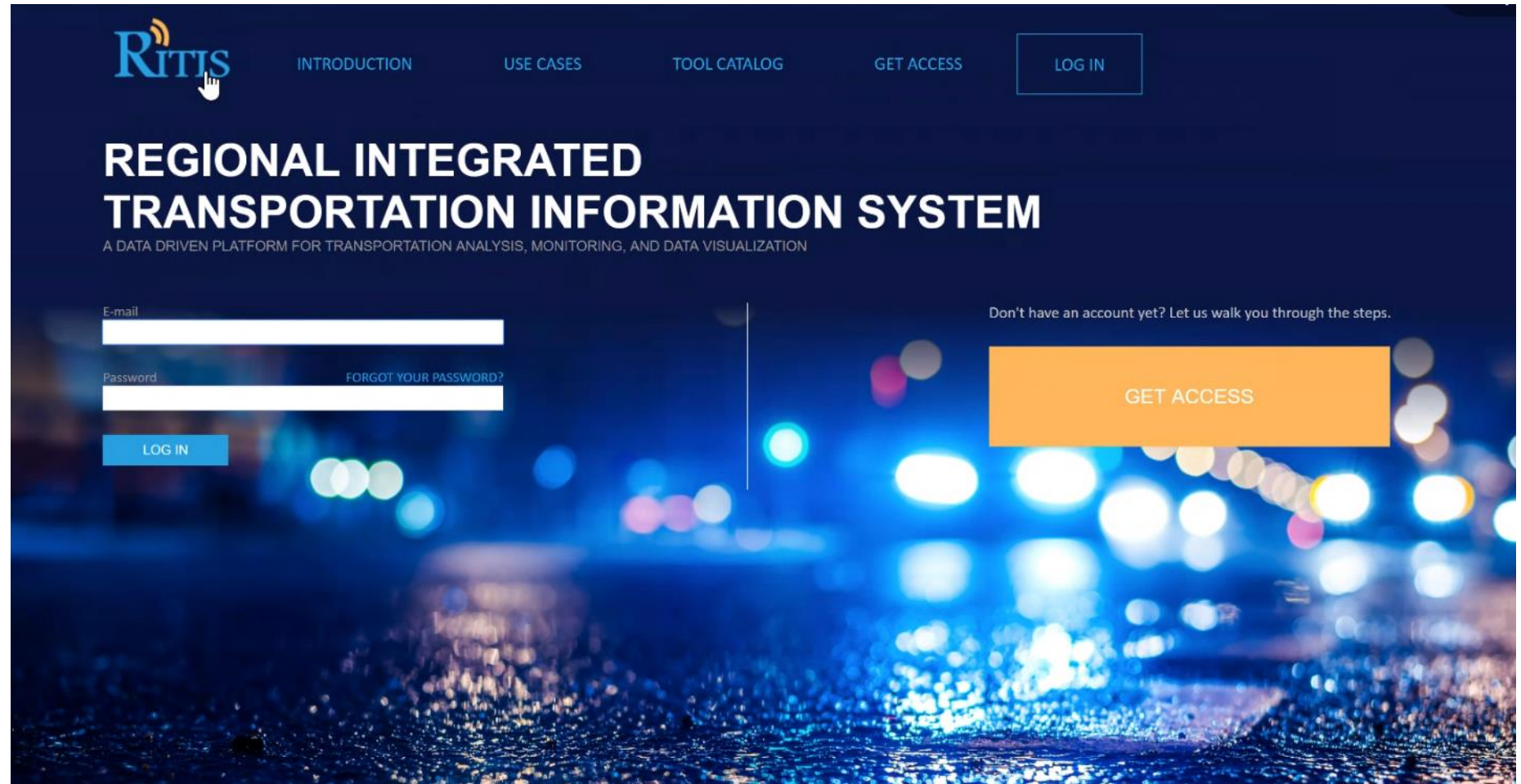
# Coming soon...





# RITIS Modernization **work-in-progress**

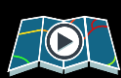
- ✓ New look
- ✓ New layout
- ✓ New features
- ✓ Better integration
- ✓ Targets your needs



# Instant Poll

**2** Would you like to have a walk-through of the new RITIS when it's released?

- ☐ Yes, definitely!
- ☐ I'd rather experiment on my own
- ☐ No, don't have an interest



# MAP-21 Tools **upcoming new features**

- Expanded graph timeline for multi-year comparisons
- Trend-line capabilities to aid in target-setting
- An “easy button” for immediately creating all of the files & deliverables for submission to FHWA\*

\* - pending final format release



# Instant Poll

**3** Has your agency begun to use PDA Suite tools for the MAP-21 measures?

- ☐ Yes, we have started
- ☐ No, but we plan to
- ☐ No, don't plan to use these tools



# Thanks!



For more information, please contact:

John C. Allen  
The Center for Advanced Transportation Technology Laboratory  
[jallen35@umd.edu](mailto:jallen35@umd.edu) | 215.666.3057



In the spotlight...

# Use of RITIS to Assess Traffic Impacts of Hurricane Irma Evacuation

Derek Vollmer, PE  
State ITS Software Engineer  
Florida Department of Transportation





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# Use of Regional Integrated Traffic Information System (RITIS) to Assess Traffic Impacts of Hurricane Irma Evacuation





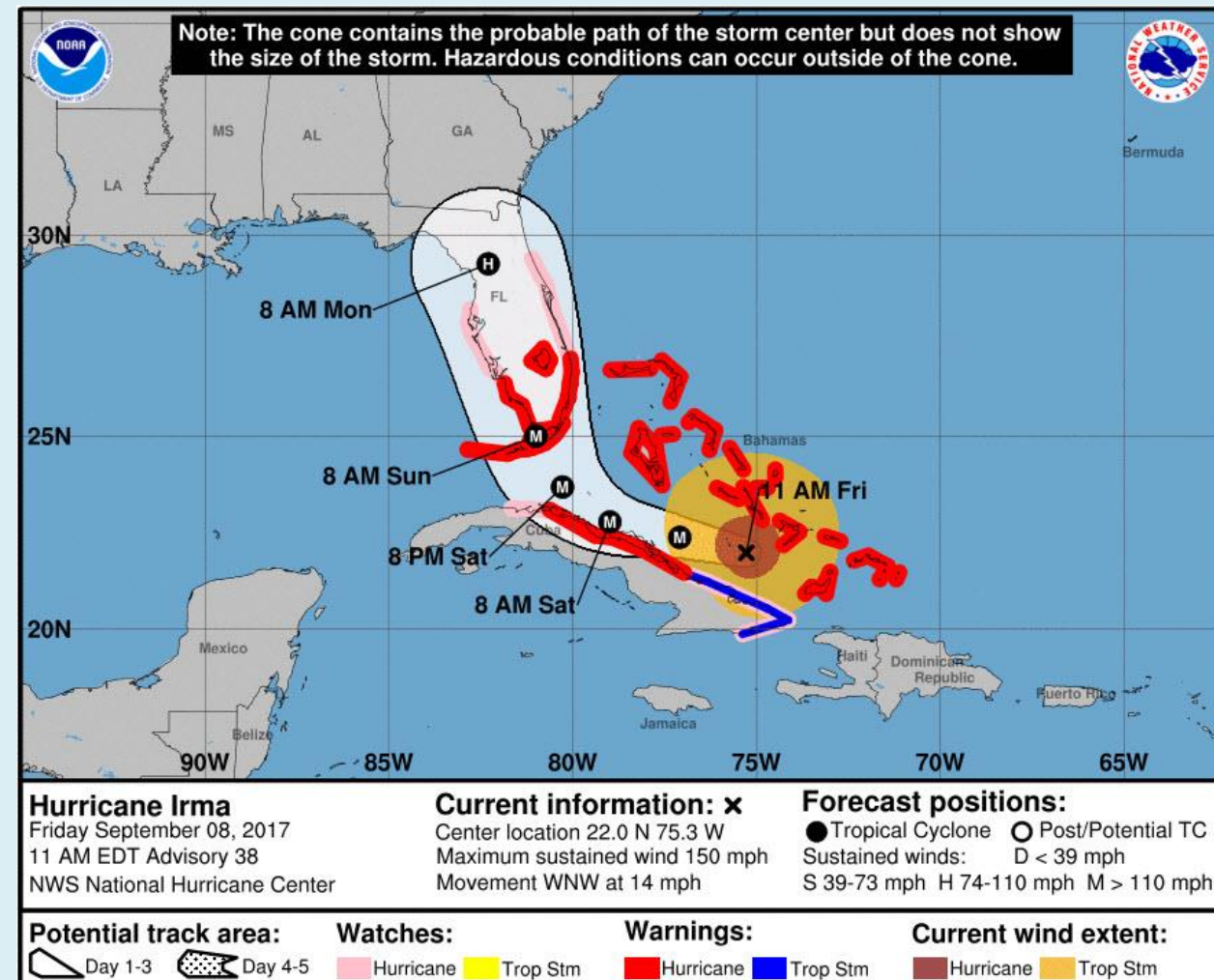
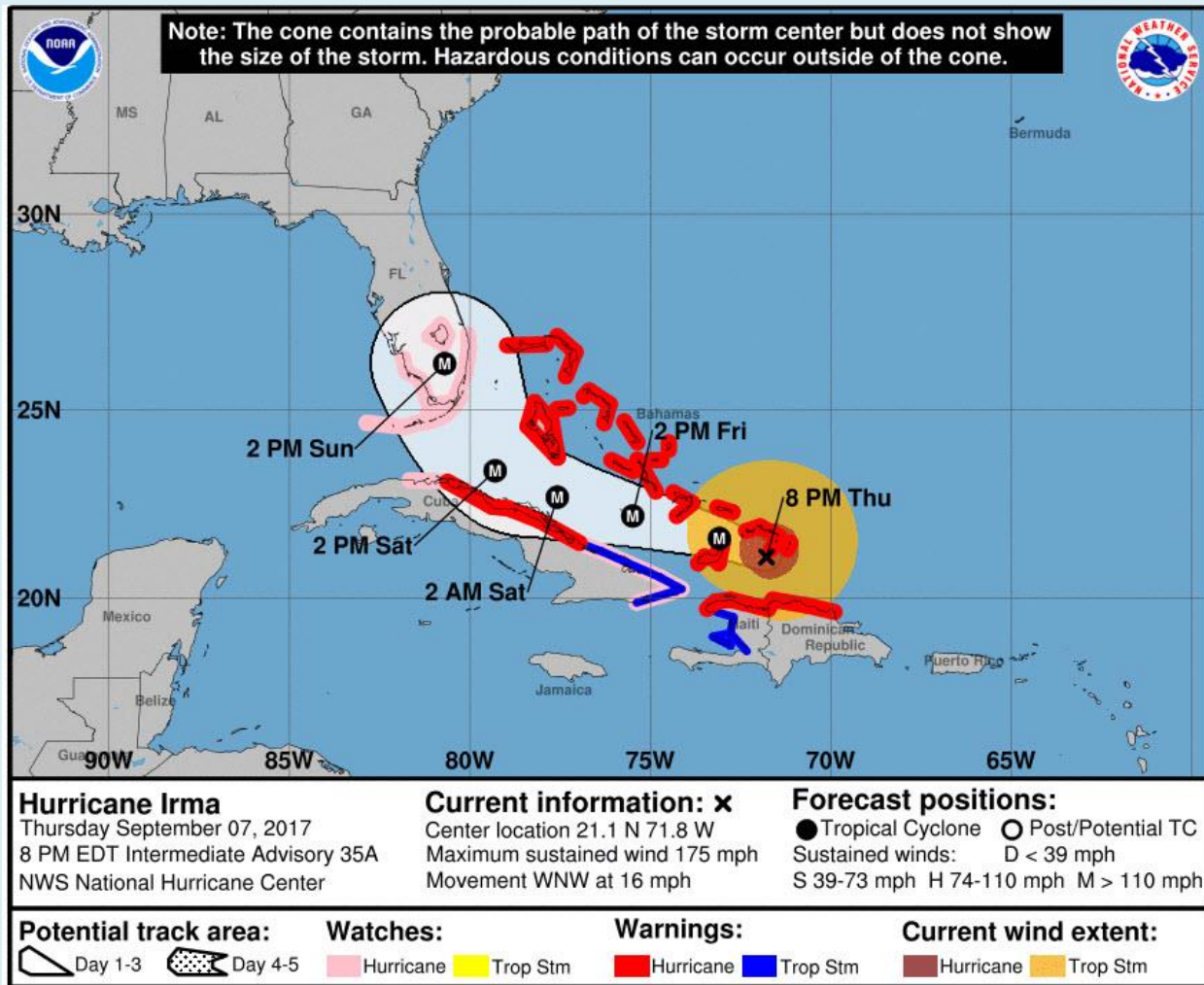
# Mandatory Evacuation

- September 4<sup>th</sup> Florida Declares State of Emergency to prepare Florida for Hurricane Irma
- Estimated 6.3 million people ordered to evacuate
- Evacuation by County

**“If you have been ordered to evacuate, you need to leave now...”**  
**- Gov. Rick Scott**

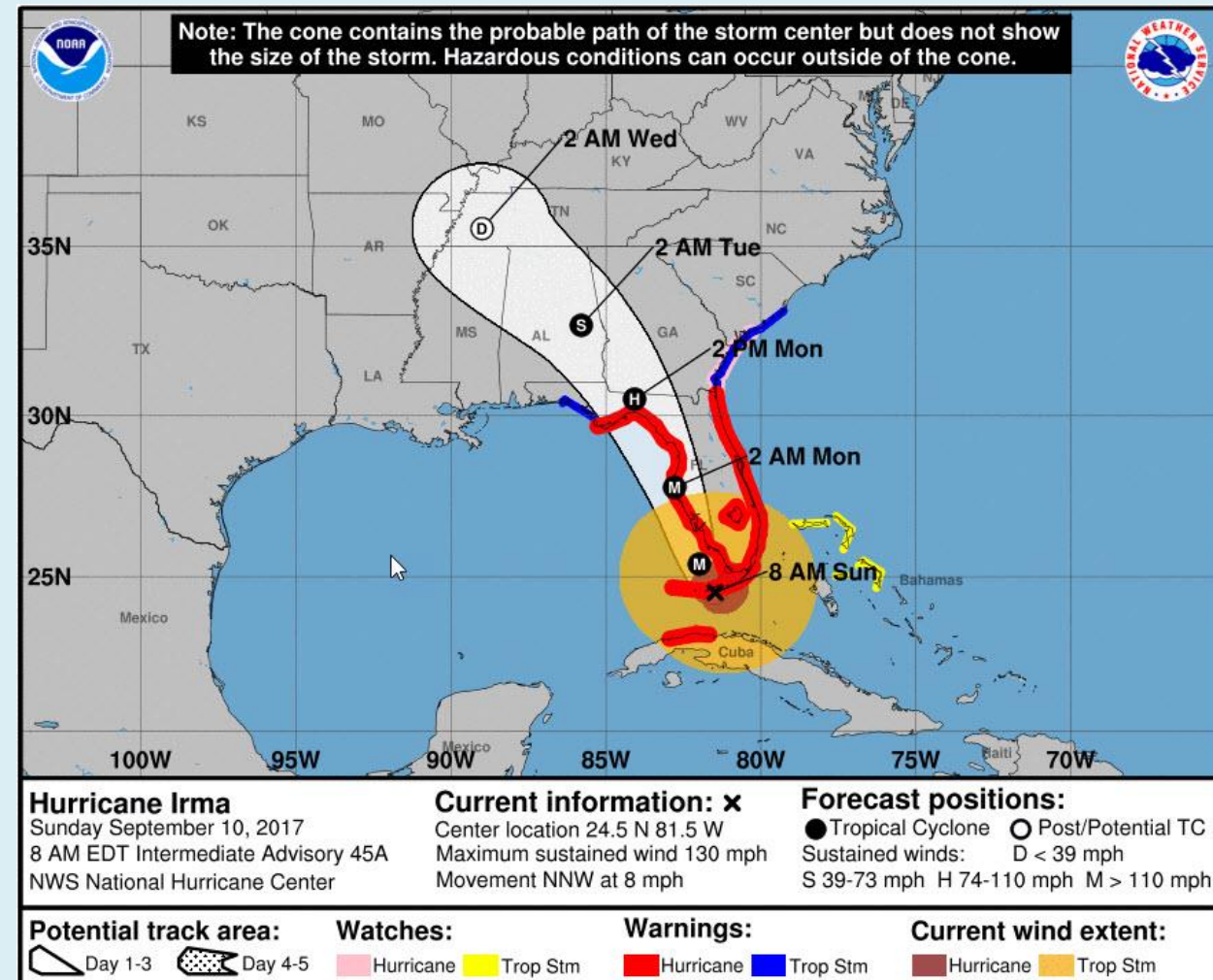
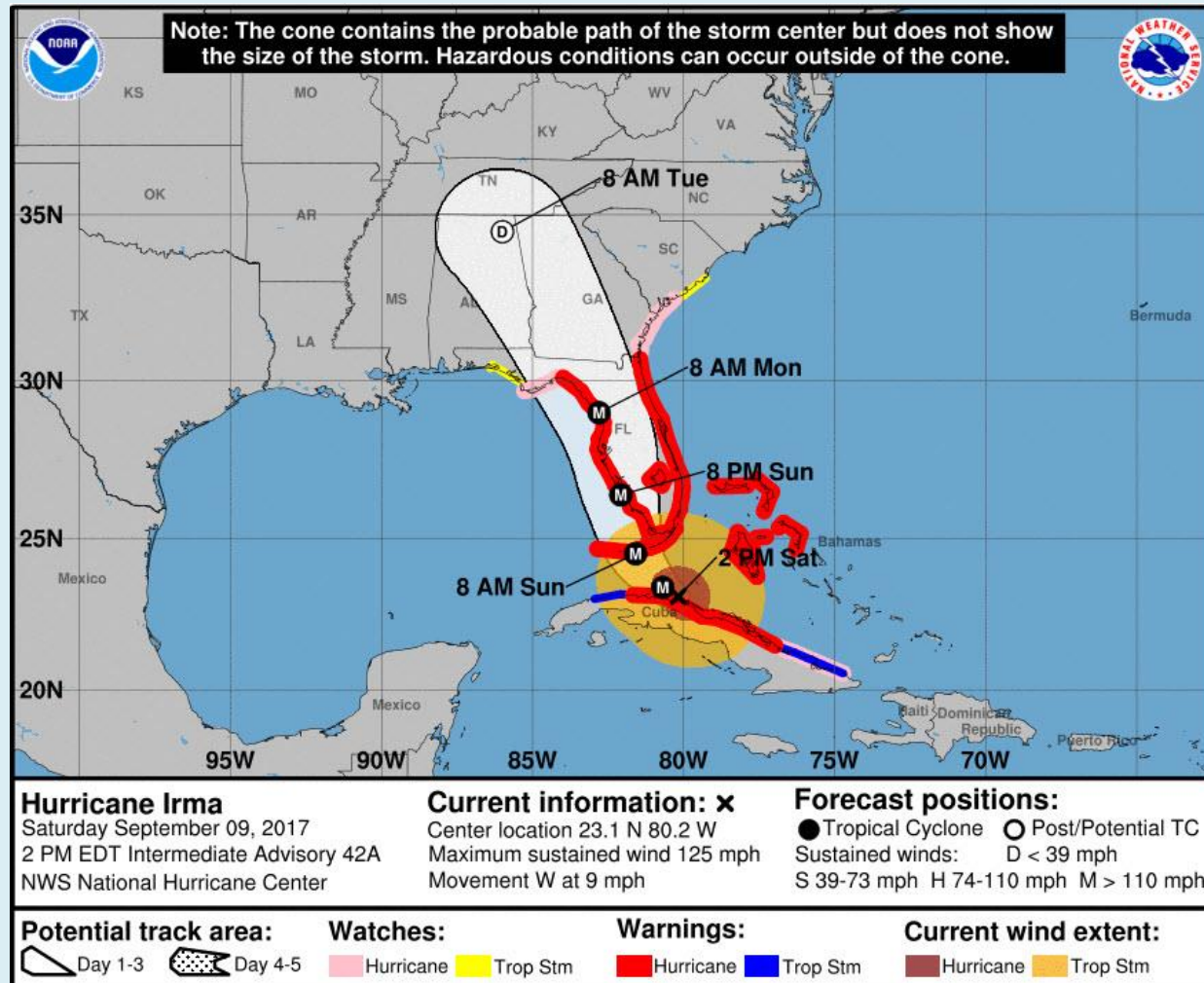


# Background - Irma's Path Prediction



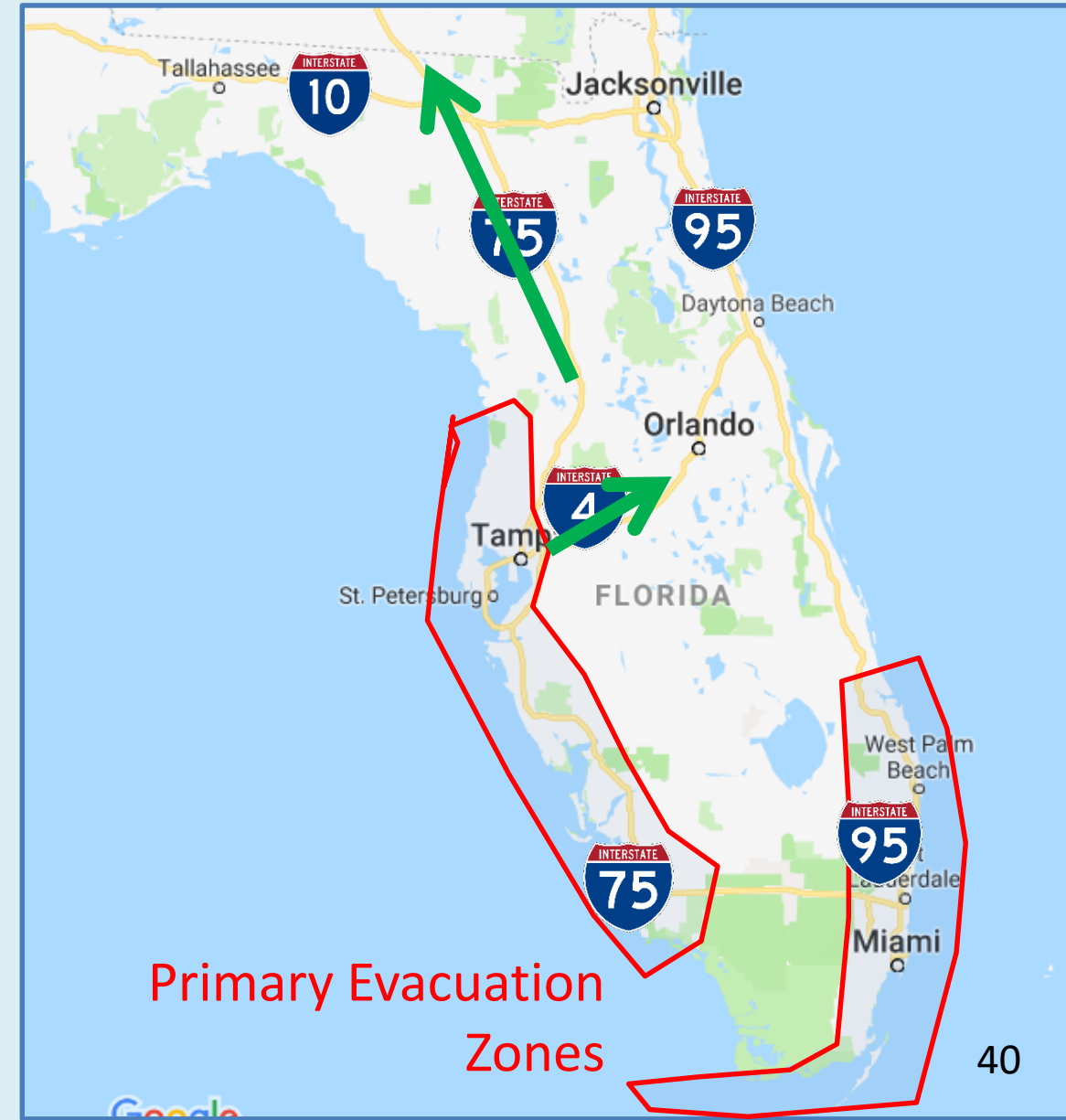


# Irma's Path Predication Shift Westward



# Emergency Shoulder Use Implemented

- Plans were prepared prior to hurricane season
- I-75 northbound
  - Florida Turnpike to Georgia
- I-4 eastbound
  - Tampa to west of Orlando





# Emergency Shoulder Use for Evacuation



# Emergency Shoulder Use on I-75

- September 7<sup>th</sup>
  - Emergency Shoulder Use (ESU) Implementation at 8PM
  - I-75 from Wildwood to CR136 north of I-10
- September 8<sup>th</sup>
  - Terminus was extended to the Georgia State Line
  - Start was extended approximately 2 miles
- September 9<sup>th</sup>
  - ESU operation terminated at approximately 11AM





# Emergency Shoulder Use on I-75



- Operating Conditions
  - Heavy congestion
  - Free flow conditions in various pockets
- Statistics
  - 18 Emergency Roadside Assistance Vehicles **assisted 509** motorists
  - **Zero Fatalities**
  - Few injuries reported from crashes
    - Crashes: rear-ends and side swipes due to careless driving

# Emergency Shoulder Use on I-4

September 9<sup>th</sup>

- Implementation at 3:00PM
- I-4 from 50<sup>th</sup> Street in Tampa to the Western Beltway (SR429) in Orlando
- ESU terminus extended to Central Florida Greenway (SR 417)
- Terminated at approximately 8PM





# Emergency Shoulder Use on I-4



- Operating Conditions
  - Heavy congestion
  - Free flow conditions in various pockets
- Statistics
  - 6 Emergency Roadside Assistance Vehicles **assisted 26** motorists
  - **Zero Fatalities**

# Why Shoulder Use Versus One-Way

1. Able to use in overnight hours
2. Allowed emergency vehicle access from opposing direction
3. Allowed post storm response conveys to move into Florida before returning traffic



# FDOT's RITIS Data Resources & Tools

- Microwave Vehicle Detection Systems

- 5-minute data
- Speeds
- Volumes
- Were not configured to measure shoulders

- HERE Probe Data

- Speeds

- SunGuide Freeway Incidents

- Detector Explorer



- Congestion Scan

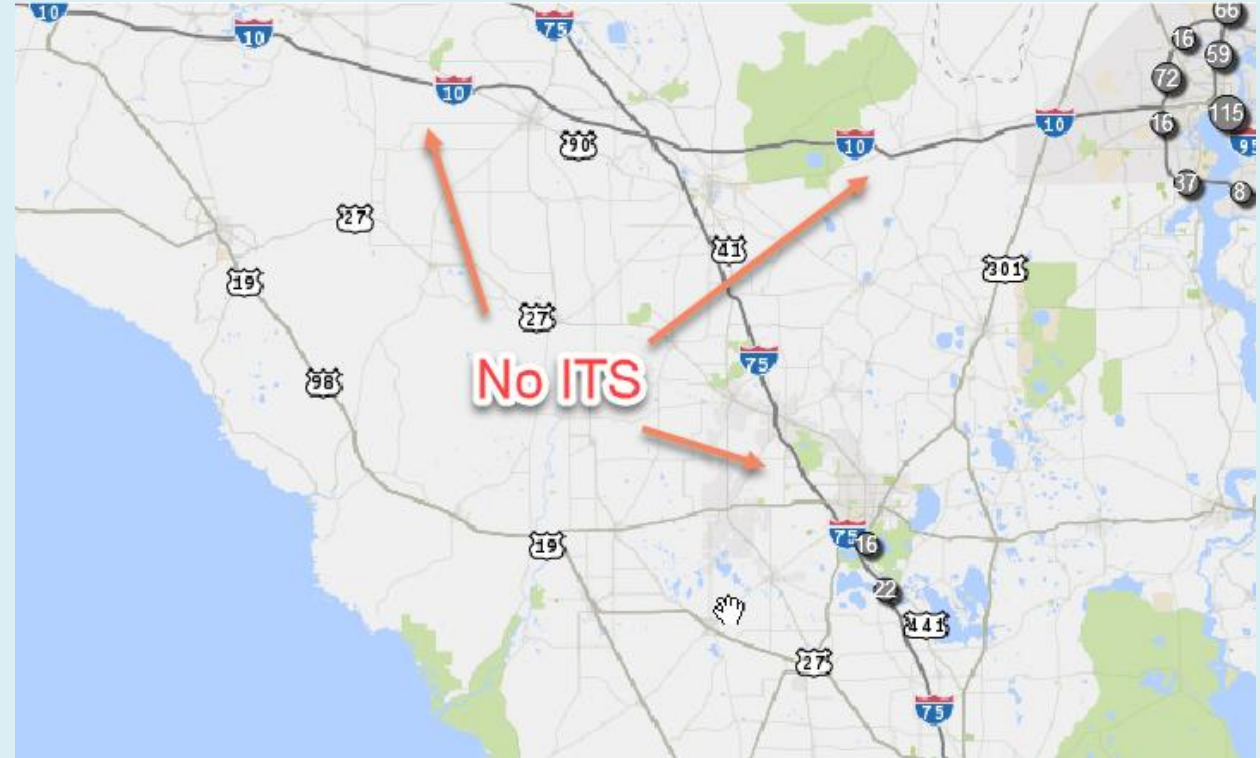


- Massive Data Downloader



# FDOT RITIS MVDS Detector Map

- No ITS between Gainesville and the Georgia State line on I-75
- No ITS between Jacksonville and Tallahassee on I-10

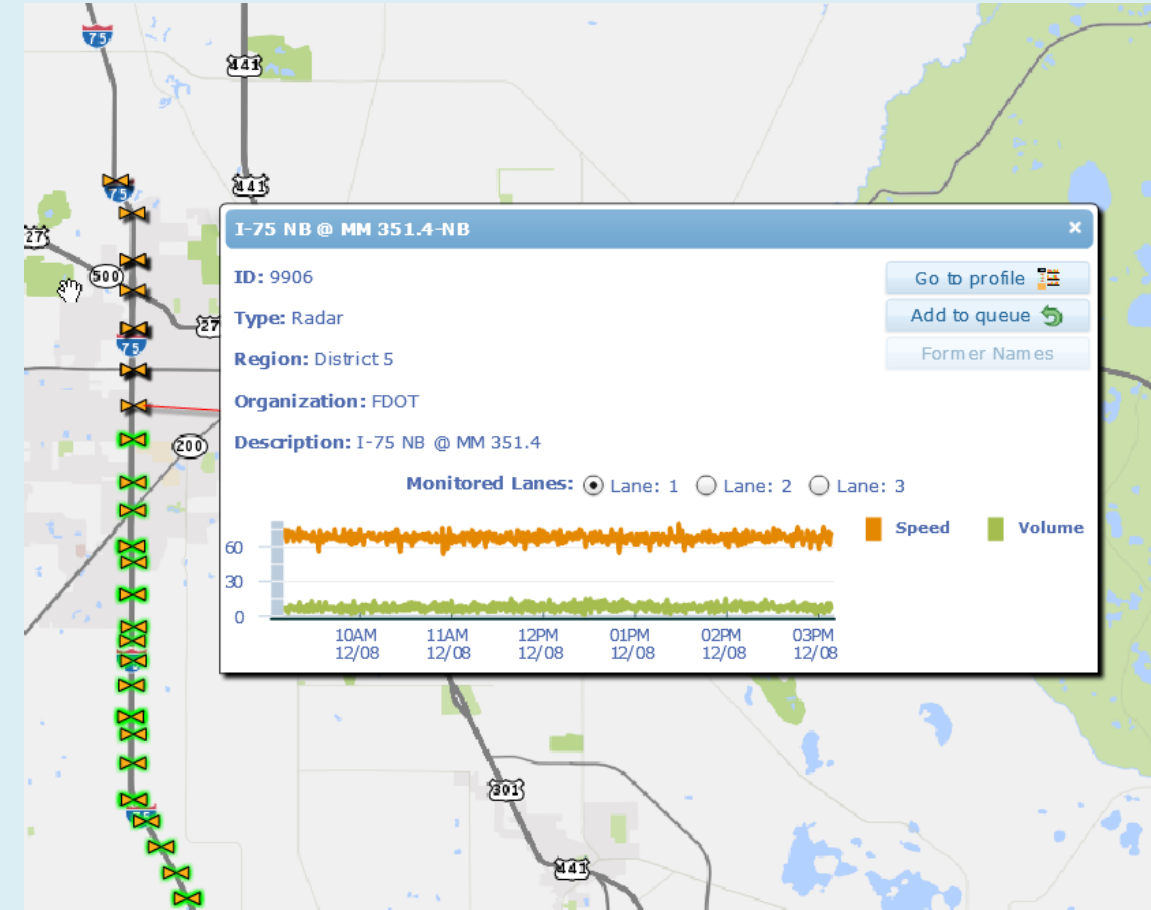




# RITIS Detector Tool - Selection



- Select detectors
  - Individually
  - Selection box
- Add them to the Queue



# RITIS Detector Tools - Export



- Select date ranges and times
- Select aggregation
- Download link e-mailed to you
- Data in CSV format for easy use

zone_id	lane_num	lane_id	measurement_start	speed	volume	occupancy	volume_weighted_speed	factored_up_volume
9843	1	30966	9/8/2017 7:05	80.6	13	0.333333	75.41666667	14
9843	1	30966	9/8/2017 7:10	79.42857143	20	0.7	74.05	20
9843	1	30966	9/8/2017 7:15	78.11111111	26	1.111111	78.91666667	27
9843	1	30966	9/8/2017 7:20	78.71428571	22	1	75.22727273	22
9843	1	30966	9/8/2017 7:25	78.75	16	0.7	74.25	16
9843	1	30966	9/8/2017 7:30	81.75	15	0.4	76.66666667	15
9843	1	30966	9/8/2017 7:35	79.375	18	0.6	73.77777778	18
9843	1	30966	9/8/2017 7:40	86	14	0.375	81.83333333	15

▼ Export Options

2. Date range

09/07/201 - 09/09/201

+ Add another date range

3. Days of week

Sun

Mon

Tue

Wed

Thu

Fri

Sat

☐ Exclude Holidays ⓘ

4. Time of day ⓘ

12:00AM -to- 11:59PM

+ Add another time range

5. Fields ⓘ

☒ Speed ☒ Volume ☒ Occupancy

6. Aggregation

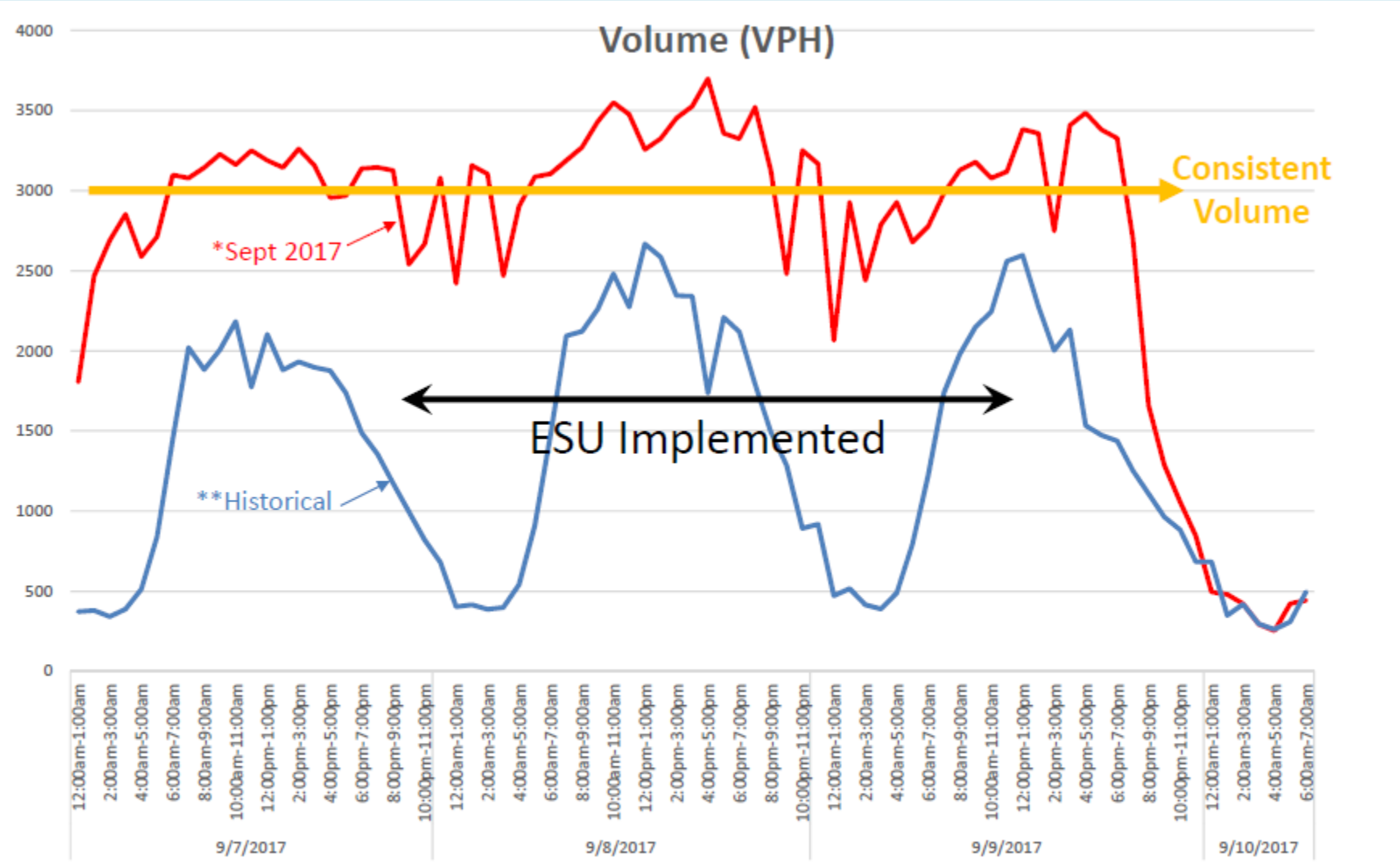
☐ Raw Data ☒ 5 Minutes ☐ 15 Minutes

☐ 30 Minutes ☐ 1 Hour

Submit data export request

Reset form

# Emergency Shoulder Use – MVDS Volumes

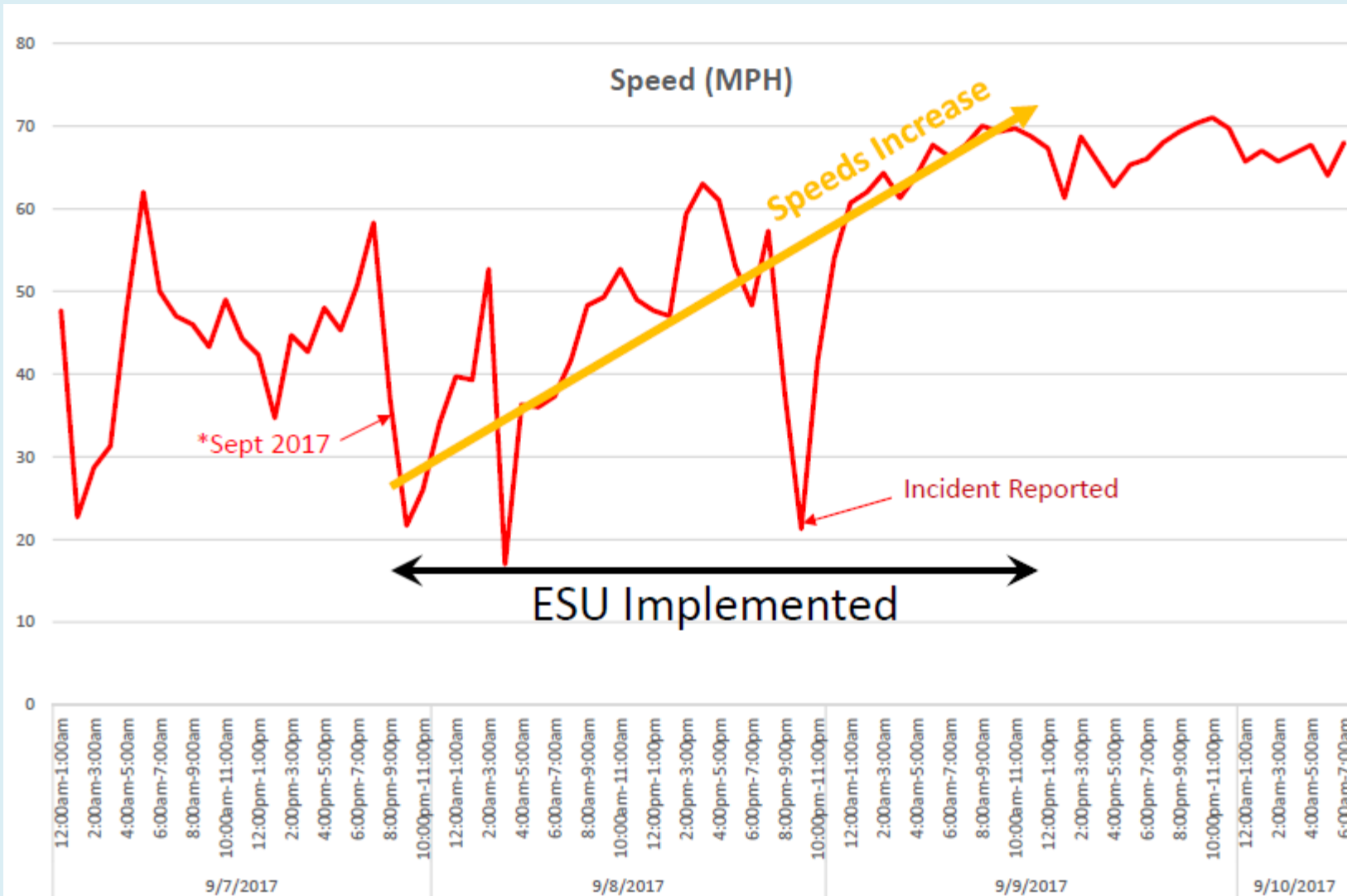


\* Sept 2017: Detector MVDS I-75 at MM342.6 NS and Detector MVDS I-75 at MM348.7 in Marion County

\*\* Historical: I-75 S. Marion County (MM 342.6) MVDS

Note: Shoulder volume is not included in the chart as MVDS is not configured to collect shoulder data

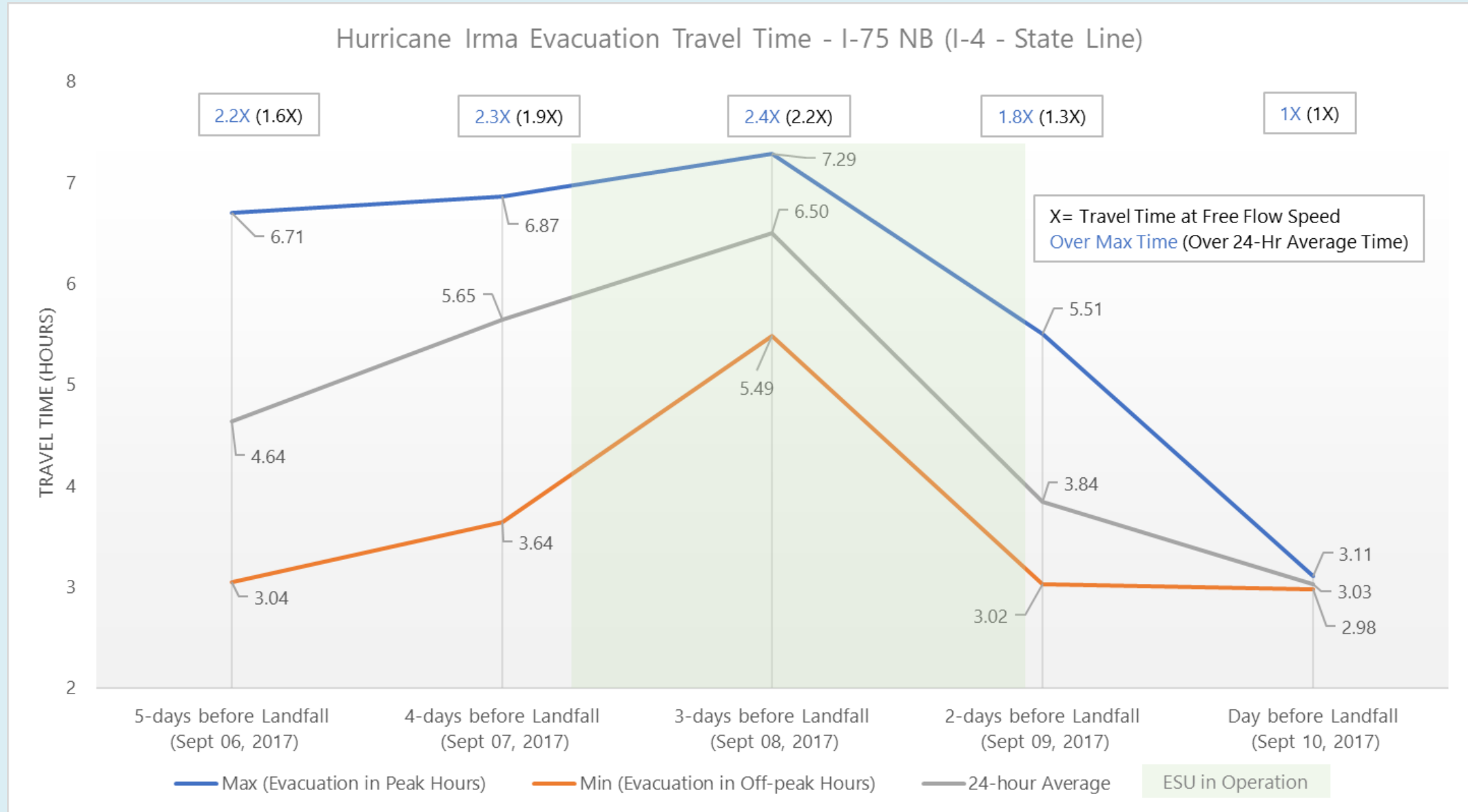
# Emergency Shoulder Use – MVDS Speeds



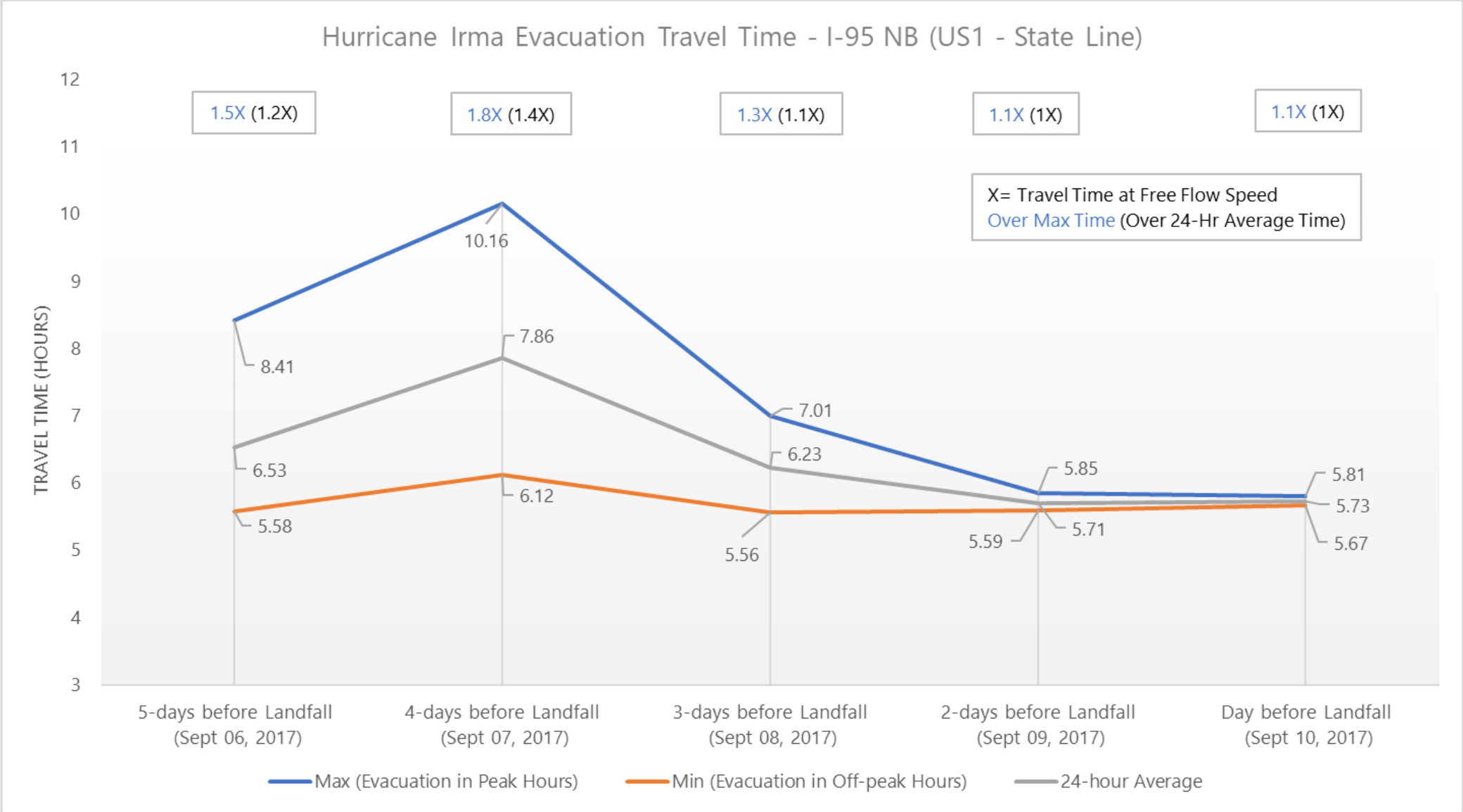
\* Sept 2017: Detector MVDS I-75 at MM342.6 NS and Detector MVDS I-75 at MM348.7 in Marion County

Note: Shoulder speed is not included in the chart as MVDS is not configured to collect shoulder data

# Evacuation Travel Time I-75 NB (I-4 – State Line) Hours



# Evacuation Travel Time I-95 NB (US 1 – State Line) Hours





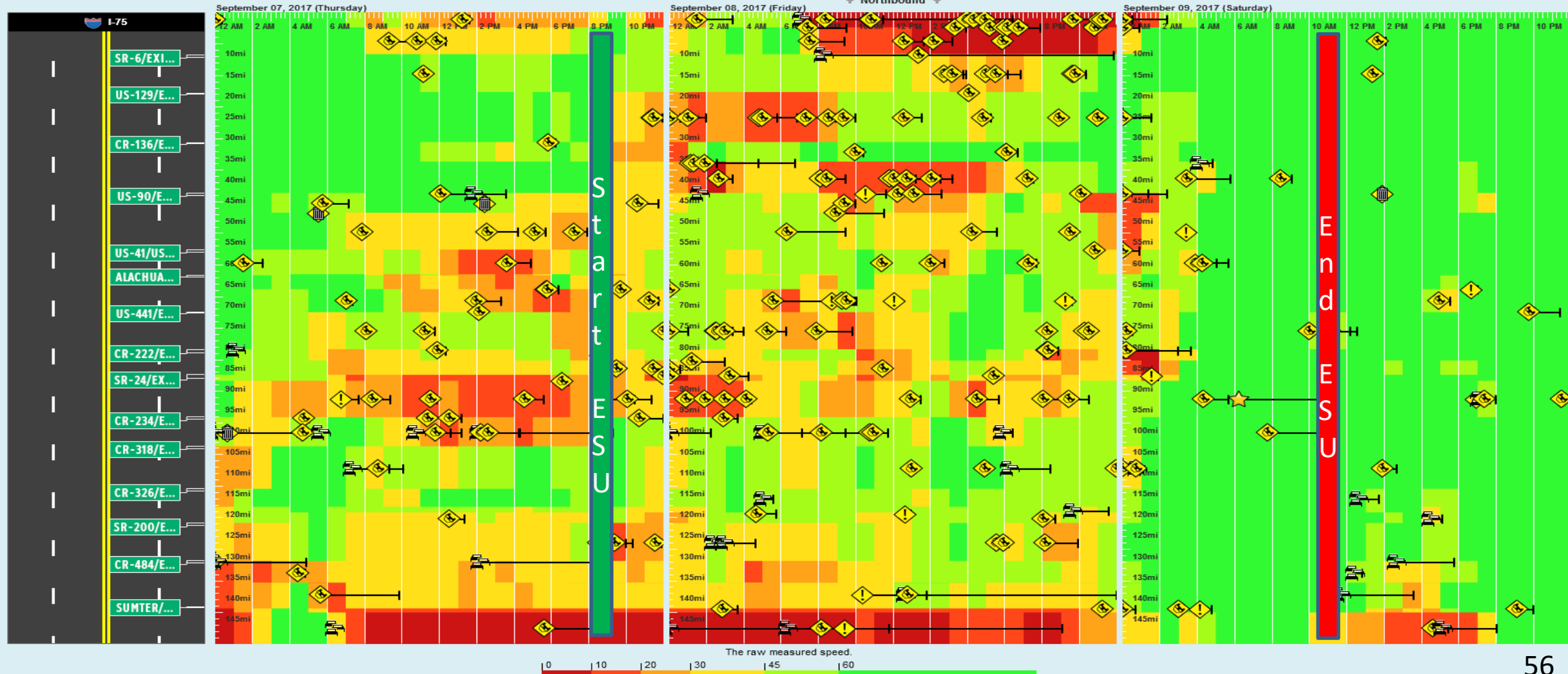
# We Used HERE Data to Assess Speeds

- First we did a “congestion scan” to look speeds on I-75 from Florida Turnpike to the state line
- Then we assessed speeds at congestion spots in the same corridor.
- Dates: September 7 – 9

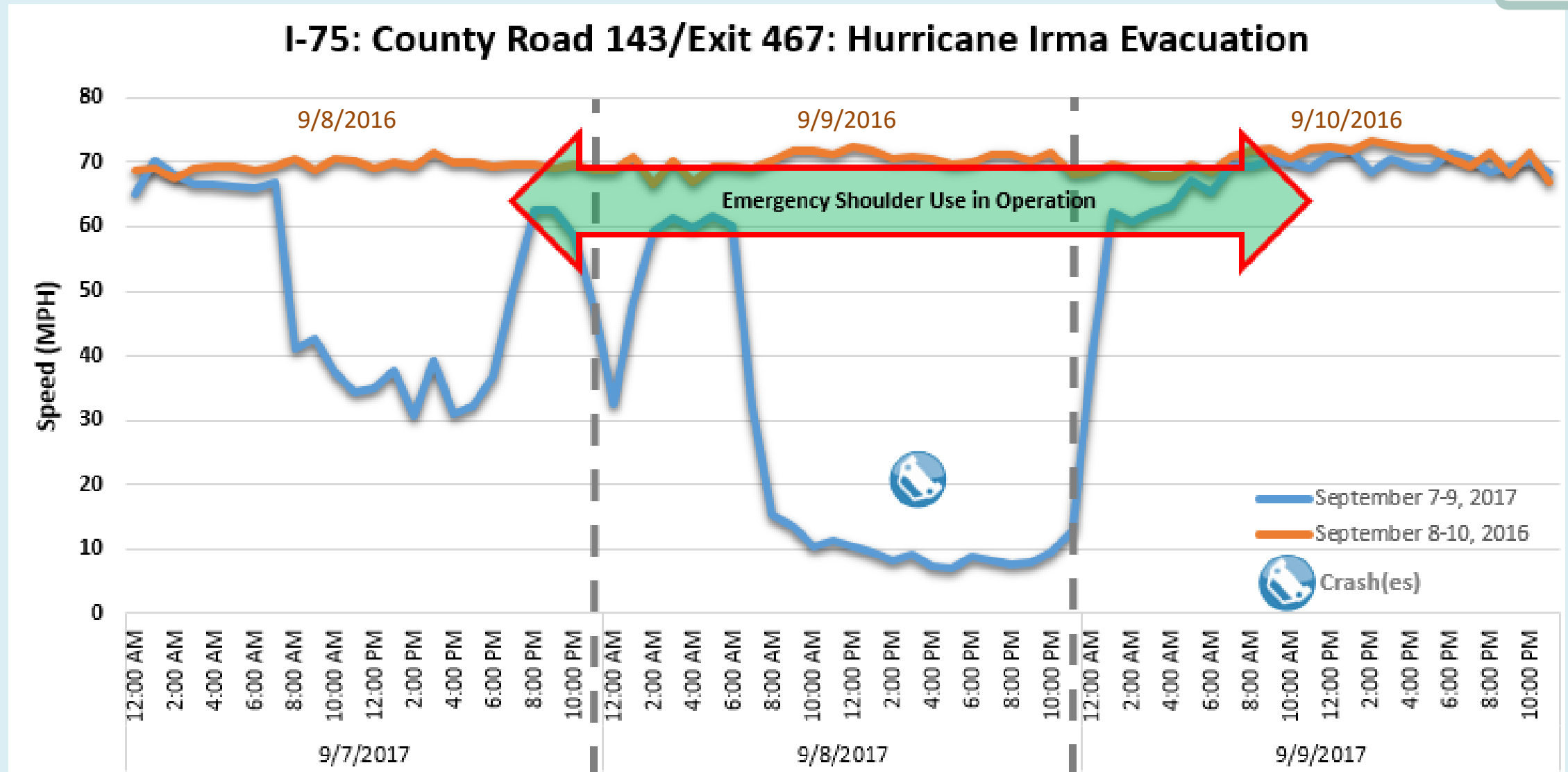
# ESU – RITIS/PDA Congestion Scan



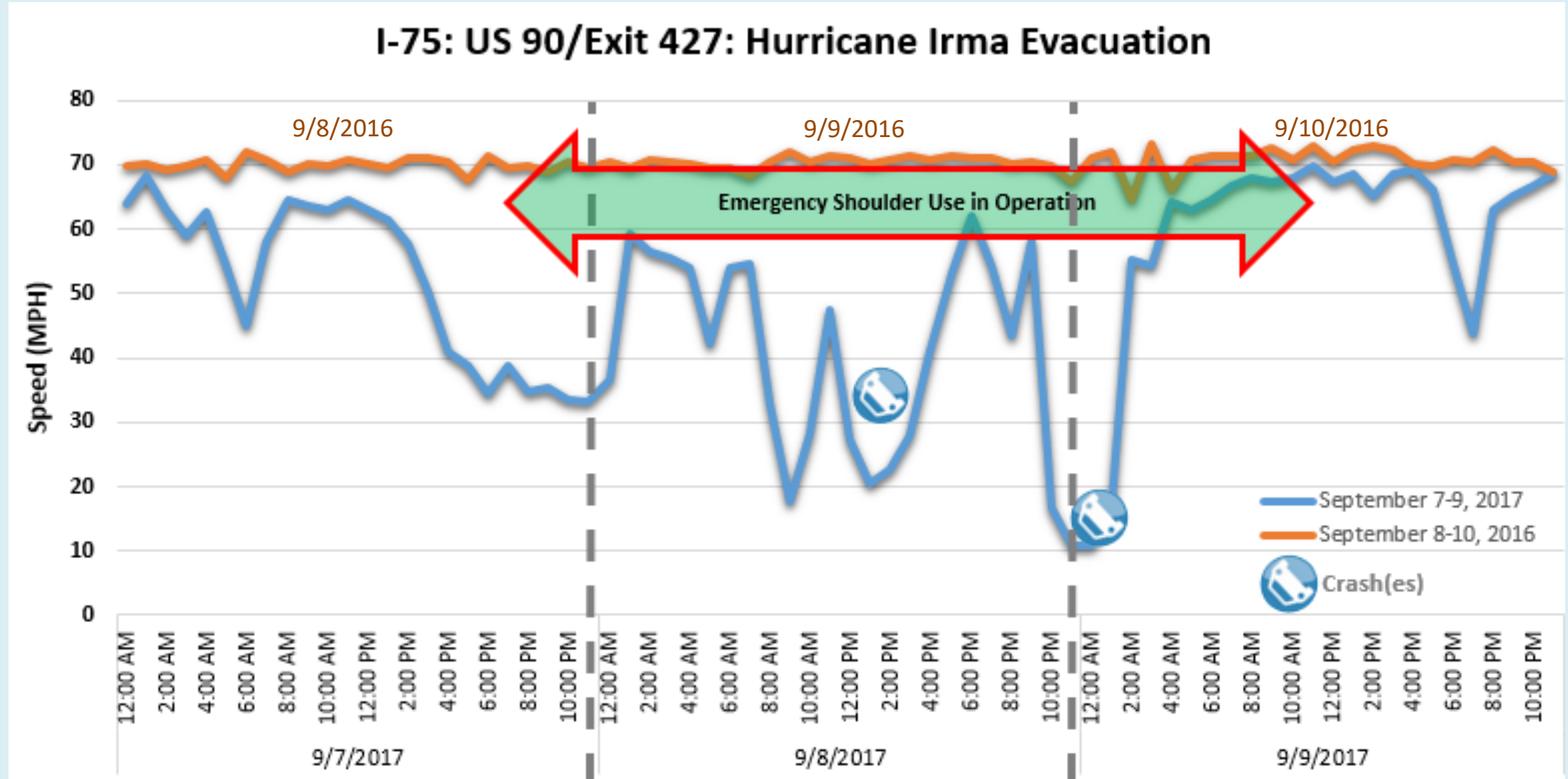
Speed on I-75 Northbound between Florida's Tpke/Exit 328 and Florida/Georgia State Line using HERE data  
Averaged by 1 hour for September 07, 2017 (Thursday), for September 08, 2017 (Friday), and for September 09, 2017 (Saturday)



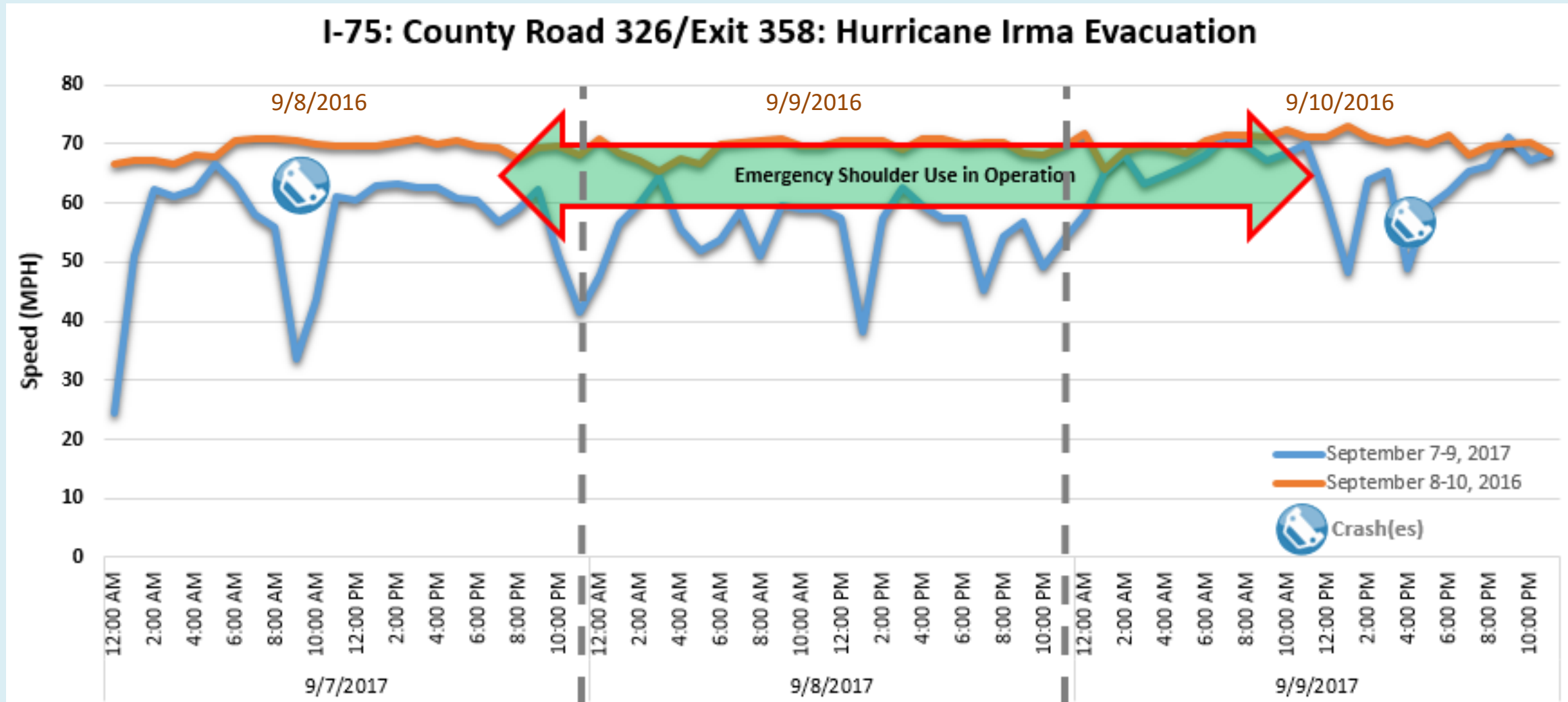
# ESU – Speeds (Used HERE Data)



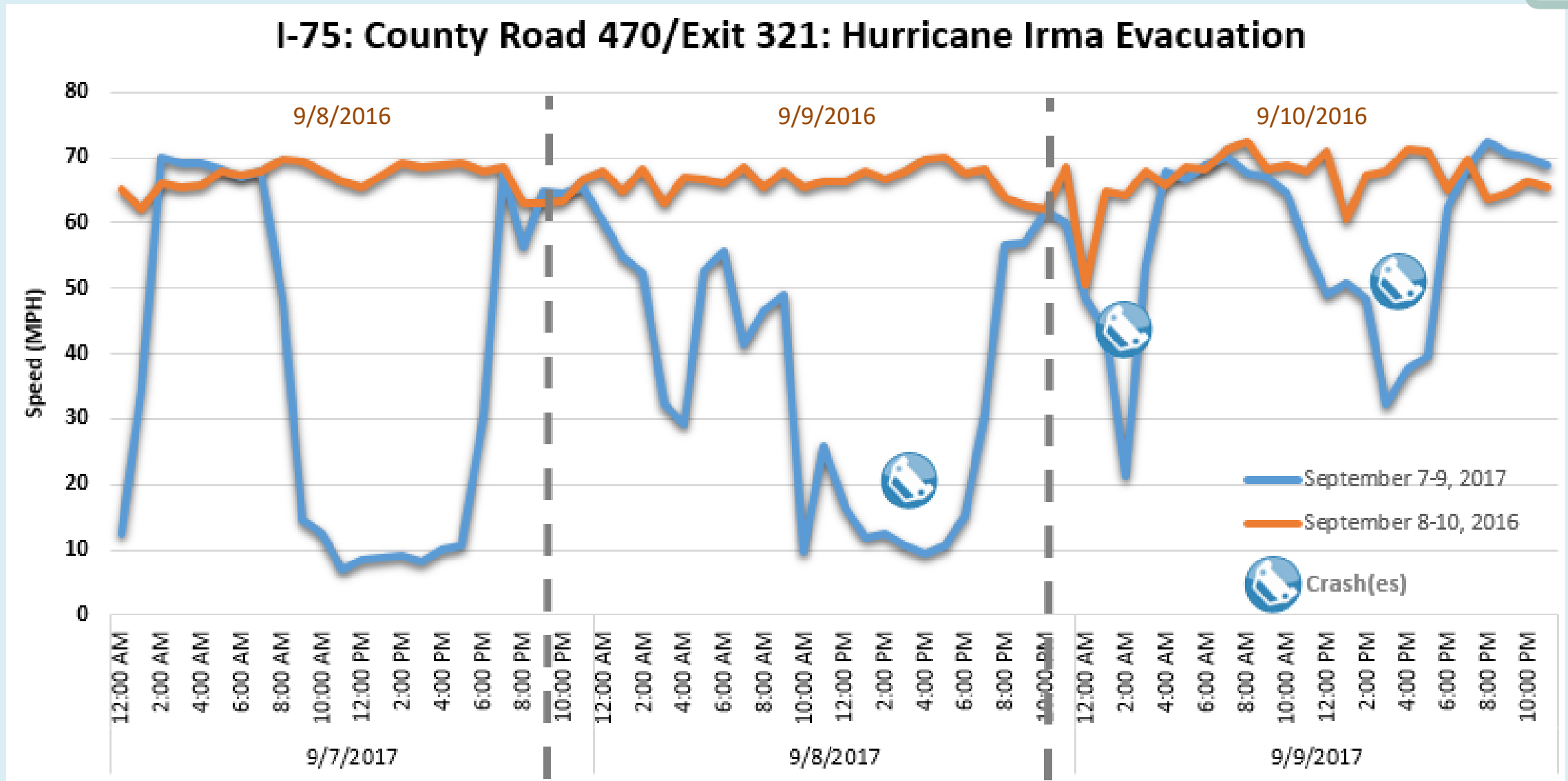
# ESU – Speeds (Used HERE Data)



# ESU – Speeds (Used HERE Data)



# ESU – Speeds (Used HERE Data)





# Recap

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- RITIS allows us to do analysis where we do not have ITS device data.
- Detector Explorer makes it MUCH easier way to retrieve ITS device data anywhere in the State.
- Congestion Scan shows pockets of congestion and pockets of free flow traffic.
  - Rerun models with driver behavior

# Questions

For more information contact:

Derek Vollmer

[Derek.Vollmer@dot.state.fl.us](mailto:Derek.Vollmer@dot.state.fl.us)



# Instant Poll

**4** Have you used RITIS/PDA Suite for an extreme weather event? (select all that apply)

- ☐ Yes, for pre-event planning
- ☐ Yes, to manage traffic during the event
- ☐ Yes, for after action reviews & reporting
- ☐ No, but would like to in the future
- ☐ No, don't have an interest



# More Extreme Weather use cases are available!

PROBE DATA  
ANALYTICS SUITE



## Vermont Use Case Example Winter Storm Stella



(March 14, 2017)

QATT  
LABORATORY

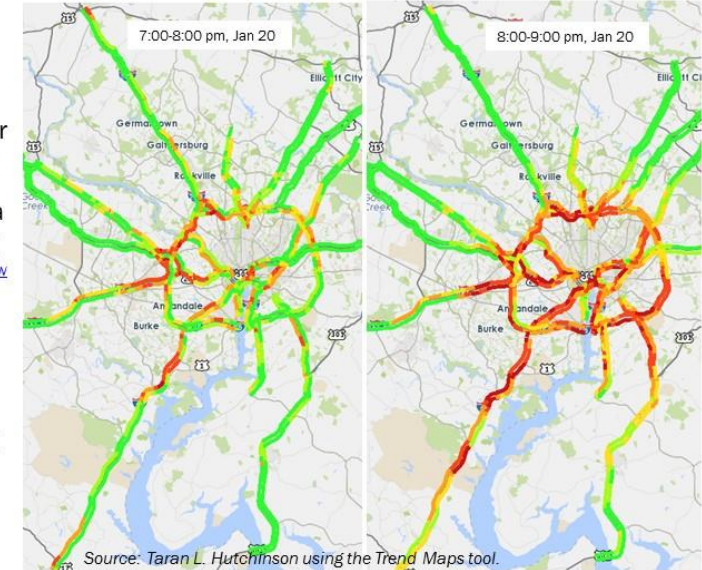
Source: VTrans



(Listed under **Tutorials**)

## Impacts of Jan. 2016 Snow Events

- Draft technical memorandum completed to support after-action reviews for decision makers
- To be published with a TPB Weekly Report at: [www.mwcog.org/transportation/weeklyreport](http://www.mwcog.org/transportation/weeklyreport)
- To be highlighted in the National Capital Region Congestion Report for 2016Q1 at: [www.mwcog.org/congestion](http://www.mwcog.org/congestion)



National Capital Region  
Transportation Planning Board

I-95 OC – VPP Agency Project Team Webcast  
March 8, 2016 4

(Listed under **Agency Use Cases**)

<http://i95coalition.org/forum/>



# PROBE DATA ANALYTICS SUITE



## *Quick-hitter*








Baltimore  
Metropolitan  
Council

# Thanksgiving Weekend 2017 Travel Advisory





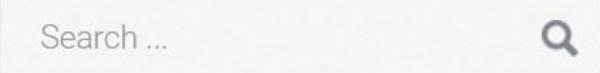
Baltimore  
Metropolitan  
Council




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### Tweets by @BaltoMetroCo



**Balto Metro Council**  
@BaltoMetroCo

Our inaugural #ChesapeakeConnect trip to Cleveland earlier this month provided +40 of our region's leaders with a fresh perspective

[Embed](#) [View on Twitter](#)

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## The Busiest Travel Day of the Year is Approaching. Want to Avoid Delays?



Used tabs to organize the Trend Map results, so travelers don't have to scroll down the web page – much faster!

Included static maps of the worst travel hours, at varying geographic levels: region, city, corridor

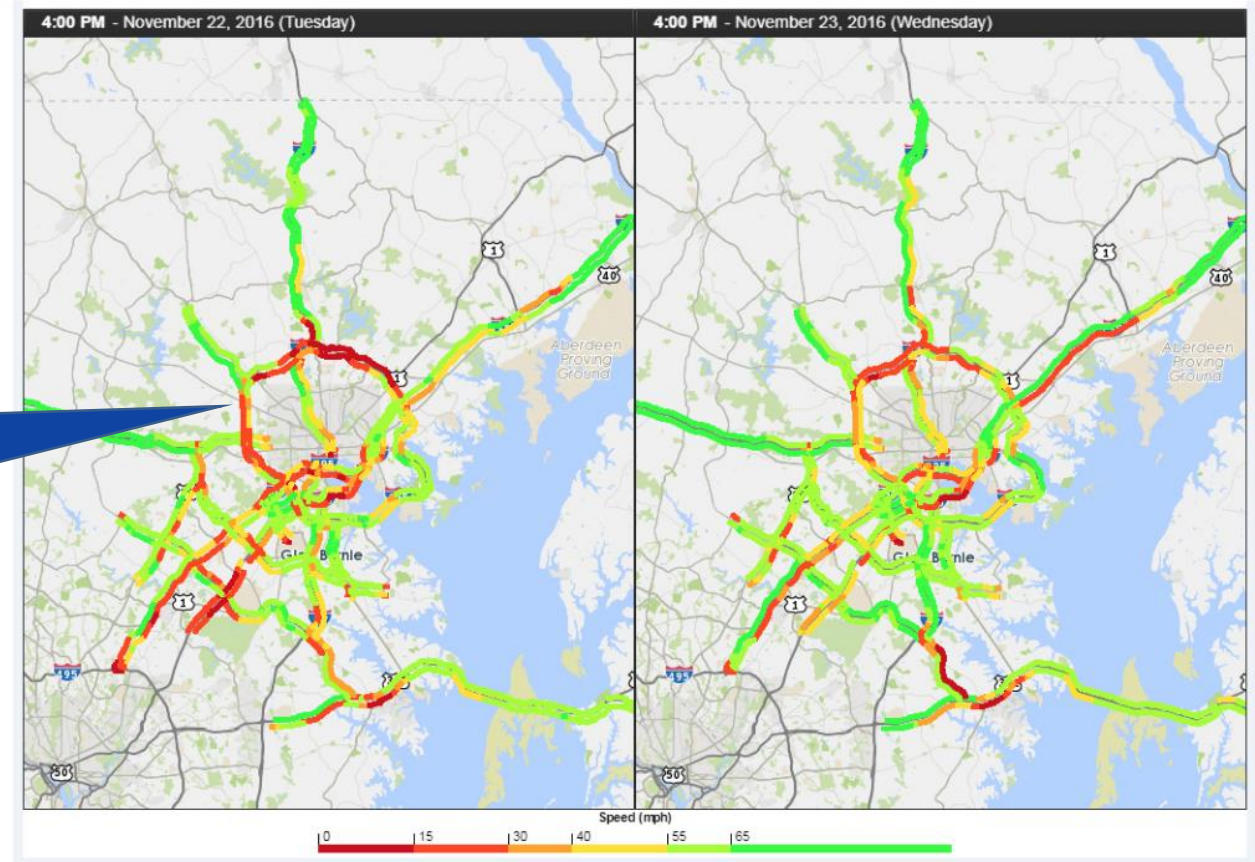
## THANKSGIVING WEEKEND TRAVEL CONDITIONS Tuesday, Nov 22 - Wednesday, Nov 23

Baltimore Region

Baltimore City

I-95 North

Animated Traffic Map





# Quick-hitter animated trend map

Baltimore Region

Baltimore City

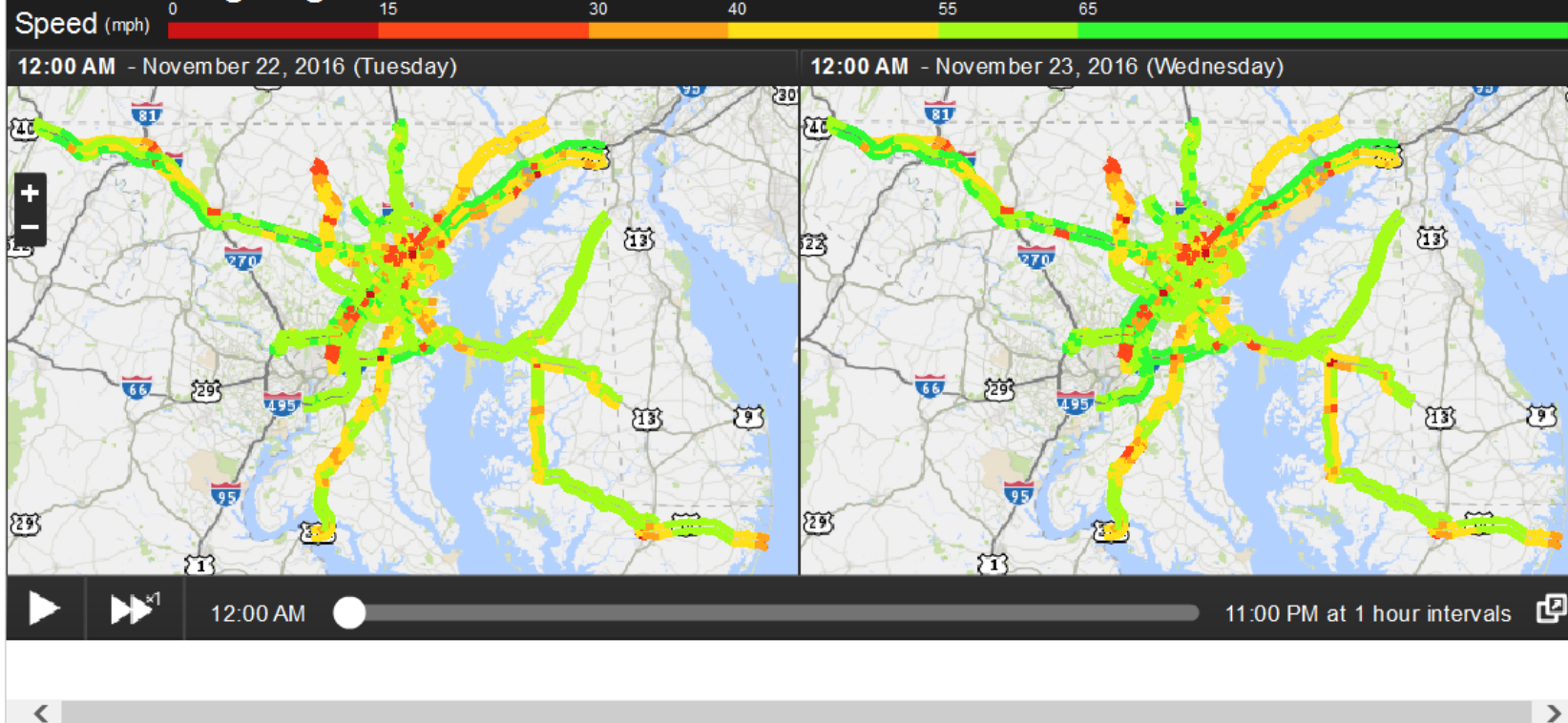
I-95 North

Animated Traffic Map

The following animated maps show speeds on the major highways of the Baltimore Region on the Tuesday and Wednesday before Thanksgiving in 2015. Just press play to see a 24-hour time-lapse animation of both days side by side.

Pan around and zoom in or out to take a look at conditions on what your family's route to Thanksgiving dinner may look like this year.

## 2016 Thanksgiving Travel



And included an animated Trend Map for folks to find their best route to that Thanksgiving dinner!



## TRAVEL TIPS:

As for the best times to travel, our partners at the [Maryland Transportation Authority \(MDTA\)](#) offer these travel tips for the Thanksgiving Day holiday:

- > Travel during off-peak hours to avoid significant delays
- > For the **I-95 corridor, off-peak hours** include:
  - Tuesday and Wednesday -- **before 6 a.m.** and **after 11 p.m.**
  - Thursday through Sunday -- **before 9 a.m.** and **after 9 p.m.**

## CONSTRUCTION REMINDERS:

- > **I-95 improvement project north of the Fort McHenry Tunnel is underway.** Current traffic pattern features no left shoulder and only a small right shoulder on northbound I-95. All lanes are open in both directions.
- > **I-895 Patapsco River Flats bridge deck and superstructure replacement continues.** Current traffic pattern features two-way traffic (one adjacent lane in each direction) 24/7 on I-895 across the Patapsco Flats bridge near Baltimore/Washington Parkway. **Motorists should consider I-95 as an alternate route.**





# Thanks!



For more information, please contact:

Ed Stylc, Planner Analyst  
Baltimore Metropolitan Council  
[estylc@baltometro.org](mailto:estylc@baltometro.org) | 410.732.0500 x1031



# Instant Poll

## 5 Did your agency prepare & send a Thanksgiving Travel Advisory this year?

- ☐ Yes, we used PDA Suite tools to create the content
- ☐ Yes, we used other data to create the content
- ☐ No, but would like to in the future
- ☐ No, don't have an interest



# Agency Input Session



“What’s on your mind?”



# Wrap Up

Denise Markow, I-95 Corridor Coalition

thank  
you!



# Questions?

Please contact:

**PDA Suite** – Denise Markow 301.789.9088 or [dmarkow@i95coalition.org](mailto:dmarkow@i95coalition.org)

**PDA Suite Technical Support** – [vpp-support@ritis.org](mailto:vpp-support@ritis.org) or John Allen [jallen35@umd.edu](mailto:jallen35@umd.edu)

**Logistics** – Joanna Reagle 610.228.0760 or [jreagle@kmjinc.com](mailto:jreagle@kmjinc.com)

