I-95 Corridor Coalition

Summit on Traveler Information Strategies during Emergency Operations: Getting the Word Out to Travelers & Truckers

March 7, 2019

We encourage EVERYONE to participate……

As an in-person & virtual meeting – we would like to achieve the same experience for all participants

- **All Participants – in-person and via web**
  - Questions will be addressed at the end of each presentation
  - Please give your name and agency before asking your question (at least the first time)
- **Participation in-person**
  - Please remember all sounds are picked up by the audio system
  - Please turn off your microphone when not asked a question (only 4 mics may be active at a time – confirm with DVRPC)
- **Participation via web**
  - Please keep your phone muted until asking a question or speaking (press *6 to mute/unmute individual phone lines)
  - Please do not place call “on hold” as your hold music will be heard by the group

Housekeeping Items

Additional Webcast & Audio Information

- **This meeting is being recorded**
- Please call **xxx-xxx-xxxx** for difficulties with the web or audio

Presentations & Contacts

- Presentations will be posted to the I-95 Corridor Coalition website. Participants will receive a link to the presentations after they are posted.
- Contact Information will be available at the end of the presentation

Please confirm you are
MUTED

For your phone line - press *6
&
Mute your computer

Thank
You!

Welcome from DVRPC

John Ward, Deputy Executive Director

Delaware Valley Regional Planning Commission

Coalition Welcome & Update

Denise Markow, PE

TSMO Director

I-95 Corridor Coalition

Coalition Update – Recent Events

TSMO Related

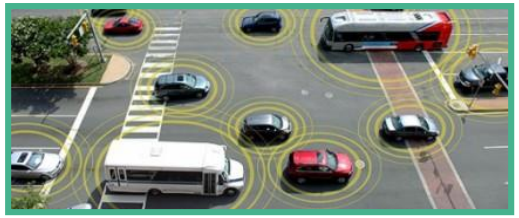
- ✓ **Building TSMO Performance Measures National Webinar** – August 30, 2018
- ✓ **Potomac Highway Operations Exchange** – October 3, 2018
- ✓ **Delaware Valley Highway Operations Peer Exchange – Practices in Heavy Towing** – Nov 29, 2018
- ✓ **Private Sector Origin-Destination Data TSMO Applications Webinar** – Dec 6, 2018
- ✓ **TSMO/Freight Strategic Planning Session** – March 6, 2019

Other Coalition Program Meetings

- ✓ **CAV Webinar: Member State Roadmaps & CMM** – Nov 14, 2019

Data Tools Web Meetings

- ✓ **RITIS-PDA Suite User Group Meeting** – October 25, 2018
- ✓ **RITIS-PDA Suite User Group Meeting** – February 14, 2019



RITIS

PROBE DATA ANALYTICS SUITE
usergroup

Welcome from our TIS Chair

Mary Ameen, PE

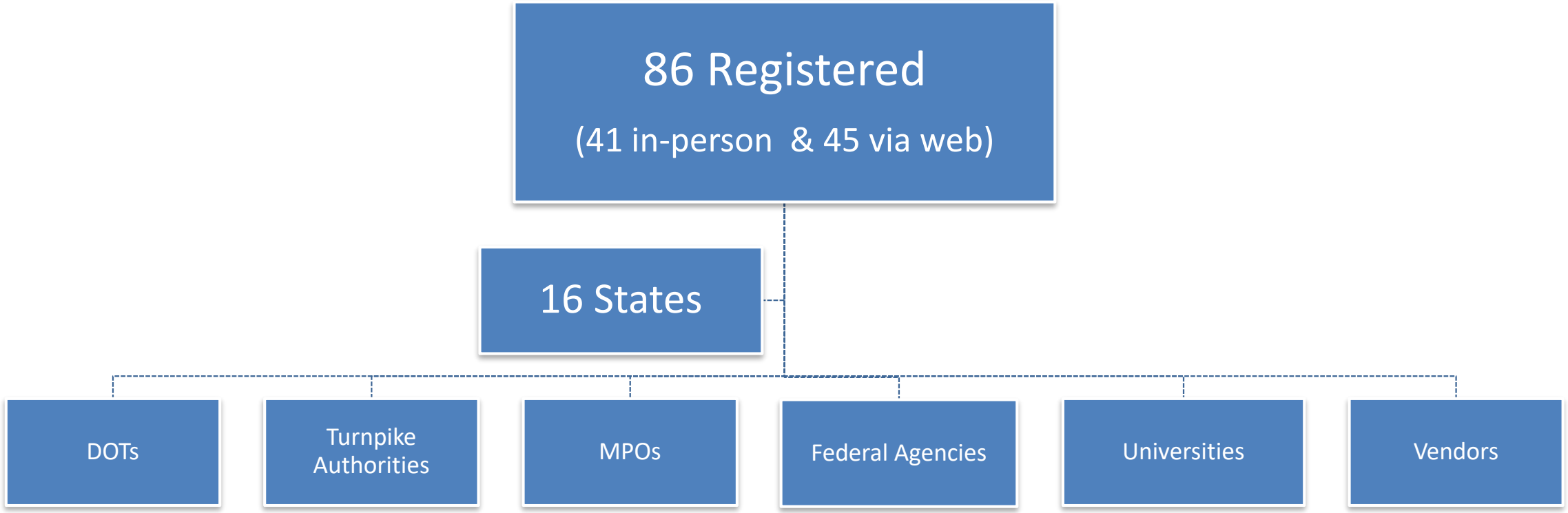
Executive Director

North Jersey Transportation Planning Authority

Agenda

Time	Topic	Speaker
9:30am to 9:35am	Housekeeping Items	Karen Jehanian, PE, KMJ Consulting, Inc.
9:35am to 10:00am	Welcome from DVRPC	John Ward, DVRPC
	Welcome and I-95 Corridor Coalition Remarks	Denise Markow, PE, I-95 Corridor Coalition
	Welcome from our Chair and Self-Introductions	Mary Ameen, PE, NJTPA
10:00am to 10:45am	TSM&O and Traveler Information Strategies used in Hurricane Irma & Hurricane Michael	Fred Heery, PE, Florida DOT
10:45am to 11:00am	Break	
11:00am to 11:45am	Development of a Roadway Flood Warning System for the Houston Region	Dinah Massie, Houston TranStar
11:45am to 12:30pm	Connecting with Travelers During Severe Winter Weather Emergency Events	Mary Farrell, Information Logistics
12:30pm to 1:15pm	Networking Lunch	
1:15pm to 2:00pm	NCDOT Traveler Info for Hurricane Florence	Kelly Wells, PE, North Carolina DOT
2:00pm to 2:45pm	Open Discussion - Waze, Freight, and Data	All
2:45pm to 3:00pm	Wrap Up	Denise Markow, PE, I-95 Corridor Coalition

Today's Participants & Self Introductions



In Person

AECOM	Karl Ziemer	Maryland DOT - SHA	Glenn McLaughlin, Joey Sagal, L'Keisha Markley
Alabama DOT	Chris Hilyer	New Jersey DOT	Nicole Minutoli, Sal Cowan
Delaware DOT	Gene Donaldson, Jeffrey Van Horn	NJTPA	Mary D. Ameen, Solomon Caviness
DVRPC	Chris King, Justin Neff, Paul Carafides, John Ward	North Carolina DOT	Charles Edwards, Dominic Ciaramitaro, Kelly Wells
Florida DOT	Clinton Smith	Pennsylvania DOT	Mike Bowman, Ryan McNary
Georgia DOT	Mark Demidovich	Pennsylvania Turnpike Commission	Mike Pack, Christopher Parker, Todd Leiss
HoustonSTAR	Dinah Massie	South Carolina DOT	Diane Lackey
I-95 Corridor Coalition	Denise Markow, Marygrace Parker	Tennessee DOT	Lee Smith
Information Logistics, Inc.	John Farrell, Mary Farrell	TRANSCOM	Steven Levine
INRIX	Amy Lopez, Rick Schuman	Vermont AOT	Robert White
Iteris	Scott Perley	Virginia DOT	Ali Farhangi, Erik Johnson, Scott Cowherd
Maine DOT	Andrew Allen, Chris Rushton		

Via Web

Baltimore Metropolitan Council	Eileen Singleton	Massachusetts DOT	Lorenzo Parra
CATT Lab	Gregory Jordan	New Jersey DOT	Gail Yazersky, Susan Catlett, Peter Mccloskey
Connecticut DOT	Kevin Danh	New Jersey Institute of Technology	Amit Arora
DCHC MPO	KC Chae	New York State DOT	Carolyn Ryan, Todd Westhuis, Edward Mark, Matthew Vasilow
FHWA	Arthur O'Connor, Frank Corrado, Jimmy Chu, Nathaniel Price, Paul Pisano, Dean Mentjes, Martha Kapitanov	NYS Thruway Authority	Mark Knox
Florence County/FLATS MPO	Deborah Matthews	PANYNJ	Eric Bautista
Florida DOT	Fred Heery	Pennoni	Brian Keaveney
FMCSA	Tim Cotter	Pennsylvania DOT	Dan Whetzel, Marcus LaManna
HERE Technologies LLC	Charles Ayers	Rhode Island DOT	Russell Holt
I-95 Corridor Coalition	Patricia Hendren	South Carolina DOT	Rick Wyatt
INRIX	Peter Wengert	Sullivan County 911	Alex Rau
Jacobs	Darren Black	Tennessee DOT	Donald Gedge
Maine Turnpike Authority	Gregory Stone	Tidal Basin Government Consulting	Stephanie Murphy
Maryland DOT - SHA	Farhad Abasahl	Virginia DOT	Earl Sharp, Larry DeBose, Marc Cioffi, Odetta Semple-Harris, Robert Rabe, Shannon Marshall
Maryland Transportation Authority	Eugene Hampton, Roxane Mukai, T.J. Bathras	Willow Spring Towing and Recovery	Woody Herring
MetroPlan Orlando	Eric Hill		

TSMO & Traveler Information Strategies used in Hurricane Irma

Fred Heery

State TSM&O Program Engineer

Florida Department of Transportation

Florida 511 Traveler Info Systems AWARDS

- Academy of Interactive and Visual Arts (AIVA): Award of Distinction honors
- PR News Social Media Award for the Twitter – Crisis Management Campaign (FDOT – FL511 Rapid Response during Hurricane Irma)

Transportation Systems Management and Operations (TSM&O) and Traveler Information Strategies used in Hurricane Irma and Hurricane Michael

For I-95 Corridor Coalition – Summit on Traveler Information Strategies During Emergency Operations
March 7, 2019

By: Fred H. Heery, Sr., P.E., State TSM&O Program Engineer, FDOT

Outline

- Hurricane Irma and Hurricane Michael
- FDOT TSM&O and Communication Infrastructure
- FDOT Emergency Management Systems
- TSM&O Strategies Used and Results
- Traveler Information Systems Used and Results

Major Storms

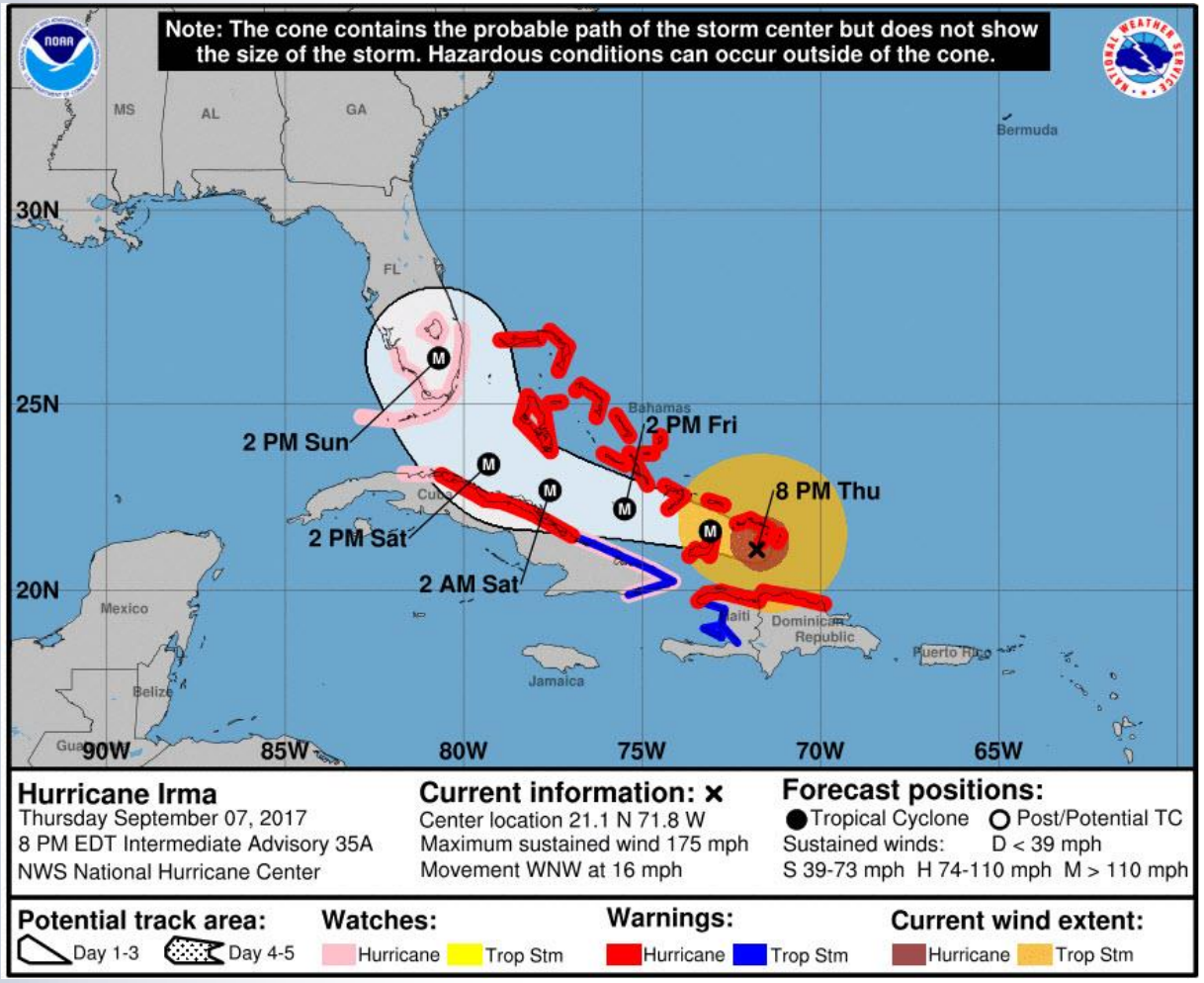
Irma:

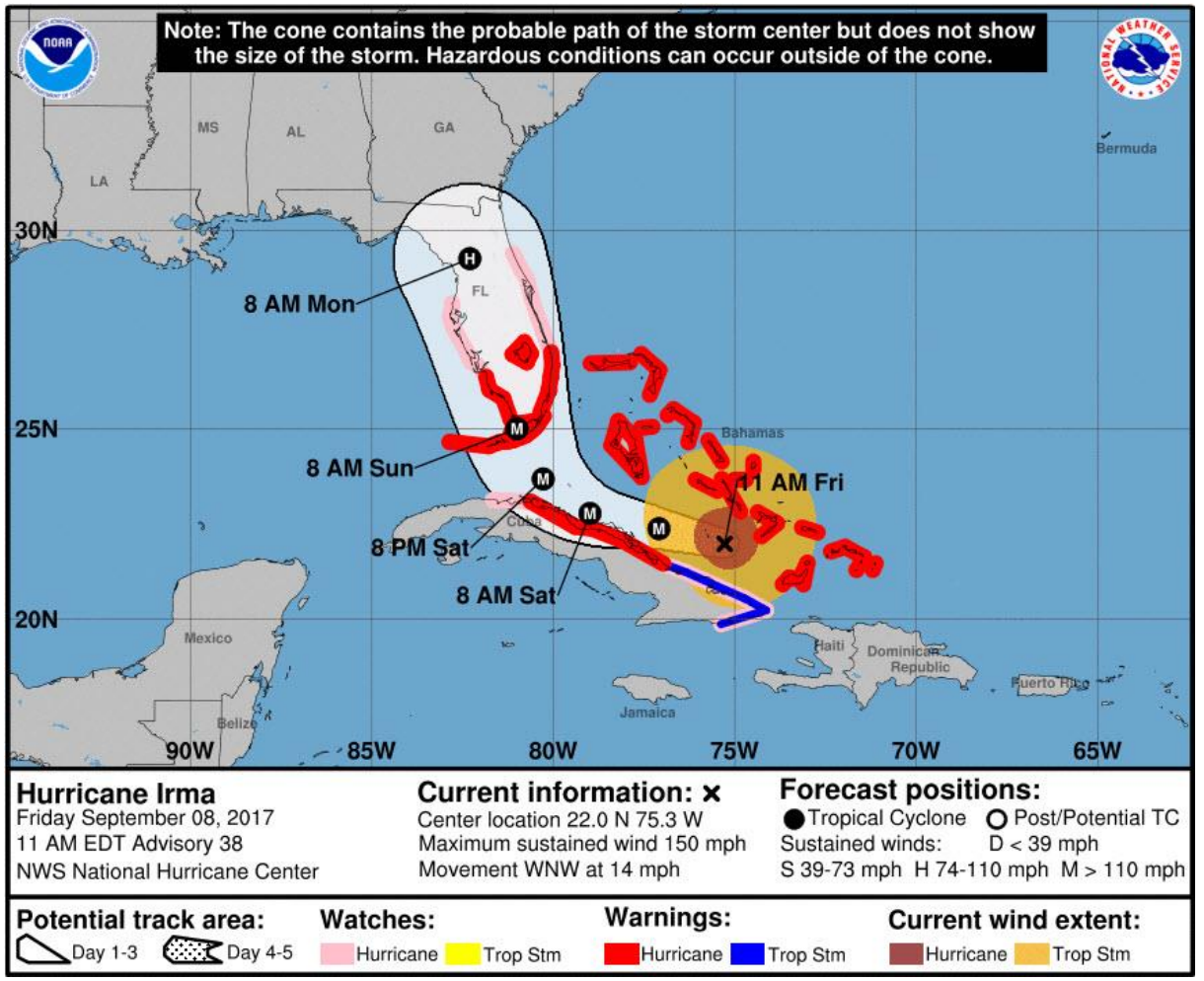
- Massive Area
- Category 5
- Hit Florida as a Category 3 storm
- Impacted entire state causing damage from wind and flooding

Michael:

- Started as a Tropical Storm
- Hit Florida as a Category 4 storm

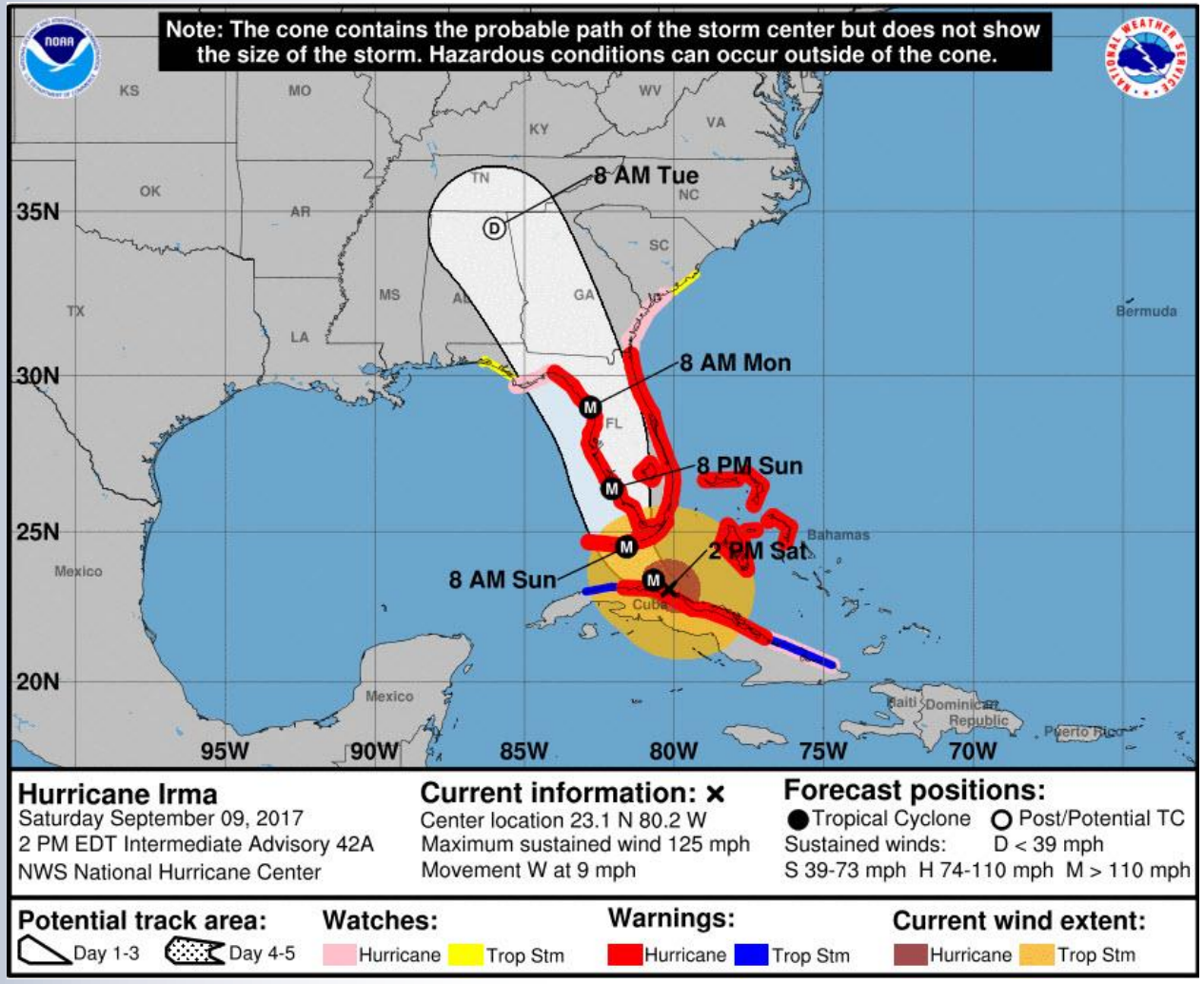
Irma Early Path Predictions: East Coast of Florida

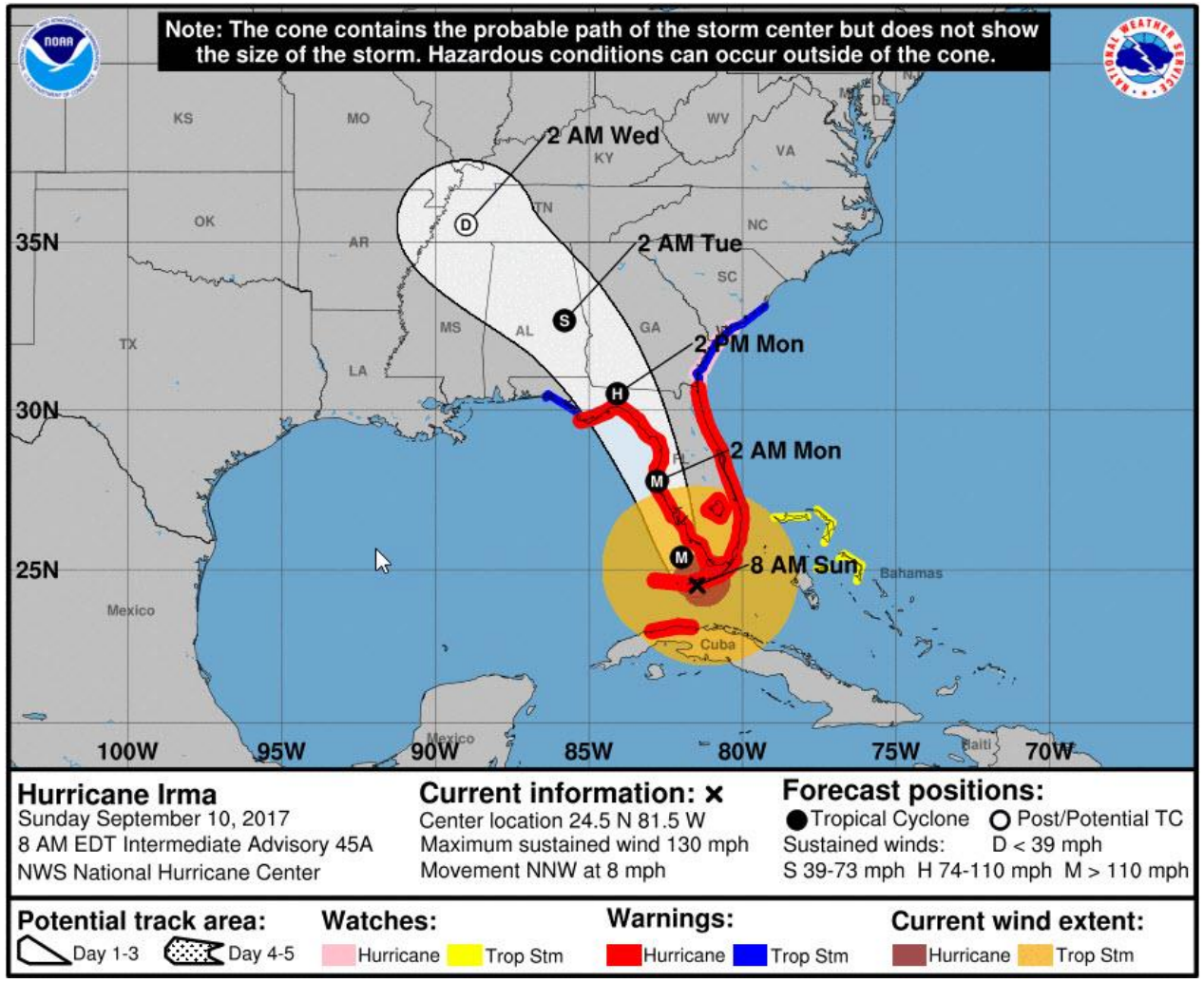




Source: National Hurricane Center

Irma Later Path Prediction – Central Florida





Source: National Hurricane Center

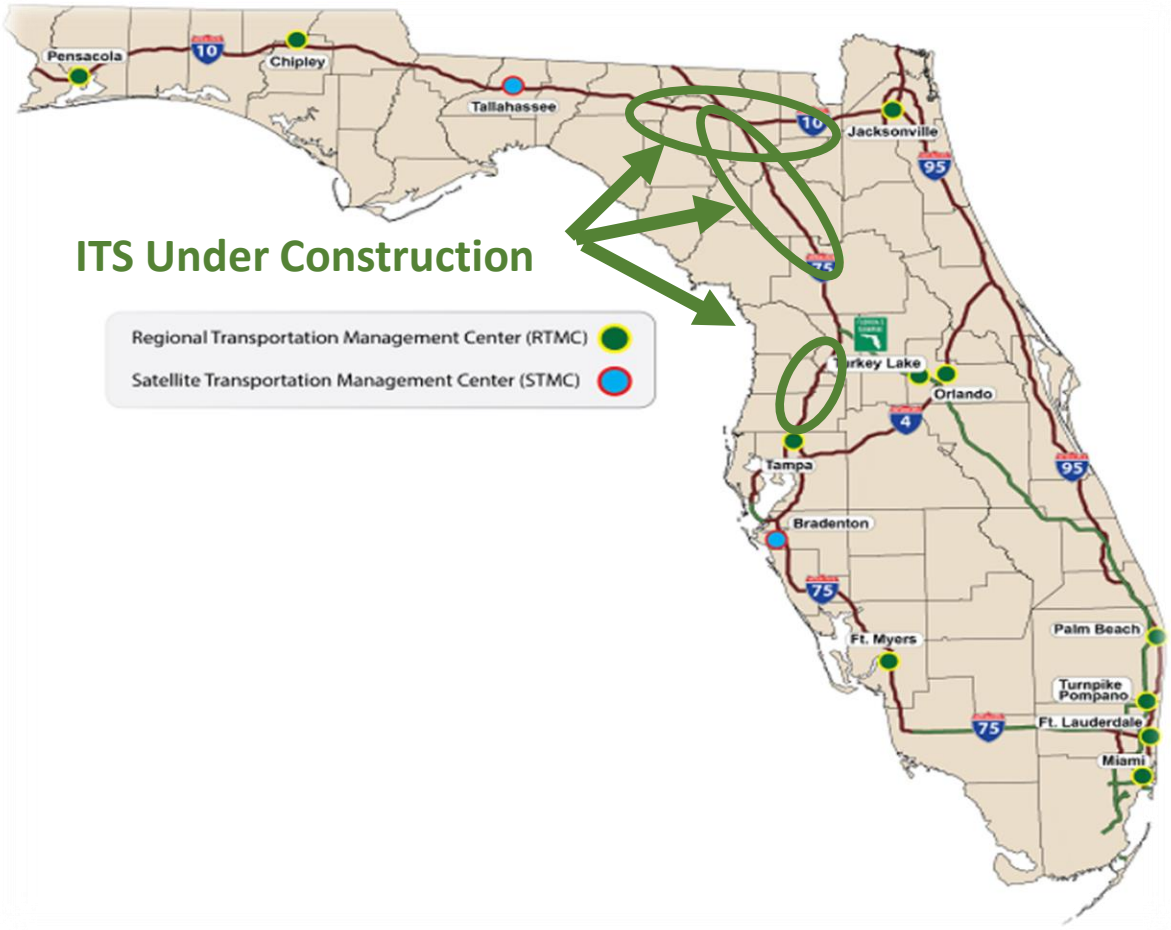
Actual Path – Southwest Coast to Central Florida

- September 4th 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

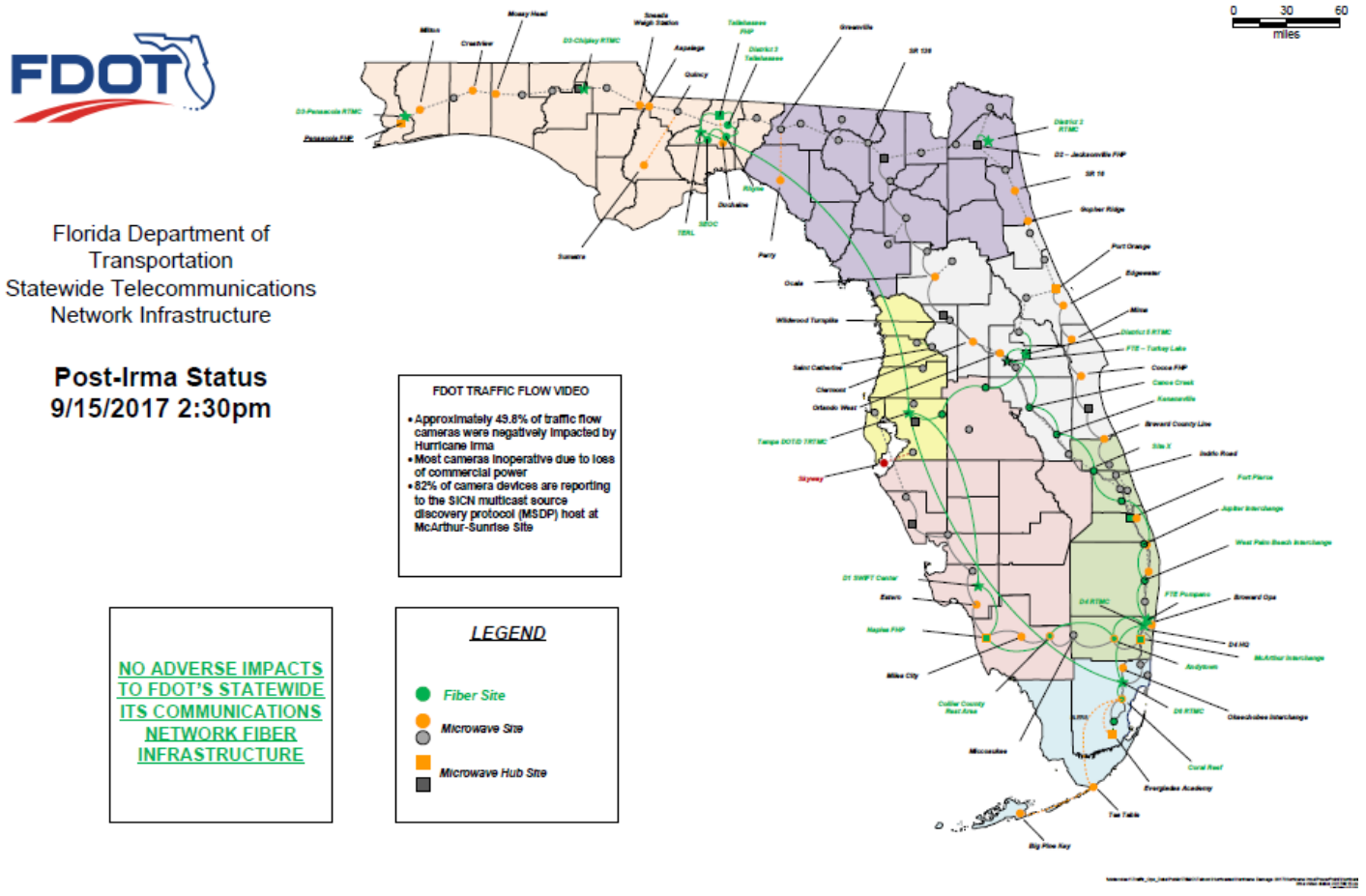
RTMC and Field Equipment

- Eleven regional transportation management centers (RTMC)
- Two satellite transportation management centers (STMC)
- Closed-circuit television (CCTV) and dynamic message signs (DMS) on most Interstate highways and on the Florida Turnpike
- Permanent traffic count stations
- Generators, Intelligent Transportation System (ITS), and Emergency Management Trailers



Communication Infrastructure

- RTMC to CCTV and DMS fiber network
- Center to center (C2C) fiber-optic network from district RTMC to State Emergency Operations Center (SEOC) in Tallahassee
- Statewide microwave tower network (back up to C2C)
- Portable ITS and EM communication trailers



ITS and Emergency Management Trailers - Irma

The Emergency Management (EM) trailer at Marathon Operations was moved to the basecamp north of the 7-mile bridge. It has Wi-Fi, land mobile radio, and satellite phone.

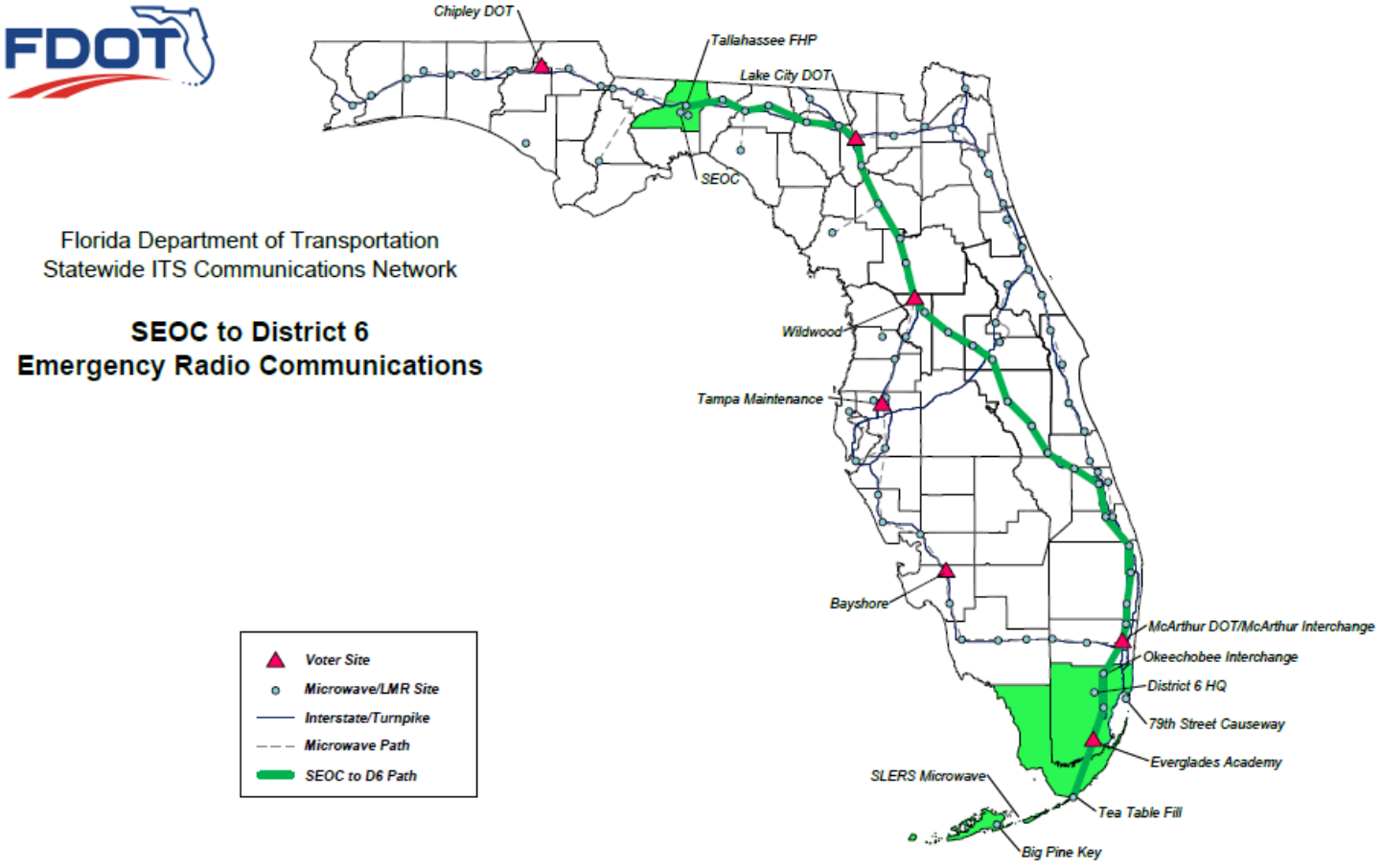
The ITS Trailer provided video surveillance at the Santa Fe River. After the water level receded, the trailer was moved to the checkpoint at U.S. 1/Chrome Avenue in District 6. It has Wi-Fi, land mobile radio, satellite phone, CCTV, and weather sensors.

ITS Trailer Deployment - Michael

- **Locations:** Carrabelle, Cape San Blas, Midway (District 3)
- **Wi-Fi provided:**
  - FWC Officers and Staff
  - Fire department (flooded in Cape San Blas)
- Antennas were attached to the ITS Trailer's tower, which were used to bridge the MFN2 network to the District 3 RTMC
- **Camera use:**
  - Utilized visual and FLIR cameras to monitor fuel tankers
  - Utilized cameras to monitor nearby forest, roads, and horizon for emergencies
- Permanent power and data ports were installed in the District 3 Midway office to support the ITS Trailer

Statewide Land Mobile Radio

- Land Mobile Radio had monthly statewide testing before the hurricane season started.
- This diagram shows the working function support during Irma.

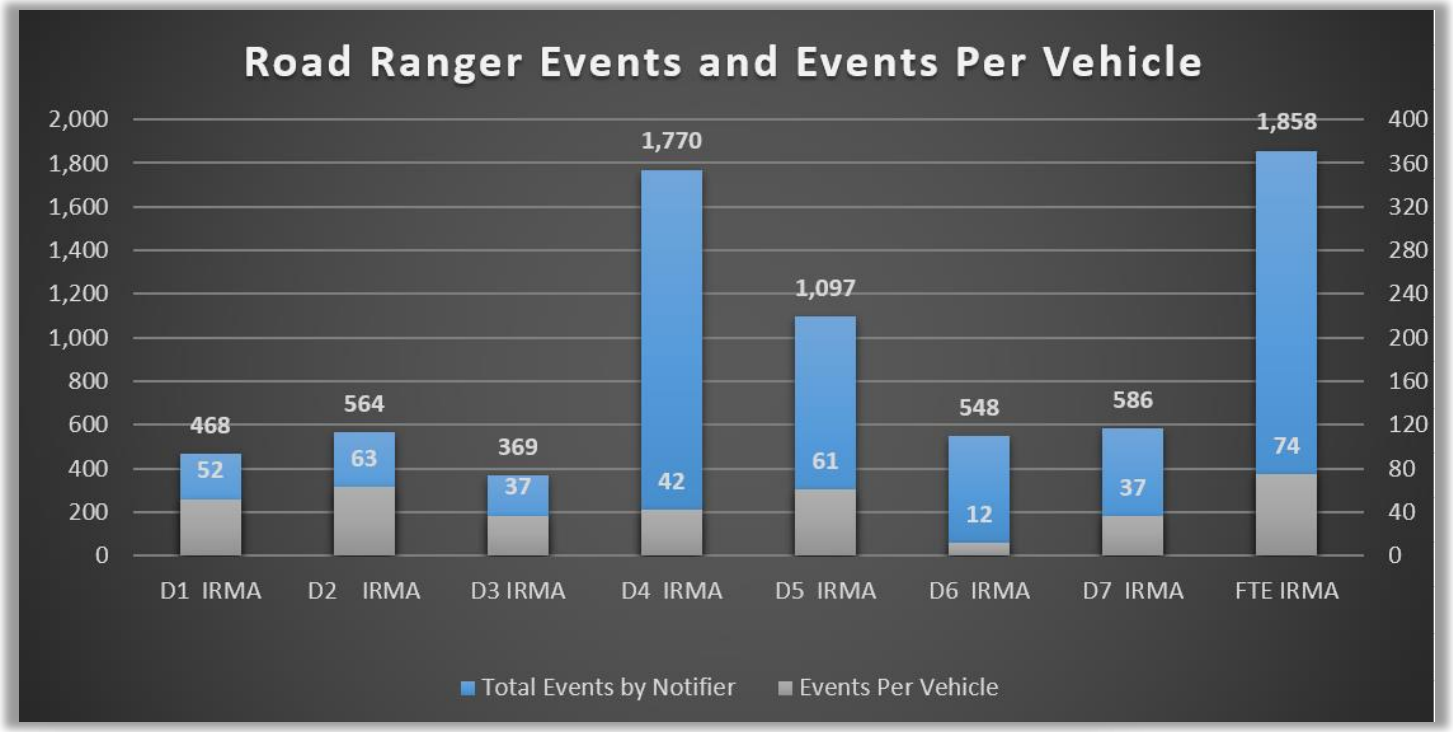


RTMC Operations

- Several RTMCs were activated during emergency operations mode
  - Extra operators per shift
  - Operators brought food, clothing, water, and cots for extended stays

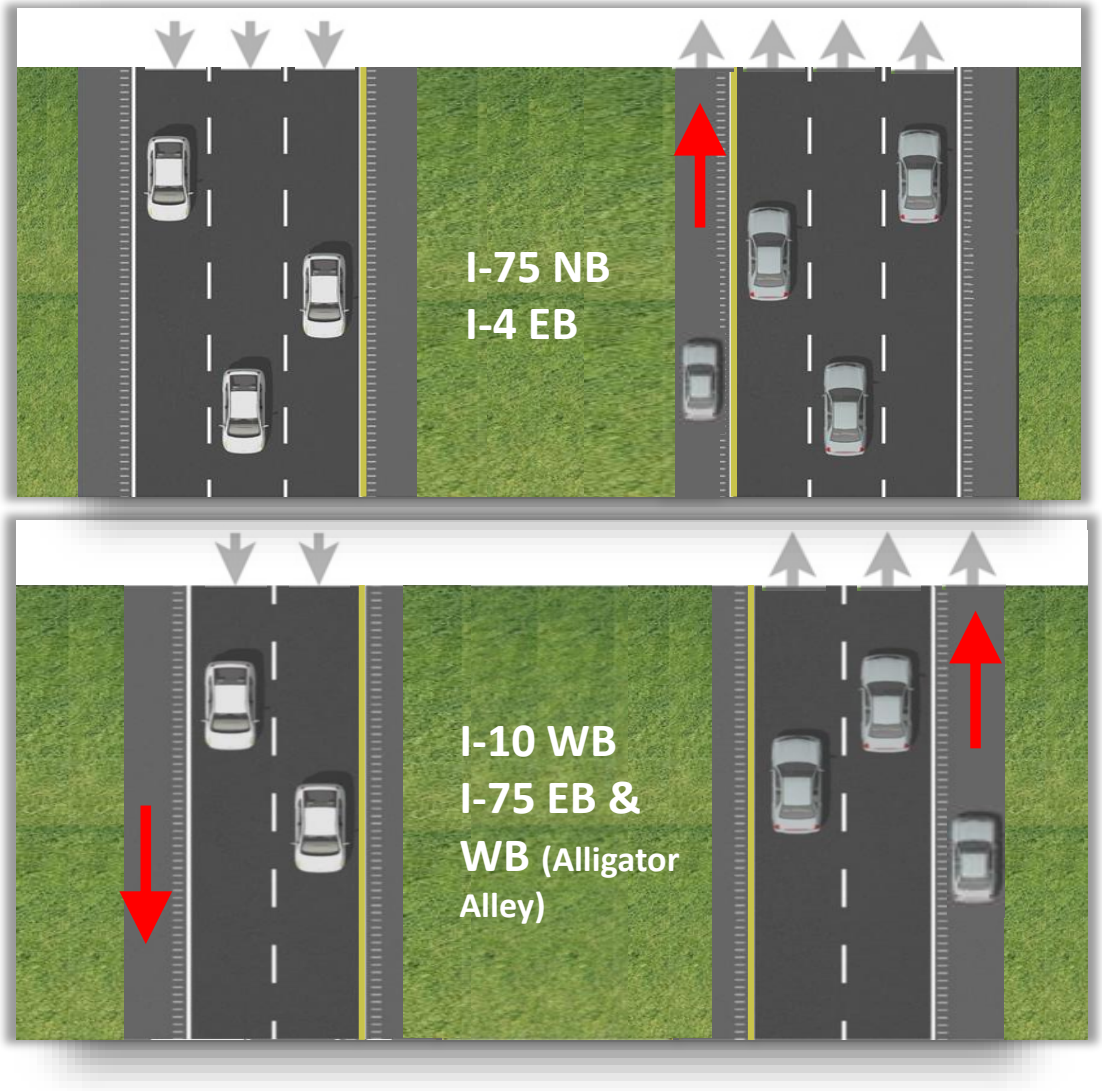
Road Ranger Service Patrols

- RRSP went into emergency operations mode
  - Extra vehicles and operators
  - Access to emergency fuel supplies
  - Extended coverage times
- Provided emergency traffic control and lane clearance when possible
- Provided small amounts of fuel



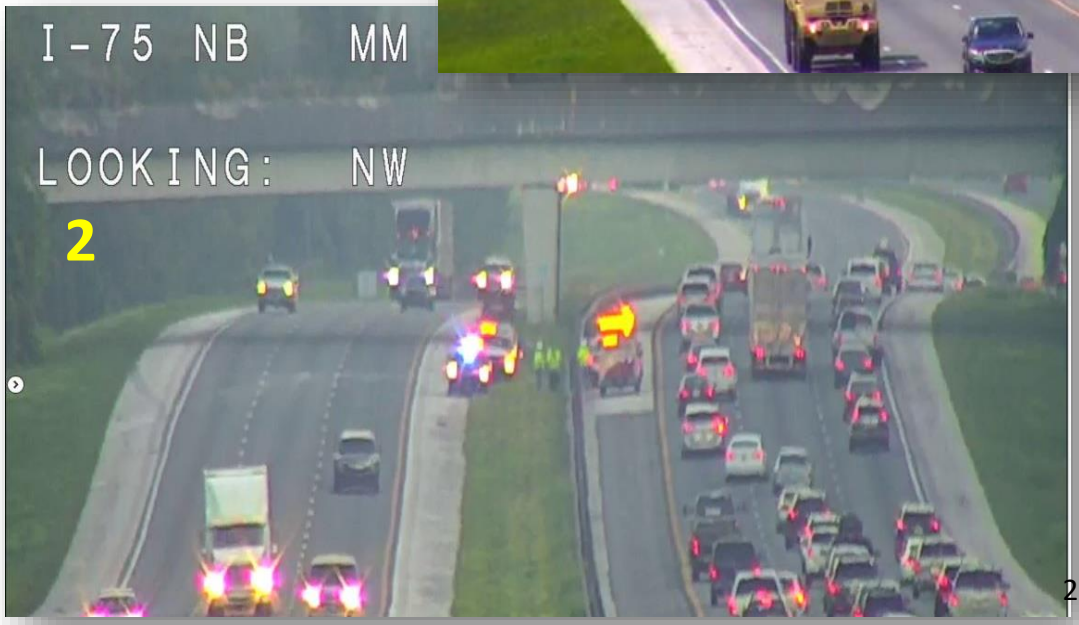
Plans for Emergency Shoulder Use (ESU)

- Inside shoulder use
  - I-75, Florida Turnpike north terminus to Georgia State Line (northbound)
  - I-4, Tampa to Orlando (eastbound)
- Outside shoulder use
  - I-75, Alligator Alley (eastbound and westbound depending on the storm track)
  - I-10, Jacksonville to I-75 (westbound)



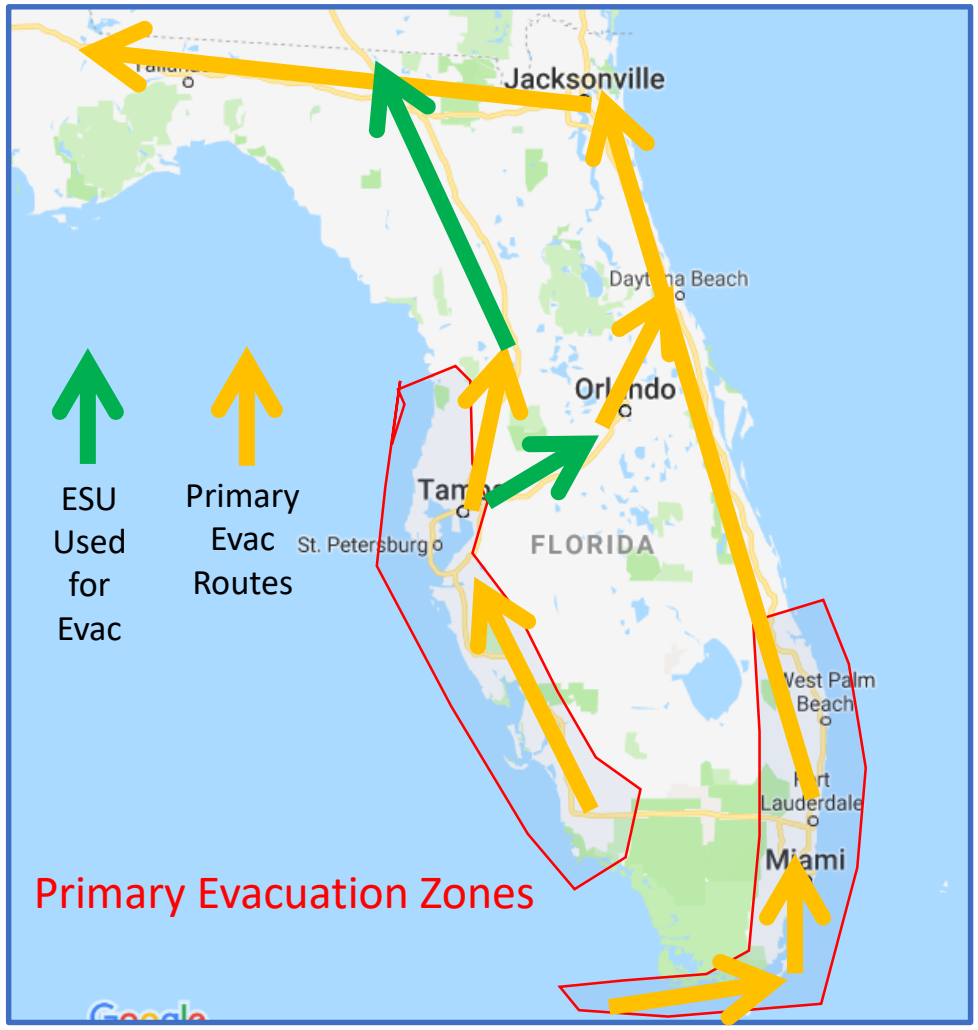
Why Shoulder Use Versus One-Way Route

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



ESU Implemented

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

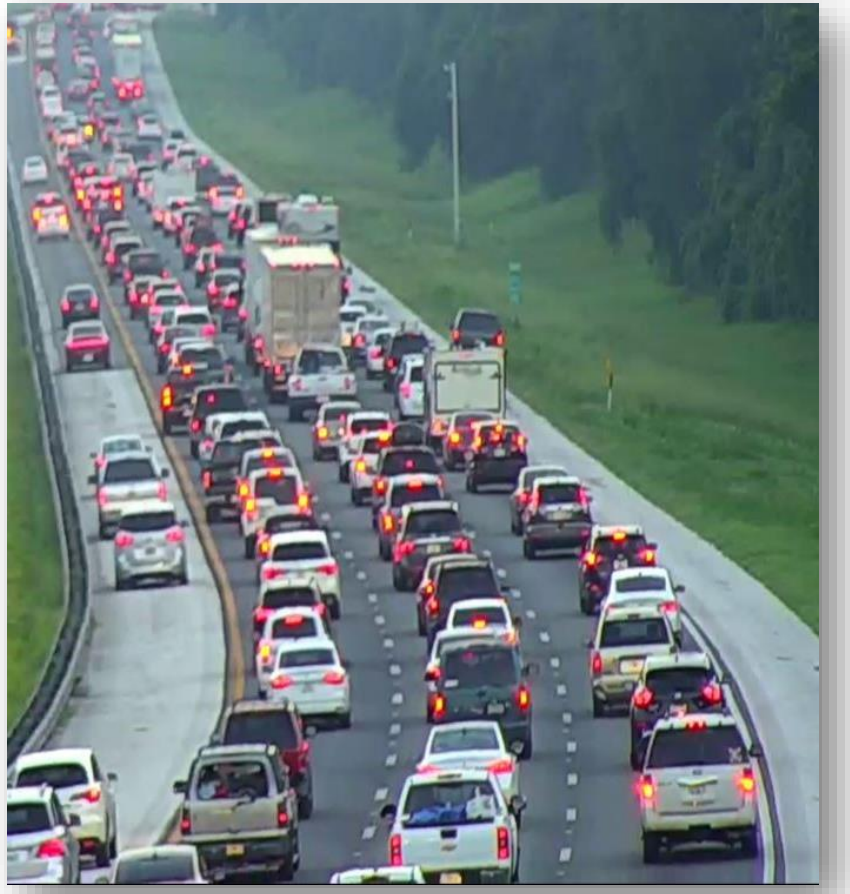


ESU on I-75 Northbound

- September 7, 2017
  - ESU was implemented at 8:00 p.m.
  - I-75 from Wildwood to C.R. 136 north of I-10
- September 8, 2017
  - Terminus north extended to Georgia state line
- September 9, 2017
  - ESU operations terminated at 11:00 a.m.

I-75 Northbound ESU Statistics

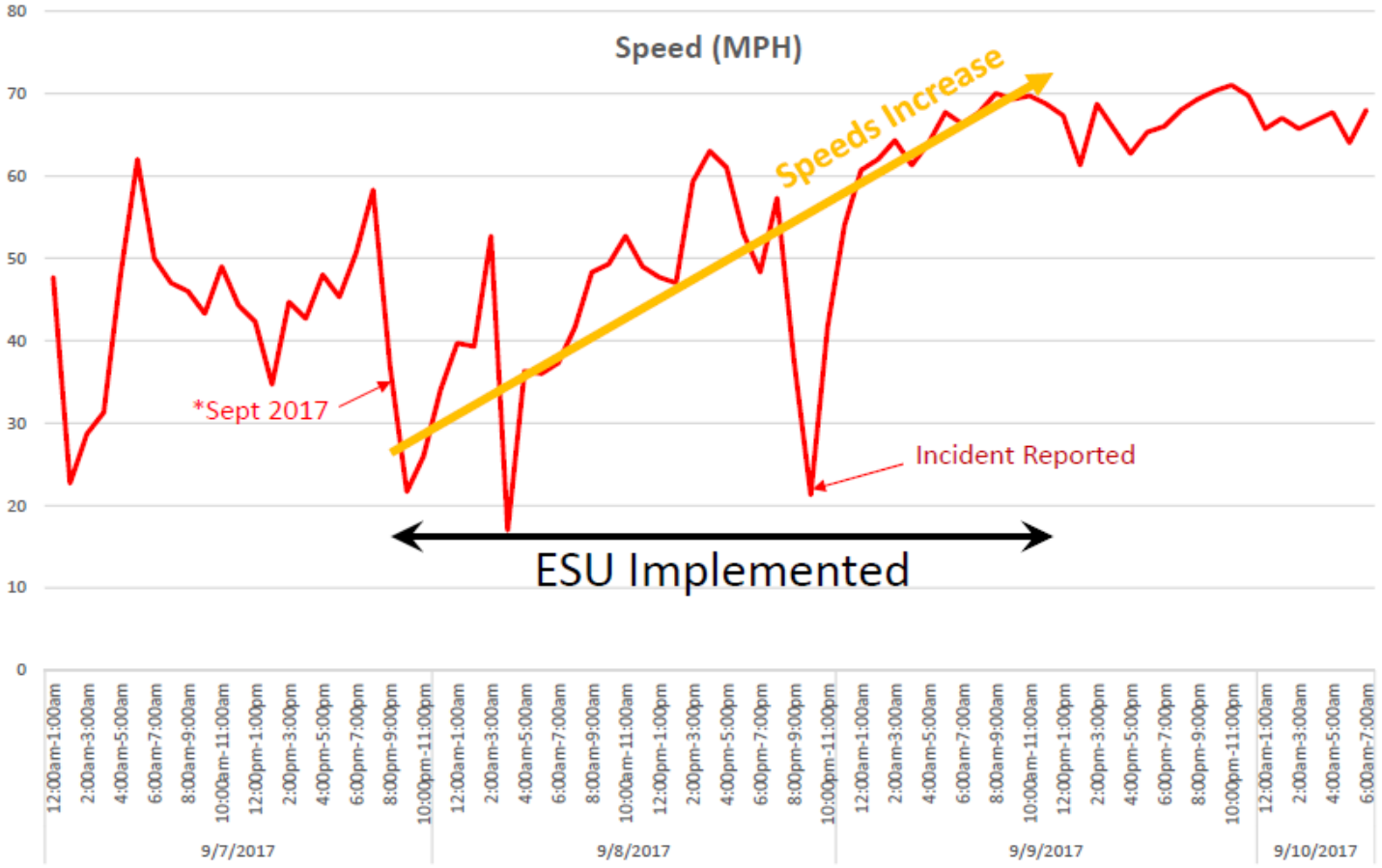
- Operating Conditions
  - Heavy congestion
  - Free-flow conditions in various pockets
- Statistics
  - 18 Emergency Roadside Assistance Vehicles **assisted 509** motorists
  - **Zero Fatalities**
  - Few injuries reported from crashes
    - Crashes: due to rear-ends and side swipes due to careless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



I-4 Westbound ESU Statistics

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

ESU – I-75 Speed Profile



** 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

Source: MVDS Data

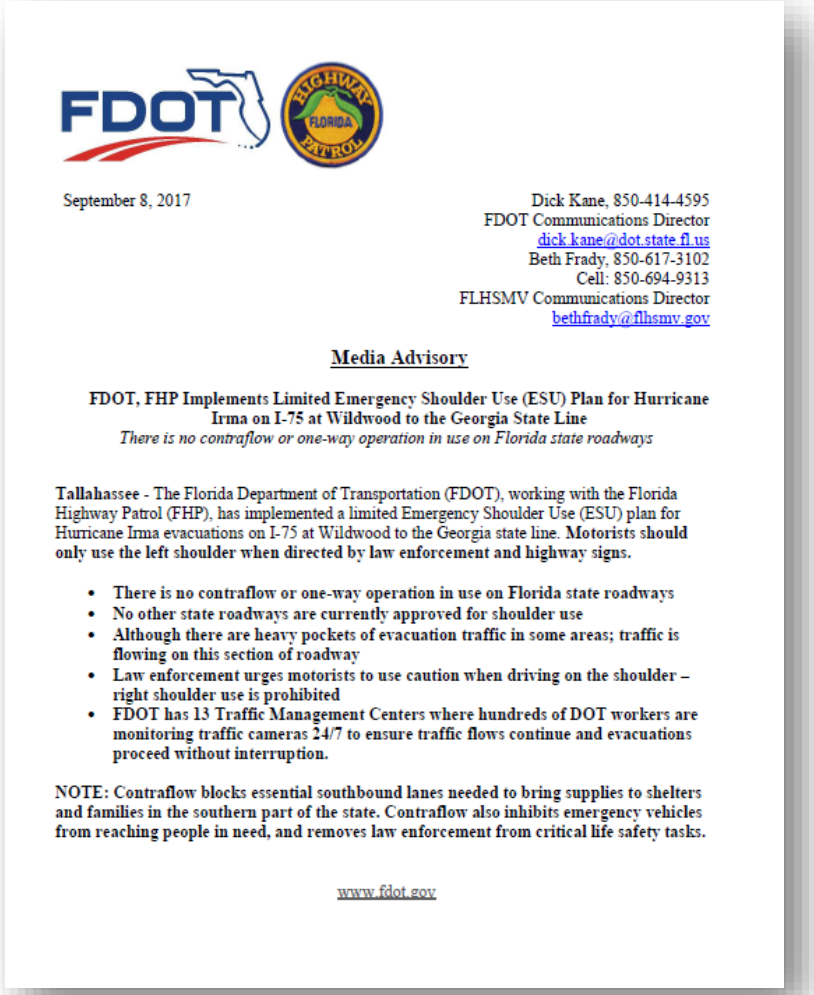
FDOT Traveler Information

- The State Emergency Operations Center coordinated all traveler information.
- Extensively used:
  - Media releases were made by the FDOT Public Information Officer.
  - Florida's FL511 advanced traveler information system was continuously updated and heavily used.
  - DMSs were used, where available.
- FDOT coordinated with Waze on ESU and road closure information dissemination.

ESU News Releases

FDOT News Releases

- No contraflow or one-way operation
- No other roadways currently approved for shoulder use
- Law enforcement urges motorists to use caution
- FDOT is constantly monitoring traffic flow



September 8, 2017

Dick Kane, 850-414-4595
FDOT Communications Director
dick.kane@dot.state.fl.us
Beth Frady, 850-617-3102
Cell: 850-694-9313
FLHSMV Communications Director
bethfrady@flhsmv.gov

Media Advisory

FDOT, FHP Implements Limited Emergency Shoulder Use (ESU) Plan for Hurricane Irma on I-75 at Wildwood to the Georgia State Line

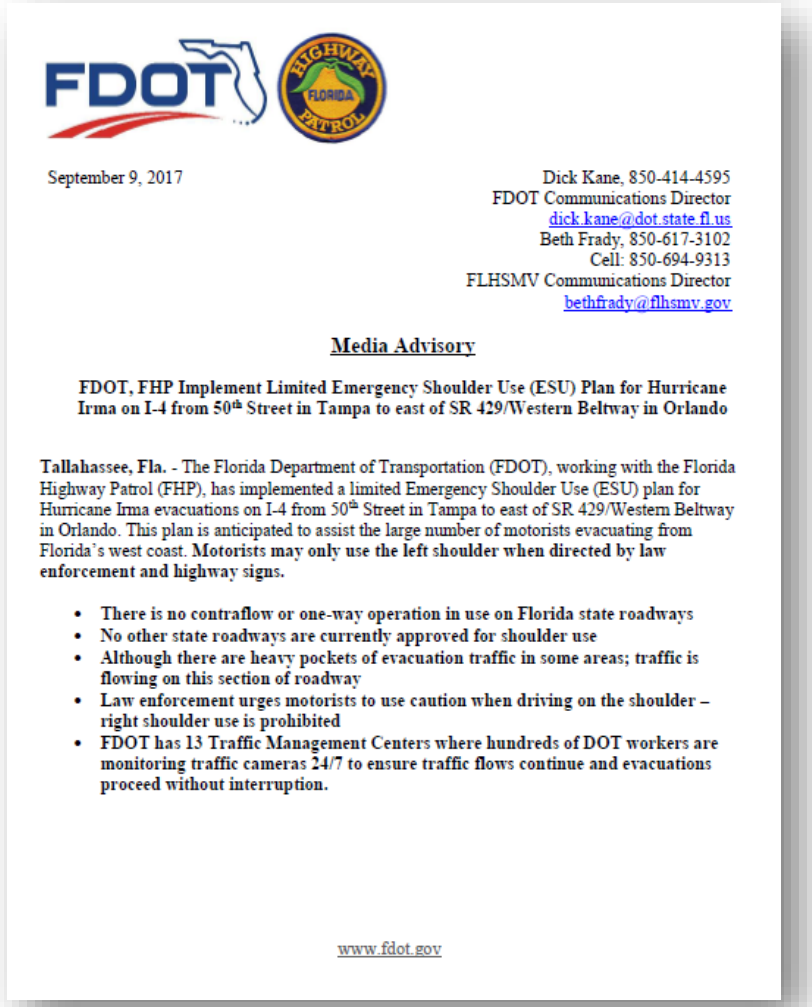
There is no contraflow or one-way operation in use on Florida state roadways

Tallahassee - The Florida Department of Transportation (FDOT), working with the Florida Highway Patrol (FHP), has implemented a limited Emergency Shoulder Use (ESU) plan for Hurricane Irma evacuations on I-75 at Wildwood to the Georgia state line. **Motorists should only use the left shoulder when directed by law enforcement and highway signs.**

- **There is no contraflow or one-way operation in use on Florida state roadways**
- **No other state roadways are currently approved for shoulder use**
- **Although there are heavy pockets of evacuation traffic in some areas; traffic is flowing on this section of roadway**
- **Law enforcement urges motorists to use caution when driving on the shoulder – right shoulder use is prohibited**
- **FDOT has 13 Traffic Management Centers where hundreds of DOT workers are monitoring traffic cameras 24/7 to ensure traffic flows continue and evacuations proceed without interruption.**

NOTE: Contraflow blocks essential southbound lanes needed to bring supplies to shelters and families in the southern part of the state. Contraflow also inhibits emergency vehicles from reaching people in need, and removes law enforcement from critical life safety tasks.

www.fdot.gov



September 9, 2017

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Media Advisory

FDOT, FHP Implement Limited Emergency Shoulder Use (ESU) Plan for Hurricane Irma on I-4 from 50th Street in Tampa to east of SR 429/Western Beltway in Orlando

Tallahassee, Fla. - The Florida Department of Transportation (FDOT), working with the Florida Highway Patrol (FHP), has implemented a limited Emergency Shoulder Use (ESU) plan for Hurricane Irma evacuations on I-4 from 50th Street in Tampa to east of SR 429/Western Beltway in Orlando. This plan is anticipated to assist the large number of motorists evacuating from Florida's west coast. **Motorists may only use the left shoulder when directed by law enforcement and highway signs.**

- **There is no contraflow or one-way operation in use on Florida state roadways**
- **No other state roadways are currently approved for shoulder use**
- **Although there are heavy pockets of evacuation traffic in some areas; traffic is flowing on this section of roadway**
- **Law enforcement urges motorists to use caution when driving on the shoulder – right shoulder use is prohibited**
- **FDOT has 13 Traffic Management Centers where hundreds of DOT workers are monitoring traffic cameras 24/7 to ensure traffic flows continue and evacuations proceed without interruption.**

www.fdot.gov

Hurricane Irma Press Releases

- *September 19, 2017* Tolls return Thursday Morning
- *September 14, 2017* I-75 will Remain Open
- *September 13, 2017* I-75 Santa Fe River Detour (Map)
- *September 13, 2017* FDOT and DHSMV Monitoring Santa Fe River at I-75 for Potential Impacts Due to Unprecedented Flooding
- *September 09, 2017* FDOT, FHP Implement Limited Emergency Shoulder Use (ESU) Plan for Hurricane Irma on I-4 from 50th Street in Tampa to east of SR 429/Western Beltway in Orlando
- *September 08, 2017* FDOT, FHP Implements Limited Emergency Shoulder Use (ESU) Plan for Hurricane Irma on I-75 at Wildwood to the Georgia State Line
- *September 05, 2017* Gov. Scott Directing the Suspension of all Tolls Across Florida effective at 5:00 p.m. on 9/5/2017

Emergency Shoulder Use Media Mentions

Mass Exodus: Florida Shuts Down With Irma Incoming

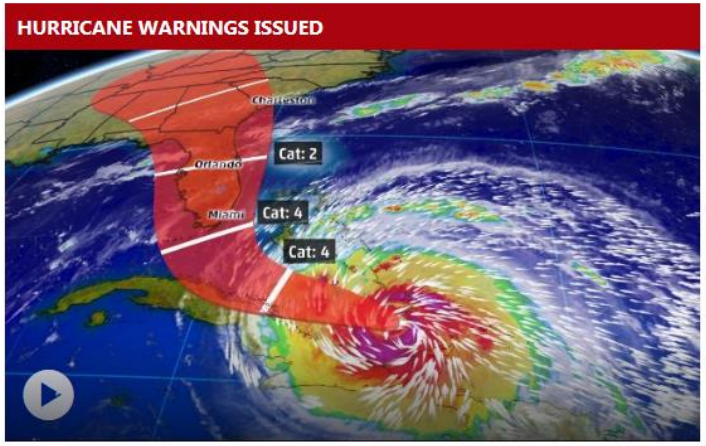
Source: Weather.com

FLORIDA

EMERGENCY SHOULDER USE

Time is running out to flee Irma by car. But if you go, here's where the traffic is

Source: Miami Herold



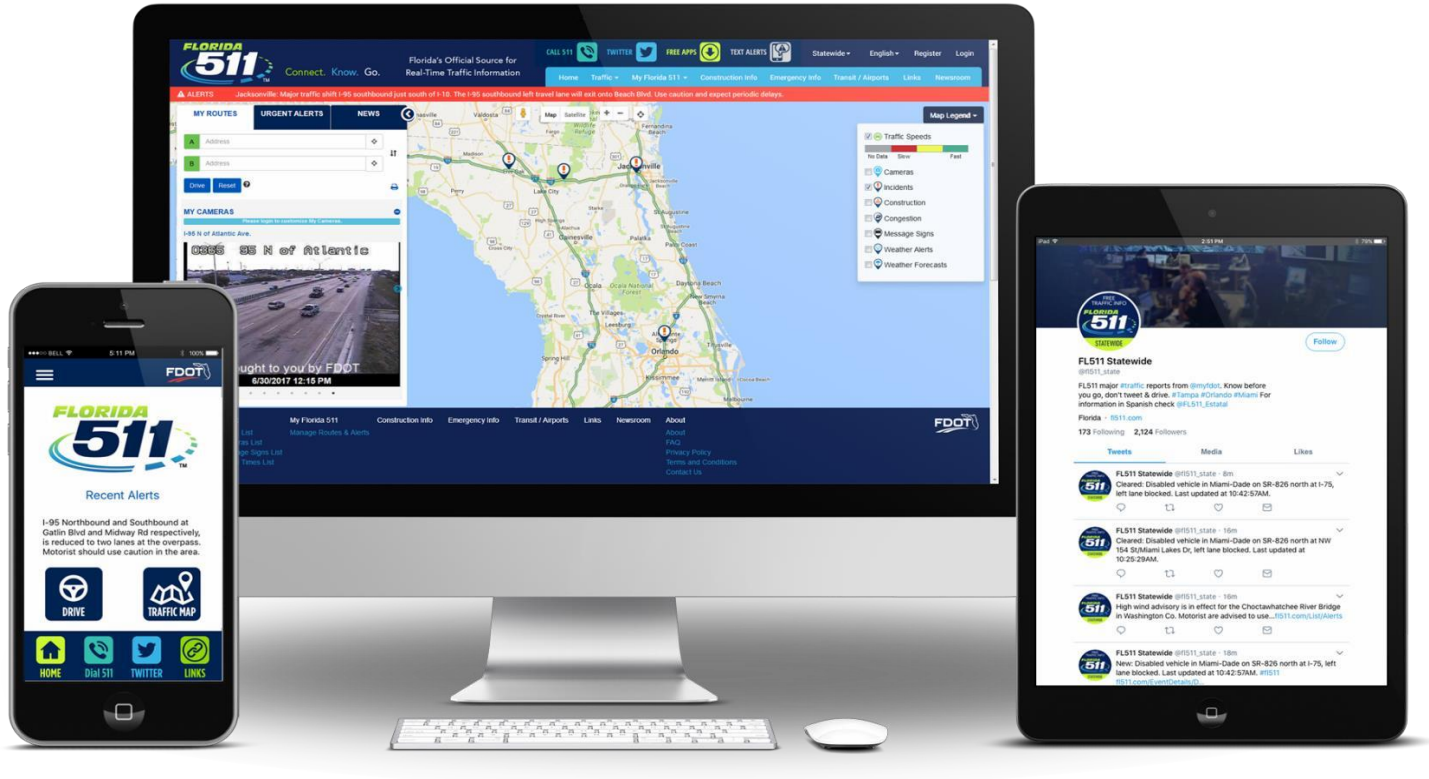
FEATURED

IRMA WORST-CASE SCENARIO POSSIBLE FOR FLORIDA

Source: Weather.com

FL511 Traveler Information Used

- FL511.com website
- FL511 subscription services:
  - SMS (Text) Alerts
  - E-mail Alerts
  - Twitter feeds
- Interactive voice recognition (IVR) phone system
- Smart phone applications for iPhone and Android



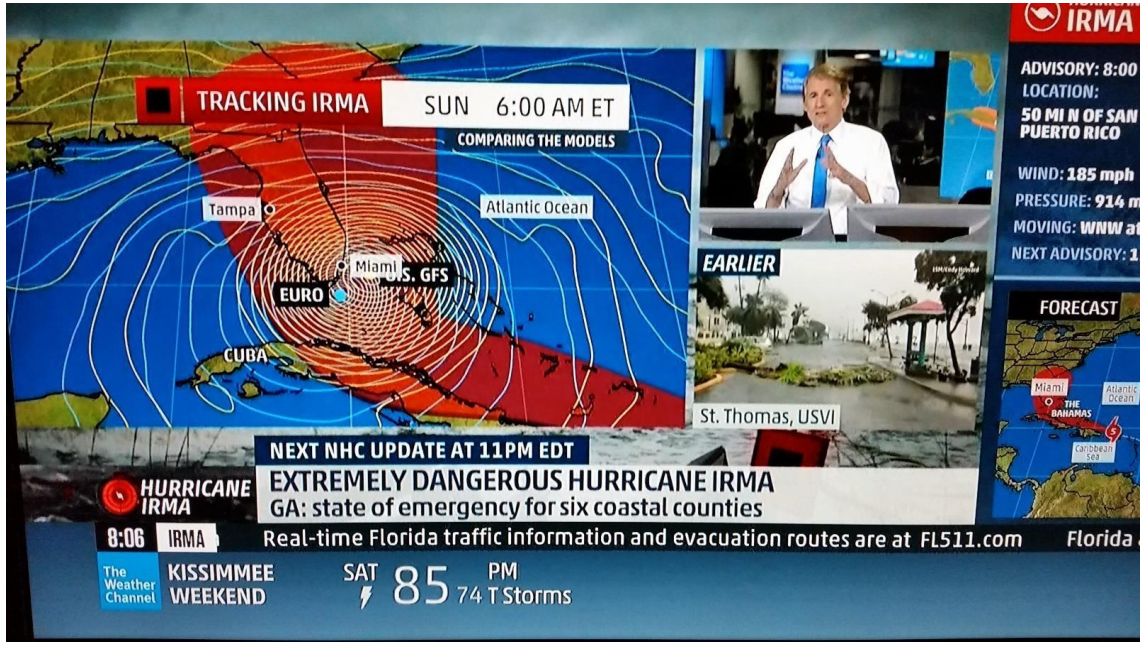
FDOT TSM&O
Transportation Systems Management & Operations

FL511 Media Coverage - Irma

Source: Twitter & Tampa Bay News

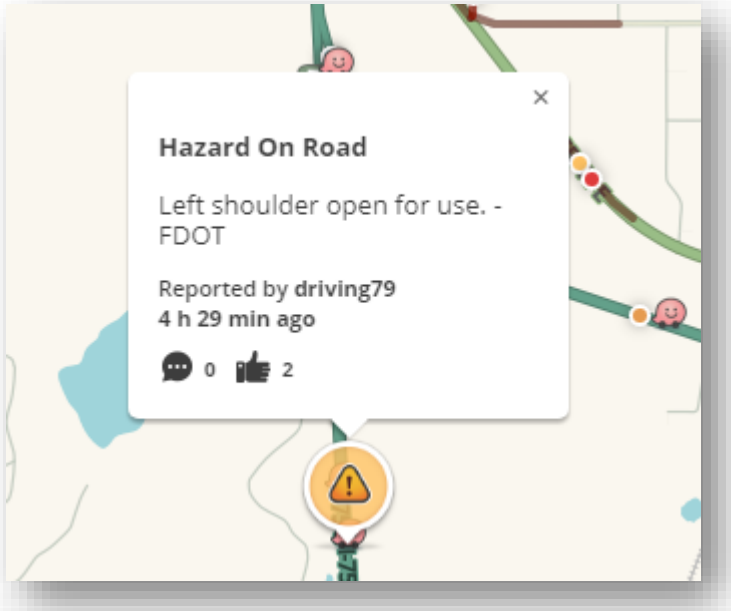
- The FL511 message was heard and seen **215.5 million** times in one week, September 7-13, 2017.
  - Print and online: 161 news articles, seen 194.5 million times
  - Broadcast: 63 mentions on 25 stations, seen 18.1 million times
  - Social media: 584 tweets, seen 2.9 million times

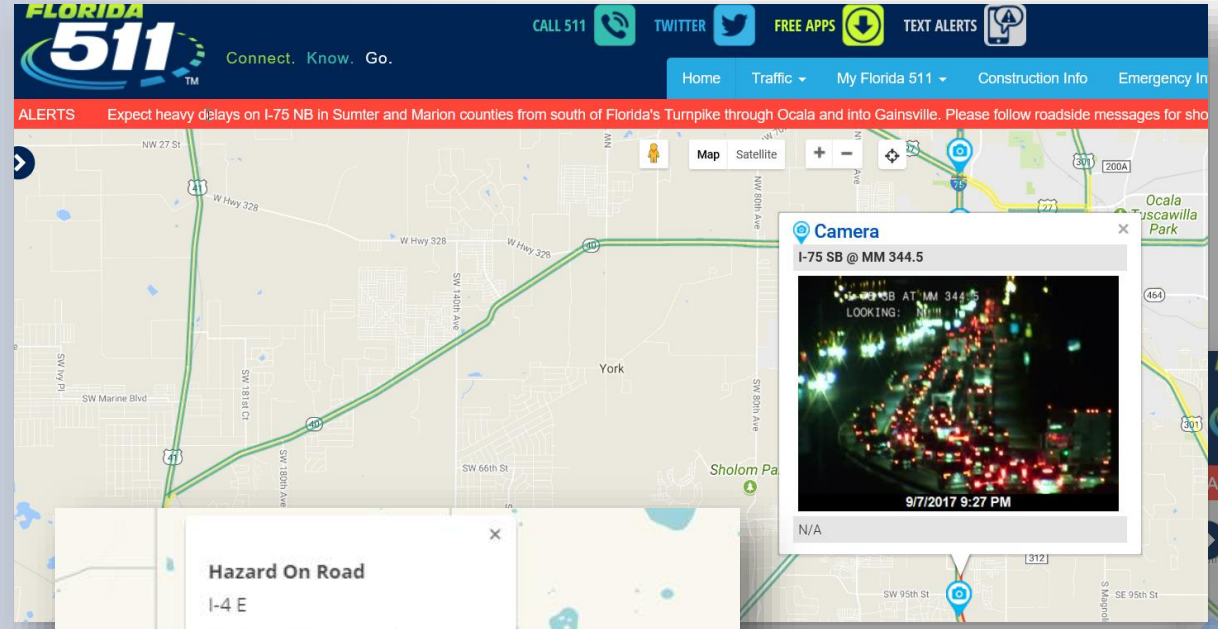
FL511 Media Coverage - Irma

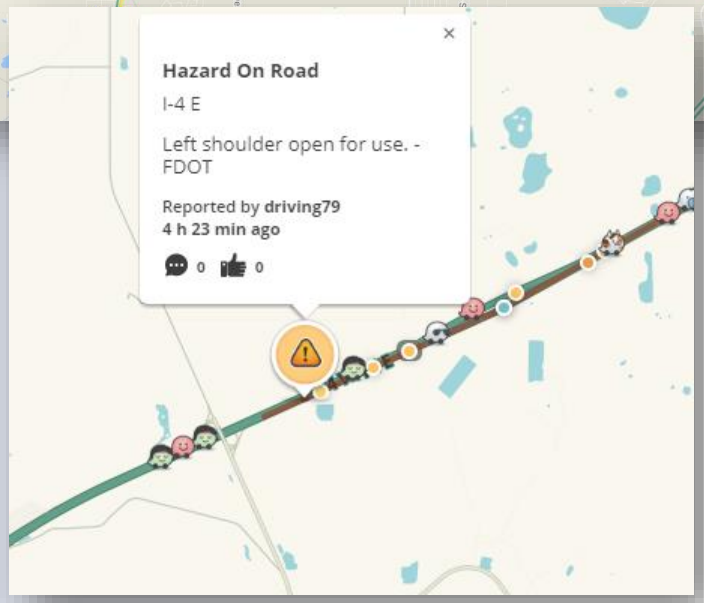


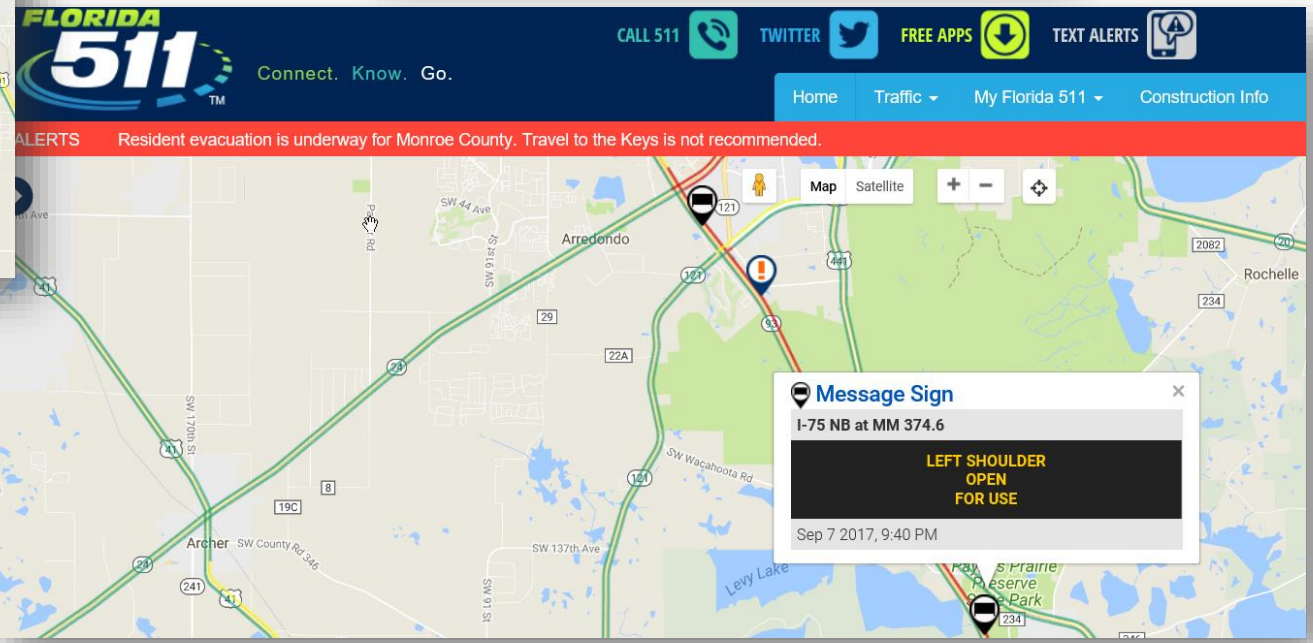
FDOT monitoring South Florida highways before, during, and after ...
WPTV.com - 21 hours ago
The **Florida Department of Transportation** is making sure any accidents get cleared up ... **FDOT** wants drivers to use the **511** app or call **511** if they plan to travel.

FL511 and Waze ESU Alerts



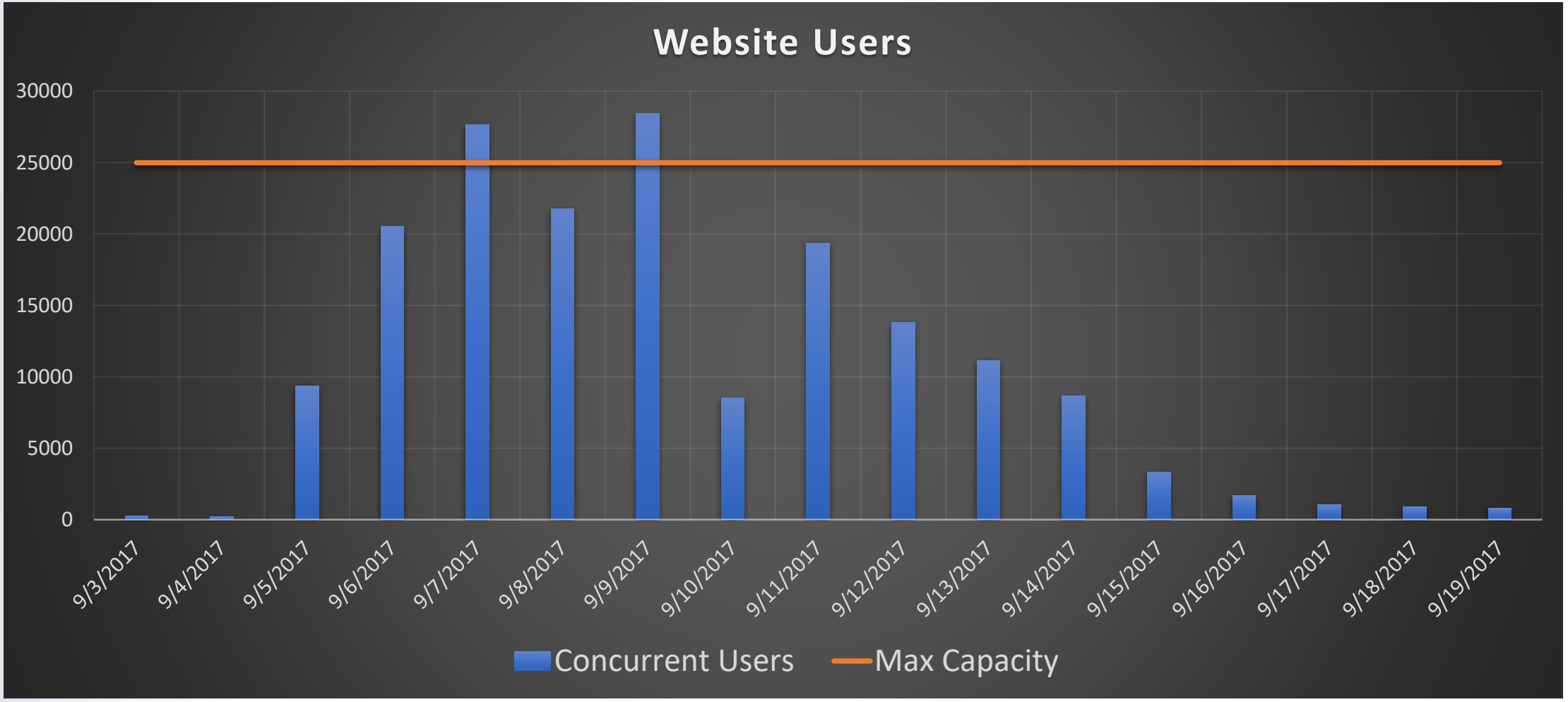






FDOT TSM&O Transportation Systems Management & Operations

FL511 Concurrent Users vs Design Capacity



DMS Used to Assist with Finding Shelters

- Traffic Operations developed DMS messages for shelter availability
- Districts were informed to post the messages if other incident or high priority messages were not needed
- SEOC actively coordinated to provide shelter availability detail as and when requested

SHELTER INFORMATION REDCROSS.ORG

SEVERE WEATHER WARNING USE CAUTION

DMS Used for Traveler Information

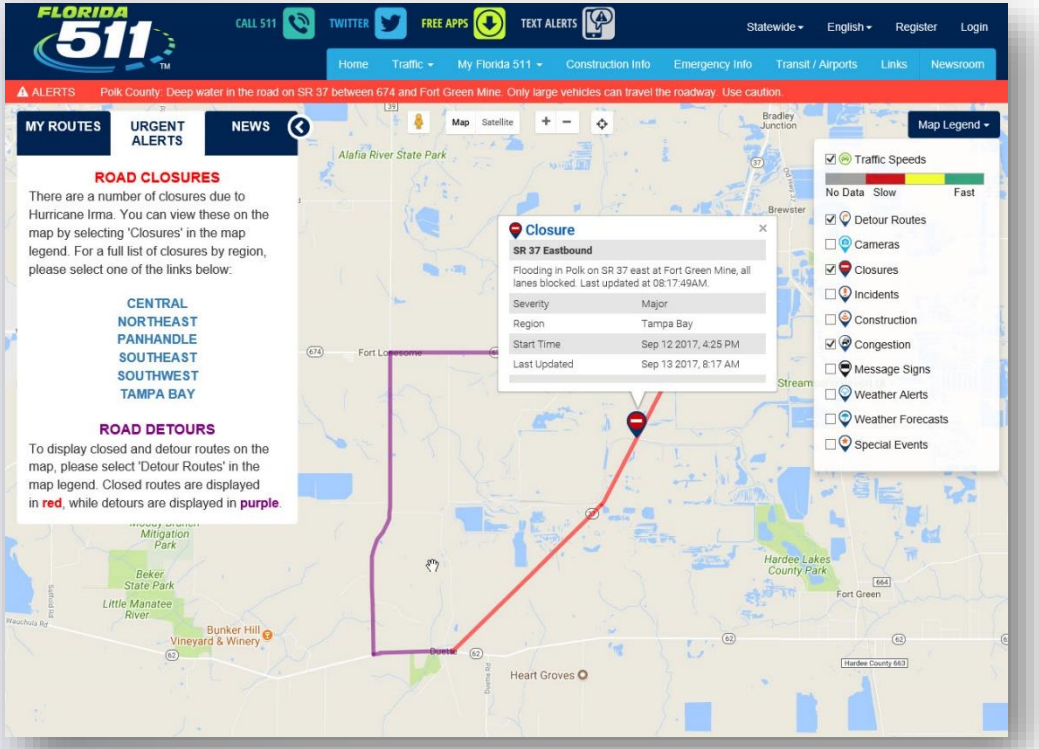
- On I-4, DMSs were frequent enough that portable changeable message signs were not needed
- Fuel availability
- Rest area closures (Michael)
- I-10 full closures due to short-term utility work, rolling road blocks were successfully used (Michael)

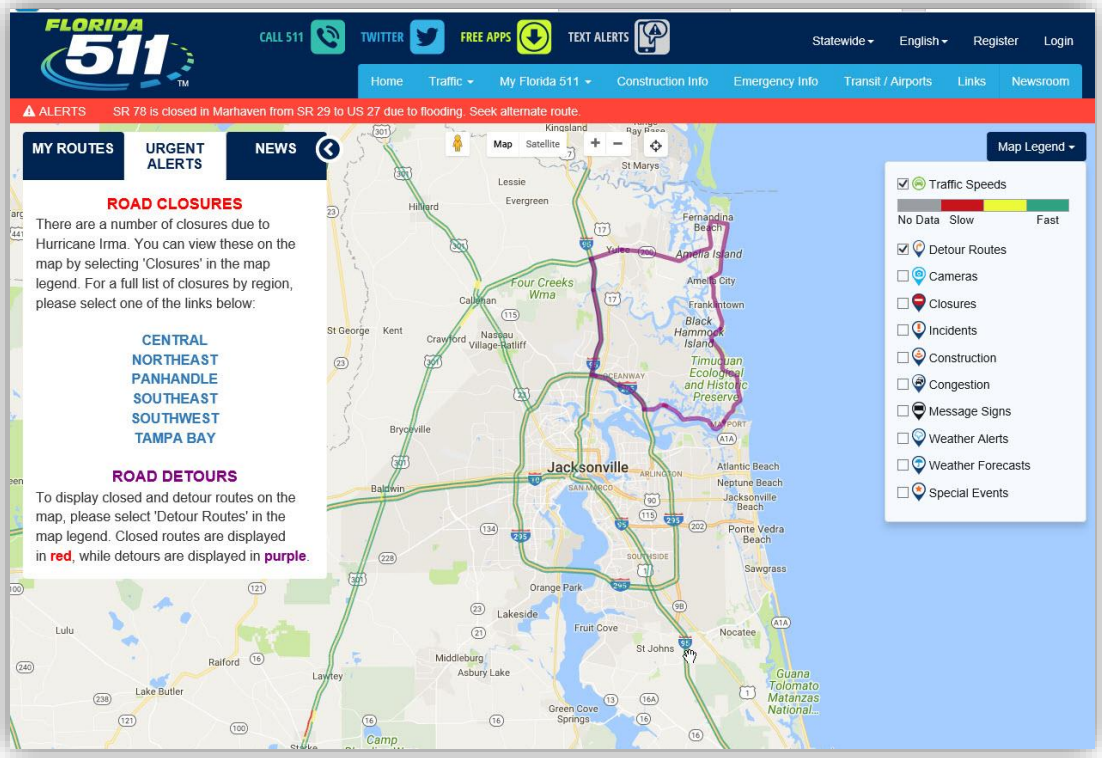
Detour Route/Road Closure Process for FL511

- In the event of a full road closure due to Hurricane Irma, District EOC posts information in the Web Emergency Operations Center (WebEOC)
- SEOC contacts TMC/DEOC to verify if the information is confirmed with FHP and Traffic Operations Office
- Upon confirmation, SEOC requests the District Traffic Operations staff to confirm the detour provided in the WebEOC
- Detour route is then prepared in ArcGIS
- <u>Significant enhancement during Irma:</u>
  - Automated and simultaneous detour route preparation and posting to the FL511.com website
- Utilized this process during Hurricane Michael

FL511 Road Closures; Detour Routes

- Up-to-date road closure information on the Urgent Alerts tab, Map Legend, and Traffic List tab; Closures displayed in **red**
- Added Road Detours to Urgent Alerts section; Detours displayed in **purple**





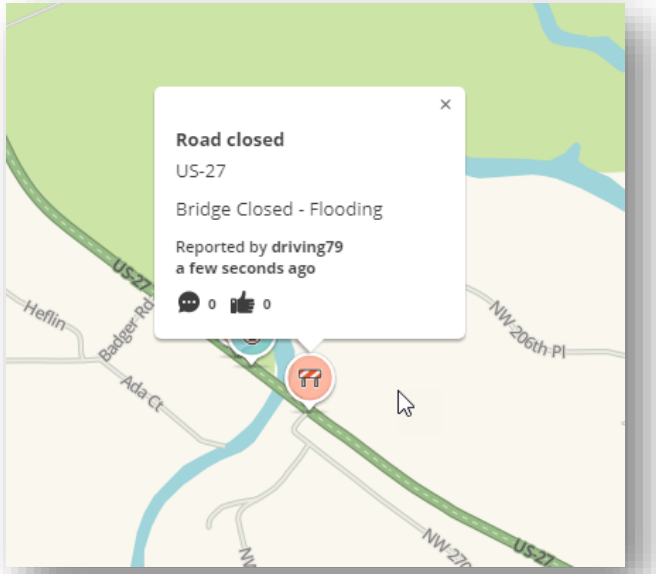
FDOT TSM&O Transportation Systems Management & Operations

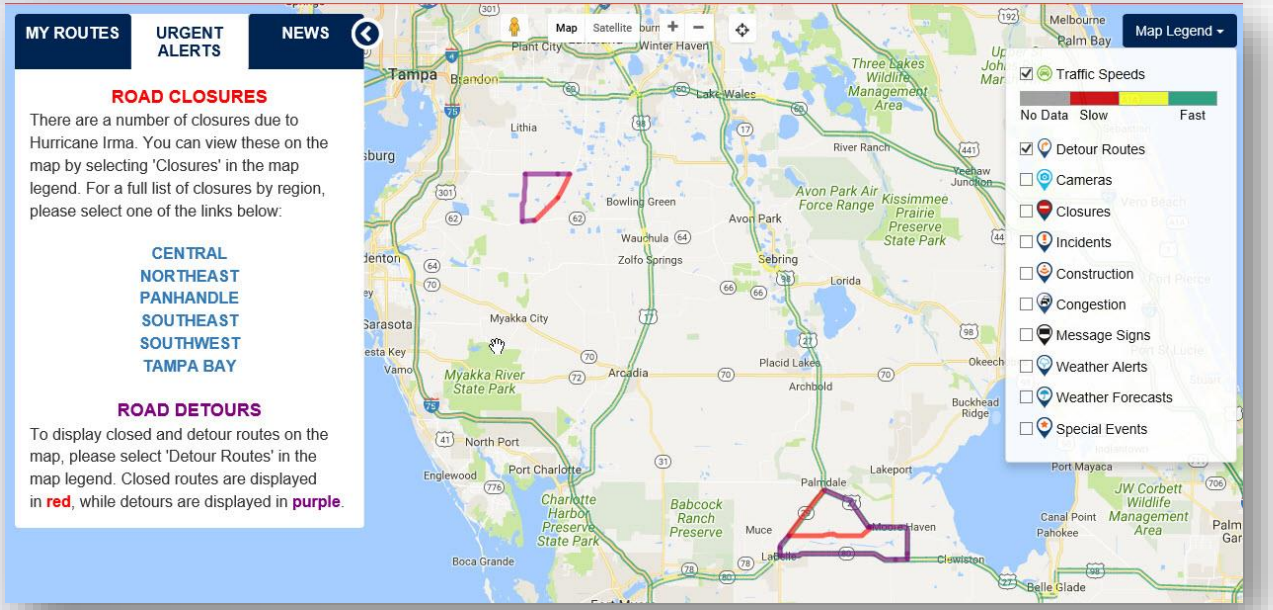
Detour Route/Road Closure Process for Waze and Google

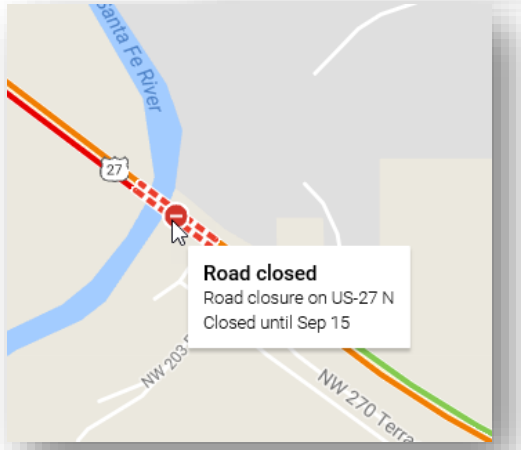
- Manual process by local map editing volunteers
- They monitor FL511.com, social media, and other publicity sources to gather information
- FDOT communicated with the Waze Coordinator on road closures
- Google used the road closure information from Waze

Detour Route/Road Closure Process for Waze and Google

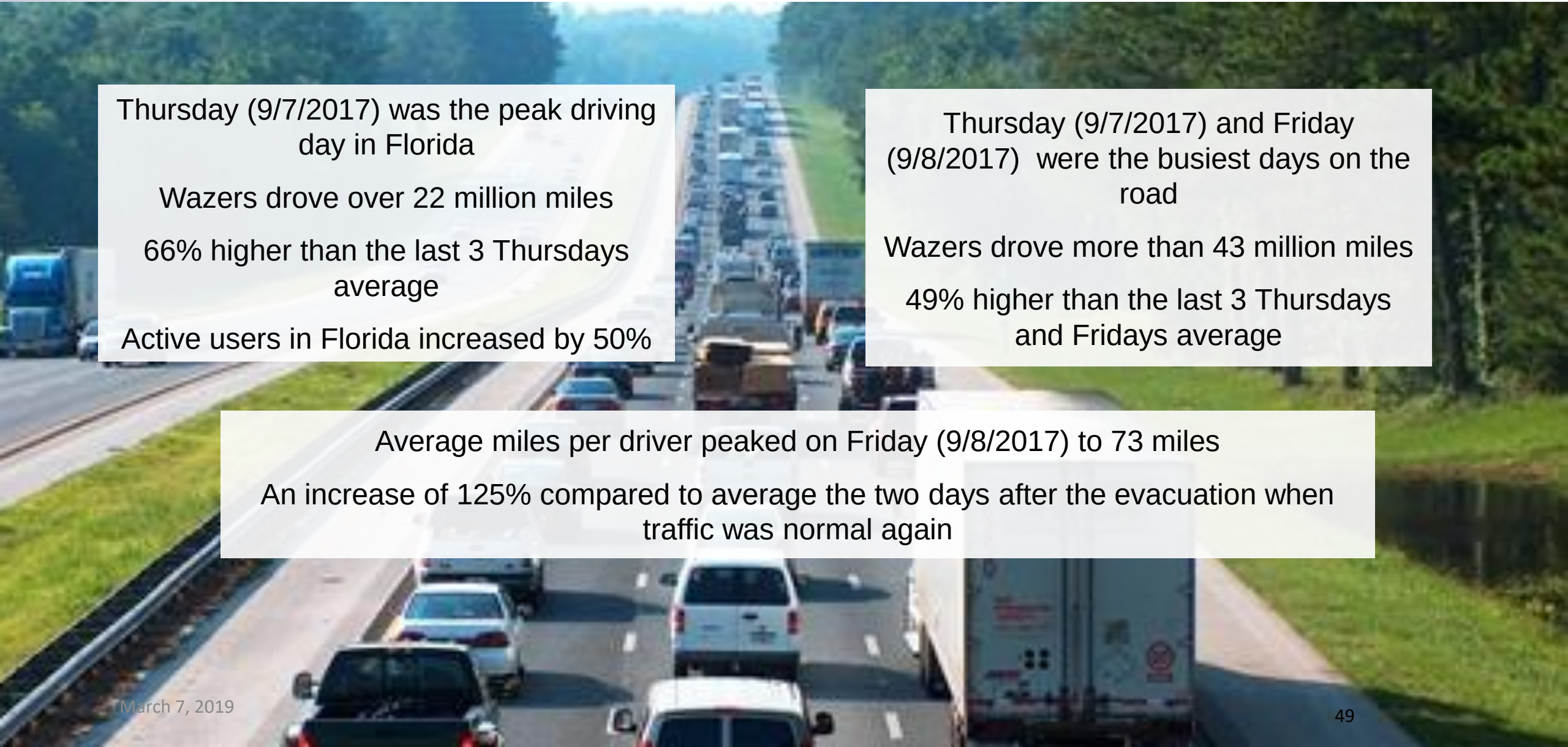
Region	County	Roadway	Direction	Type	Severity	Description	Start Time	Last Updated	Camera Image
Southwest	DeSoto	US-17	N	Closures	Major	Flooding in DeSoto on US17 north at SW Fletcher St, all lanes blocked. Last updated at 08:17:49AM.	9/11/17, 1:23 PM	9/13/17, 8:17 AM	No live camera available for this event







Waze User Statistics During Hurricane Irma



Thursday (9/7/2017) was the peak driving day in Florida

Wazers drove over 22 million miles

66% higher than the last 3 Thursdays average

Active users in Florida increased by 50%

Thursday (9/7/2017) and Friday (9/8/2017) were the busiest days on the road

Wazers drove more than 43 million miles

49% higher than the last 3 Thursdays and Fridays average

Average miles per driver peaked on Friday (9/8/2017) to 73 miles

An increase of 125% compared to average the two days after the evacuation when traffic was normal again

Questions and Discussion

For more information contact:

Fred H. Heery, Sr., P.E.

State TSM&O Program Engineer

Traffic Engineering and Operations Office

Florida Department of Transportation

(850) 410-5606

Fred.Heery@dot.state.fl.us

Break
(15 minutes)

Development of a Roadway Flood Warning System for the Houston Region

Dinah Massie

Executive Director

Houston TranStar

Roadway Flood Warning System AWARDS

- ITS Texas award
- Texas Public Works Association's Technical Innovation Award
- Emergency Management Association of Texas' Symposium Technology Award

What is Houston TranStar?

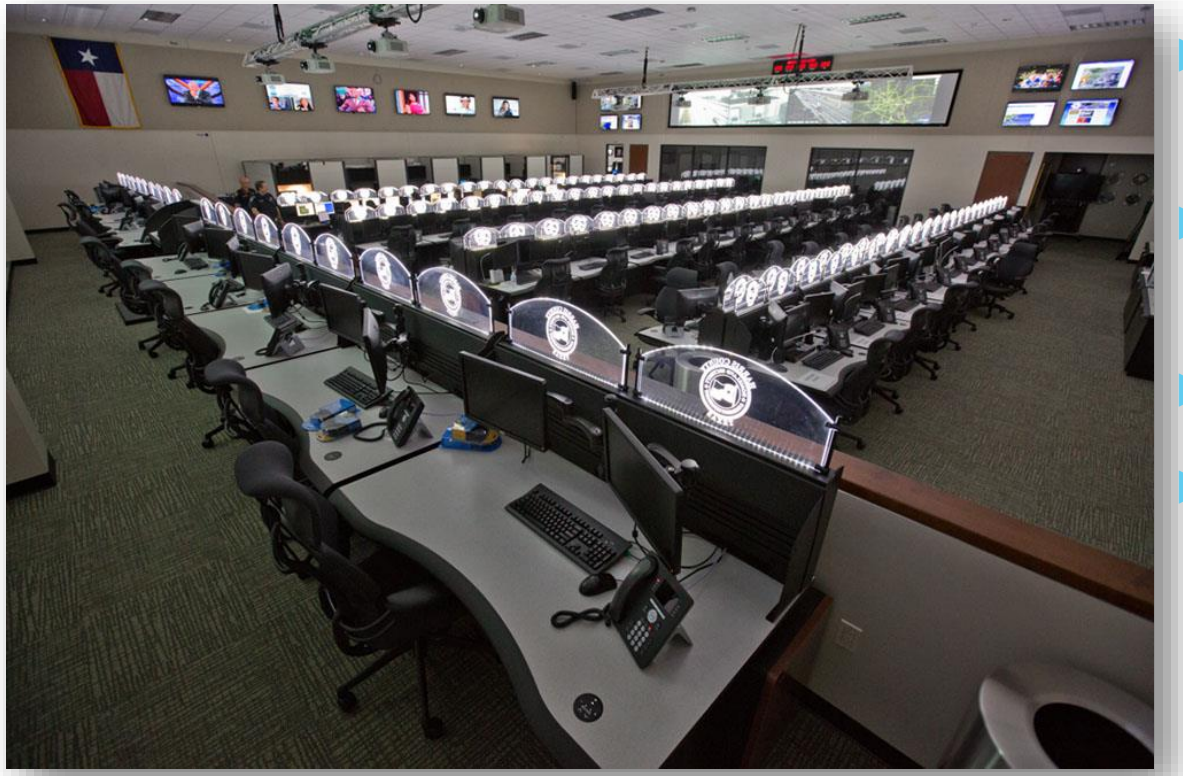
Transportation Management

Emergency Management

Created in 1993 to leverage and synthesize each others' data and resources for the benefit of the public and first responders.

In 2017, TranStar's benefit - cost ratio was 19.5 – 1. So for every $1 spent on TranStar, the public reaps a benefit of $19.50.

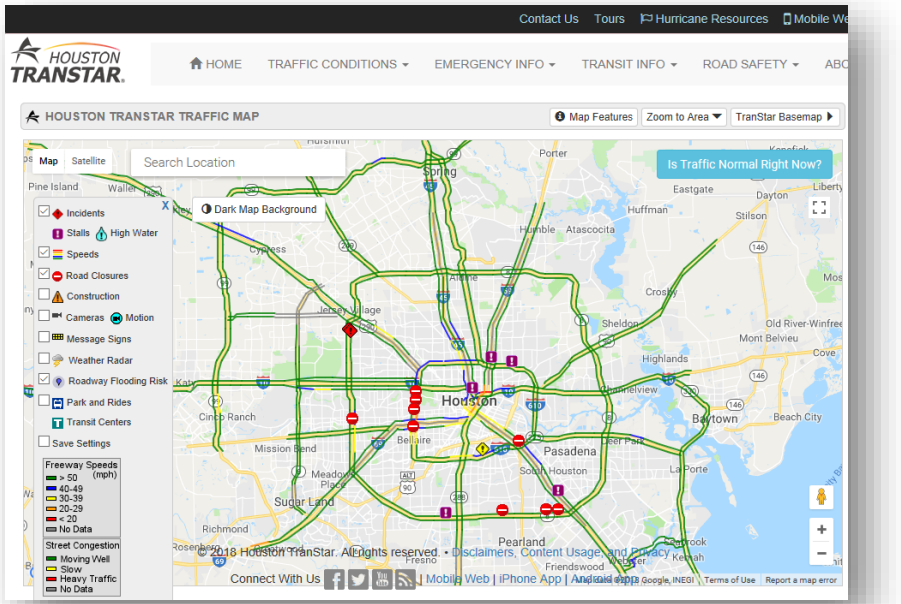
Harris County
Homeland Security and Emergency Management



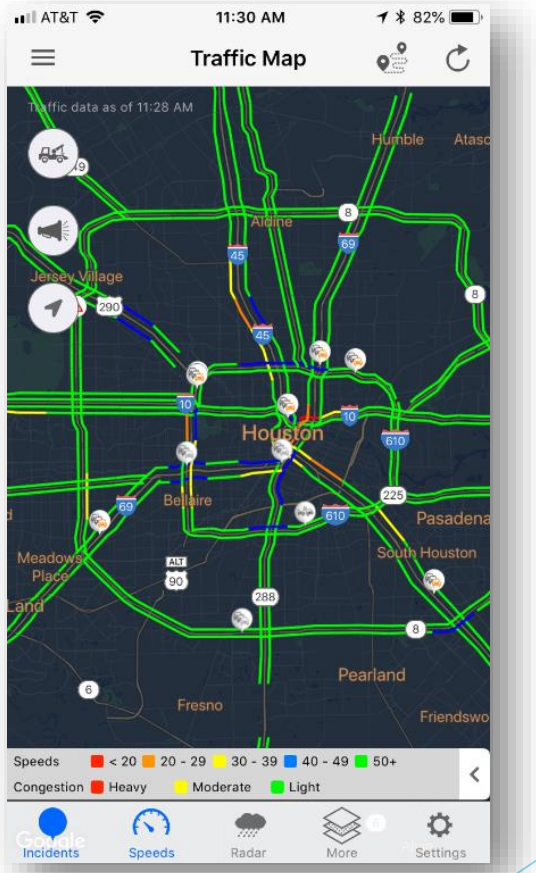
- Role of the Harris County Judge
- Preparedness and Response
- Communication
- Public Education

Traveler Information Tools

Website / Traffic Map



Mobile App



- About 10 million monthly web accesses
- About 750,000 unique monthly users (2018)
- **Unique users during Hurricane Harvey: 3,074,575**

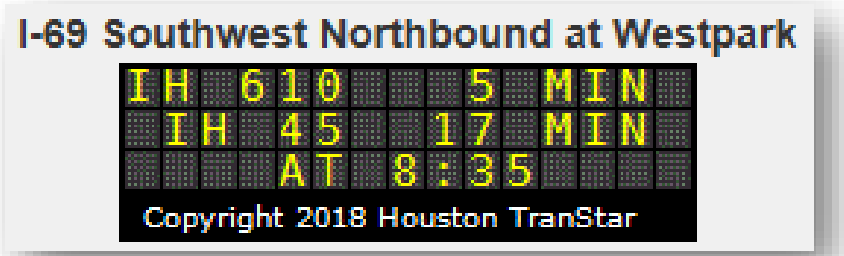
HOUSTON TRANSTAR®

Traveler Information Tools

Email / Text Alerts

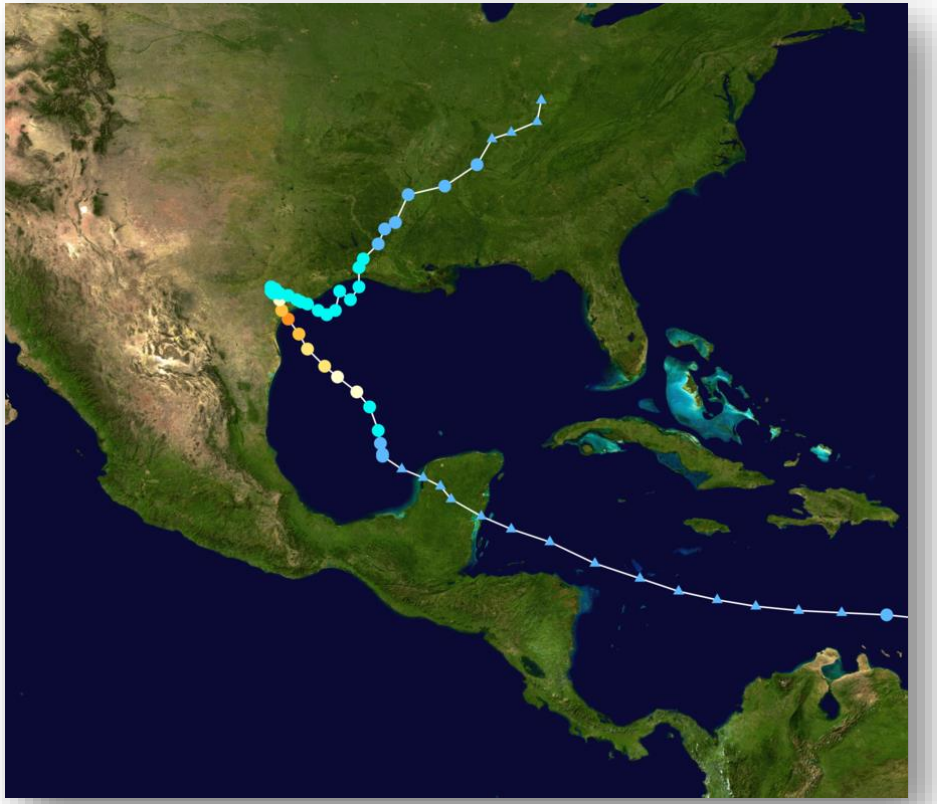
Social Media
YouTube
Facebook
Twitter

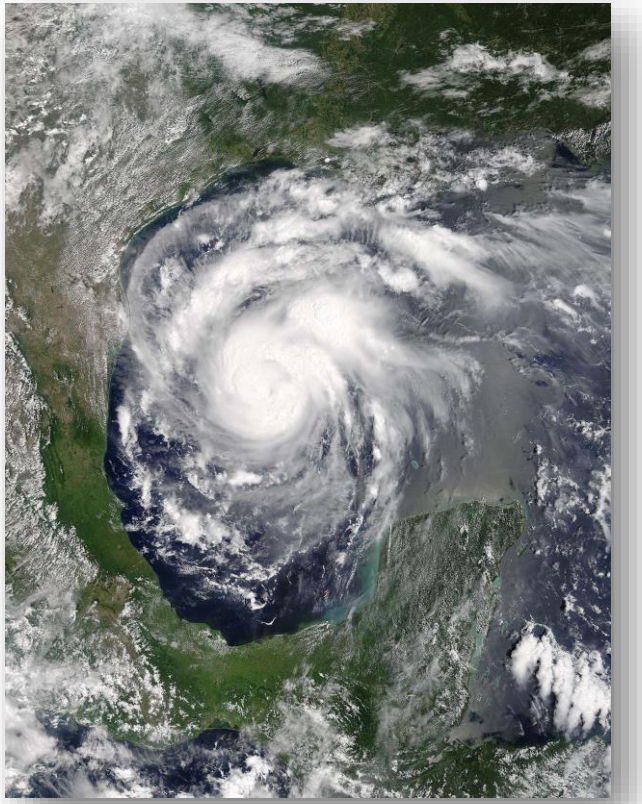
Dynamic Message Signs



HOUSTON TRANSTAR

Hurricane Harvey
August 25 - September 4, 2017





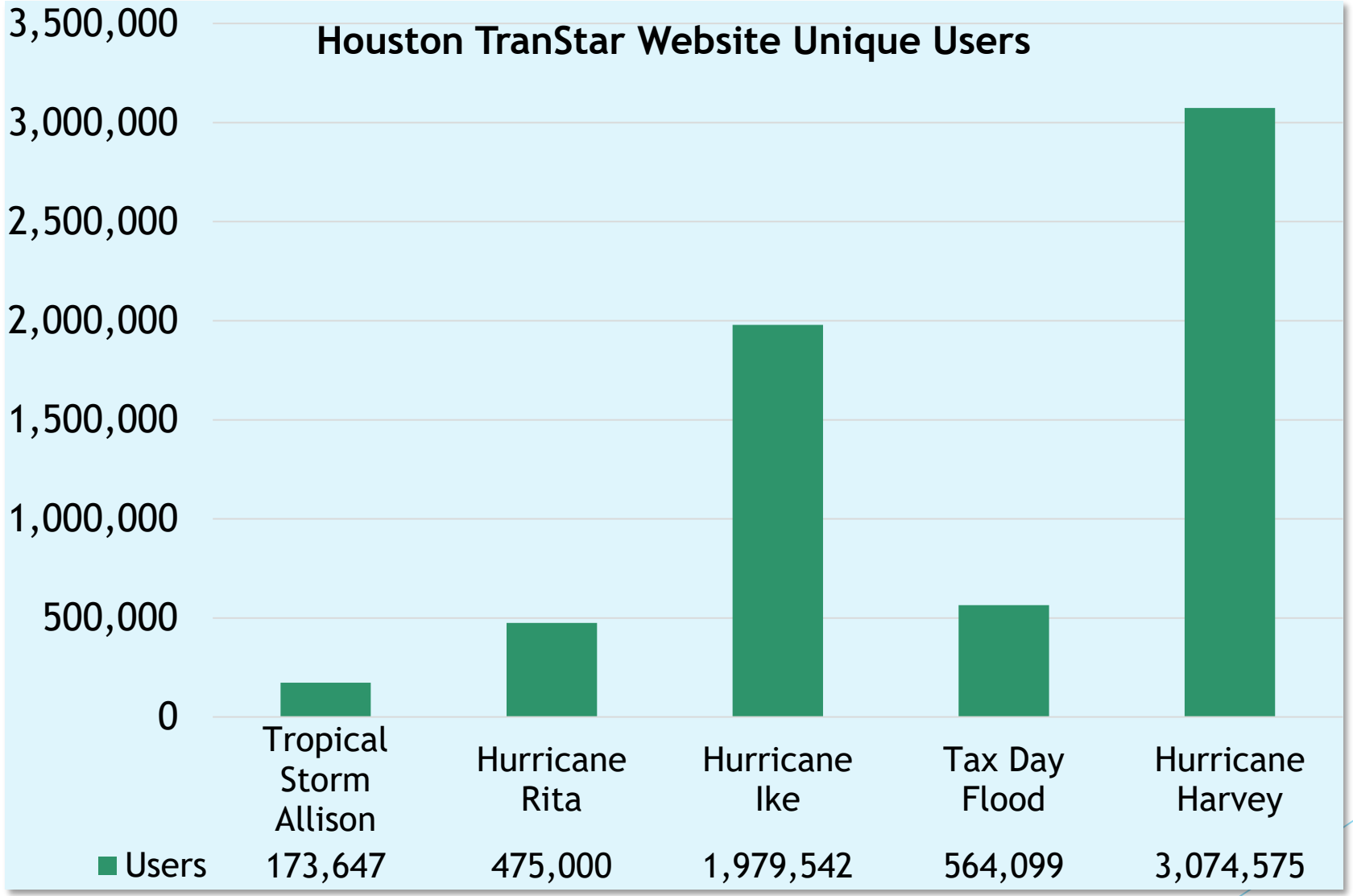
HOUSTON TRANSTAR

The Impact of Hurricane Harvey

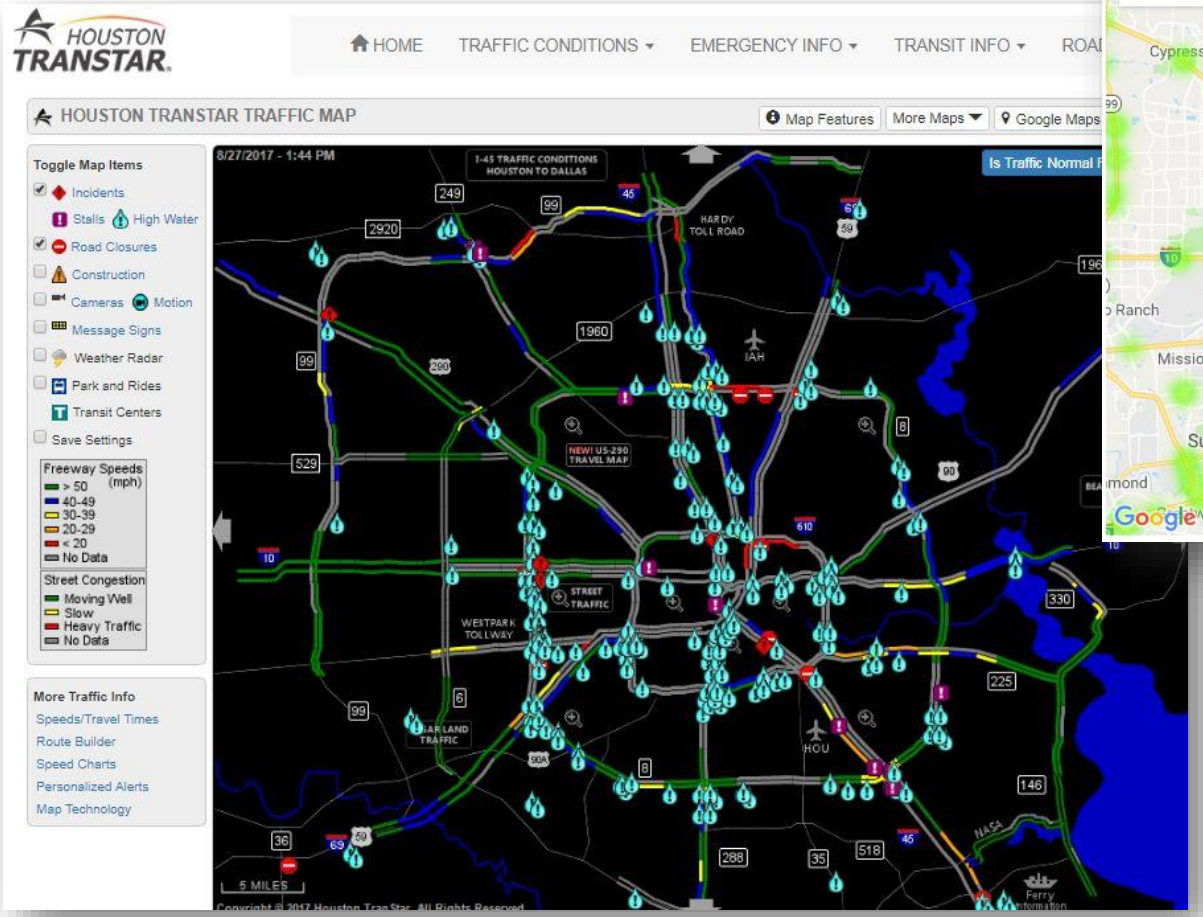
- 1 trillion gallons of H^20
- 60+” of rain (avg. 42.32”)
- 82 deaths in 13 counties; 35 in Harris County
- $190 billion cost

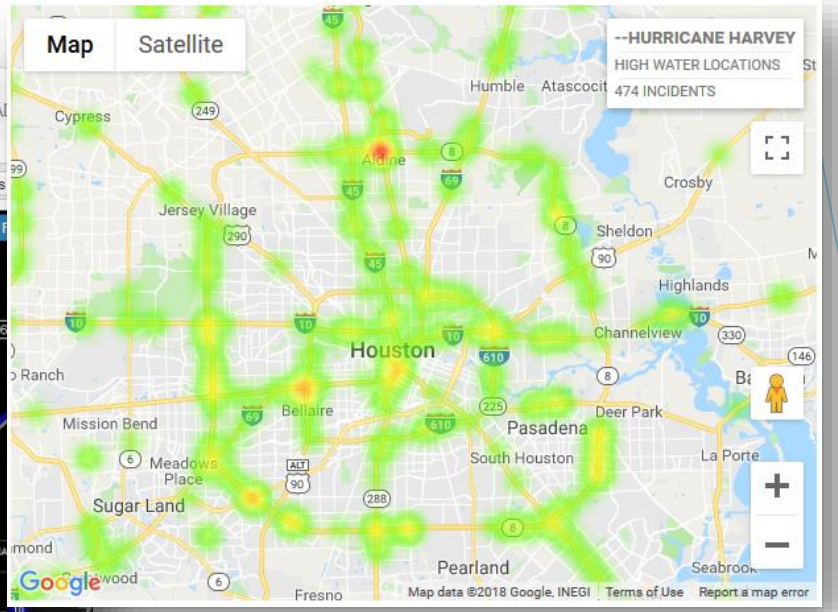
HOUSTON TRANSTAR®

Website Use During Harvey's 7 Days



209 High-Water Freeway Locations Over 24 Hours





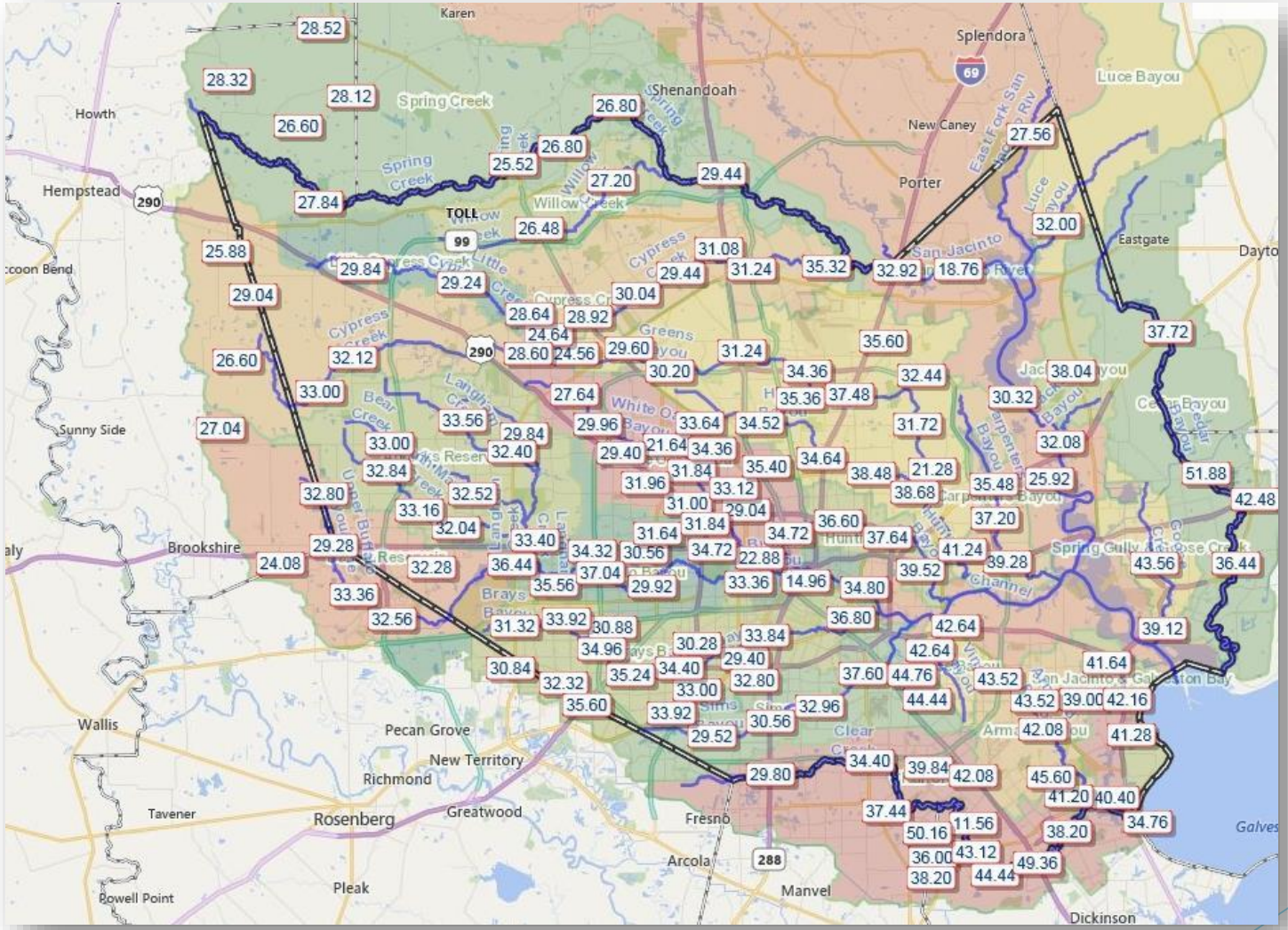
Hurricane Harvey: Lessons Learned

Good information on flooded freeways and frontage roads (verified by cameras).

Limited-to-no information on flooded streets.

HOUSTON TRANSTAR®

7-Day Rainfall Totals (*HCFCD)

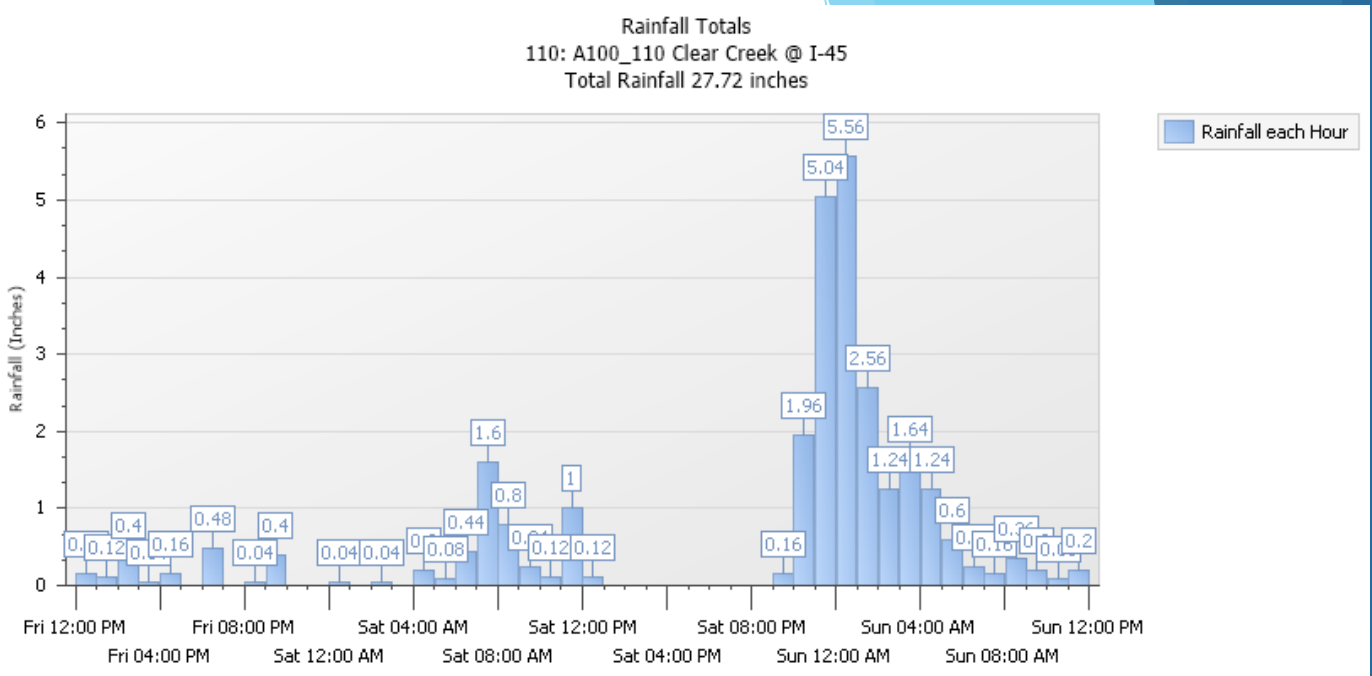


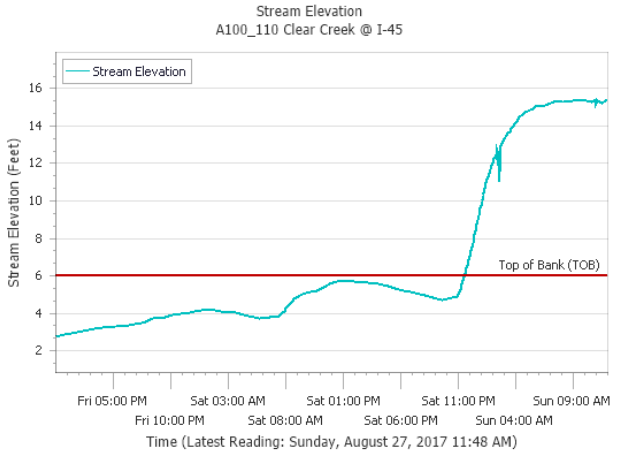
Flood Sensors

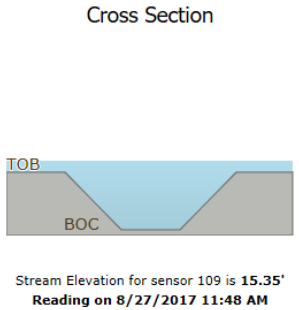
Data from 190+ sensor locations belonging to several regional entities:

- HCFCD,
- Brazoria Drainage Dist. #4
- San Jacinto River Authority,
- City of Sugar Land,
- City of Mont Belvieu,
- Fort Bend County,
- Trinity River Authority,
- TxDOT and
- The Woodlands.

We add sensors to the system as they become available.







HOUSTON TRANSTAR

Roadway Flood Warning Concept

Houston TranStar partners coordinated after Hurricane Harvey to brainstorm a concept for providing better roadway flood warning information for the region.

Houston TranStar

Texas A&M Transportation Institute

Harris County Flood Control District

Texas Department of Transportation

Harris County Office of Homeland Security and Emergency Management

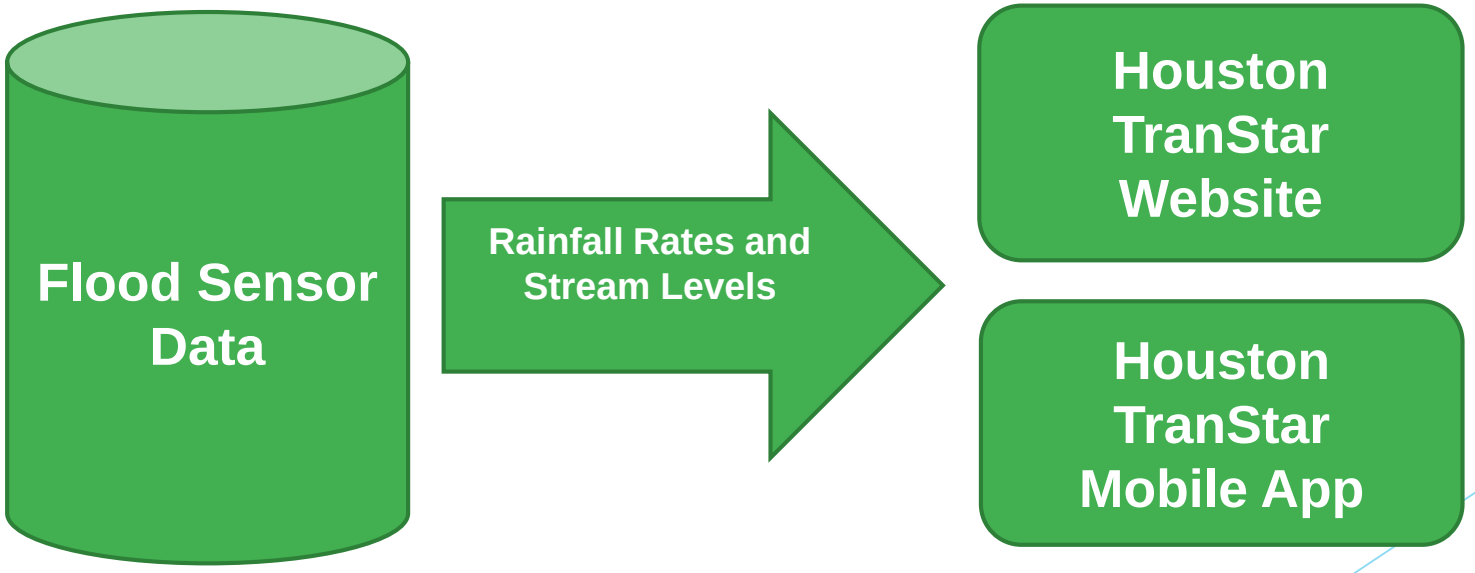
HOUSTON TRANSTAR®

Roadway Flood Warning Concept

Goal: Warn travelers to exercise caution and avoid travel in areas where conditions are likely to cause roadway flooding.

Thresholds:

- Rainfall rate greater than 1 inch in 15 minutes
- Stream level over top of bank



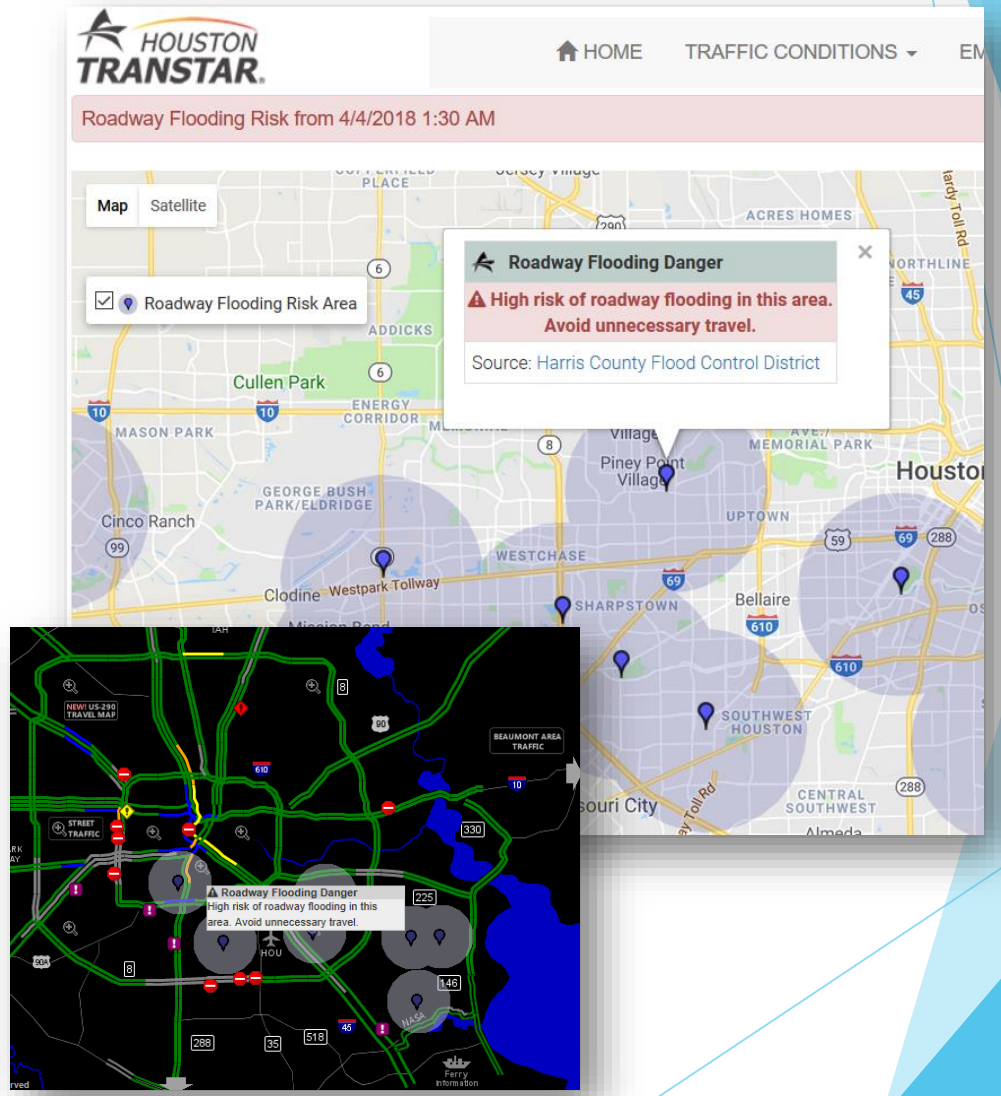
Roadway Flood Warning System

Highlighted area around sensors exceeding thresholds (3-mile radius).

Updates every 15 minutes.

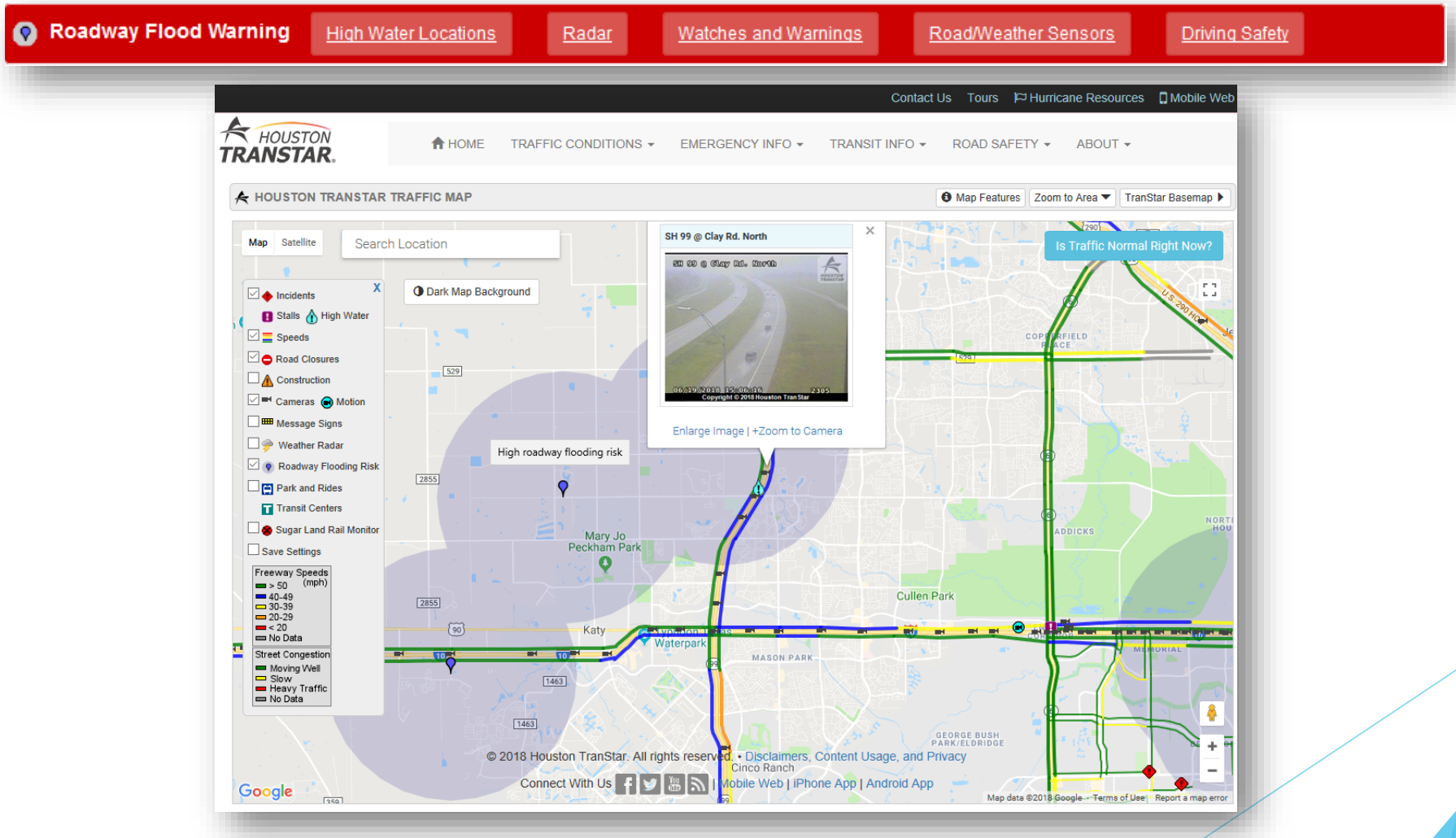
Rainfall thresholds displayed for 90 minutes (after reported) and an additional 90 minutes for each subsequent report.

Stream level thresholds displayed as long as stream is over top of bank.



Roadway Flood Warning System

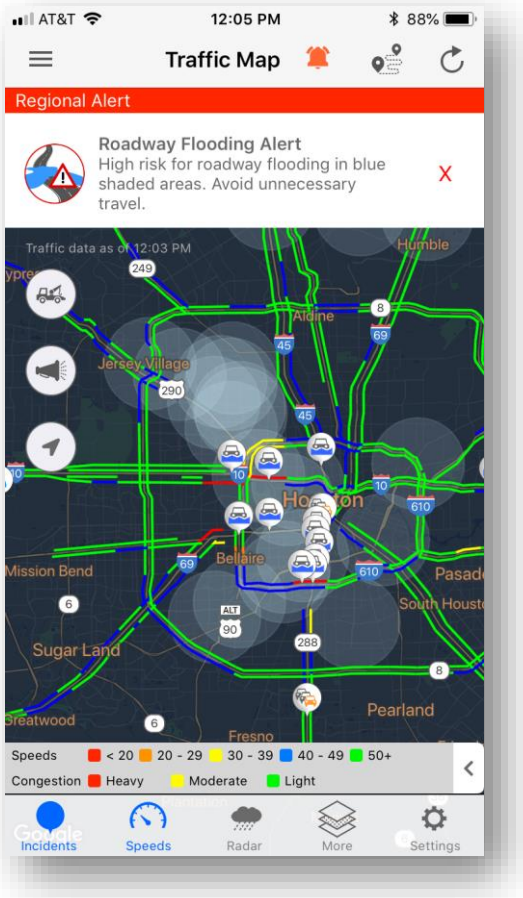
Houston TranStar Website



Roadway Flood Warning System

Houston TranStar Mobile App

Current Functionality



Future Functionality

Ping notifications when entering a flood area

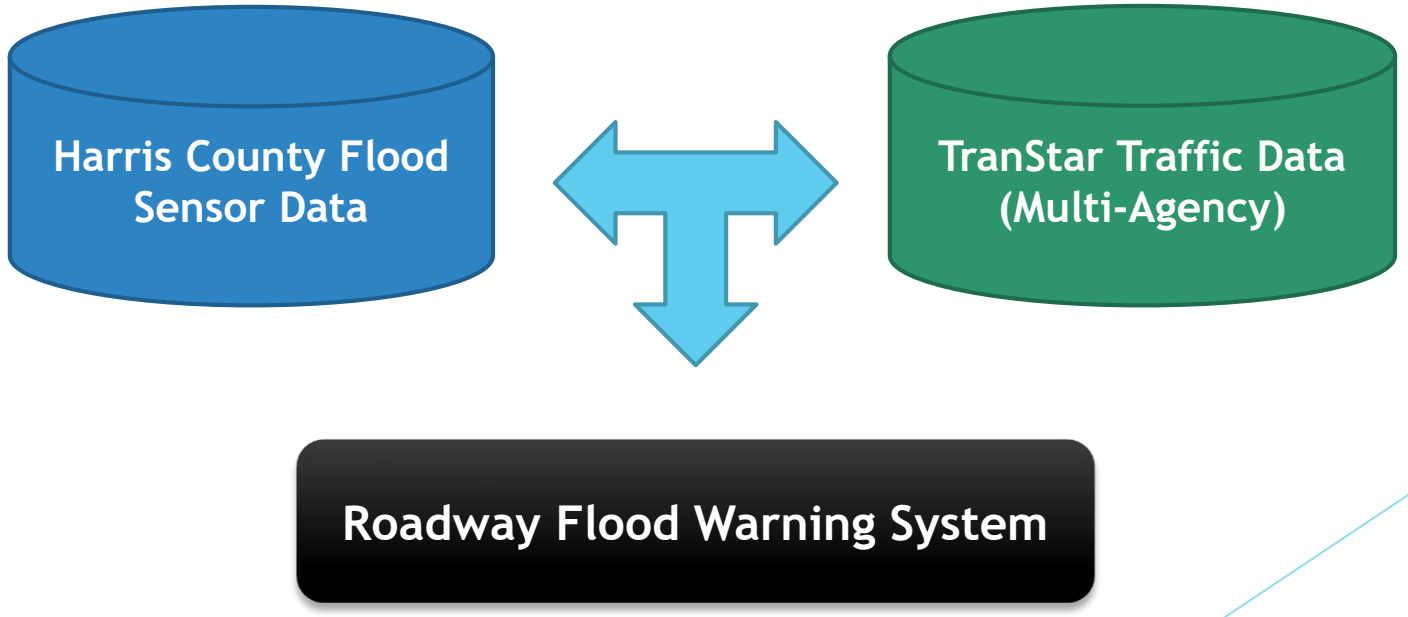
HOUSTON TRANSTAR®

Roadway Flood Warning System

Unique Accomplishments

Collaboration of local agencies sharing expertise, information and resources to enhance public safety.

Use of existing equipment, datasets and functionality allowed this system to be implemented quickly and at a low cost.



HOUSTON
TRANSTAR®

I-95 CORRIDOR
COALITION

Connecting with Travelers During Severe Winter Weather Emergency Events

Mary Farrell

President

Information Logistics on behalf of PennDOT & PA Turnpike Commission

511PAConnect AWARDS

- ITS America: 2018 Best of ITS (Finalist)
- ITE: 2017 Transportation Achievement Award for Operations
- ITS Pennsylvania: 2017 Project of the Year
- ITS NJ: 2017 Outstanding ITS Project
- MASITE: 2017 Project of the Year
- International Bridge, Turnpike, and Tunnel Association: 2017 Toll Excellence Award for Technology

Connecting with Travelers During Severe Winter Weather Emergency Events

MARY FARRELL, PRESIDENT, INFORMATION LOGISTICS, INC.

ON BEHALF OF PENNDOT & THE PA TURNPIKE COMMISSION

MARCH 2019

A (secondary) Accident: Real Life

The Gazette

Now imagine … you are … right now … trapped.

Wildfire Smoke, Fog Causes Traffic Accidents Foxnews.com 2006

Rain causes traffic accidents, delays, rescues across region WTOP.com 2018

highway closed by mudslides, motorists trapped KCBY.com 2019

911 calls from snow-stranded drivers reveal I-81 angst Roanoke.com 2019

National Guard to help stranded motorists on I-81 WJHL.com 2018

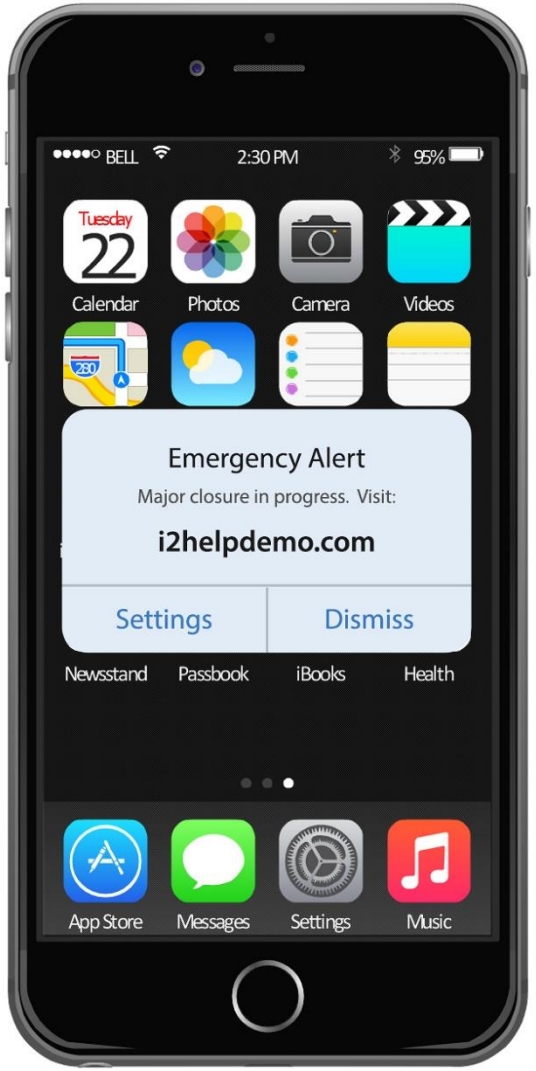
BLIZZARD CONDITIONS CAUSES 75-CAR CRASH AS FREEZING WEATHER GRIPS EAST COAST Newsweek 2019

What happened to create a 20-mile traffic backup on Interstate 81 on Sunday? Heraldcourier.com 2018

Join the Demonstration

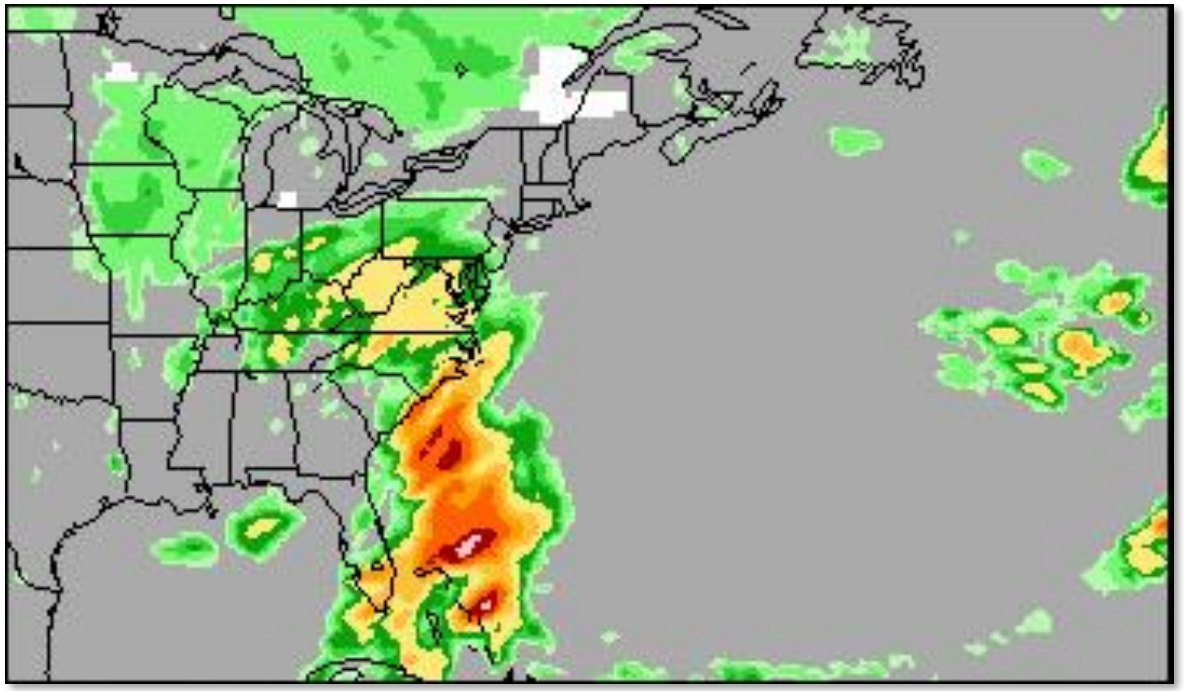
- Please Participate
- You are in a car, trapped on a roadway
- Your cell phone starts to buzz
- You read the alert, and do what it says:

  VISIT WWW.i2HELPDEMO.COM



Inspiration: Winter Storm Jonas

- January 22-23, 2016
- Snow falling at 2”+ per hour, 36” total – much worse than expected.
- 500+ vehicles in two separate trapped queues over 12 miles.



Source: NOAA NCEP Quarterly Newsletter - January 2016

Winter Storm Jonas

Problems Targeted – Low Occurrence, High Impact Events

Primary Target

- Unexpected major events…causing road closures/blockages…
- On high speed roads…
- With extreme accident/fatality risks

Also, Potentially…

- Expected events w unexpected consequences
- Major planned closures/events
- Wide area evacuations…or wide area impacts (e.g. flooding)
- Planned closures (‘pass closed,’ ‘bridge out,’ etc.)

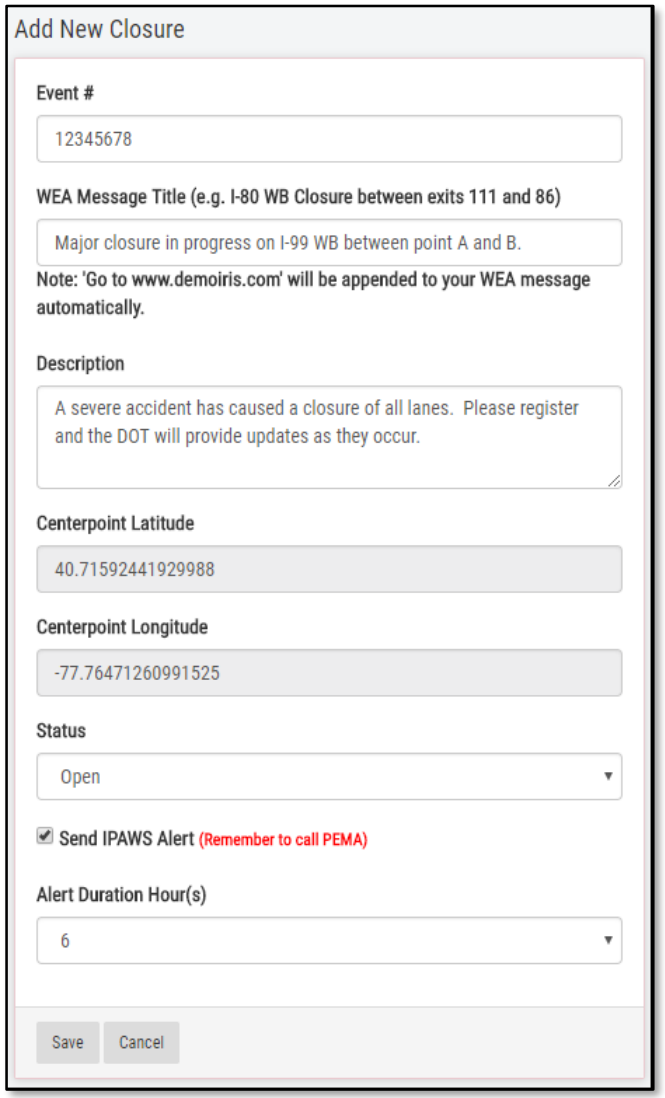
In general…

- Low occurrence, high impact events…
- Where queues are trapped and/or warnings are needed…
- But ability to communicate w drivers is low

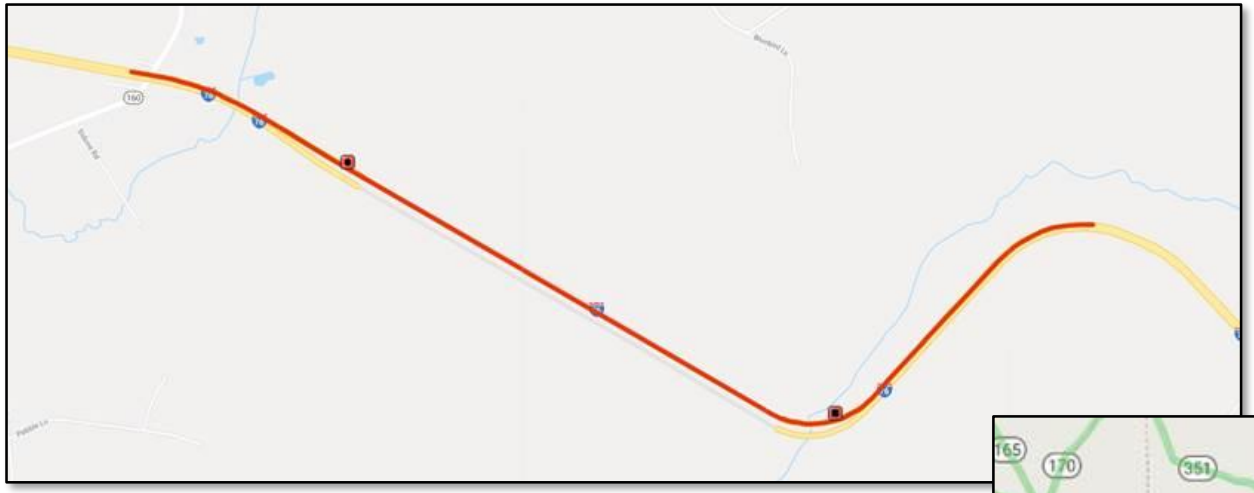
- **First of its kind**, trapped-traveler emergency communications tool
- Not a mobile app and requires **no initial download or action**
- A **push message**, similar to electronic Amber Alerts, is sent to all phones in the incident area
- Allows incident response teams to communicate via automated phone or text message **directly with motorists**
- Gives emergency crews a **clearer picture**

Setting Up the Event

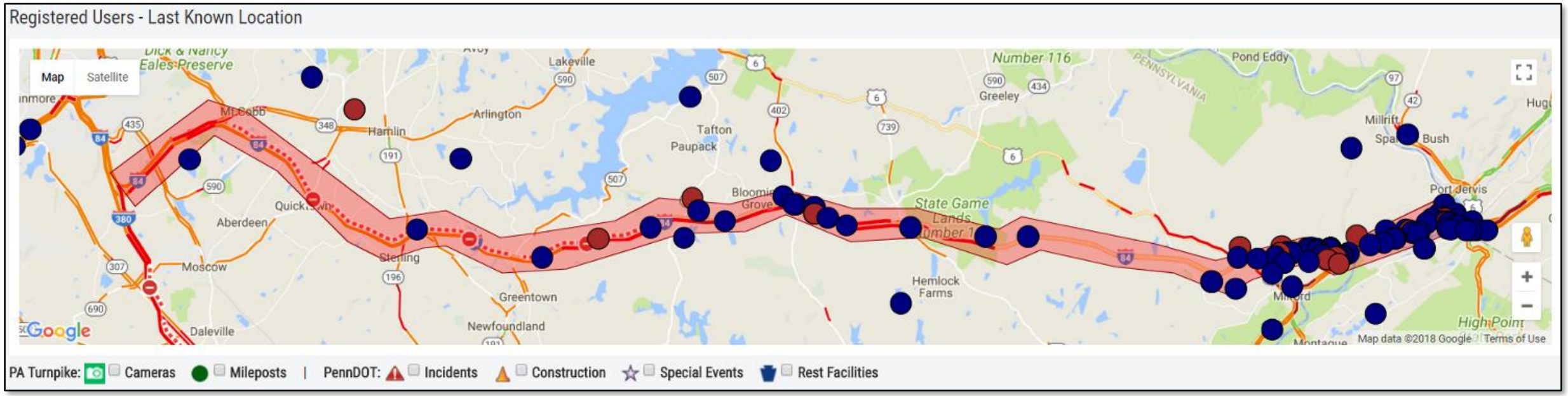
- Event Number.
- Event Title (populates WEA message).
- Event Description (populates public website).
- Draw a shape around the area of the queue.
- Set the status to “Open.”
- Select the length of time for the WEA.



INRIX Data & Identifying Queues



Agency Manages Travelers in the Queue



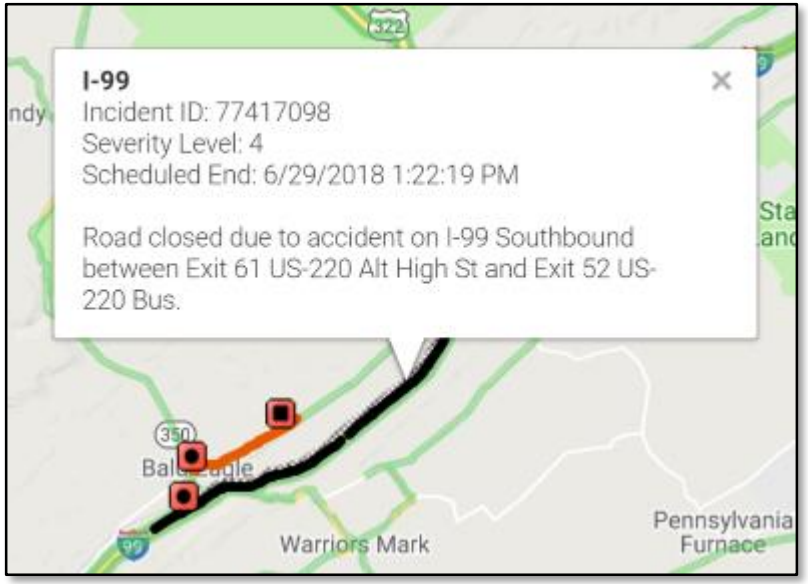
- See traveler locations.
- Select individual or group communications.
- Review registration and survey responses.

Option for One-Way Alerting

(Figures from TRB Paper 16-1194)

Conclusions:

- ***Congestion is a safety problem, not just a mobility problem***
  - 23% of crashes over a year on the interstates occurred in congestion
  - Crash rate 24 times greater in congestion vs. free flow
- ***Trucks and queues don't mix***
  - In congestion: 87% of fatal crashes involved trucks (vs. 40% in free flow)
- ***Current queue detection/notification adequate in most cases***
  - 90% of time queues were detected for at least 5 minutes before crash
  - 75% of time queues were detected for at least 14 minutes before crash



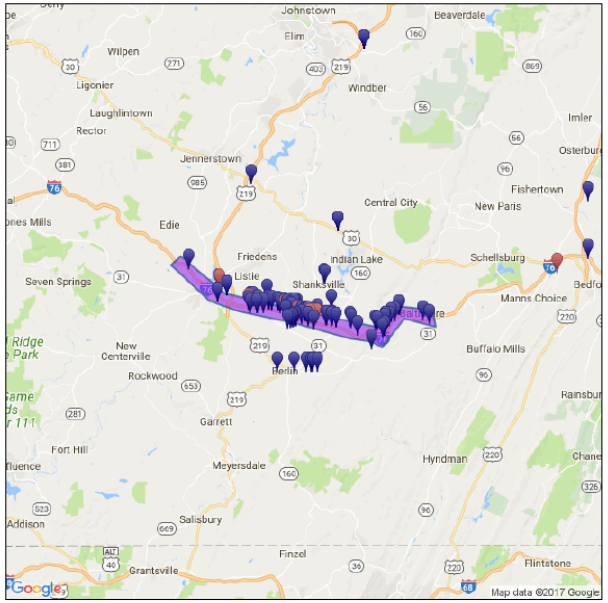
Automatic After-Incident Report

IRIS™ Emergency 2-Way Communications Incident Report

Incident No: 1701004232 **Incident Date:** 1/23/2017 4:31 PM

I-76 EB Closure between exits 110 and 146

Commercial vehicle accident blocking the roadway



Car/SUV/Small Truck | Commercial Vehicle (includes Tractor Trailers and Delivery Trucks) | School Bus | Motorcoach

Area Impacted: Polygon

Coordinates: 40.0504666,-79.1111|40.0403899,-79.1254097|40.0000734,-79.0687614|39.9882373,-79.0258461|39.974647,-78.9423019|39.9575435,-78.862191|39.9540328,-78.8301521|39.9474531,-78.8147026|39.9799088,-78.7820869|39.9707004,-78.7357384|39.9895525,-78.7397415|39.9948131,-78.799823|39.9698216,-78.8181358|39.9913096,-78.9514549|40.0084047,-79.0458687

Participant Information:

Participants: 223

First Registrant: 1/23/2017 4:36 PM

Last Registrant: 1/23/2017 6:50 PM

Contact Method: Text - 223 Phone - 0

Participant Self-Reported Demographics:

Commercial Vehicle (includes Tractor Trailers and Delivery Trucks):	15
Car/SUV/Small Truck:	208
School Buses:	0
Motor Coaches:	0
Total Occupants:	382 reported from 223 vehicles
Driver/Passenger:	173 reported as driver, 50 reported as Passengers

Participant Location Reports:

Consent Granted:	87
Consent Denied:	101
No Reply:	37

Notifications Sent:

Standard Messages:	2224
Safety Messages:	200

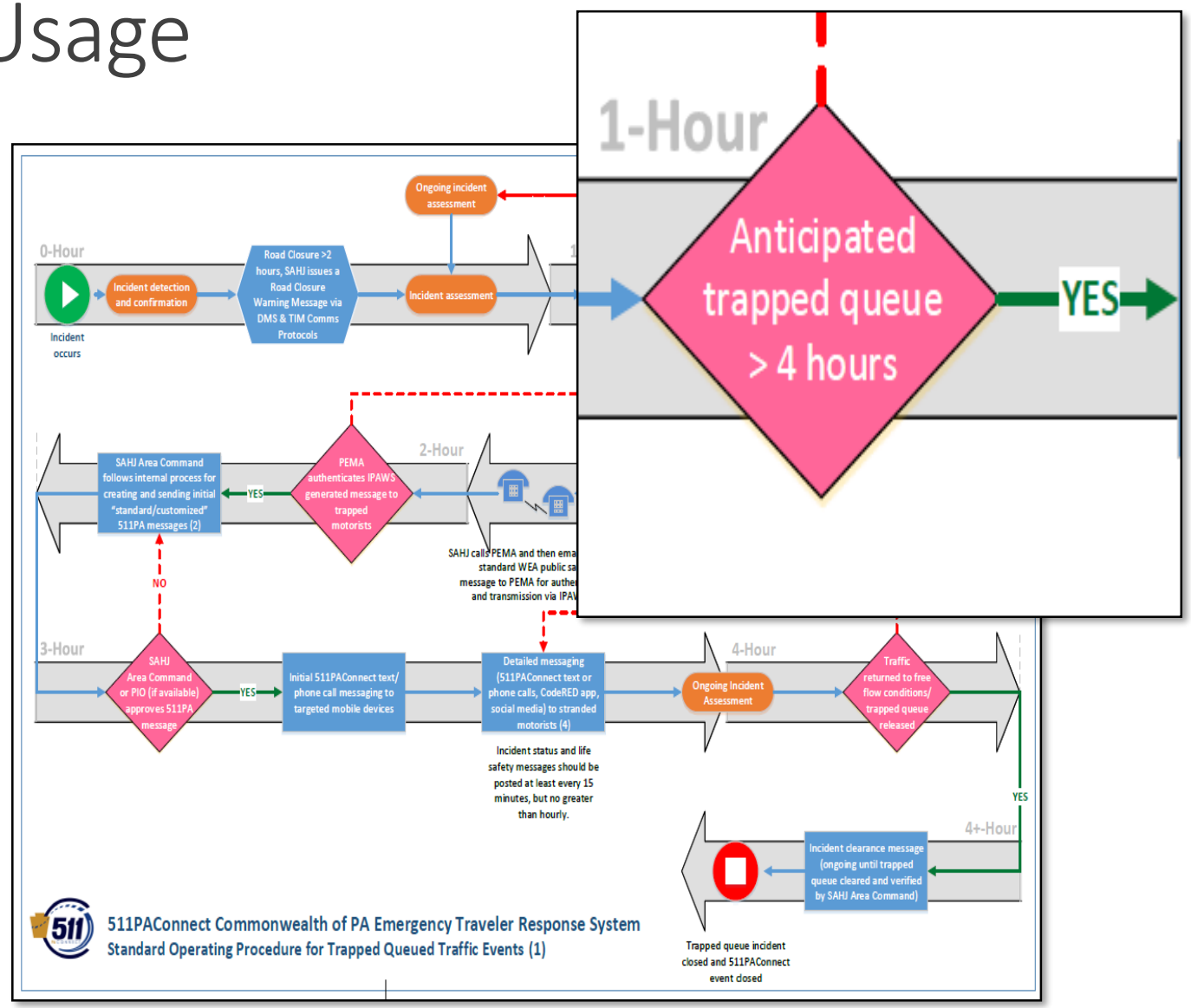
Date / Time	Message
1/23/2017 4:43:08 PM	Crews working to clear crash, after crash is clear maintenance crews will clear the road
1/23/2017 5:12:28 PM	Crews have removed the accident vehicle from the roadway, crews are clearing the snow and will release traffic
1/23/2017 5:16:40 PM	Motorists should be prepared to move. Use caution 45 MPH Speed limit in effect.
1/23/2017 5:20:30 PM	Motorist near Allegheny Tunnel, return to your vehicles, be prepared to move.
1/23/2017 5:28:26 PM	Traffic now moving at the Allegheny Tunnel, motorists should clear snow from their vehicle and be prepared to move.
1/23/2017 5:39:51 PM	EB traffic moving at tunnel, stay with your vehicle, be prepared to move
1/23/2017 5:53:07 PM	EB traffic continues to move, WB lanes are being treated by road crews to allow motorists to move.
1/23/2017 6:04:51 PM	Crews are working to plow & treat the westbound roadway; traffic continues to move eastbound
1/23/2017 6:14:08 PM	Westbound traffic is moving at the 125 milepost; eastbound traffic continues to move. Use caution
1/23/2017 6:34:53 PM	Motorists should clear snow from their vehicles and be prepared to move, traffic moving east and westbound
1/23/2017 6:58:29 PM	Traffic continues to move eastbound and westbound at reduced speeds, motorists should use caution.
1/23/2017 7:21:45 PM	Motorists should keep alert and be prepared to move; traffic is moving both eastbound and westbound.
1/23/2017 7:44:43 PM	Crews continue to work to treat the roadway; please be prepared to move and use caution when traveling.
1/23/2017 8:10:04 PM	Traffic is moving, keep alert for crews working to plow or treat the roadway.
1/23/2017 8:37:09 PM	All traffic is reported moving at this time both eastbound and westbound; this incident is closed.
1/23/2017 8:37:35 PM	Operations are back to normal. You are opted out of services for this closure.

Messages Texted Back:

Message
Yes
YES
Is the turnpike now open?
Stop
STOP
What about I-76 Eastbound by Somerset?
We are not moving
Vehicles trying to pass on shoulder.
Stop.
I'm eastbound at 118 and haven't moved since 345
I'm at 117.6 eastbound and nothing is moving either direction
Eastbound where I'm located is a dead stop
Traffic is NOT moving

Real Life Usage

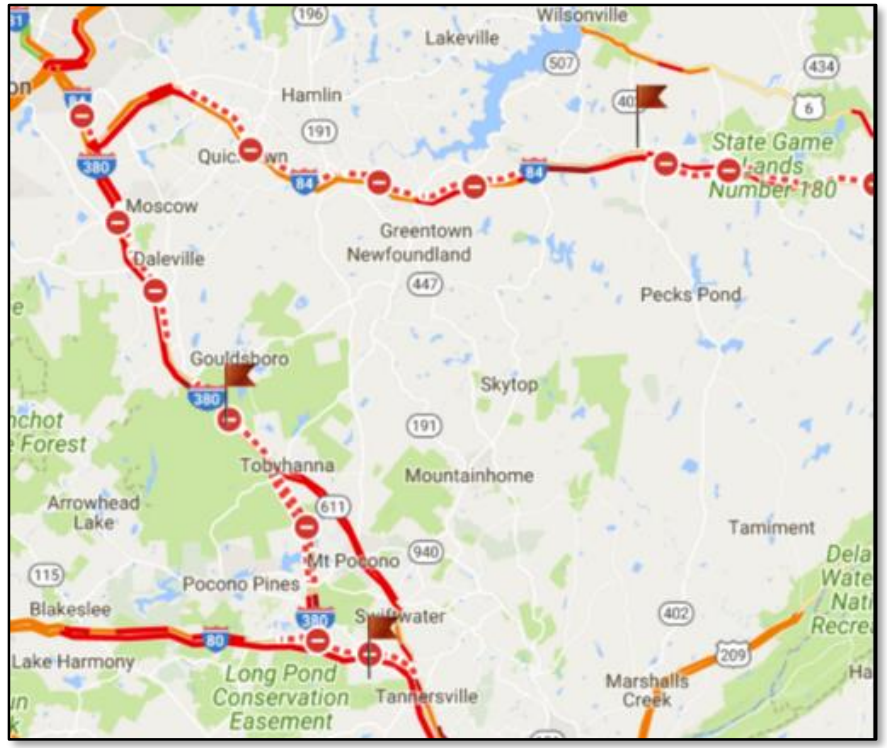
Trust the Process



Real Life Usage

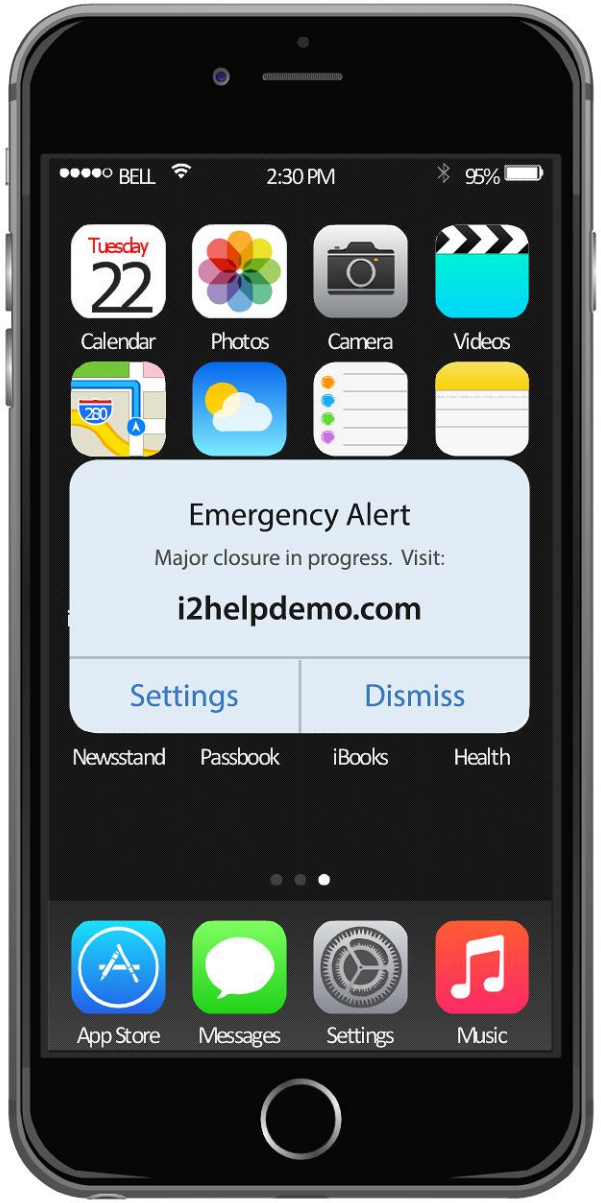
Usage Stats – December 2016 – January 2019

	# Activations	# Registered Vehicles	# Occupants Reported	Messages Sent By Agency	Messages Received from Public
PA Turnpike Totals	**25**	**1,612**	**3,073**	**5,086**	**488**
PennDOT Totals	**14**	**2,826**	**7,922**	**57,838**	**1,755**
Grand Totals	**39**	**4,438**	**10,995**	**62,924**	**2,243**



Summary of Benefits

- No app needed, and uses familiar technologies (text, phone, web)
- Greater Situational awareness
  - Gives you a clearer picture of event queue length
  - Provides better information about the types of vehicles and people involved in the event
  - Collects first-hand information from people in the event
- Accurate updates and the latest relevant information is delivered directly to the traveler from the agency.
- Traveler concerns are monitored and addressed as needed.
- Non-emergency calls reduced (to agency and to 911 centers)
- Complies with November 2019 FCC rule: mandating accuracy within 1/10th of mile



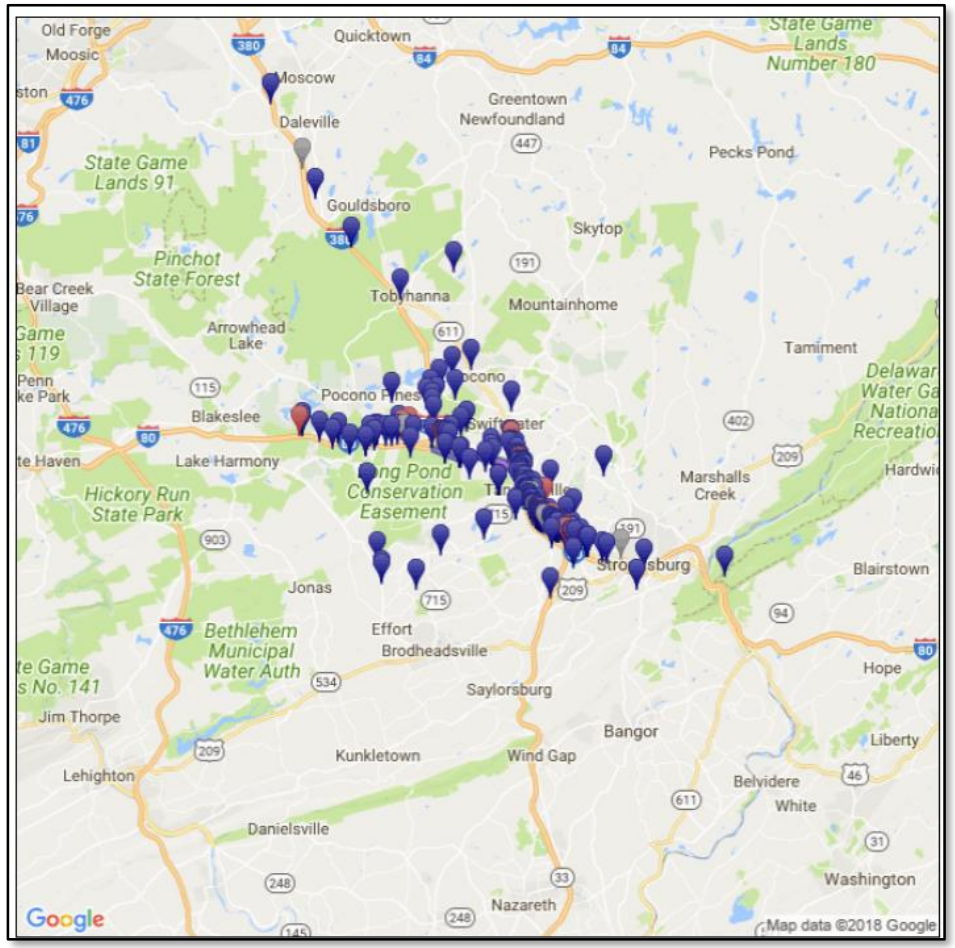
Summary of Requirements

ILOG / INRIX role:

- Data
- Setup for the cloud service (no agency IT required).
- All necessary FEMA and carrier coordination
- Staff training

Agency role:

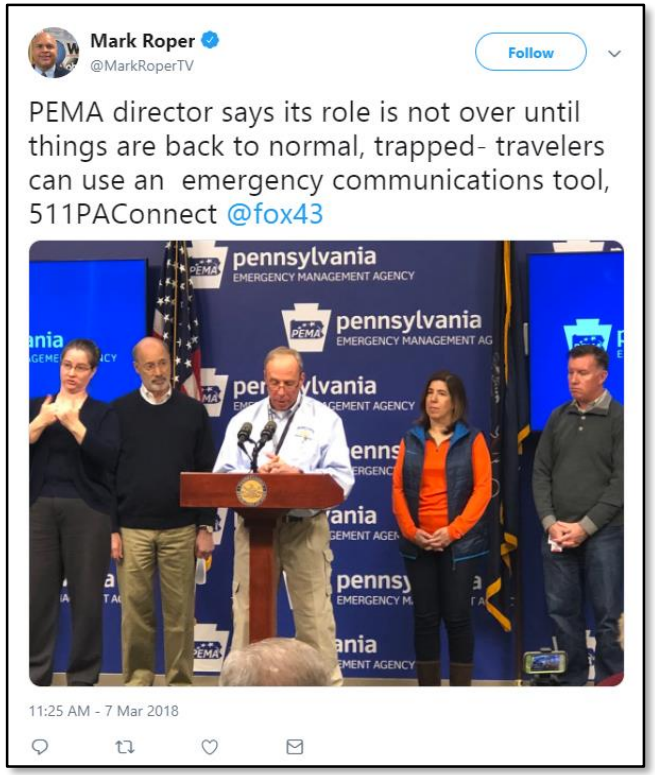
- Select a name (HELP is called 511PAConnect in PA)
- Select wording for standard message components
- Select initial survey questions
- Provide certificate from your emergency management agency
- Determine policies for using the program



Reactions to 511PAConnect

It is good when government attempts to improve on its shortcomings, and that is what 511PAConnect tries to do.

- Pittsburgh Post-Gazette Editorial Board



post-gazette.com
Pittsburgh Post-Gazette print

Hello out there: State system aims to help snowbound motorists

December 24, 2016 12:00 AM

By the Editorial Board

Frustration — and even panic — can mount when a motorist is stranded on a limited-access highway during a blizzard. Those traveling alone, in particular, want to know the status of rescue efforts or whether help of any kind, even food or drink, is on the way. An official update every now and then would help.

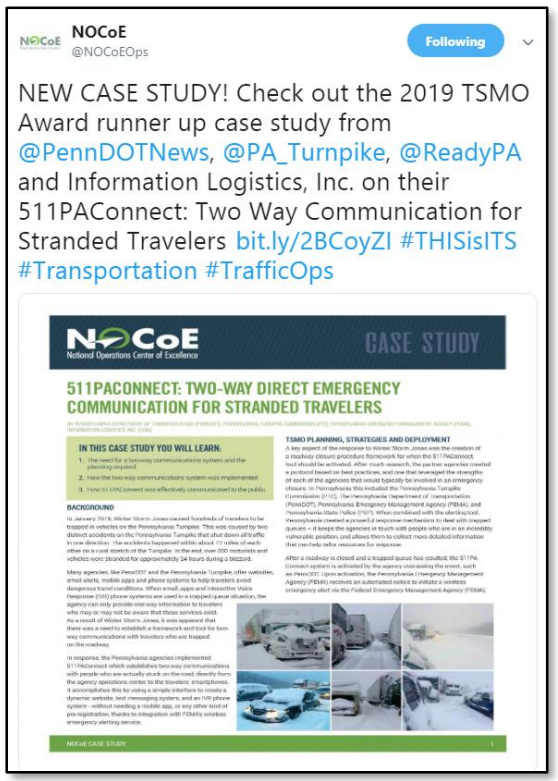
State officials Thursday unveiled a new communications system — 511PAConnect — to keep motorists informed during such emergencies. The idea grew out of the predicament that last January confronted hundreds of motorists trapped on the Pennsylvania Turnpike for more than 24 hours. In the aftermath, the turnpike was criticized for failing to adequately prepare for the storm, for the many hours it took to get traffic moving again and for doing little to communicate in the interim with those stranded.

It is good when government attempts to improve on its shortcomings, and that is what 511PAConnect tries to do. From now on, in the event of a road closure expected to last more than two hours, the Pennsylvania Emergency Management Agency will send out an alert to all smartphones in the area, similar to how Amber Alerts are issued. Motorists then could register information about themselves and their vehicles and request updates by call or text from the turnpike or Department of Transportation.

Once a vehicle is registered, the state can use GPS to pinpoint its location, and that alone could offer solace to those concerned about a medical emergency or worried about being isolated and alone. The updates from the turnpike or PennDOT could give the status of road-clearing efforts or provide safety information.

The initiative is sensitive to privacy concerns, too. Once the emergency is over, the state will erase all data about those who registered for the updates.

The system will work only in areas with smartphone service — and that can be dodgy in mountainous areas — and motorists still must call 911 to report emergencies. Still, the system, believed to be the first of its kind, is a laudable effort to help motorists weather a trying ordeal. As turnpike CEO Mark Compton said, "Just knowing someone is out there ... can be a comfort."



Thank you!

Mary Farrell

President

Information Logistics, Inc.

mfarrell@ilogcorp.com

856.324.1600 - office

Working Lunch

Break between sessions (12:30pm - 1:15pm)

Please note that we will be muting the conference call line at DVRPC during this break – you may stay on the line & we will resume after the break

Meeting Reminders

Participation

- **All Participants – in-person and via webcast**
  - Questions will be addressed at the end of each presentation
  - Please give your name and agency before asking your question (at least the first time)
- **Participation in-person**
  - Please remember all sounds are picked up by the audio system
- **Participation via web**
  - Please keep your phone muted until asking a question or speaking (press *6 to mute/unmute individual phone lines)
  - Please do not place call “on hold” as your hold music will be heard by the group

Additional Webcast & Audio Information

- **This meeting is being recorded**
- Please call **xxx-xxx-xxxx** for difficulties with the web or audio application

Presentations will be posted

- Presentations will be posted to the I-95 Corridor Coalition website. Participants will receive a link to them after they are posted

Please confirm you are
MUTED

For your phone line - press *6
&
Mute your computer

Thank
You!

Florence, Nav Cos & Trucks

Kelly Wells

Traveler Info Engineer

North Carolina Department of Transportation

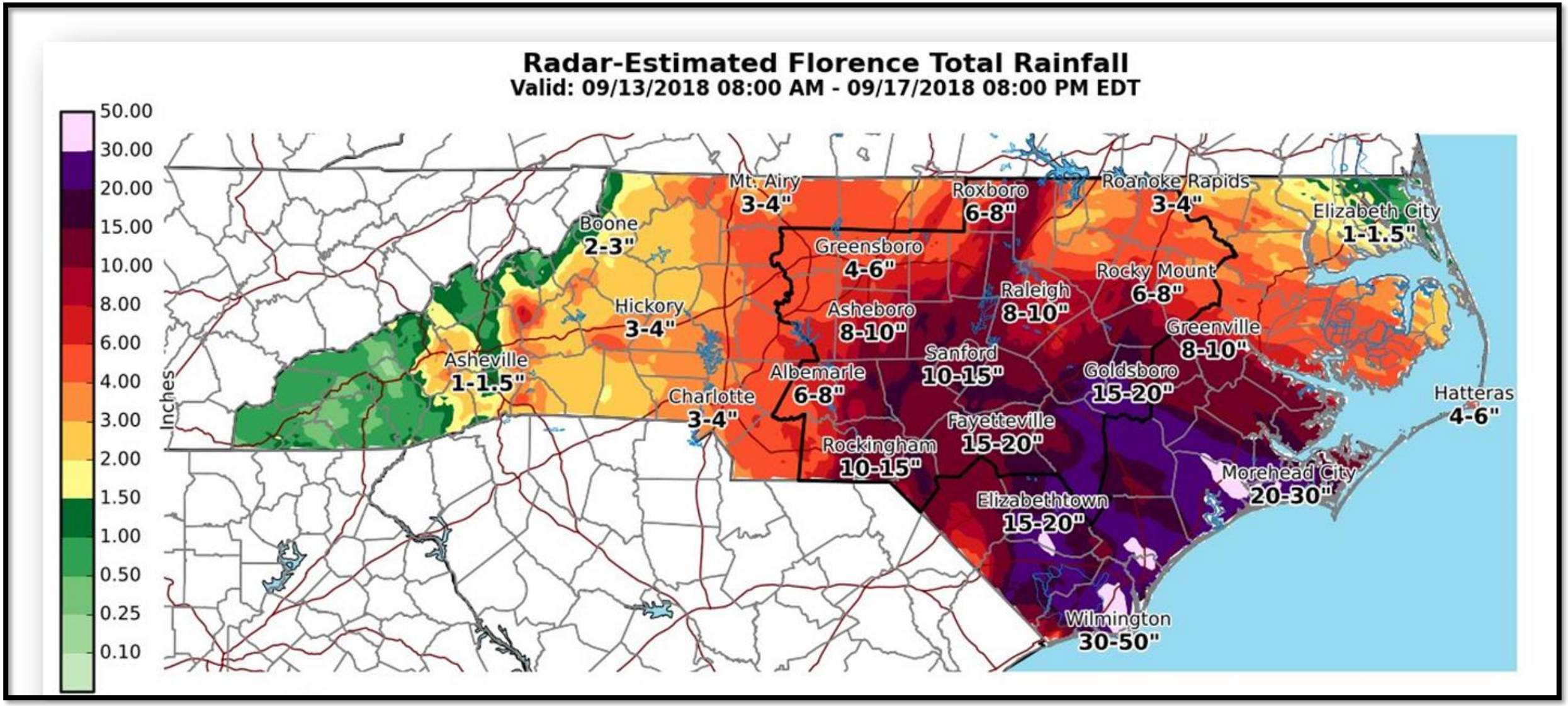
NCDOT AWARD

- National Operations Center of Excellence: North Carolina DOT Hurricane Florence Preparation & Response

Florence, Nav Cos & Trucks

- **Kelly Wells, PE**
- **Traveler Info Engineer**
- **North Carolina Department of Transportation**

Hurricane Florence
September 2018



Hurricane Florence - September 2018

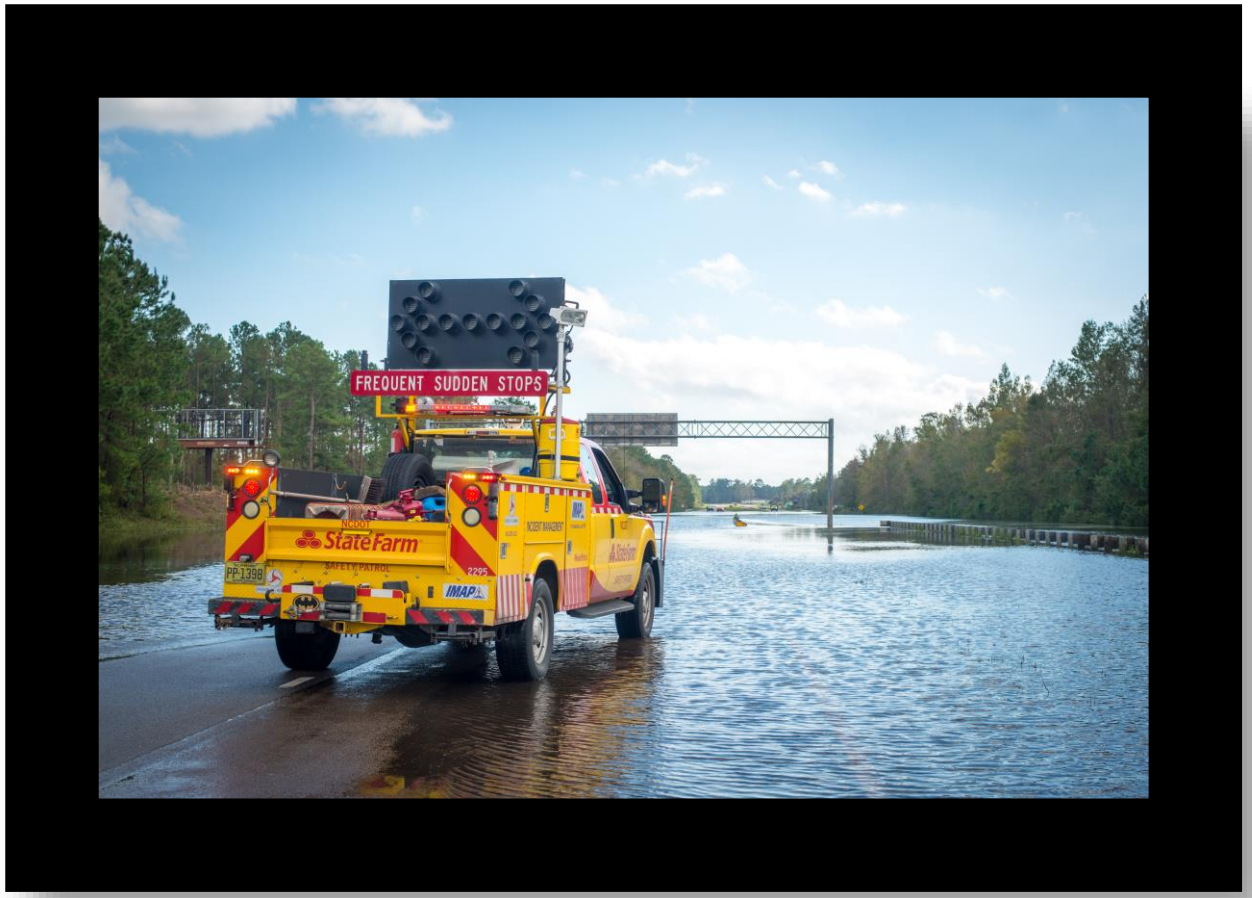
I-95

US 421

I-95
Near
South
Carolina

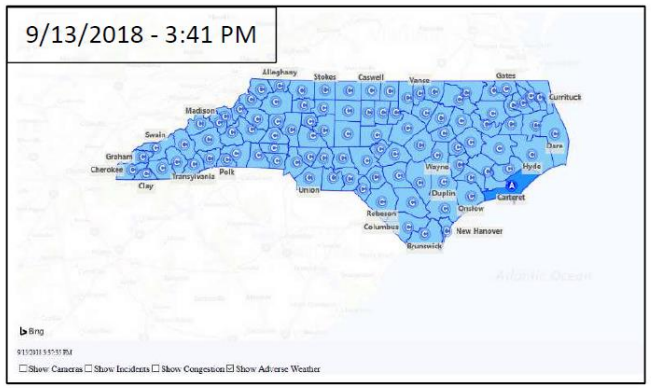
Joint Forces Headquarters

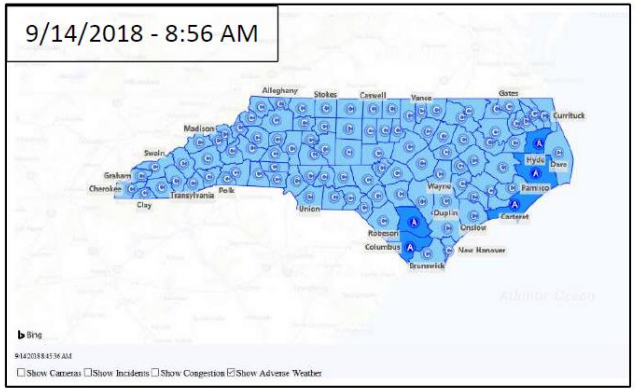
-NC National Guard HQ
-State Highway Patrol
-NCDOT Statewide TOC (STOC)
-State EM Emergency Operations Center

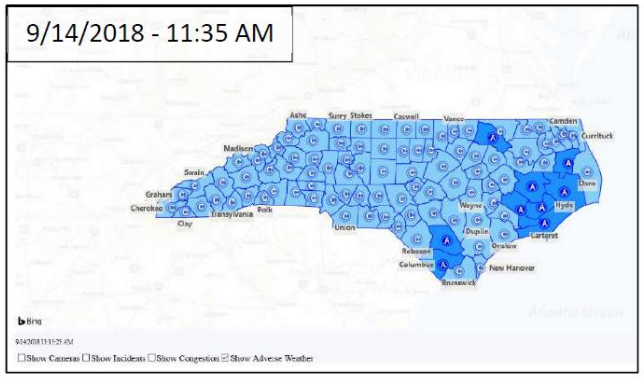


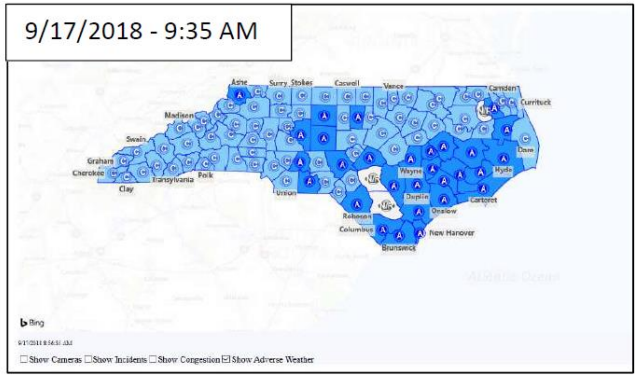
Service Patrol and STOC

The "Adverse Weather" layer on the map illustrated worsening conditions as time progressed.

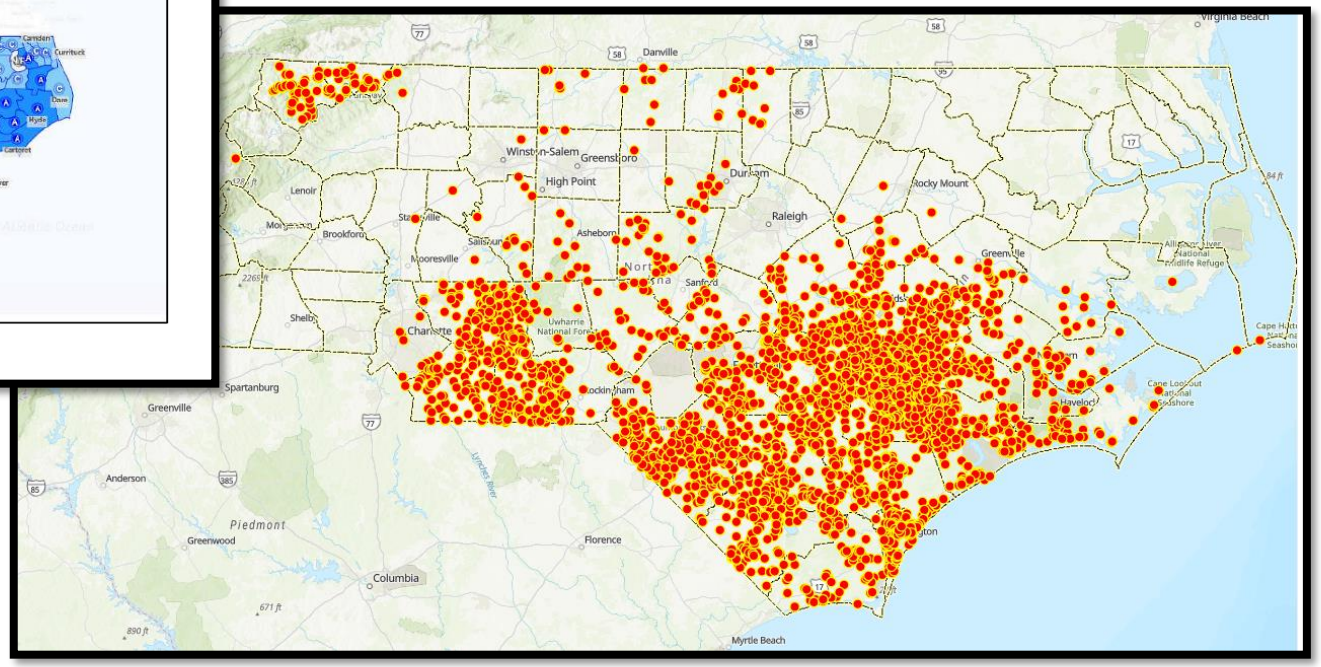








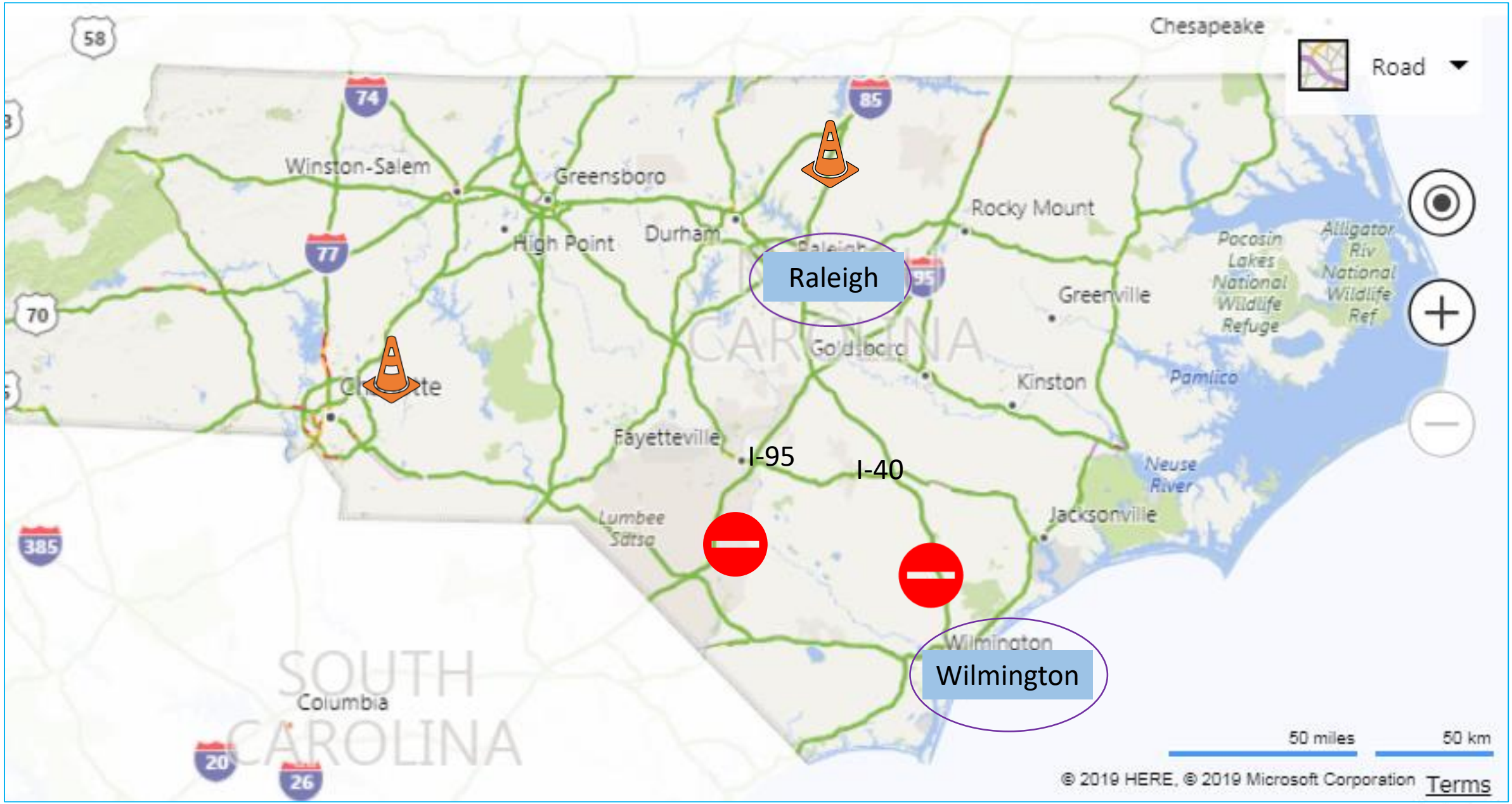
2500 Road Closures Due to Florence



Road Closures

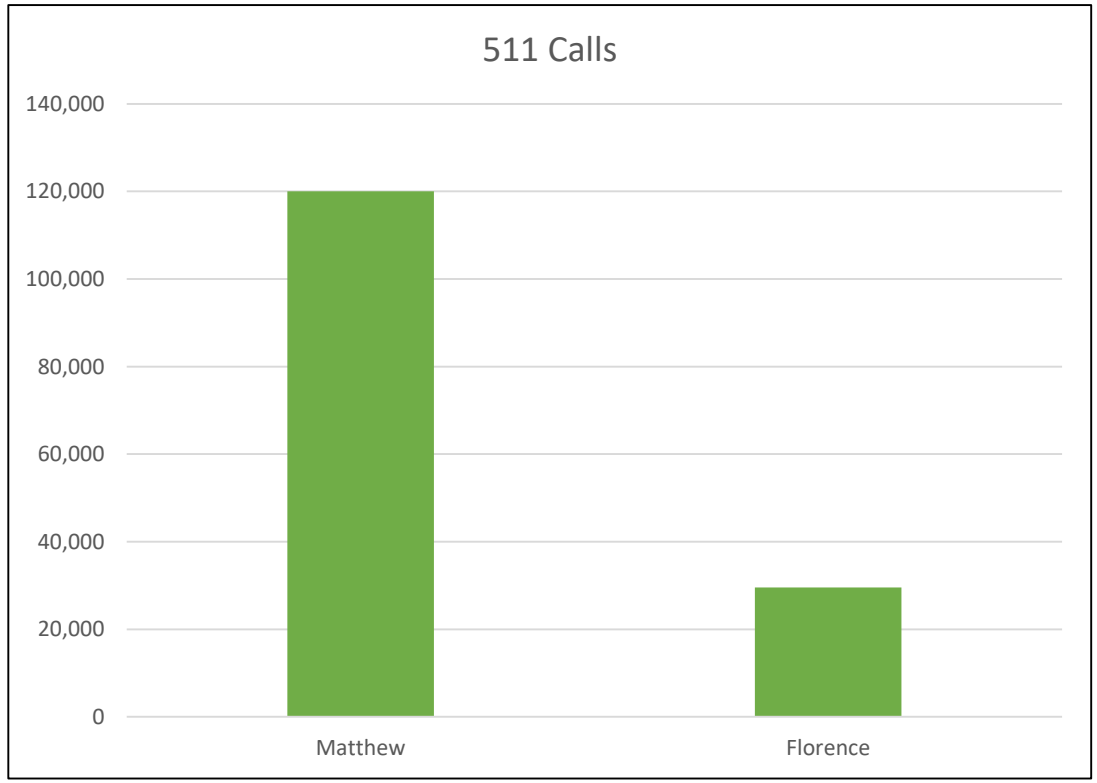
- Floyd 1999: 1500
- Matthew 2016: 1500
- Michael 2018: 700

$250M in Roadway Damage

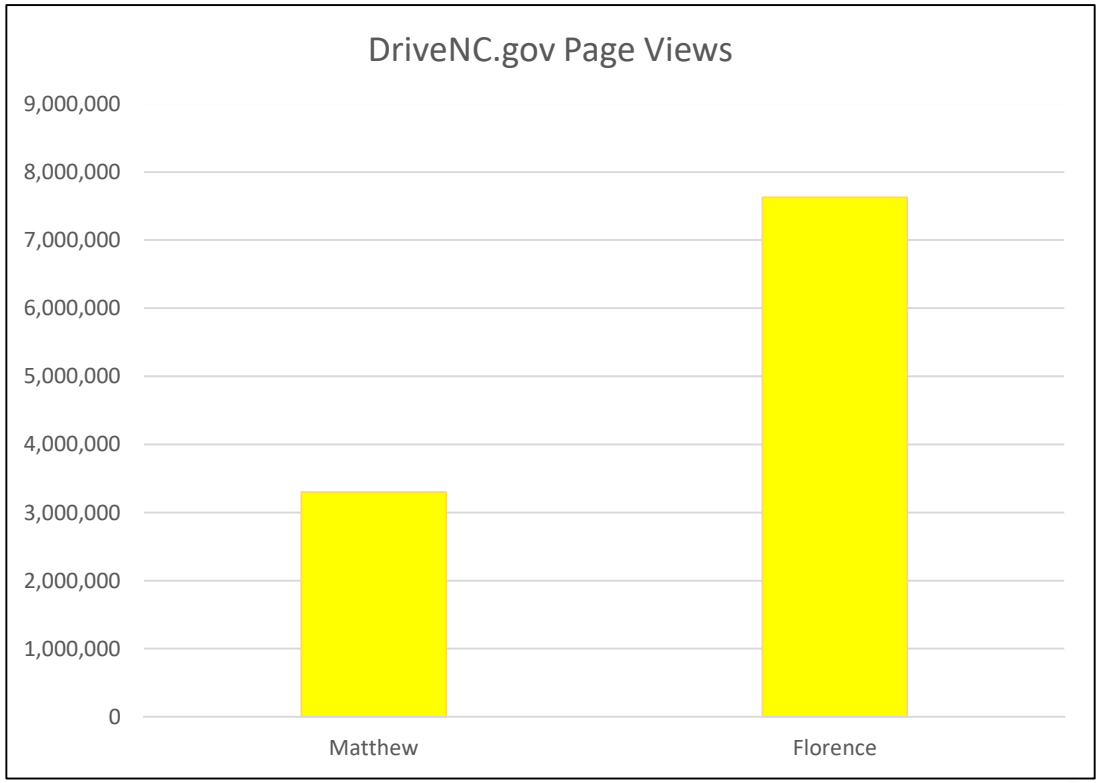

Chesapeake
Road
Winston-Salem
Greensboro
High Point
Durham
Raleigh
Rocky Mount
Greenville
Goldsboro
Kinston
Fayetteville
I-95
I-40
Lumbee
Sdtsa
Jacksonville
Neuse River
Pamlico
Pocosin Lakes National Wildlife Refuge
Alligator Riv National Wildlife Ref
Wilmington
Columbia
SOUTH CAROLINA
50 miles
50 km
© 2019 HERE, © 2019 Microsoft Corporation
Terms

Traveler Info from 2016 to 2018

511 Calls

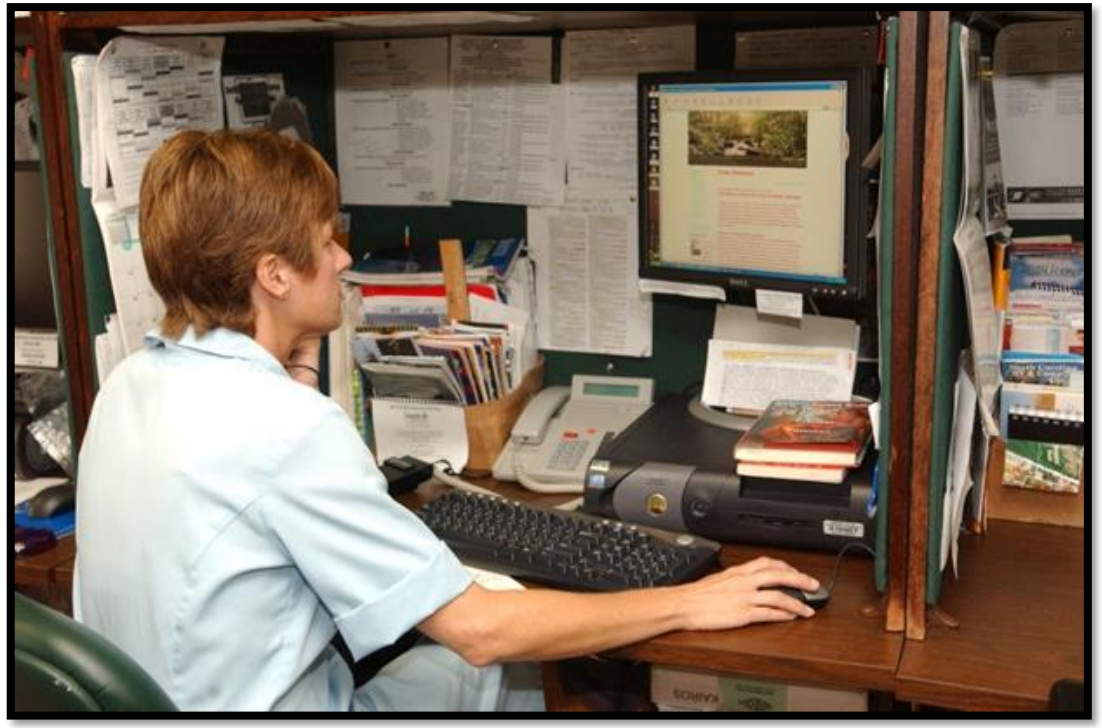


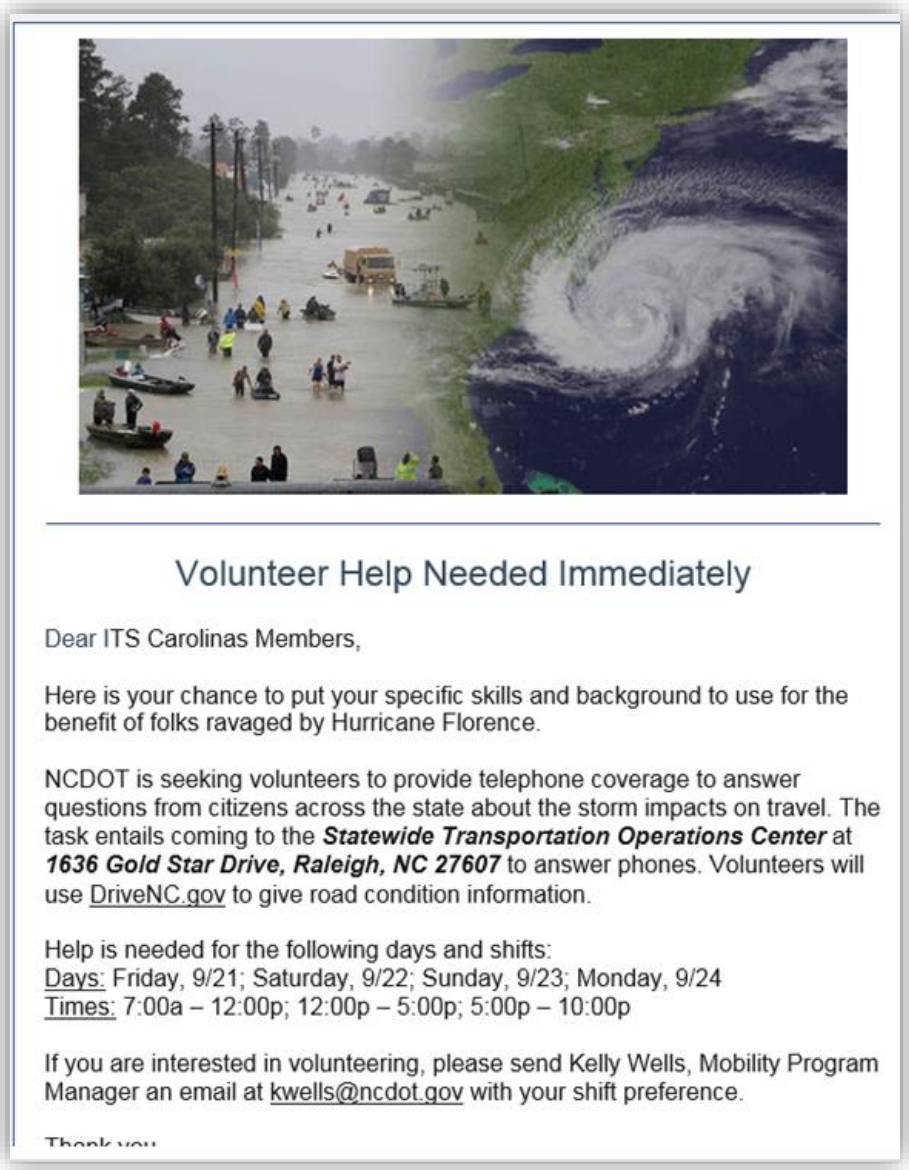
DriveNC Page Views



27,000 Calls Answered

- Women's Prison
- NCDOT Crisis Response Teams





Volunteer Help Needed Immediately

Dear ITS Carolinas Members,

Here is your chance to put your specific skills and background to use for the benefit of folks ravaged by Hurricane Florence.

NCDOT is seeking volunteers to provide telephone coverage to answer questions from citizens across the state about the storm impacts on travel. The task entails coming to the ***Statewide Transportation Operations Center*** at ***1636 Gold Star Drive, Raleigh, NC 27607*** to answer phones. Volunteers will use DriveNC.gov to give road condition information.

Help is needed for the following days and shifts:
Days: Friday, 9/21; Saturday, 9/22; Sunday, 9/23; Monday, 9/24
Times: 7:00a – 12:00p; 12:00p – 5:00p; 5:00p – 10:00p

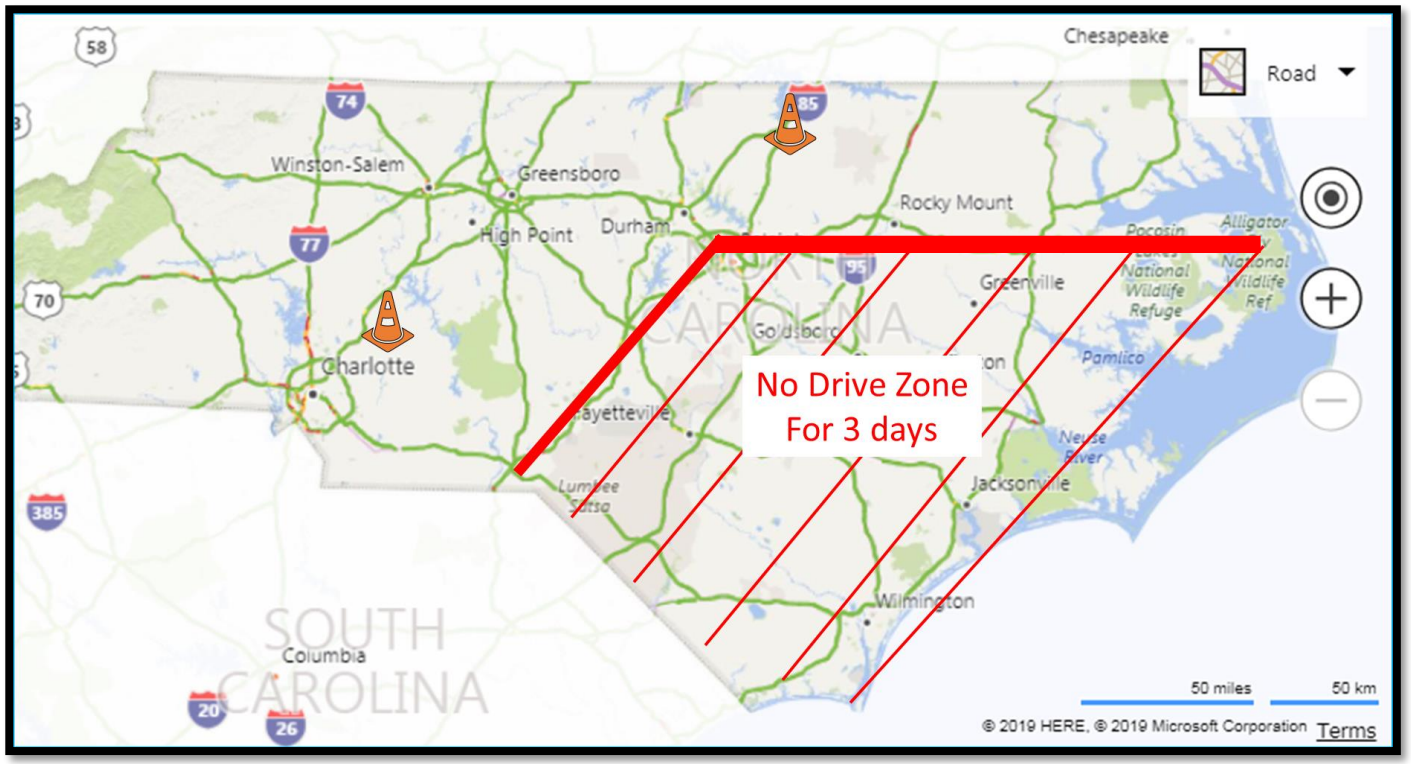
If you are interested in volunteering, please send Kelly Wells, Mobility Program Manager an email at kwells@ncdot.gov with your shift preference.

Thank you

88 Additional Volunteers

- We Called On
  - DOT Human Resources
  - ITS Carolinas
  - ITE
- Help Came From
  - NCDOT Staff
  - Consultant Volunteers
  - NCDOT Leadership Development Program
  - FHWA
  - Retirees
  - Family Members
  - NC State Student

Routing Room



Unique Challenges

- Crisis Response was tough work
  - Volunteer Management = time consuming
  - Tough Messaging: 1/3 of state = No Drive Zone
  - Tough Calls = 911

- Navigation Coordination – mixed messages
  - Best working together ever ☺
  - “Don’t trust your GPS” ☹
  - Met with providers and NCDOT GIS to optimize info flow post storm

Navigation Company Coordination

- My best understanding
- Constantly changing
- Pls let me know if something isn’t correct

Major Events

- Matthew 2016: I-95 Closed due to flooding near Fayetteville
  - SHP “You cannot go any further: road is closed.”
  - Driver returns one hour later “But my GPS keeps routing me back here”
- Business 40 Closure: Pre and during coordination
- Florence 2018:
  - Told SHP process was much improved
  - Discovered Google was routing through I-40 closure despite showing closure
  - SHP: “Not an issue, keep doing whatever you are doing.” ☺

Day to Day

- At least 2 requests per month: draft DOT policy
- DOT folks
  - “I have a new road opening..”
  - GIS service: engineers must notify them of road opening
- Local Governments: “Our roads are shown incorrectly…”
- Citizens/Businesses:
  - “People are routed incorrectly…
    - Big trucks on small roads: Christmas Tree Farms
    - RR crossings – trucks hung up
    - Private roads
  - ““Your” map is wrong” (NC 511 Website uses Bing Map)

* = 80 K Roads, No County Roads

Company	End Users
Waze	Waze App
Traffic Cast	Sirius XM
	80% of top U.S auto OEMs displaying TrafficCast data
	I Heart Radio: 20+ NC radio stations
HERE	Garmin
	9/10 in vehicle nav systems,inlcuding every new BMW, Audi & Daimler vehicle.. HERE supplies map content (and some real time traffic) for Alpine, BMW, Mercedes, Hyundai, Pioneer, Volkswagen and Toyota Also Facebook, Amazon and UPS are HERE customers.
TomTom	Apple Maps
	Uber
	Tom Tom Device
	On Star
	Some Subaru, Fiat, Renault-Mitsubishi-Nissan (until 2021), Mazda, Toyota & Lexus
Google	Google Maps
INRIX	INRIX App Some in veh nav systems
Bing (Microsoft) (This is the base map for TIMS)	Bing (Microsoft) DriveNC.gov

Each row has 3 components

- Incidents / Traffic Flow
- Base Map
- Navigation Routing

Many companies work with multiple other companies: how to know which does what? Secret Sauce

Company	How do they interface with TIMS?	Incidents / Traffic POC's	Map(Use Chrome Browser)	Mapping POC's	Navigation/ Routing POC's	Notes	End Users	Notes
Waze	TIMS API & Waze Map Editor	closures@google.com Waze Map Editor Waze Mapping Contacts	https://www.waze.com/livemap	steve@wazenc.us ian@wazenc.us dave@wazenc.us			Waze App	Ian Harshbarger: (919) 691-2452 Ask NCDOT before calling Ian.
Traffic Cast	TIMS API	ntoc_list@trafficcast.com 608-957-7210 Overnight handled from Shanghai		Tom Tom			Sirius XM 80% of top U.S auto OEMs displaying TrafficCast data I Heart Radio: 20+ NC radio stations	Nick Kiernan Don't call without NCDOT ok (608)713-9295
HERE	Uses TIMS emails, working towards API in early 2019	If colors shown on TIMS map does not match text of TIMS incidents contact **HERE_Traffic_Alerts@here.com** (This will most often be when TIMS says the road is closed and HERE is showing traffic moving in the closure or when HERE shows the road as closed (red/white dotted lines) and TIMS says it is open.) This email is monitored 24x7. You can also call them at **(312) 348-6996** Also CC Archer, Alexandra (alexandra.archer@here.com)on all email	http://tweak.here.com	Wilmari.Diaz@here.com (new roads, construction) cindi.johns@here.com (new roads, construction) taryn.williams@here.com (new roads, construction -Western NC) TCSTraffic@here.com (timing of map updates)	TCS@here.com	Owned by consortium of BMW, Audi and Daimler. Formerly Navteq and traffic.com	Garmin 9/10 in vehicle nav systems,inlcuding every new BMW, Audi & Daimler vehicle.. HERE supplies map content (and some real time traffic) for Alpine, BMW, Mercedes, Hyundai, Pioneer, Volkswagen and Toyota Also Facebook, Amazon and UPS are HERE customers.	HERE does have truck products too and distinguishes some routes with truck and evacuation route attributes.
TomTom	Traffic Cast	Traffic Cast - first NOC@tomtom.com - second	mydrive.tomtom.com	tomtom.com/mapshare/tools/#		robert.hoyler@tomtom.com (TeleAtlas)	Apple Maps Uber Tom Tom Device On Star Some Subaru, Fiat, Renault-Mitsubishi-Nissan (until 2021), Mazda, Toyota & Lexus	+31 (0)20 75 75 716 office
Google	Traffic Cast	Waze + Traffic Cast closures@google.com See Traffic Cast To escalate, contact: Adam Fried <afried@google.com>; Geo Data Escalation Manager <gde-managers@google.com>; Joaquin Paz	google.com/maps	Use this link to submit a map change to Google: https://support.google.com/maps/answer/3094088?co=GENIE.Platform%3DDesktop&hl=en You may need to create a Gmail Account to use this feature.		afried@google.com Adam Freid lilyn@google.com Lilyn Hester	Google Maps	If there is a BIG problem you can email Lilyn Hester (lilyn@google.com) She is the head of Google Public Affairs for the Southeastern US. Ask an NCDOT person before doing this.
INRIX		incidentsupport@inrix.com 425-284-3870			support@inrix.com		INRIX App Some in veh nav systems	
Bing (Microsoft) (This is the base map for TIMS)	HERE	When speed colors are wrong or missing on Bing Map check HERE. If ok on HERE and not on Bing than email bmesupp@microsoft.com Note: Bing only shows speeds if HERE confidence >0.7	DriveNC.gov	When Bing map is wrong check HERE. If ok on HERE and not on Bing than email bmesupp@microsoft.com			Bing (Microsoft) DriveNC.gov	

ncdot.gov

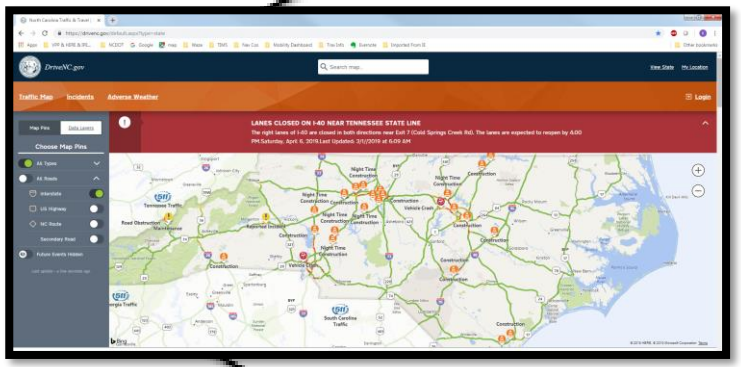
Push Notifications & Alerts
- Email
- Twitter
- Incident Feeds

Private navigation companies, media

waze

GARMIN

TOMTOM



Public: State and Local Emergency Management, local governments, school bus managers

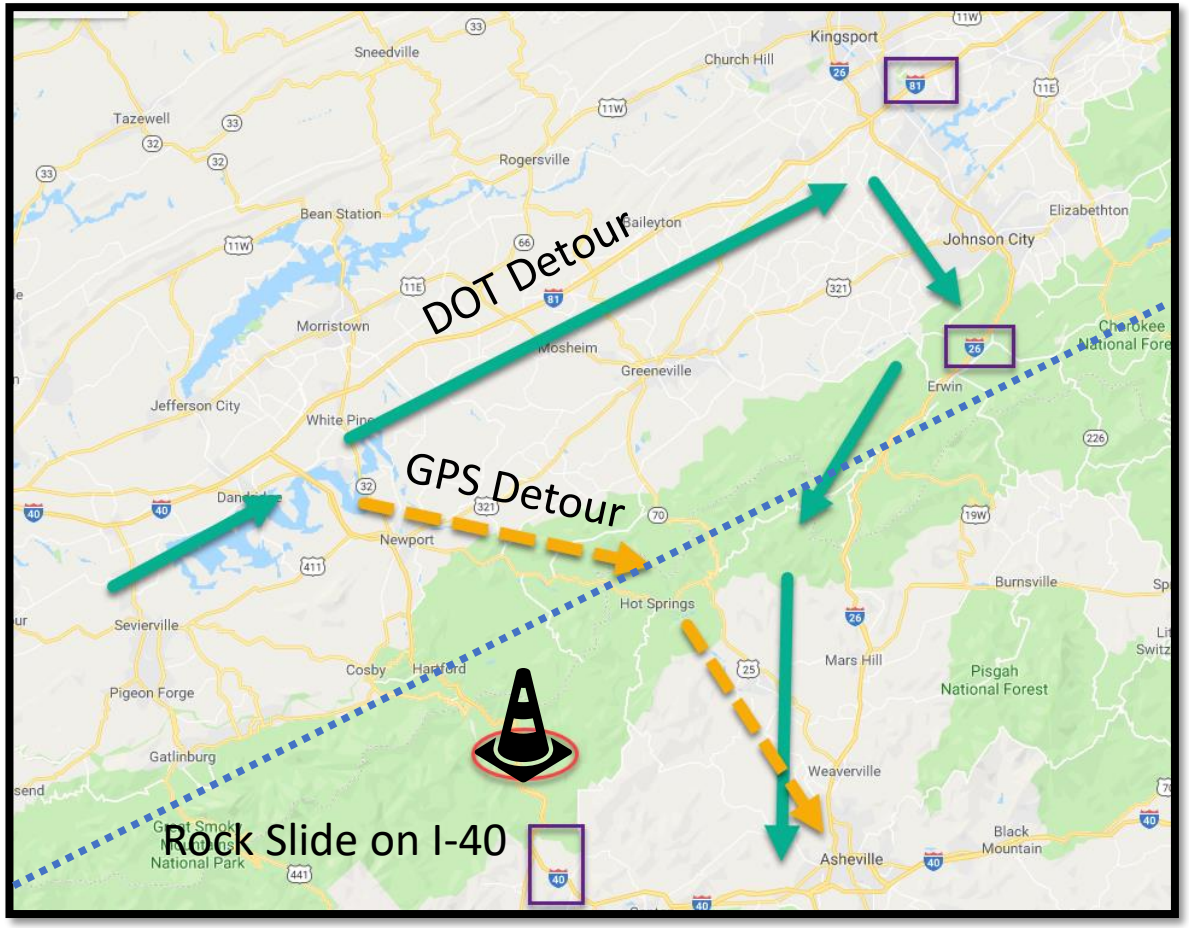
Pulls Information
- drivenc.gov
- 511
- Research

Discussion

- Do you find private providers saying different things than you are?
- What do you do about this?
- Is there someone in your DOT working with these providers?

Truck Navigation

- Detours we publish are most always truck friendly (Hot Springs) but some times not reasonable for cars
- Where do truckers get their travel info?
- How do we keep them, esp M&P, from using Waze and Google?



Questions?

Kelly Wells, PE
North Carolina DOT
kwells@ncdot.gov

Open Discussion

Facilitated by Denise Markow

Participation by ALL

Topics for Open Discussion

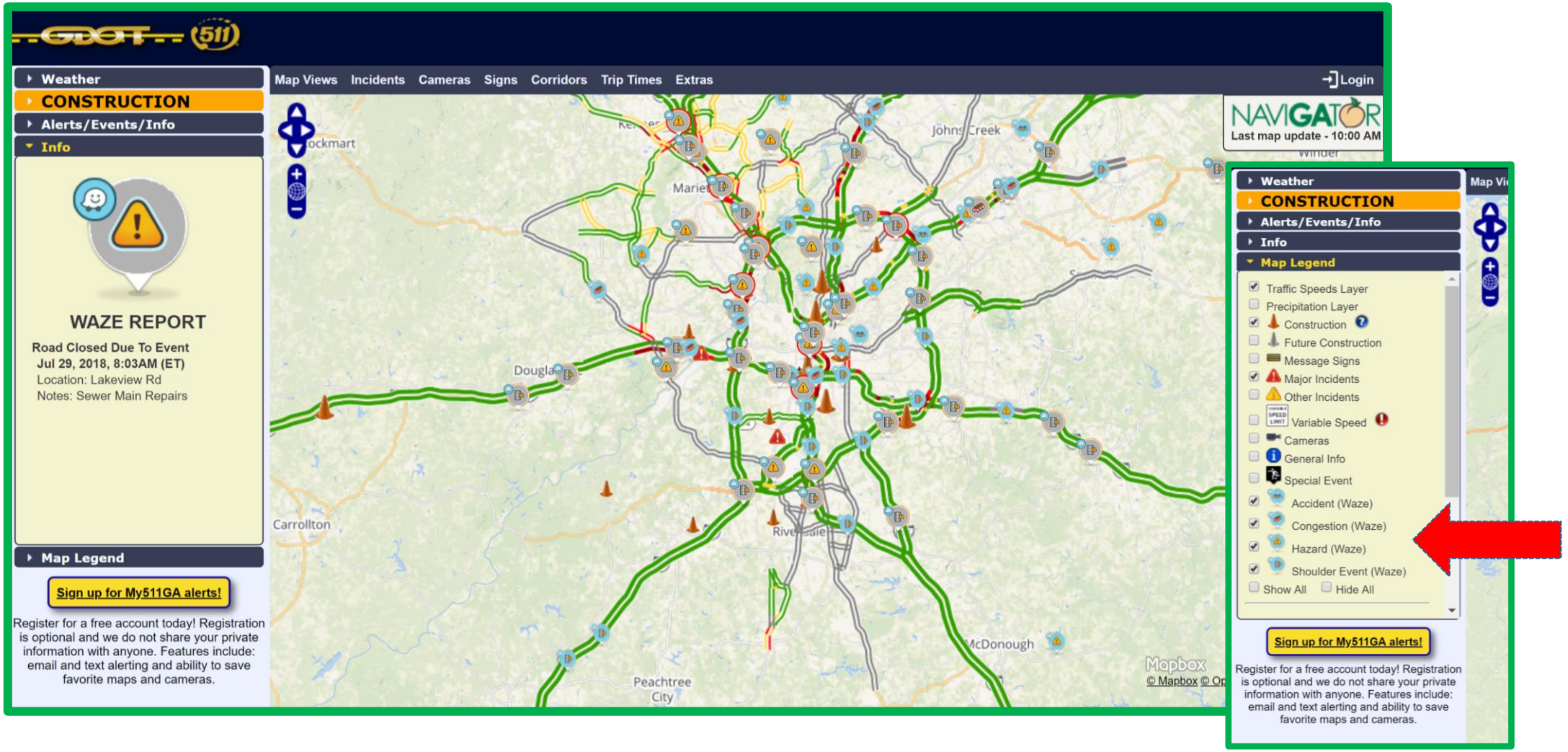
1. Waze
2. Freight
3. Data

A Roundtable discussion as time permits

Waze

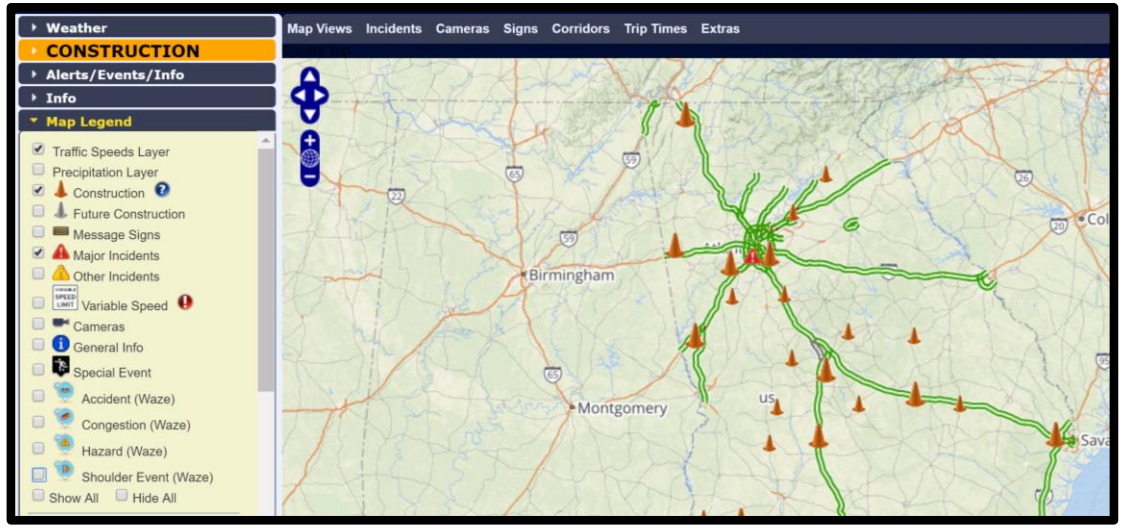
Waze

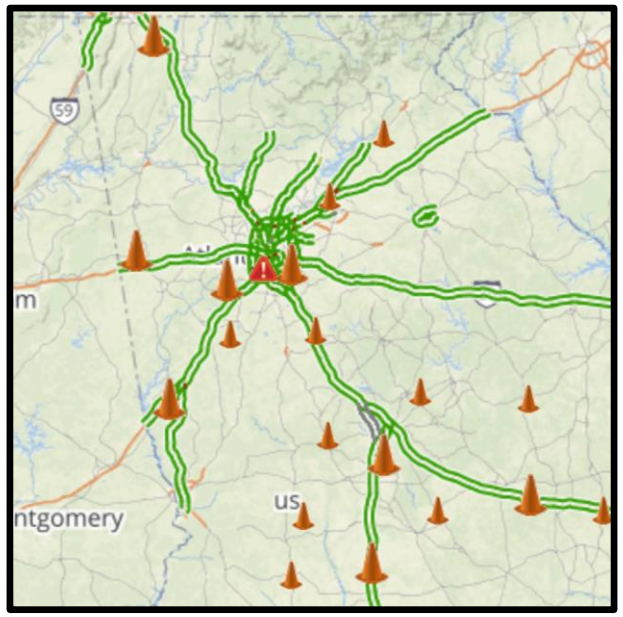
Georgia DOT's 511 webpage includes Waze specific events that can be turned on an off via the legend.



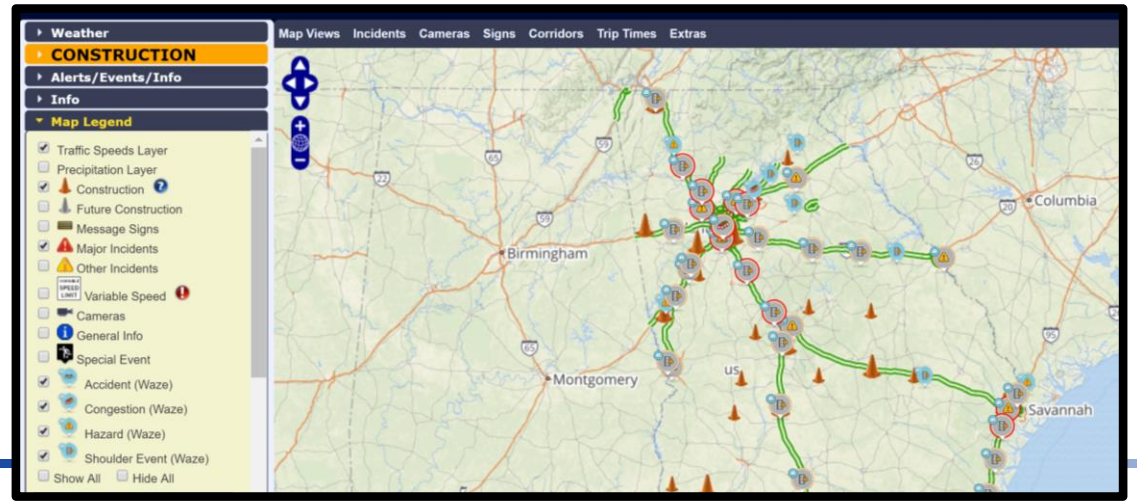
Waze
INCREASED SITUATIONAL AWARENESS

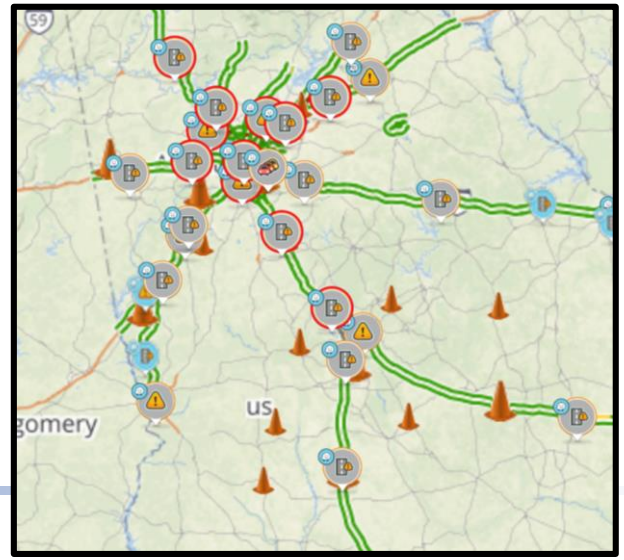
GDOT page without Waze events





GDOT page with Waze events





Waze Questions

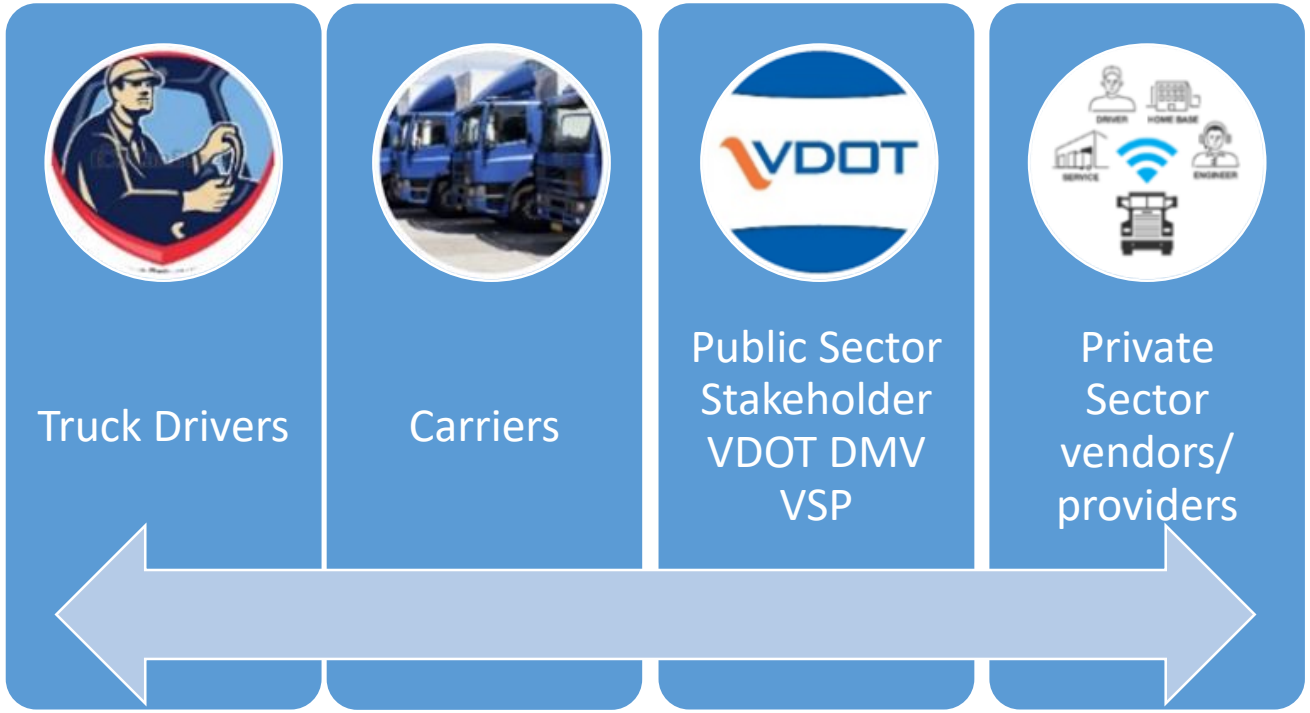
1. What is your current relationship with Waze?
   - Are you part of the CCP?
   - Did you work with Waze prior to being in the CCP?
   - What benefits have you found from belonging to the CCP?
2. If you are in the CCP, are you experiencing delays in having your construction and maintenance information added into Waze?
3. Have you integrated Waze into your ATMS to be able to see incidents? If not, why? If you are planning to do it, are there obstacles that are preventing it?
4. Would you be interested in freight/overheight/overweight vehicle restrictions to Waze and/or Google?

Waze Questions (continued)

5. Are you seeing differences in the accuracy of your info in Waze vs. Google? What level of customization is needed ATIS feed on the agency's side to provide Google with the info in a more usable format? What have you done to get Google to display correct closure info?
6. If you have a great relationship with corporate Waze/Google, please share any hints.

Freight

VDOT- Commercial Vehicle Traveler Information Needs Study

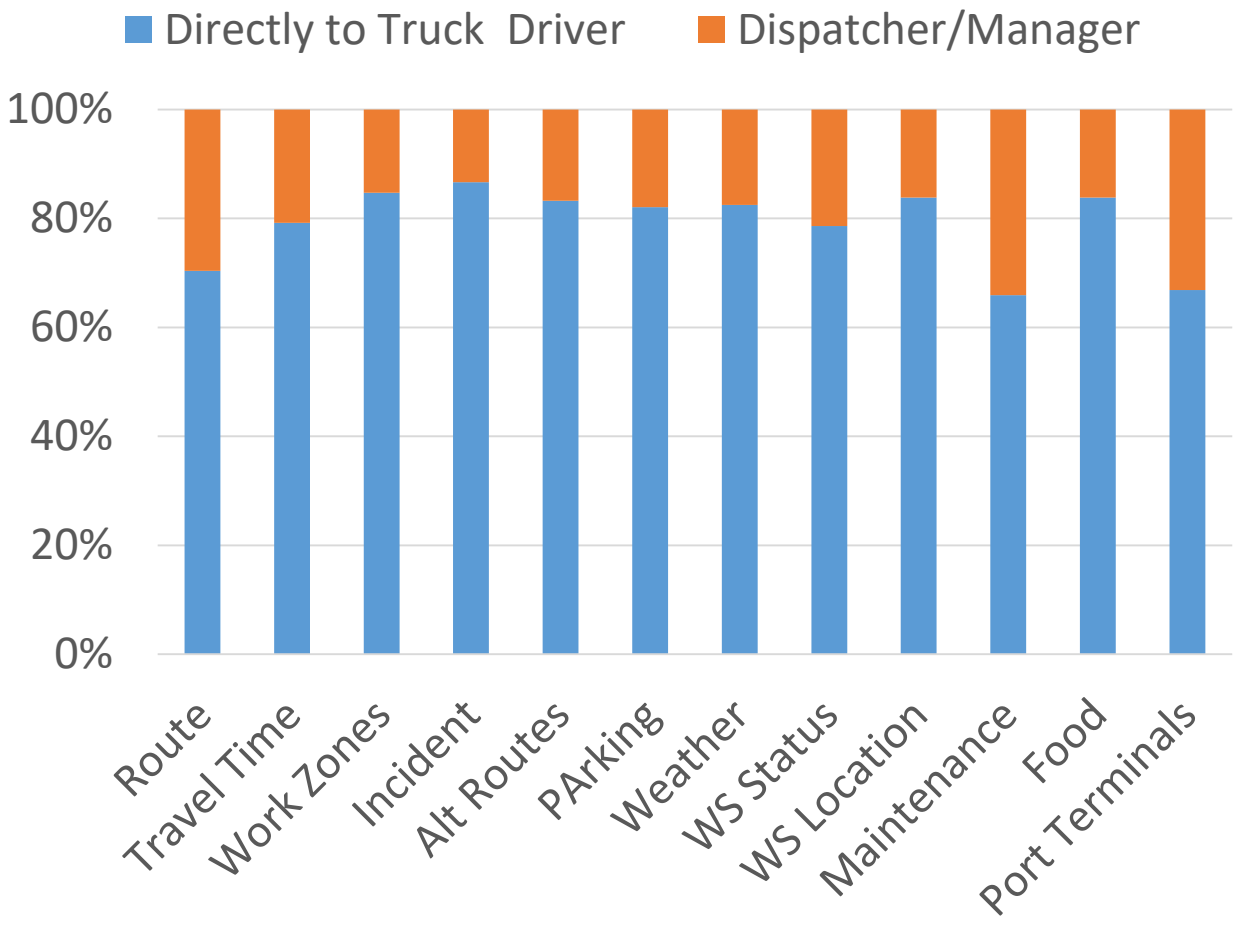


- Survey Truck Drivers
  - Rest Areas
  - Virginia Trucking Association Drivers Meeting
  - Service Centers
- Interviews
  - 23 Small Carriers
    - 1 to 37 trucks
  - 5 Large Carriers
    - 1287 to more than 10000 trucks

- Interview 5 Larger Operators
  - 1,000 trucks to >10,000 trucks

Scott Cowherd
Virginia Department of Transportation
Operations and Emergency Management Division

Truck Drivers- Information Preferences



- Truck drivers preferences
  - Information sent directly to them in real time
  - Information only for their current route - geofence
  - Important to receive
    - Extend and description of the incident
    - Impact on travel time
    - Clear directions of Alternative *Truck* Routes

Major Current Sources of Information

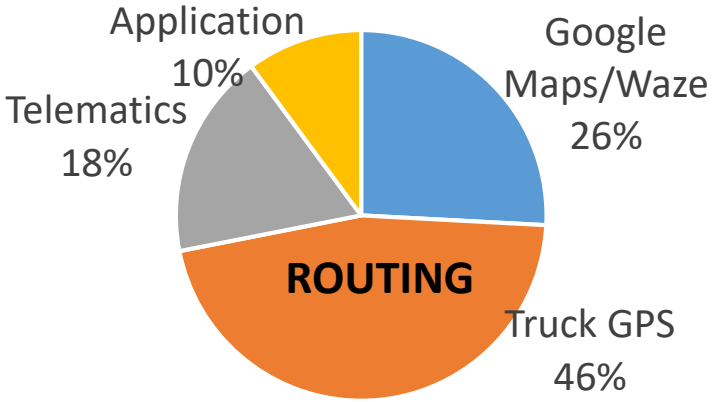
- Currently Use
  - GPS/ Routing Application
  - Variable Message Sign (VMS)
  - CB radio
  - VA 511
  - Text Messaging

Information Type	Disp.	VA 511	VDOT s	GPS, route App	OBC/ Telem.	VMS	Text	CB Radio	HAR
Route Rest.	32%	15%	34%	51%	11%	40%	11%	24%	5%
Travel Times	21%	22%	13%	61%	15%	35%	9%	17%	6%
Incidents	19%	23%	10%	45%	8%	47%	10%	31%	9%
Work Zones	14%	18%	18%	42%	7%	56%	8%	30%	8%
Weather	18%	22%	9%	26%	11%	35%	19%	26%	15%
Alt Route	19%	18%	24%	53%	11%	42%	8%	24%	5%

- **Would like to receive real time information through direct information (Text Messaging, VA511, VMS)**

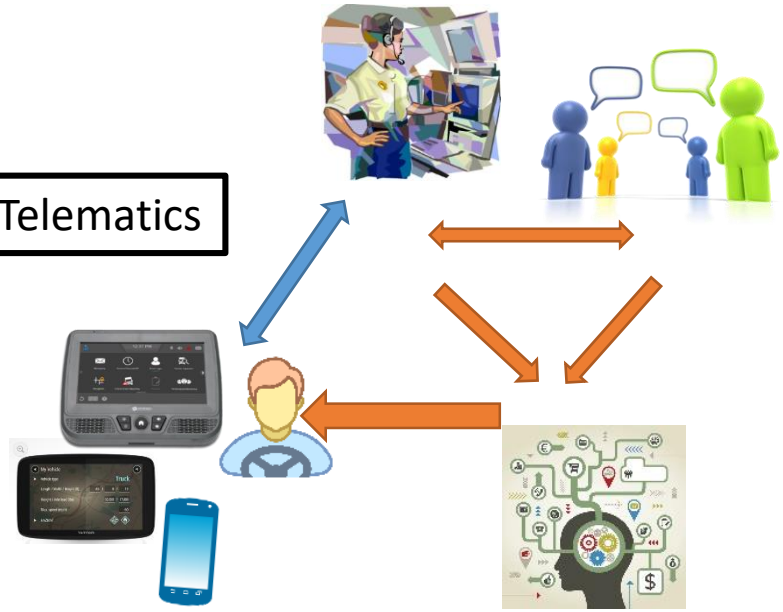
88 % truck drivers use cell phone when checking app/website

24 % use other device(s)



Large Carriers

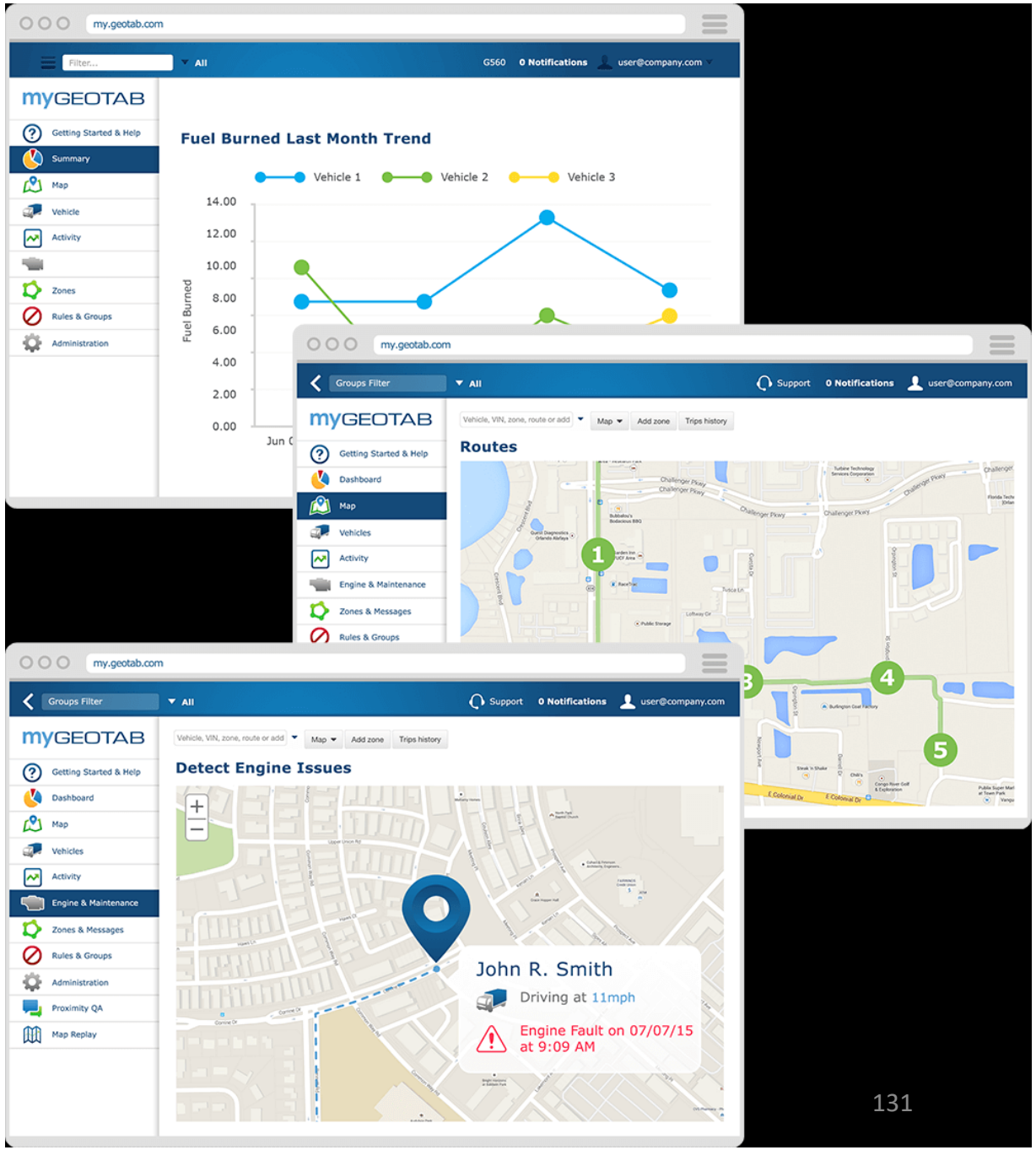
- Strong Support and Input from Main Central office (Dispatch)
- More Resources



- Truck Driver level of decision varies
- Informed decisions for major events
- Current Communication with DOT
  *email & *511 sites
- Waze considered a reliable source
- Not all have *text to message* capabilities
- Not all have geofence capabilities to automatically inform drivers in an area of a critical situation
- Want more information regarding delay, alternative routes, route conditions

Telematics

- **In-Vehicle Driver Coaching**
- Recording high quality information and making it easy to immediately coach and improve drivers is what Geotab is all about
- **Reduce Fuel Costs**
- Geotab has the most extensive reports and metrics to help you reduce your fuel consumption
- **Manage Vehicle Maintenance**
- Quickly identify core problem areas and reduce your maintenance costs by focusing on predictive engine health.
- **One of World's Most Sophisticated Telematics Devices**
- Your telematics investment will continue to add value as your business grows.



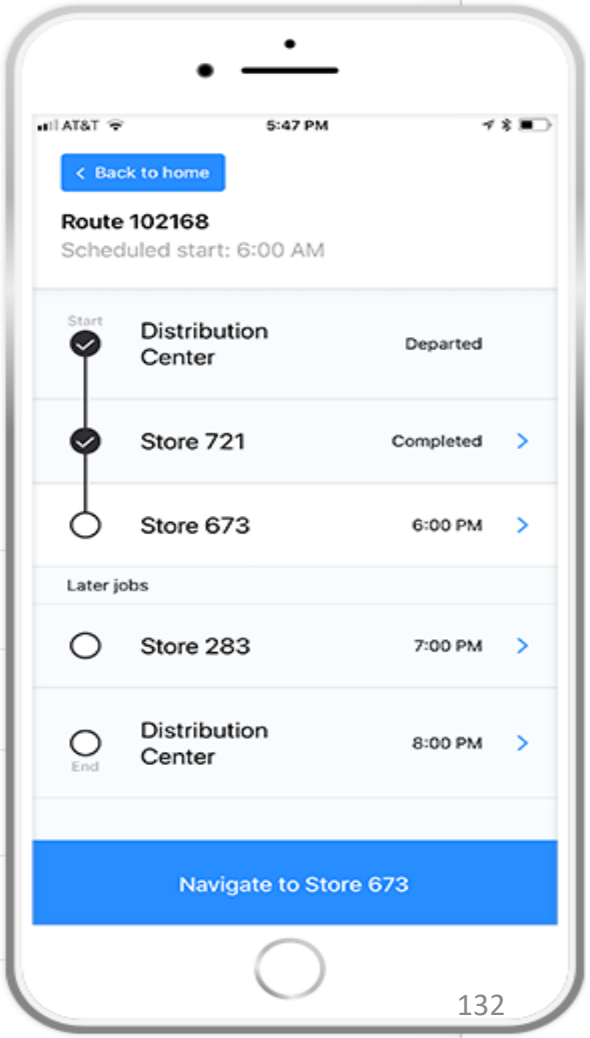
Telematics

SOUTHWEST TRUCKING COMPANY

Route

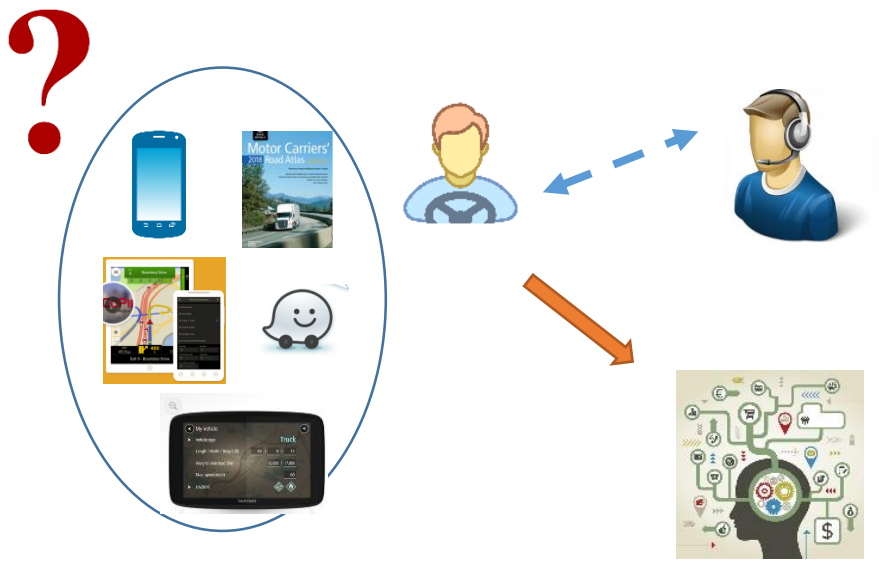
All (12) Scheduled (6) **En Route (4)** Completed (4)

ASSIGNED TO	ROUTE	SCHEDULED START ▲	ROUTE TIMELINES	
Duncan	Bid #8	Nov 17th, 7:00AM		On time
Steve	Bid #2	Nov 17th, 7:00AM		1hr 37m late
David	Bid #5	Nov 17th, 8:00AM		25m late
Nick	Bid #4	Nov 17th, 8:00AM		On time



Small Carriers

- Limited support from Central Offices (Dispatch)
- Limited resources



- Truck Driver is in charge of most of the decisions while in route
- Decisions based on personal experience
- Weather: Accuweather, NOAA, Weather Channel, VA 511 (cameras)
- Not aware of all VA511 capabilities

Wish list

- *Targeted to location (geofenced)*
- *Improve Data Timing, Reliability and Content*
- *Display more information in VA 511 and VMS*

CVO Traveler Information

- Inclusive
- Comprehensive
- Cooperative
- Informative
- Flexible

- Need to reach drivers and carriers
- Consider different channels of communication and type of operations
- Coordinate with carriers, telematics, third data providers and application developers
- Enhanced data
  - Real time- Geofence – Push Information
  - Improve Reliability
  - Delay information
  - Alternative Truck Routes

THANKS FOR YOUR TIME!

Scott Cowherd

Virginia Department of Transportation

Operations and Emergency Management Division

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804-786-2451

Freight Questions

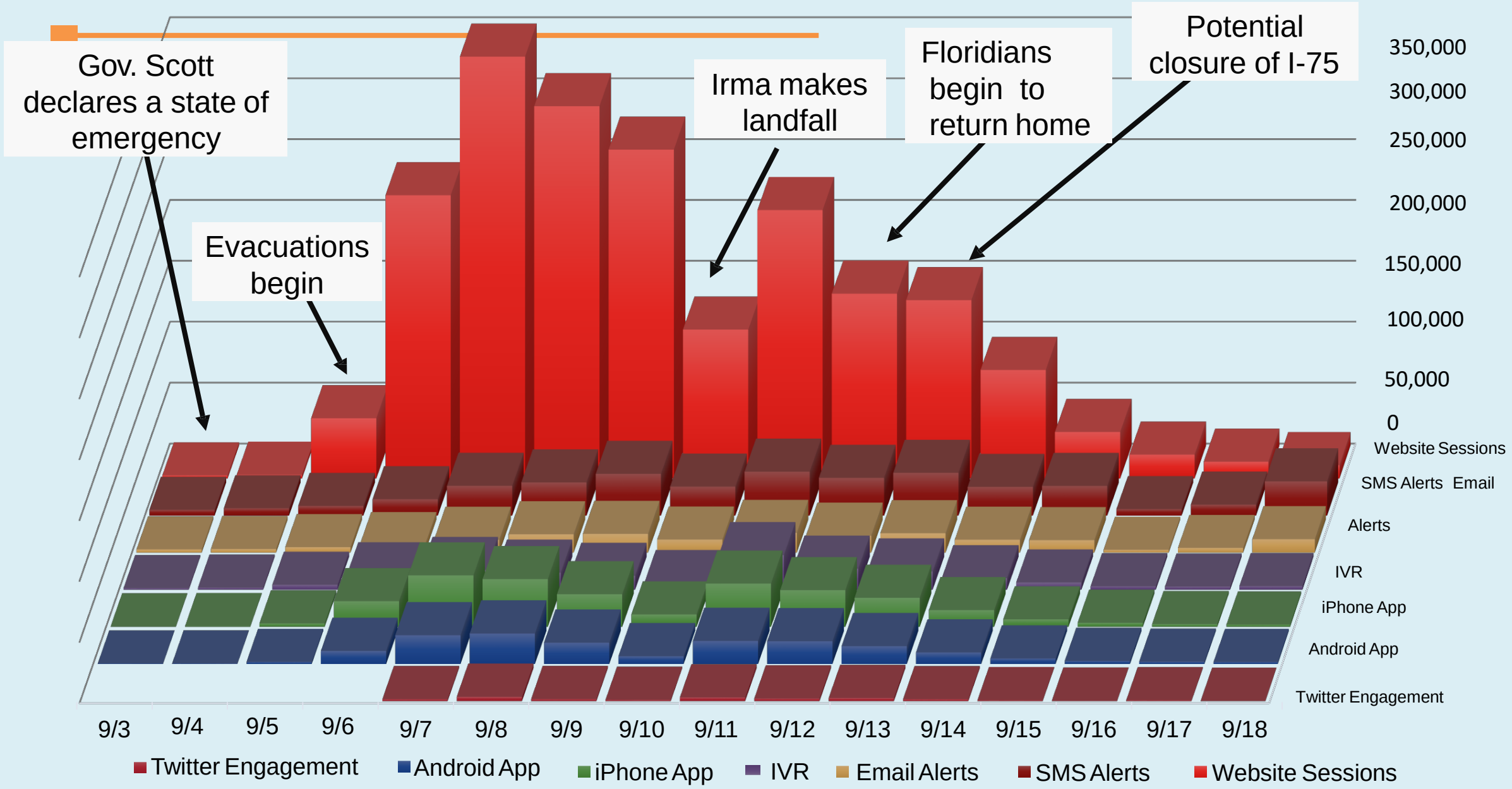
- Have you looked at how your truckers are getting their travel information?
- Do you provide travel information specifically for truckers?
- If so, does the travel information you disseminate in your TSMO/Travel Information Strategies consider trucks *specifically* in terms of:
  - Visualization on agency website/dashboard - Closures, detours
  - Signage
  - Providing notifications to adjoining/regional states of truck routing, restrictions
- If you do not provide travel information that is appropriate for truckers, why? Is there an obstacle to obtaining and/or providing this information?

Freight Questions (continued)

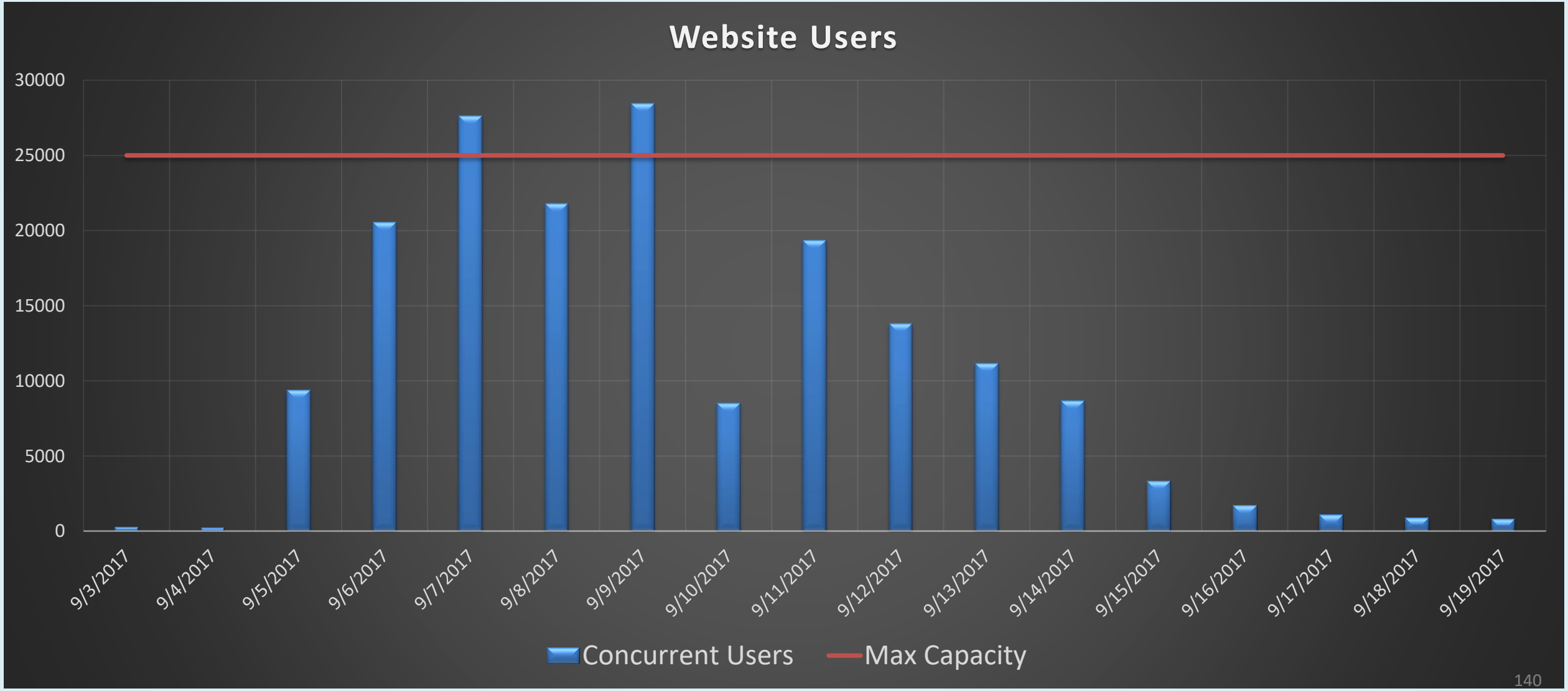
- Do you target data dissemination and/or data feeds to third parties oriented to truckers?
- Do you provide instructions specific to trucks?
- Do you have mechanisms to evaluate feedback from truckers vs. general public?

Data

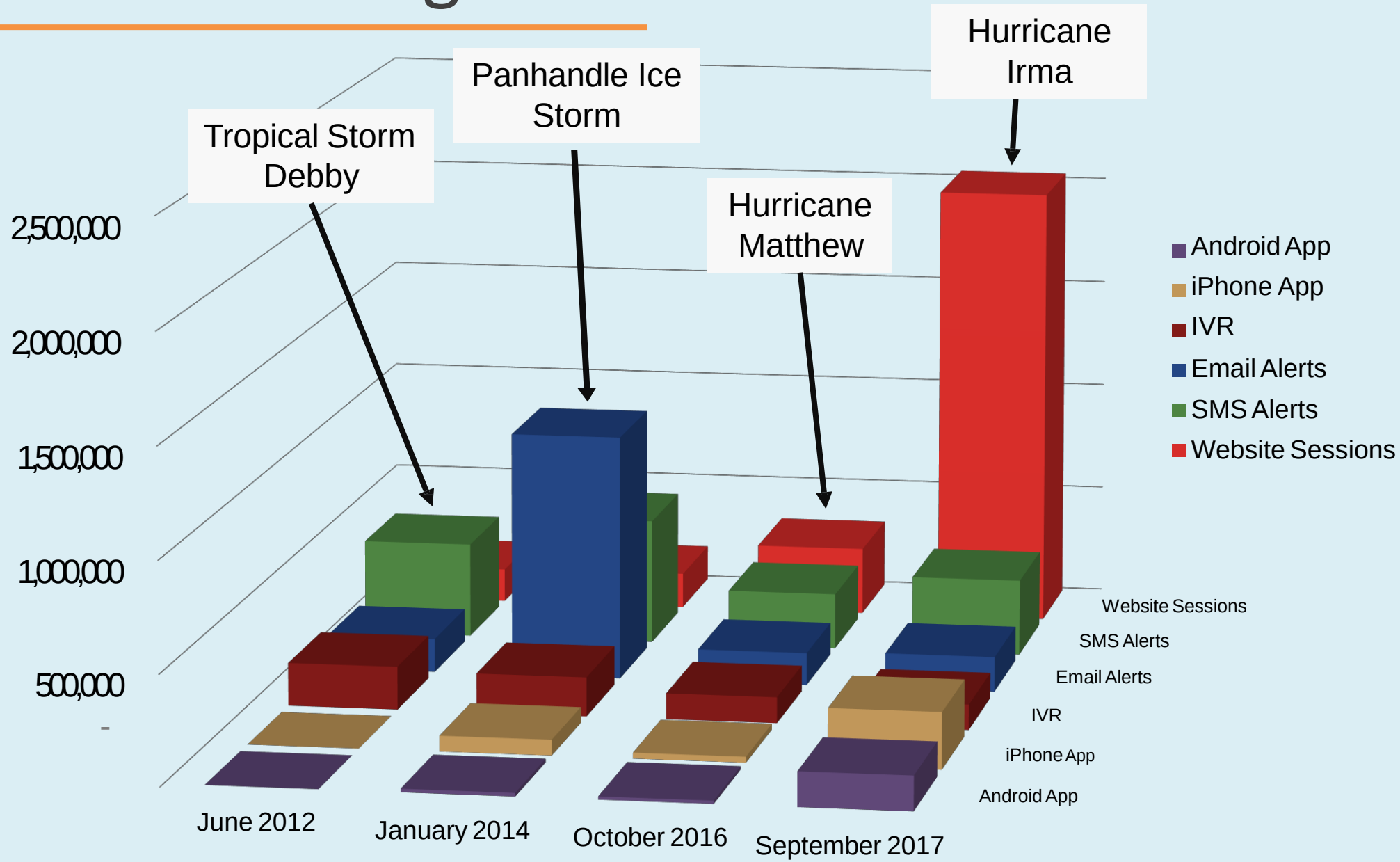
FL511 Usage During Irma



FL511 Concurrent Users vs Design Capacity



Historic FL511 Usage Peaks



Data Questions

1. How does your agency manage the requirements of data storage with your Traveler Information System?
2. Has your agency looked at or is using some type of cloud storage for your applications?
3. If yes, what are the benefits to keeping the data in the cloud?
4. When looking at data statistics and analytics with the Traveler Information Systems, it seems that emergency events generate large spikes in usage as compared to day to day operations. How do you handle these data spikes both from a bursting standpoint as well as data analysis?

Wrap Up

Denise Markow, PE

TSMO Director

I-95 Corridor Coalition

Coalition Meetings of Interest

- **UAS Webinar**: Agency Presentations from Massachusetts & Delaware – March 21, 2019
- **Freight:** Freight Academy – March 31, 2019 through April 5, 2019
- **Operations Peer Exchange**: NE Highway Operations Peer Exchange – UAS – I have one . . . now what do I use it for? – April 11, 2019
- **Data Tools Webinar:** iPeMS User Group Webinar – April 17, 2019
- **Freight Web Meeting**: Freight Committee Meeting: Vetting Freight Data – April 23, 2019
- **Data Tools Webinar**: RITIS/PDA User Group Webinar – April 25, 2019

Other Meetings of Interest

- ITE – Annual Meeting (Austin, Texas) – July 21-24, 2019
- ITS America – Annual Meeting (Washington, DC) – June 4-7, 2019
- ITS Chapter Annual Meetings
  - ITS Carolinas – March 18-19, 2019
  - ITS New England – April 25, 2019
  - ITS New York – June 13-14, 2019
  - ITS Florida – June 23-26, 2019
  - ITS Pennsylvania/ PA Automated Vehicle Summit – September 4-6, 2019
- AASHTO – Spring Meeting (Park City, UT) – May 20-23, 2019

Questions

Thank You!

For Additional Information and Questions

TIS Chair

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