



CENTRAL FLORIDA TSM&O CONSORTIUM MEETING SUMMARY

Meeting Date: July 28, 2022 (Thursday) **Time:** 10:00 AM – 12:00 PM

Subject: TSM&O Consortium Meeting

Meeting Location: Teleconference

I. OVERVIEW

The purpose of this recurring meeting is to provide an opportunity for District Five FDOT staff and local/regional agency partners to collaborate on the state of the TSM&O Program and ongoing efforts in Central Florida. Jeremy Dilmore gave a short introduction and outlined the meeting agenda.

I. INSYNC ADAPTIVE SIGNAL CONTROL

Jay Williams discussed Volusia County's experience with the InSync Adaptive Control system deployed at four (4) project sites within the County.

- InSync Adaptive Control was deployed at along four heavily congested major arterials, within the last two years
 - US 17/92 – 14 intersections from Minnesota Ave to Ft. Florida Rd
 - this is the main north/south route on west side of County, significant commuter traffic, school traffic, and serves as an alternate route for I-4 incidents
 - this is an extension of previous 5-intersection project in DeLand
 - completed Fall 2020
 - SR 40 – 17 intersections (Tymber Creek Rd to SR A1A)
 - Major east/west corridors that provide access to area beaches
 - Experiences heavy congestion, commuter traffic, and serves as designated evacuation route
 - SR 421 – 14 intersections (Summer Trees Rd to SR A1A)
 - Major east/west corridors that provide access to area beaches
 - Experiences heavy congestion, commuter traffic, and serves as designated evacuation route
 - SR 44 – 14 intersections (Airport Rd to E 3rd Ave)
 - Major east/west corridors that provide access to area beaches
 - Experiences heavy congestion, commuter traffic, and serves as designated evacuation route
 - completed Summer 2021
- All four project corridors are impacted by emergency preemption, and the transit agency is

considering preemption/TSP; recovery from preemption was also a consideration in the adaptive signal control project

- Since the InSync systems have come online, the County has seen an increase in maintenance activity related to the new equipment
 - there has been an increase in frequency of equipment checks, RMAs, and replacements. This is particularly evident after storms and lightning. The equipment is sensitive to power surges/fluctuations.
 - just this week, County staff RMA'd 5 detection cameras and 2 SDLC modules
 - the system is also dependent on maintaining system communication, so any fiber or network issues are exacerbated on the Adaptive control corridors
 - The County has also seen an increase in citizen complaint trouble calls. The system is less predictable than standard time-based coordination, so the public may report something as an issue even if the system is functioning properly
- FDOT District 5 ICM compiled travel time data for all 4 corridors under adaptive signal control and traditional time-based coordination
 - the results were mixed, with some corridors and/or directions seeing an increase in travel time under adaptive, while some saw a decrease, and some saw no significant difference

Corridor	Direction of Travel	AM Peak	MD Peak	MD Off-peak	PM Peak
		% Change in Travel Times	% Change in Travel Times	% Change in Travel Times	% Change in Travel Times
SR 421 - Summer Trees Blvd to Village Trl	Eastbound	9.0%	9.6%	-0.2%	-0.9%
	Westbound	-10.1%	17.4%	20.5%	-18.5%
SR 421 - Summer Trees Blvd to Peninsula Dr	Eastbound	-12.0%	-22.7%	-19.6%	-17.9%
	Westbound	-13.7%	-6.5%	-11.5%	-23.9%
US 17-92 - Highbanks Rd to Minnesota Ave	Northbound	6.7%	2.9%	-6.0%	-7.1%
	Southbound	-3.0%	-0.1%	-1.2%	-1.2%
SR 44 - Airport Rd to Live Oak St	Eastbound	-4.1%	3.8%	2.8%	2.9%
	Westbound	-6.4%	-13.8%	-7.7%	12.2%
SR 40 - Tymber Creek Rd to US 1	Eastbound	-3.2%	-1.6%	-5.4%	-5.0%
	Westbound	-8.9%	-7.9%	-5.6%	6.6%
SR 40 - US 1 to SR A1A	Eastbound	-11.5%	0.0%	-7.3%	-0.2%
	Westbound	-6.4%	-0.7%	-0.9%	6.6%

Primary Direction of Travel

	Travel Time Increased	Travel Time Decreased	Insignificant Change in Travel Time
All Cases (48)	12	26	10
Peak Direction/Peak Hour	4	12	5

- The data show there were some positive results, but these results have not been consistent for all the corridors throughout the day
- This system performance analysis did not account for other factors
 - other performance metrics (number of stops, AOG, delay, queueing, etc.)
 - equipment and/or network issues
 - event/incident traffic
 - inbound/outbound beach traffic during peak beach season
 - number of preemption events and preemption recovery
 - pedestrian delay

- Conclusions
 - Maintenance efforts increase
 - staff has had increased response associated with repairing, replacing, and troubleshooting failed equipment
 - Susceptible to lightning/electrical damage; system needs grounding/environmental protection
 - Travel time data did not show significant improvement; however, the data analysis did consider other factors or metrics
 - A more comprehensive study with additional performance metrics may be beneficial
- Discussion:
 - Hazem El Assar – Orange County had a similar experience with InSync Adaptive Signal Control. Maintenance has been the biggest issue; cost of repair is also significant compared to a brand new device

II. PERFORMANCE REPORTING

David Williams presented on a variety of dashboards and performance metric platforms available to the District and its partner agencies. Sheryl Bradley also presented on the District 5 ICM Performance Management platform for I-75 operations.

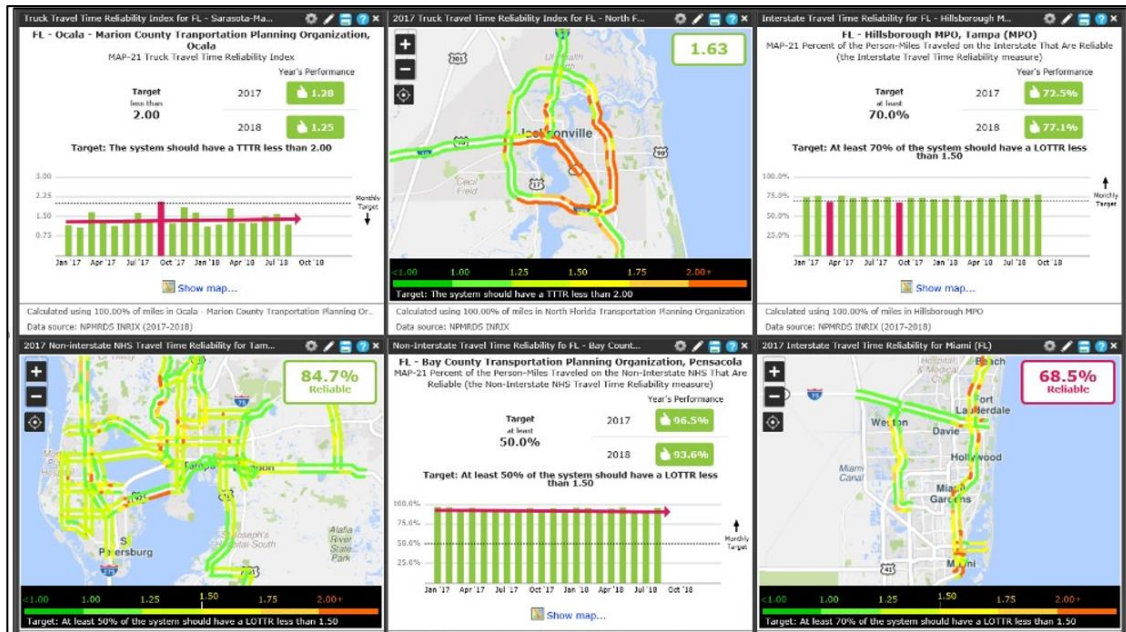
- In 2020, the TSM&O Consortium group conducted its third Capability Maturity Model (CMM) self-assessment as a region, grading how it fulfilled each of the 6 CMM dimensions
 - Respondents gave scores for the region and for their agency; the agency scores were aggregated into a “Composite Score” for a public agency

CMM Dimensions	Regional Assessment	“Composite Score” Public Agency
Business Processes	2.80	2.20
Systems & Technology	2.70	2.13
Performance Measurement	2.57	1.97
Culture	2.77	2.47
Organization & Workforce	2.53	2.23
Collaboration	2.97	2.46

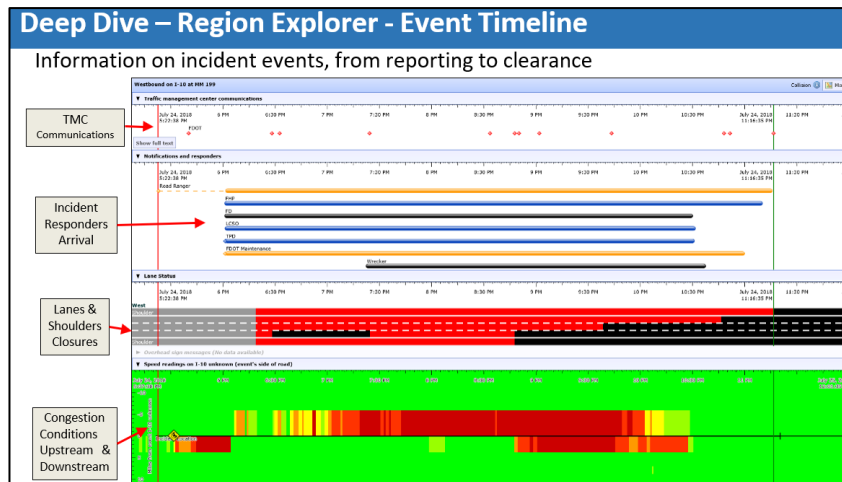
- RITIS Probe Data / NPMRDS Analytics Data
 - The Regional Integrated Transportation Information System (RITIS) provides an advanced data analytics tool to conduct planning and traffic ops analyses
 - The RITIS National Performance Management Research Data Set (NPMRDS) provides a variety of performance metrics for the transportation system
 - The RITIS Probe Data Analytics Suite visualizes many of the NPMRDS metrics for users to analyze
 - Dashboard – personalized dashboard with multiple windows (“widgets”) representing different datasets, topics, and metrics that are specified by the user

[see presentation slides for more information and graphics]

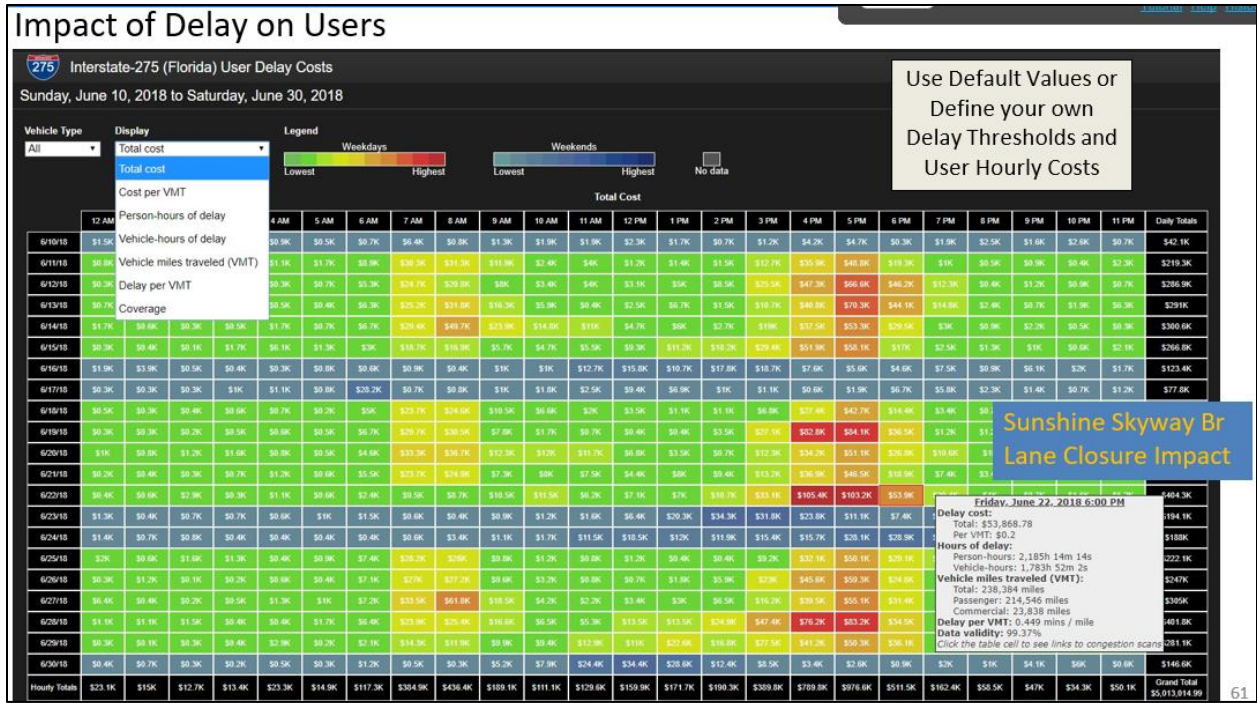
- Speed and Travel Time table
- Interstate Travel Time Reliability
- Ranked Bottleneck Table
- Ranked Bottleneck Comparison
- Trend Map of Congestion
- Reliability Table
- User Delay Cost Table
- Event Count
- Clearance Time



- Region Explorer – Explore real-time or historical data on bottlenecks and events
 - Realtime Event Timeline

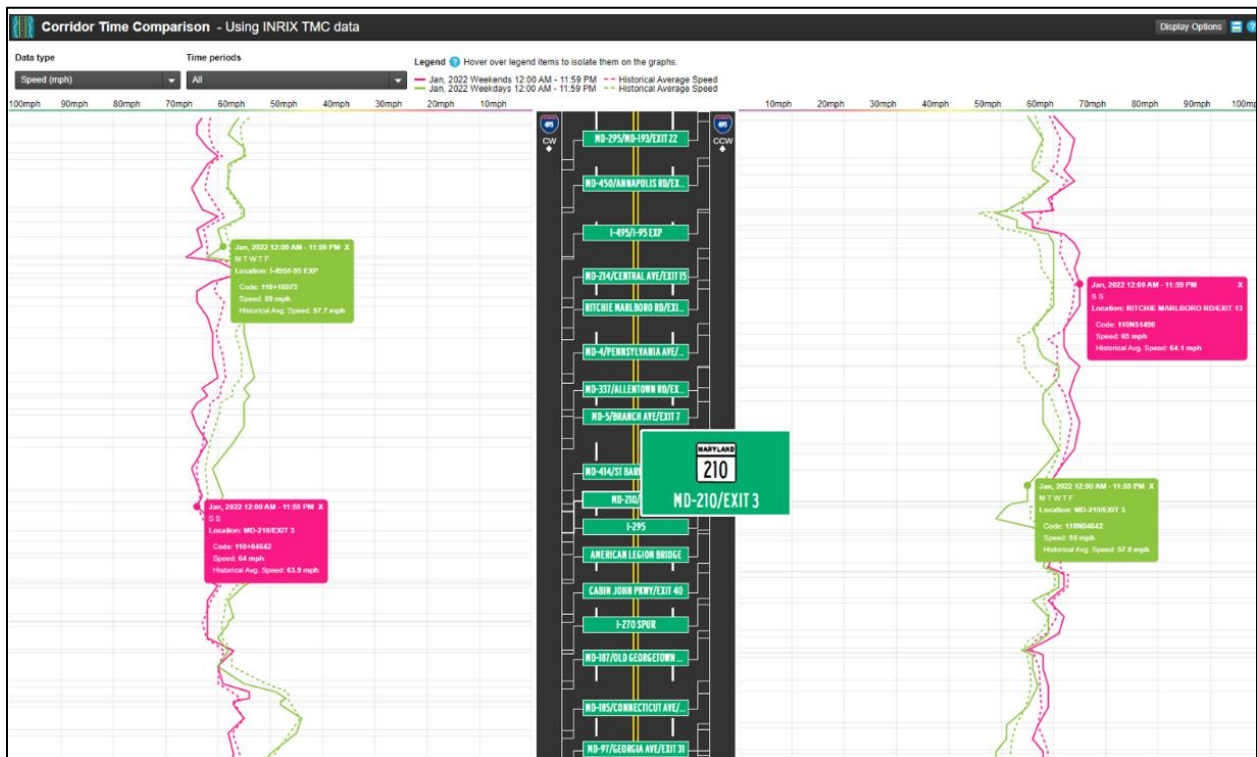


- User Delay Costs



- Other Analytics

- Corridor Time Comparison



- Energy Use and Emissions

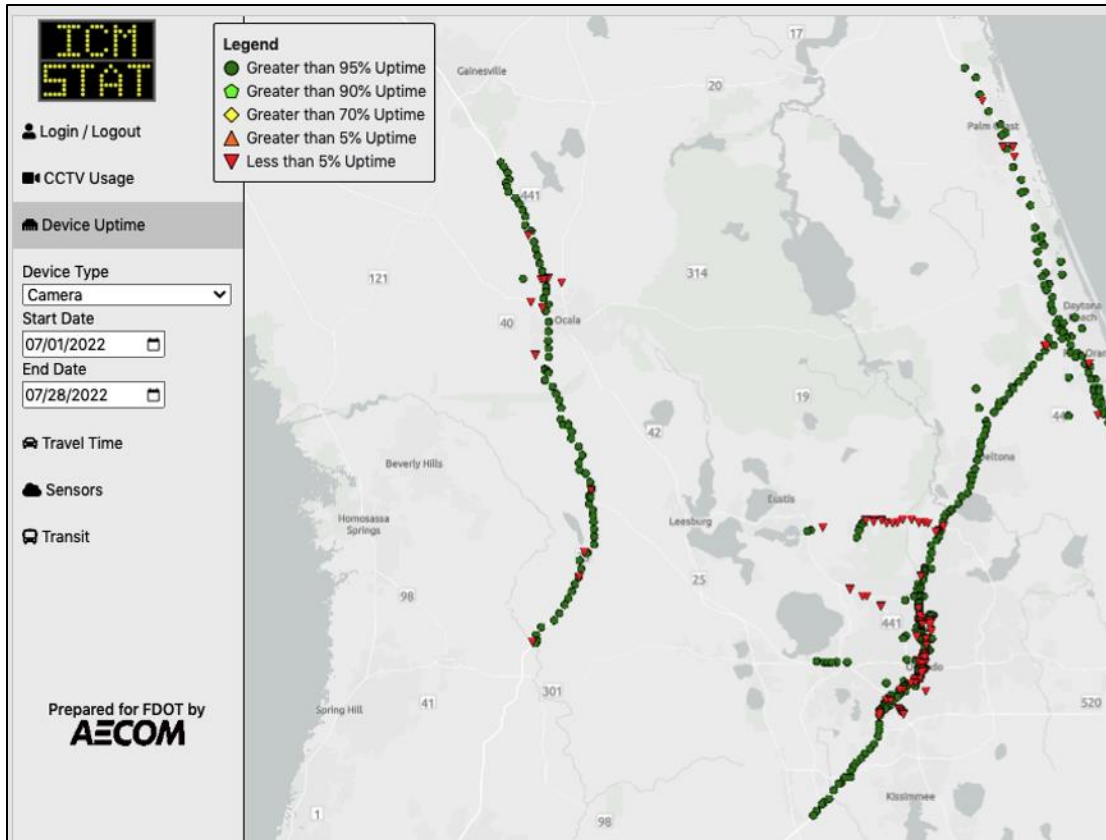
- Speed Threshold Breakdown
 - Vehicle Ownership Charts
 - Clearance Times
 - Massive Data Downloader – data available for download (.csv format) for regions, roads, metrics, times, etc.
 - HERE data is also available
- **UrbanSDK**
 - data visualization platform with three components
 - Studio – GIS platform where user can upload their own spatial data
 - Insights – custom information related to transportation planning, management, and safety
 - includes datasets like bridge information, CARS crash data, fatality data, speed and reliability data
 - Data Hub – publicly available datasets to download or add to Insights/Studio platform
 - mobility, demographics (5-year estimates), and other datasets are available
- **Performance Reporting Using Probe-based Speed Data**
 - The *congestion head* location is where the traffic congestion along a corridor begins
 - Traditional review of congestion is examining peak time periods (7-9am; 4-6pm)
 - Examining congestion heads requires expanding analysis to 5-10am and 3-7pm
 - Using heads of congestion will tell a very different story for how congestion developed

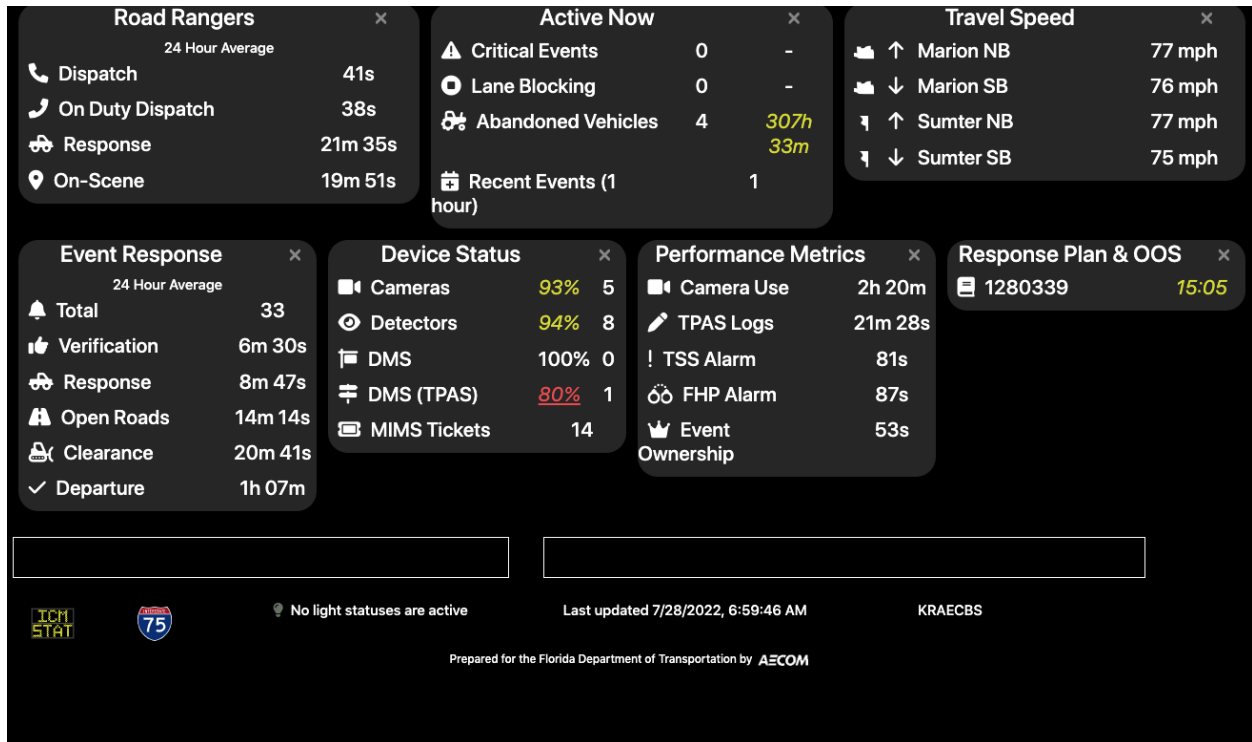


	TMC	TMC1	TMC2	TMC3	TMC4	TMC5
Length	0.5	0.75	1	0.5	1.5	1.25
T-3	.86	.81	.80	.85	.81	.81
T-2	.82	.81	.82	.81	.80	.82
T-1	.83	.80	.80	.79	.77	.84
T	.81	.79	.80	.76	.65	.83
T2	.82	.80	.81	.60	.55	.82
T3	.82	.81	.72	.55	.45	.80
T4	.79	.71	.68	.55	.74	.79
T5	.78	.72	.59	.50	.80	.81
T6	.81	.76	.52	.48	.81	.82
T7	.82	.78	.65	.54	.79	.80
T8	.81	.80	.70	.67	.82	.82
T9	.77	.81	.76	.76	.85	.84
T10	.80	.82	.77	.80	.85	.85



- in the example above, the head of congestion is a pinch point at a merging location
- The dashboard in development provides users a visualization of the congestion head and highlights planned/programmed projects in the area. Users can then determine if the congestion head is being targeted in other projects or if a new project should be developed to treat the congestion head issues
- **D5 ICM Performance Management**
 - Dashboard tracks device uptime
 - also tracks travel time along a corridor during a user-defined time period
 - filters can be applied to reports to get information and data the user needs
 - the dashboard also includes data from weather-related sensors
 - data for transit signal priority activations are also provided
 - summary dashboard is also available for general stats
 - Road rangers, event responses, device status, response plans, travel speeds





- TSP is conditional, based on how they're performing against the schedule; if behind schedule severely, TSP will be activated to get them back on track
- RR don't use emergency maneuvers (shoulder use, emergency turns) if the event is a simple disabled vehicle that won't impact traffic and potentially cause secondary crashes; however, if the event may cause secondary crashes, RR is allowed to conduct emergency maneuvers

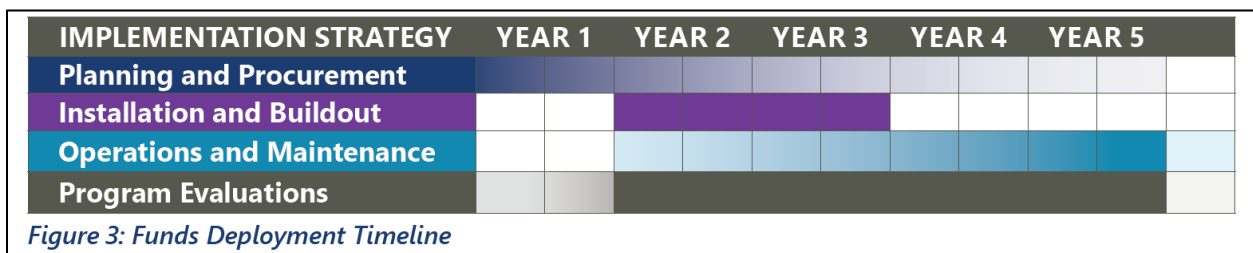
Discussion:

- Steven Bostel – scheduled monthly check-ins with UrbanSDK; excited to get SCTPO data into the system to compare; happy to go from PDFs to interactive data. The UrbanSDK platform is user-friendly. The end goal is to provide a public interface for the SCTPO data.
- Q: For UrbanSDK, does the bridge data include a link to the bridge report?
 - A: Not currently. That may be a future option.
- The UrbanSDK data may be helpful for mast arm replacements.
- Katie King – the District is having the Congestion Head dashboard developed; training will be provided and placed on the FLEX portal. Anyone interested in the training, please let Katie know.
- For the ICM Operations Dashboard:
- Q: Will you tie in RISC events in dashboard?
 - A: We're running we everything through SunGuide, but we're not using the SunGuide RISC module. The module isn't attuned to the approach that D5 would like to use.

III. EV INFRASTRUCTURE DEPLOYMENT PLAN

David Williams briefly discussed the EV Infrastructure Deployment Plan draft developed by FDOT.

- The EV Infrastructure Master Plan (EVMP) was required by Florida Statutes 339.287
 - guide for future legislative, agency-level, and public outreach efforts
 - challenges and opportunities associated with EV infrastructure
 - EVMP Objectives – Support, Encourage, Serve
- Florida’s EV Infrastructure Deployment Plan is the framework for implementing the National Electric Vehicle Infrastructure (NEVI) Program
 - \$198M to Florida (\$29M in 2022)
 - Five-year plan
 - Builds on EVMP



- The Infrastructure Deployment Plan does not include a list of locations for EV deployment; seeking input and innovative applications from stakeholders
- NEVI requires proposed EV charging stations be within 1 mile of an Alternative Fuel Corridor (AFC)
 - over 6,000 miles were added to Florida’s AFC network in the latest Round 6 nominations
- EV sites must be NO MORE than 50 miles apart and contain 4+ Direct Current Fast Charging (DCFC) ports
- Implementation Strategies
 - Planning – develop a future-proof EV charging network that is resilient and reliable
 - Installation and Operations – Build convenient, reliable, and accessible DCFC charging infrastructure
 - Emergency Preparedness and Resiliency – Provide access to reliable and resilient DCFC during emergency events
- Moderate projections for EV Market Adoption expect a 20% ratio of EVs in Florida by 2040
- NEVI will prioritize investment in sites where O&M funding has already been identified for the five-year duration of the program
- NEVI requires 20% non-Federal match
- EV charging station locations will address a variety of attributes consistent with Justice40 mapping and guidelines
- Program Evaluation will include:
 - Buildout of the AFC Network
 - Equity
 - Reliability
 - Accessibility

- Resiliency
- EV Adoption

Discussion:

- **Q:** The focus seems to only be on DCFC; there's no discussion of Level 2?
 - **A:** that is correct

IV. TAKING TIME TO FLEX

David Williams briefly discussed the TSMO eLearning platform FLEX.

- What's new?
 - New courses available
 - Computer Security Awareness
 - I-4 Express Gate
 - Drones and Traffic Management (workshop)
 - Active Users – 348
 - Courses completed – 290
 - Most popular course – Traffic Signal Training (A)
- Upcoming courses
 - Adaptive Signal Control Technology (ASCT) Training
 - ITS CEI Dynamic Message Sign
 - ITS CEI Road Weather Information System
 - Manual on Uniform Traffic Studies (MUTS)
- If you have a training from a vendor upcoming, and are okay with it, we'd like to record it and post it on the FLEX Portal

V. TRANSP0 2022 TAKEAWAYS

Jeremy Dilmore opened the floor for attendees to share their comments and takeaways gleaned from Transpo 2022.

- Nathan Mozeleski discussed some of the focus areas for the conference
 - data – accuracy, collection, use
 - safety – variety of applications and strategies targeting safety for various modes
 - general discussion on how to change the paradigm; cloud-hosted solutions were common theme
 - change in hot topic from Autonomous Vehicles → Electric Vehicles
 - Jeremy and Nathan presented on how the District moved from traditional signalization to the Smart Signal standard
 - not just technology and data, but how we were able to get a districtwide approach into action (the Consortium and stakeholder engagement was key)
- Steven Bostel agreed with Nathan; they focused on safety heavily

VI. CURRENT INITIATIVES

David Williams and Tushar Patel briefly provided an update on the current work efforts throughout District Five.

- GTT – Canoga product line is End of Life / End of Service
 - likely does not impact partner agencies
 - affects old micro loops that haven't been deployed in last 15 years (likely replaced in recent RRR)
 - let us know if you're impacted by this EOL designation
- I-4 Ultimate – Express Lanes
 - continue to monitor express lanes
 - looking to finalize deployment plans for WWD equipment
- Wekiva Parkway
 - Wekiva 6 has been open
 - Wekiva 7A & 7B are nearly complete
 - Wekiva 8 still in construction
- Smart Work Zone Trailer
 - final walkthrough this week
 - next step – deployment at a construction project
- STROZ – some final integration, configuration and/or installation is ongoing
- TSMCA Update
 - draft Exhibit E Amendment developed by FDOT Legal
 - Coordinating revisions/signatures with Maintaining Agencies
 - Jon Cheney – can we introduce language that allows local representatives to make changes on the Agency's behalf?
 - Yes; this is not required though.
 - this could make amending the TSMCA Exhibit E table easier in the future
- Event Management II – final accepted; looking to deploy cameras for BOS confirmation
- PedSafe – field equipment deployed/integrated
- PedSafe II – working toward Phase II design plans; beginning to purchase equipment for trailer
- AV Shuttle – working through electrical charging issues
- Kiosks at UCF – entering O&M Testing passed
- I-4 FRAME – plans have been completed or near completion for D5 portion of project

VII. NEXT MEETING

- September 29, 2022

VIII. ATTACHMENTS

- A – Presentation Slides
- B – Meeting agenda

END OF SUMMARY

This summary was prepared by David Williams and is provided as a summary (not verbatim) for use by the Consortium Members. The comments do not reflect FDOT's concurrence. Please review and send comments via e-mail to dwilliams@vhb.com so the meeting summary can be finalized.

Welcome to the TSM&O Consortium Meeting July 28, 2022



Meeting Agenda

1. Welcome
2. InSync Adaptive Control
3. Performance Reporting
4. Electric Vehicle Infrastructure Deployment Plan (draft)
5. Transpo 2022 Takeaways
6. Current Initiatives

InSync Adaptive Control

Project Updates

Jay Williams, PE, PTOE
Volusia County Traffic Engineering



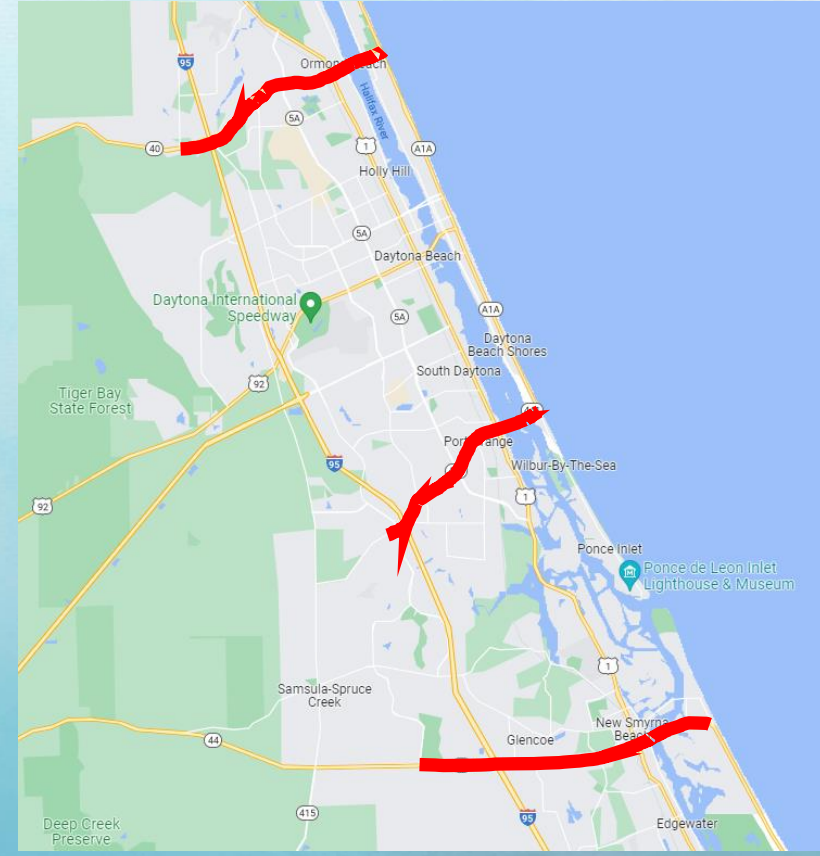
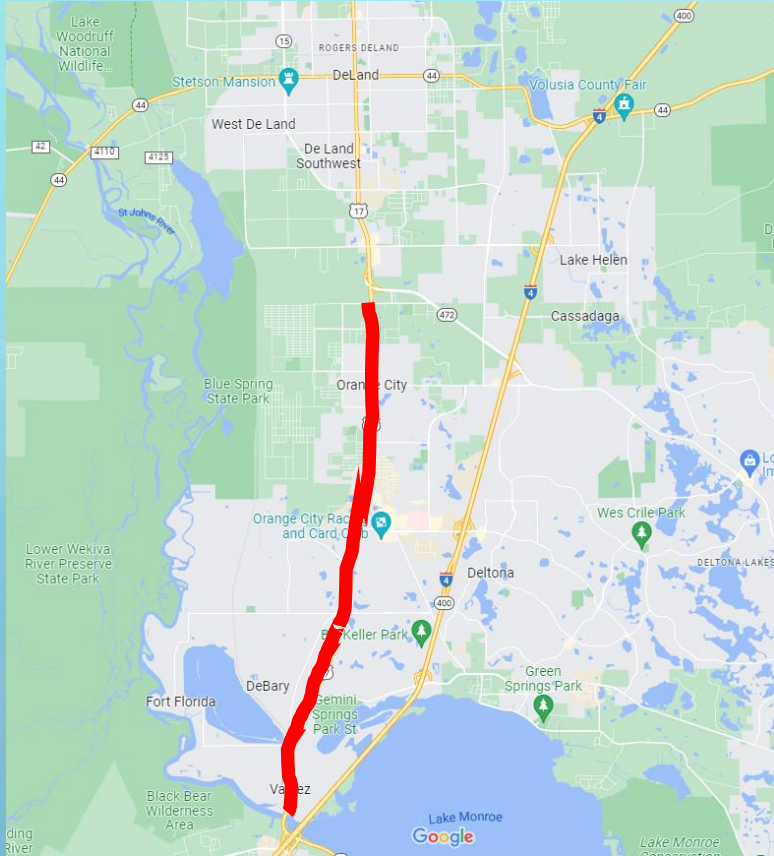
Transportation Systems Management & Operations



Disclaimer

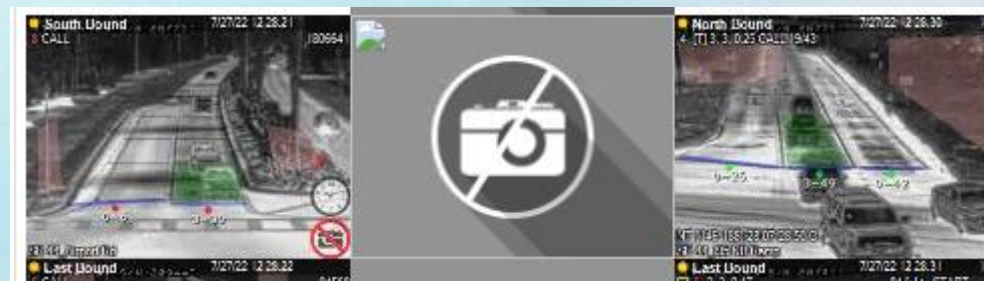


4 Corridors, Projects completed within last 2 years



Maintenance

- Equipment Issues
 - Camera Detection
 - SDLC Modules
 - Ped Intercept Modules
- Communication Issues
 - Fiber Damage
 - Network Issues
- Intersection Trouble Calls



SR 44_Airport Rd is unable to talk to SR44_Williamson
SR 44_Airport Rd is unable to talk to SR 44_Sugar Mill Rd
SR 44_Airport Rd is unable to talk to SR44_Glencoe Rd
SR 44_Airport Rd is unable to talk to SR44_Wallace Rd
SR 44_Airport Rd is unable to talk to SR 44_Palmetto St

SR 44_Colony Park Rd is unable to talk to SR44_Williamson

System Performance

- Bluetooth Travel Time device info or HERE data
- D5 ICM compiled travel time data for all 4 corridors under adaptive signal control and traditional time based coordination
- Travel Time comparisons during
 - AM Peak
 - Mid-day Peak
 - Mid-day Off-Peak
 - PM Peak

System Performance

Corridor	Direction of Travel	AM Peak	MD Peak	MD Off-peak	PM Peak
		% Change in Travel Times	% Change in Travel Times	% Change in Travel Times	% Change in Travel Times
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All Cases (48)	12	26	10
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Source: D5 ICM Adaptive Signal Control Corridor Analysis Report




Transportation Systems Management & Operations

System Performance

Other items not factored into system performance analysis

- Other performance metrics (number of stops, AOG, delay, queuing, etc.)
- Equipment and/or Network Issues
- Event/Incident Traffic
- Inbound/Outbound Beach traffic during peak beach season
- # of preemption events and preemption recovery
- Pedestrian Delay

Conclusions/Lessons Learned

- Maintenance Efforts =  >>> Factor in maintenance impacts
-  =  >>> Need good grounding/Environmental protection
- Performance Benefits = ? >>> Comprehensive performance metrics

Questions

Performance Reporting

David Williams, VHB



Transportation Systems Management & Operations



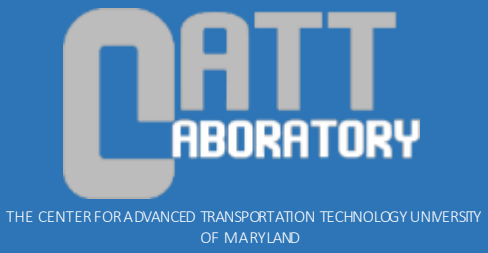
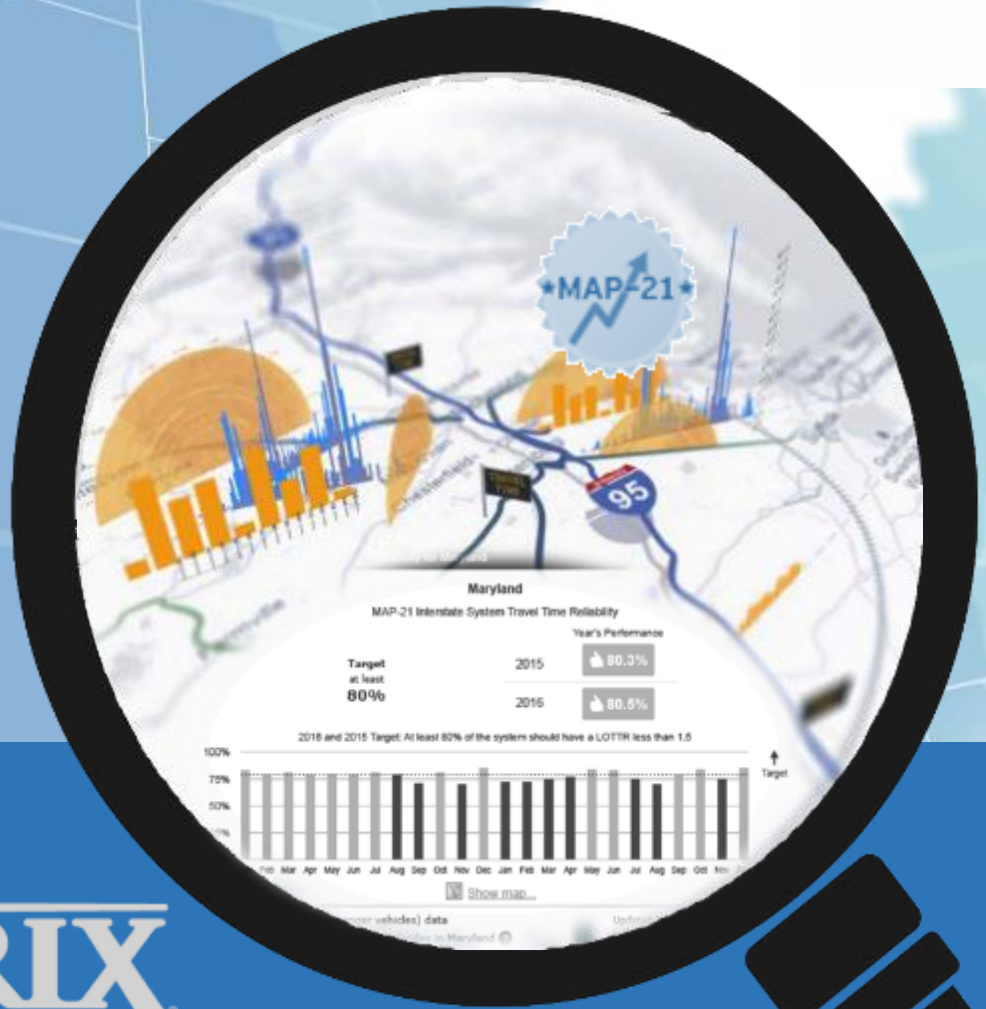
Performance Reporting

- In 2020, we conducted our third Capability Maturity Model (CMM) self-assessment as a region

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Performance Measurement	2.57	1.97
Culture	2.77	2.47
Organization & Workforce	2.53	2.23
Collaboration	2.97	2.46

Probe Data / NPMRDS Analytics

(Revised February 2019 by FHWA Division for Florida)



Contacts to Remember

For help with the data analytics tool: support@ritis.org

For information on NPMRDS: https://ops.fhwa.dot.gov/perf_measurement/index.htm

For help with Data Sharing Agreement: npmrds@ritis.org (for NPMRDS data set)

For Non-FDOT user-access help: christine.shafik@dot.state.fl.us (for other PDA data sets)

For information on PM3 implementation in Florida: <https://www.fhwa.dot.gov/fldiv/tpm.cfm>

FDOT TPM PM3 Implementation points of contact:

Jessica.VanDenBogaert@dot.state.fl.us, Mark.Reichert@dot.state.fl.us (FDOT Central Office)

Frank.Corrado@dot.gov (FHWA Florida Division)

Contents

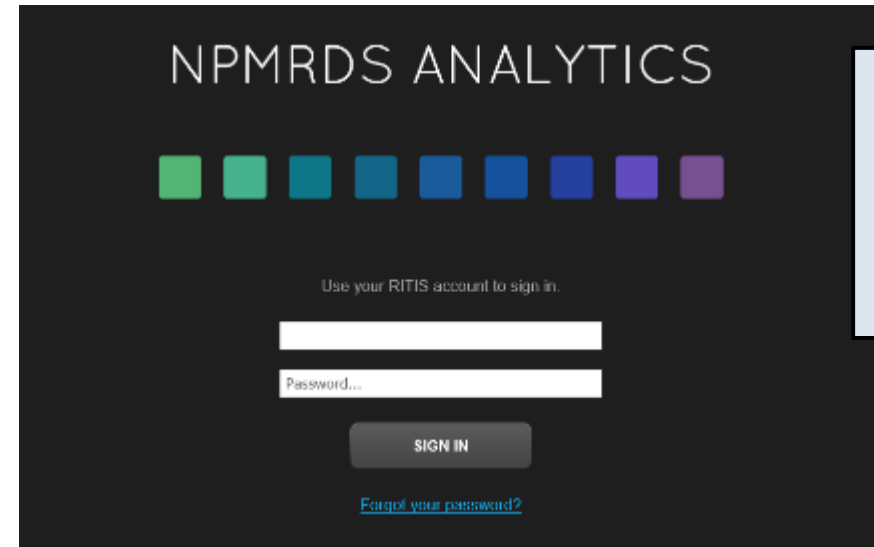
- Overview of Data Analytics Tool
- How to Gain Access to the Tool
- Features for Florida Users
- Data Downloader
- Help & Tutorials
- Contacts for further Support

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Overview of Data Analytics Tool

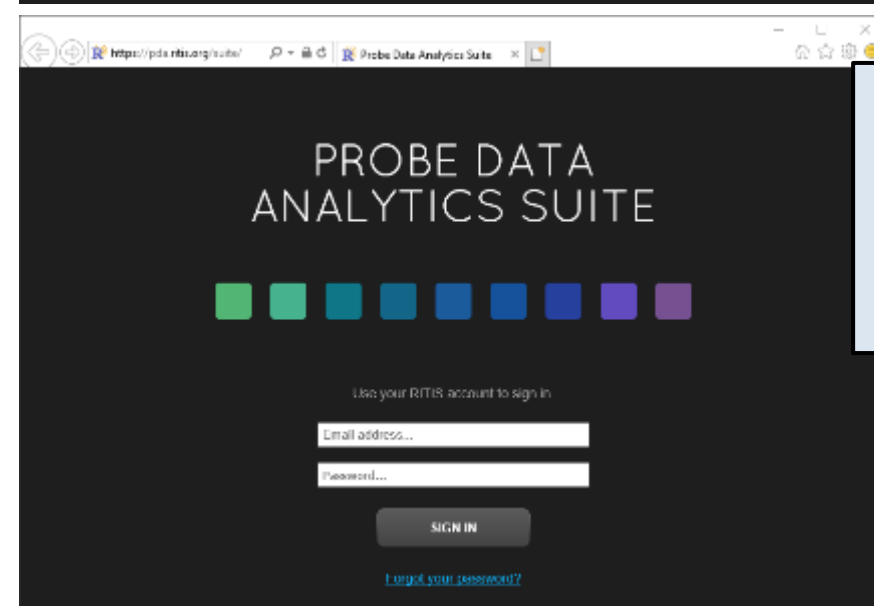
Overview of NPMRDS/Probe Data Analytics (PDA) Suite

- Advanced data analytics tool to conduct planning and traffic ops analyses
- RITIS NPMRDS Analytics provided through FHWA/AASHTO to support TPM-PM3
- RITIS PDA Suite provided through arrangement between RITIS and FDOT
- Access includes FDOT, MPOs, researchers, and contractors working on behalf of Florida Agencies
- For simplicity, this presentation will show the features of the PDA Suite



FHWA/AASHTO
through RITIS

advanced features
through Statewide
subscription



Florida Version
through RITIS

Advanced features
plus access to
add'l data sets

Main Screen of Probe Data Analytics Suite

The screenshot displays the main interface of the Probe Data Analytics Suite, featuring a grid of 14 tool cards. Each card includes an icon, a title, a brief description, and links for 'Tutorial', 'Help', and 'History'. A green 'What's New' badge is positioned in the top right corner, indicating a recent update on 7/12/22.

Tool Name	Description	Links
REGION EXPLORER	Explore the relationships between bottlenecks and traffic events in real-time and in the past.	Tutorial Help
MASSIVE DATA DOWNLOADER	Download raw probe data from our archive for offline analysis.	Tutorial Help History
CONGESTION SCAN	Analyze the rise and fall of congested conditions on a stretch of road.	Tutorial Help History
CORRIDOR TIME COMPARISON	View congestion metrics as a function of location on a road.	Help History
TREND MAP	Create animated maps of roadway conditions.	Tutorial Help History
PERFORMANCE CHARTS	Chart performance metrics over time.	Tutorial Help History
PERFORMANCE SUMMARIES	Report on Buffer Time Index, Planning Time Index, and other performance metrics.	Tutorial Help History
BOTTLENECK RANKING	Rank bottlenecks and discover which ones have the greatest impact.	Tutorial Help History
USER DELAY COST ANALYSIS	Put a dollar amount on how much a road's performance impacts its users.	Tutorial Help History
DASHBOARD	Create your own personal dashboards to monitor corridor performance in regions of interest.	Tutorial Help
TRAVEL TIME DELTA RANKING	Rank roads based on their change in travel time performance between two time periods.	Tutorial Help History
TRAVEL TIME COMPARISON	Chart travel times to compare performance for different time periods.	Tutorial Help History
TUTORIALS	Learn how to use each of the tools in the suite.	
REPORT TEMPLATES	Learn how to transform data from tools in our suite into professional storytelling reports, documents, and pamphlets.	

Network Coverage

- **NPMRDS** – FHWA-provided Travel Time Data Set established for Florida's TPM-PM3 purposes
 - Covers full extent of NHS in the US
 - INRIX (NPMRDSv2) Data: ≥ 2017
 - HERE (NPMRDSv1) Data: ≤ 2016
 - Processed Data, 15-min. increments
- **HERE** – Probe Data Set
 - Expanded network, beyond NHS for purposes other than PM3
 - Included because of FDOT's arrangement with HERE
 - Down to 1-minute increments
 - Near Real-Time

NPMRDS (NHS)



Entire NPMRDS TMC network beyond NPS is available through RITIS

HERE Probe Data



- Overview of Data Analytics Tool
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How to Gain Access

How to Gain Access to the Tool

1. Request a user account at

<https://www.ritis.org/register/>

(Your organization may need to sign a Data Sharing Agreement for FHWA NPMRDS through [RITIS](#))



For help here, contact support@ritis.org

How to Gain Access to the Tool

2. Non-FDOT users request access through FDOT Unified Basemap Repository

<https://ubr.fdot.gov>

(to use the PDA Suite with its additional data sets through FDOT)

FDOT keeps track of users of licensed data
UBR Admin contacts RITIS to activate user.

The screenshot shows the login page of the Unified Basemap Repository. It includes a navigation bar with links like 'FDOT Home', 'About FDOT', 'Contact Us', 'Offices', 'Maps & Data', 'Performance', and 'Projects'. Below the navigation bar, there are links for 'Featured Links', 'Basemaps', 'Login', and 'Help'. The main content area is titled 'Log In' and contains a 'Disclaimer' section. Below the disclaimer, there are input fields for 'Username:' (containing 'test@') and 'Password:'. A red arrow points to the 'Request Access' link, and a yellow arrow points to the 'Request Access' link with the text 'Request Access appears, click link'. There are also 'Submit' and 'Clear' buttons at the bottom.

The screenshot shows the 'Request Access' form on the Unified Basemap Repository website. The form is titled 'Request Access' and includes a disclaimer: 'The data available via the Unified Basemap Repository (UBR) is licensed data for State of Florida Government Entities and their contractors. In order to gain access to this data, please fill out and submit the following form.' The form contains several input fields: 'Contract Number:' (Project Contract #), 'Project Name:', 'Project Begin Date:', 'Project End Date:', 'FDOT Project Manager:' (Project Manager), 'District:' (Select One...), 'Applicant Company:' (Company or University), 'Applicant Name:', and 'Applicant Work Email:' (Applicant email (work only)). There are 'Submit' and 'Reset' buttons at the bottom. A red box highlights the 'FDOT Project Manager:' field, and a red arrow points to it with the text 'If not FDOT, please provide full email'.

For help here, contact christine.shafik@dot.state.fl.us

How to Gain Access to the Tool

3. Activate and Access your Account

NPMRDS Data Analytics Suite:

<https://npmrds.ritis.org>

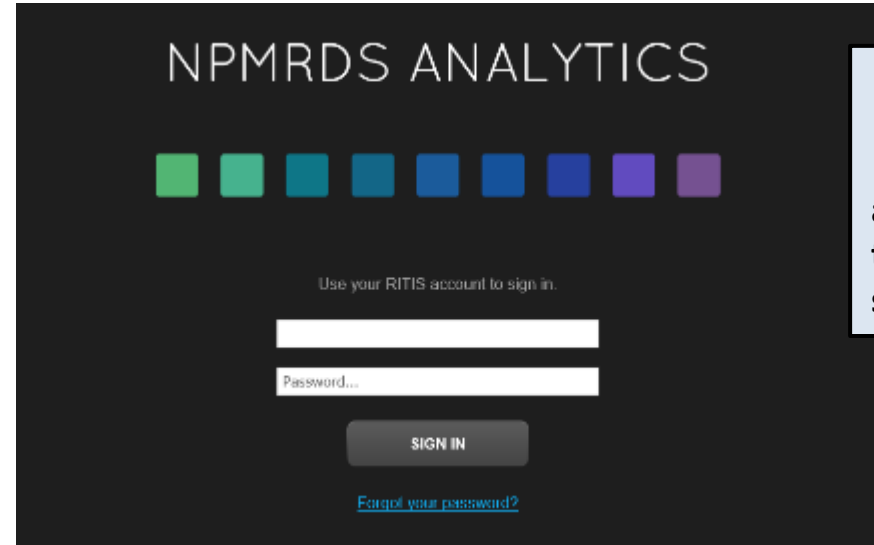
Probe Data Analytics (PDA) Suite:

<https://pda.ritis.org>

The NPMRDS Data Analytics Tool is provided through the AASHTO Pooled Fund Study, supported by FHWA.

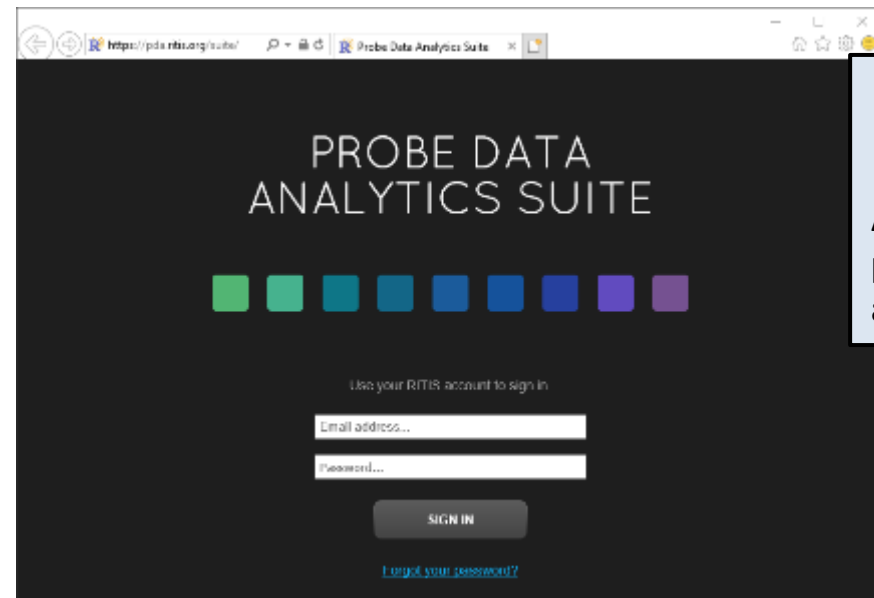
The PDA Analytics Suite includes NPMRDS Tools features plus additional features and access to multiple probe travel time data sets.

*For simplicity, information here will refer to the **PDA Suite**.*



FHWA/AASHTO
through RITIS

advanced features
through Statewide
subscription



Florida Version
through RITIS

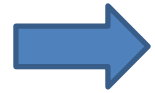
Advanced features
plus access to
add'l data sets

Contents

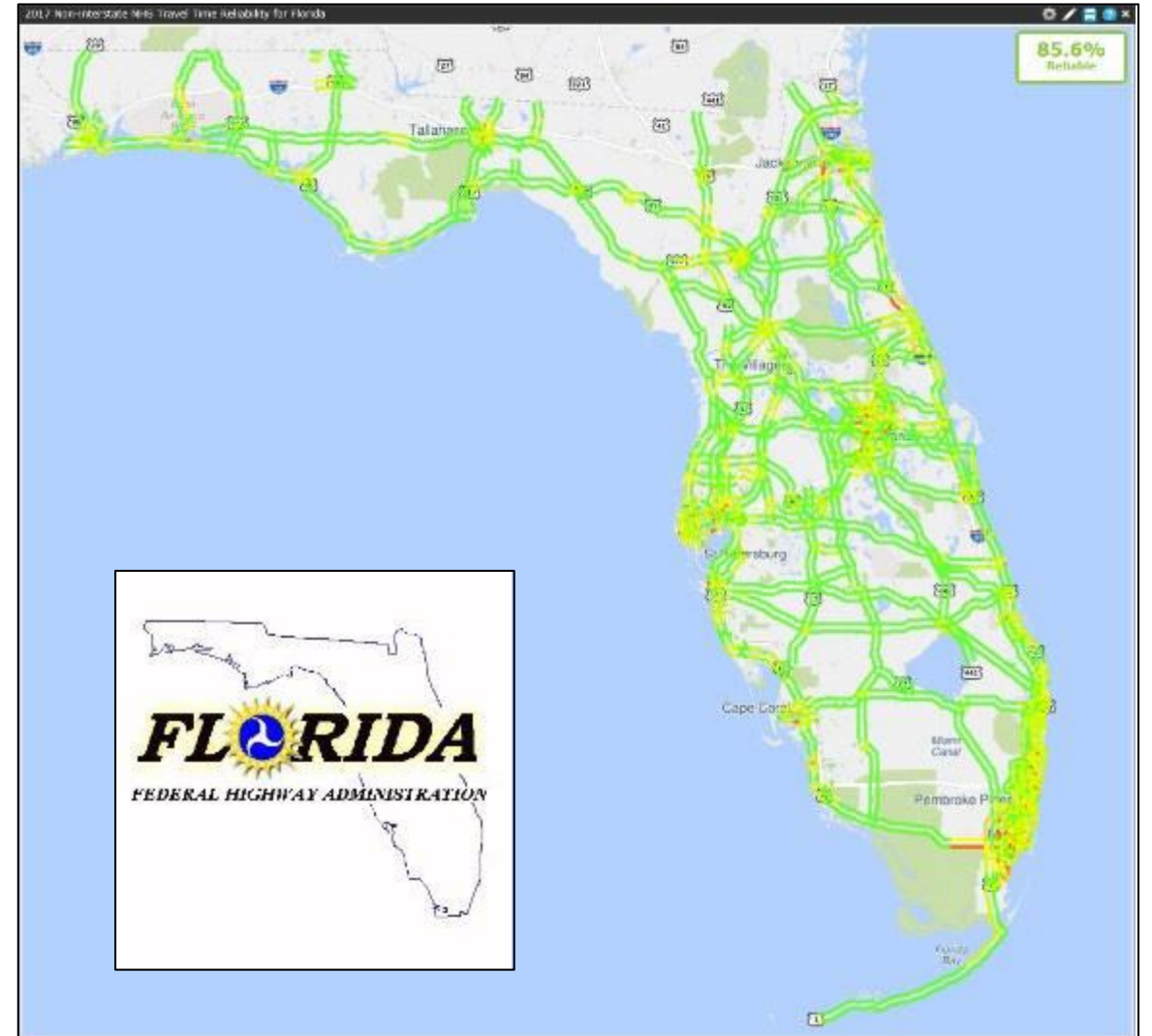
- Overview of Data Analytics Tool
- How to Gain Access to the Tool
- Features for Florida Users
- Data Downloader
- Help & Tutorials
- Contacts for further Support

Features for Florida Users

Features for Florida Users



- Dashboard
 - MAP-21/PM3 Metrics
 - Other Metrics
- Deep-Dive Analytics



2017 Non-Interstate NHS Travel Time Reliability

Dashboard

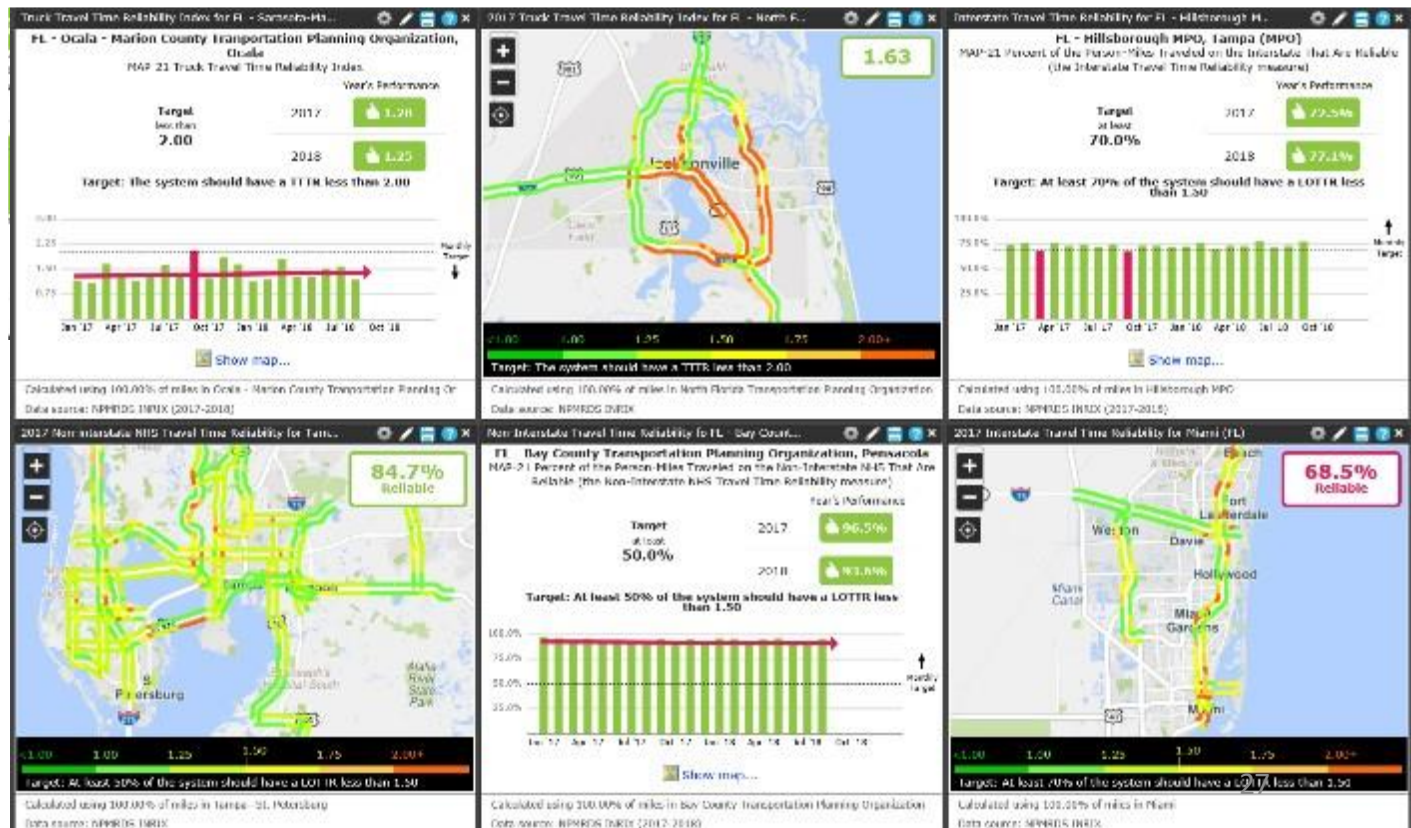
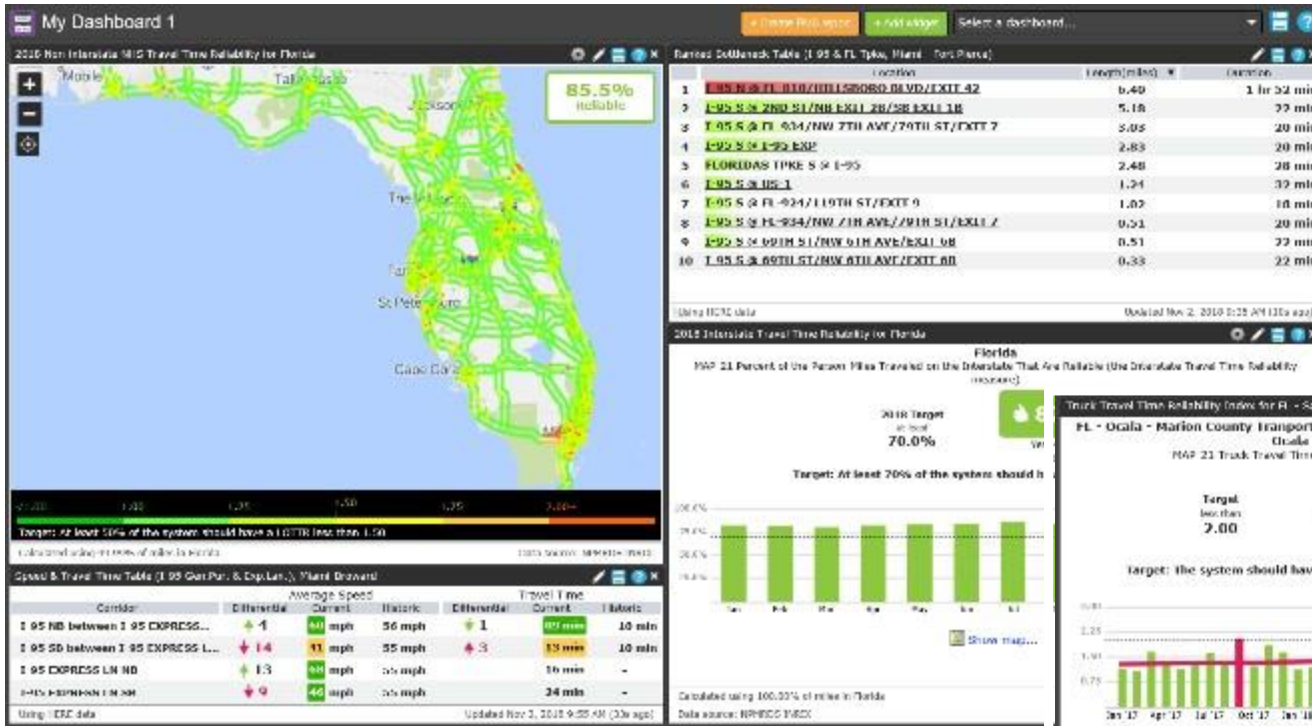


DASHBOARD

Create your own personal dashboards to monitor corridor performance in regions of interest.

[Tutorial](#) [Help](#)

Create multiple personalized Dashboards to monitor performance in areas of interest



Each Window within the Dashboard is called a "Widget"
Widgets refresh automatically as new data becomes available (monthly or up to the minute)

Dashboard – Add Widget

+ Add widget




DASHBOARD

Create your own personal dashboards to monitor corridor performance in regions of interest.

[Tutorial](#) [Help](#)


Add widget

Widget Types




Speed and Travel Time Table

Compare current and historical speed and travel time data along corridors of interest.




Ranked Bottleneck Table

Display a ranked list of bottlenecks for a selected geography.




Reliability Table

Compare current and historical reliability, displayed as Planning Time Index, along corridors of interest.




User Delay Cost Table

Display the monthly total vehicle hours of delay and delay costs on the region/corridors of interest.




Ranked Bottleneck Comparison

Create a ranked table of the worst bottlenecks this month and compare them against previous months this year.



Event Count

Compare the number of events by type over two rolling time periods.



Clearance Time

Slice and dice event clearance time statistics using several different visualizations



- Access to PM3 features, including the capabilities to compute and visualize PM3 Metrics as required by the TPM Rule
- An "Easy Button" functionality for FDOT to create the annual PM3 inputs required for FHWA HPMS
- Pre-set Geographic Area pull downs for Florida statewide, Florida MPAs, and Florida UZAs.
- Trend-line capabilities to help address target-setting requirements



TPM PM3 2018-2021 Performance Measures for Florida Geographic Locations

Here are each Metropolitan Area's Baseline Conditions and 2021 Targets for PM3 Measures as reported to FDOT. Every MPO decided to support FDOT's statewide target for the next 4 years.

Metropolitan Planning Area (MPA)	Main City	%Interstate Reliable		%NHS Non-Int Reliable		Truck Travel Time Index	
		Baseline	Target	Baseline	Target	Baseline	Target
Bay County TPO	Panama City	N/A	N/A	96.5	50.0*	N/A	N/A
Broward MPO	Fort Lauderdale	67.0	70.0*	81.9	50.0*	1.64	2.00*
Capital Region TPA	Tallahassee	100.0	70.0*	88.8	50.0*	1.08	2.00*
Charlotte County-Punta Gorda MPO	Port Charlotte	100.0	70.0*	96.5	50.0*	1.13	2.00*
Collier MPO	Naples	100.0	70.0*	97.0	50.0*	1.12	2.00*
Florida-Alabama TPO	Pensacola	100.0	70.0*	92.8	50.0*	1.18	2.00*
Gainesville MTPO	Gainesville	100.0	70.0*	81.1	50.0*	1.08	2.00*
Heartland Regional TPO	Sebring	N/A	N/A	99.5	50.0*	N/A	N/A
Hernando/Citrus MPO	Brooksville	100.0	70.0*	96.7	50.0*	1.10	2.00*
Hillsborough MPO	Tampa	72.5	70.0*	82.8	50.0*	1.88	2.00*
Indian River County MPO	Vero Beach	100.0	70.0*	95.5	50.0*	1.07	2.00*
Lake-Sumter MPO	Leesburg/Lady Lake	100.0	70.0*	98.7	50.0*	1.25	2.00*
Lee County MPO	Fort Myers/Cape Coral	100.0	70.0*	89.9	50.0*	1.25	2.00*
Martin MPO	Stuart	100.0	70.0*	97.9	50.0*	1.12	2.00*
MetroPlan Orlando	Orlando	53.4	70.0*	85.6	50.0*	2.54	2.00*
Miami-Dade TPO	Miami	56.8	70.0*	59.6	50.0*	2.98	2.00*
North Florida TPO	Jacksonville	79.5	70.0*	86.8	50.0*	1.63	2.00*
Ocala/Marion County TPO	Ocala	100.0	70.0*	96.4	50.0*	1.28	2.00*
Okaloosa-Walton TPO	Fort Walton	100.0	70.0*	92.8	50.0*	1.08	2.00*
Palm Beach TPA	West Palm Beach	85.4	70.0*	91.0	50.0*	1.63	2.00*
Pasco County MPO	New Port Richey	100.0	70.0*	91.9	50.0*	1.17	2.00*
Pinellas County MPO/Forward Pinellas	Clearwater	84.5	70.0*	86.4	50.0*	1.80	2.00*
Polk TPO	Bartow	93.5	70.0*	98.3	50.0*	1.51	2.00*
River to Sea TPO	Daytona Beach	100.0	70.0*	88.2	50.0*	1.20	2.00*
Sarasota/Manatee MPO	Sarasota	93.1	70.0*	92.5	50.0*	1.39	2.00*
Space Coast TPO	Melbourne	100.0	70.0*	92.2	50.0*	1.07	2.00*
St. Lucie TPO	Fort Pierce/Port St. Lucie	100.0	70.0*	96.5	50.0*	1.11	2.00*
STATEWIDE	Florida	82.2	70.0	85.6	50.0	1.43	2.00

*Agrees to plan and program projects so that they contribute toward the accomplishment of the respective FDOT target.

Urbanized Area (UZA)	Main City	PHED per Capita [^] (Hours)	% Segments without Speed Limit Info. ^{^^}	Completeness (High, Mod., Low, Poor)
Jacksonville	Jacksonville	7.3	48.4	Poor
Miami-Fort Lauderdale-West Palm Beach	Miami	12.8	56.1	Low
Orlando-Kissimmee-Sanford	Orlando	11.6	47.3	Poor
Tampa-St. Petersburg-Clearwater	Tampa	9.2	49.8	Poor

[^]PHED Measure currently not required for any Florida area. ^{^^}FDOT is encouraged to report the Posted Speed Limits for the NHS via HPMS.

For TPM – PM3 information...

The screenshot shows the FHWA Florida Division website. At the top, there is a navigation bar with links for 'About', 'Programs', 'Resources', 'Briefing Room', and 'Contact'. Below this is a search bar labeled 'Search Florida'. The main content area is titled 'Transportation Performance Management (TPM)' and includes a list of links for 'FDOT Specific' and 'MPO Specific' information. A sidebar on the left contains a menu with items like 'Home', 'About Us', 'Staff Directory', and 'Transportation Performance Management (TPM)'. The page footer indicates it was last modified on November 2, 2018.

Go to FHWA Florida Division TPM Page

Includes presentation on PM3 Basics, and links to FHWA TPM resources

The presentation slide features a title 'Transportation Performance Management National Highway Performance Program (NHPP) National Highway Freight Program (NFPP) "PM3" Measuring System Performance' in bold, italicized text. Below the title, it is dated 'January, 2018' and attributed to 'FHWA Florida Division'. The slide includes a graphic with three overlapping circles in purple, blue, and orange, connected by a network of lines and nodes. The FHWA logo is visible in the bottom left corner of the slide.



DASHBOARD

Create your own personal dashboards to monitor corridor performance in regions of interest.

[Tutorial](#) [Help](#)

MAP-21

Our MAP-21 tools are fully up to date with the final MAP-21 ruling. Learn about them in our [tutorials](#).

1. Select geography:

- State: Florida
- MPAs: FL - Lee County MPO, Fort Myers
- UZAs: Tampa--St. Petersburg (FL)

2. Select measures:

- Percent of the Person-Miles Traveled on the Interstate That Are Reliable (the Interstate Travel Time Reliability measure)
Set target to at least: 70%
- Percent of the Person-Miles Traveled on the Non-Interstate NHS That Are Reliable (the Non-Interstate NHS Travel Time Reliability measure)
Set target to at least: 50%
- Truck Travel Time Reliability Index
Set target to less than: 2.00
- Annual Hours of Peak Hour Excessive Delay Per Capita
Set target to less than: 15.0h
State DOTs and MPOs may choose from two different evening peak periods. Please choose one.
 3pm - 7pm
 4pm - 8pm
[Provide and use your own volume data here](#)

3. Select one or more years:

2018

4. Show data as:

- Graph
- Map

Create Widgets for PM3 Measures and Targets:

- Interstate Travel Time Reliability
- Non-Interstate NHS Travel Time Reliability
- Truck Travel Time Reliability Index
- Annual Hours of Peak Hour Excessive Delay per Capita*

**Available to Florida users even though not currently required by FHWA*

MAP-21

Our MAP-21 tools are fully up to date with the final MAP-21 ruling. Learn about them in our [tutorials](#).

1. Select geography:

- State: Type state name or select from list...
- MPAs: [Empty]
- UZAs: [Empty]

2. Select measures:

- Percent of the Person-Miles Traveled on the Interstate That Are Reliable (the Interstate Travel Time Reliability measure)
Set target to at least: 70%
- Percent of the Person-Miles Traveled on the Non-Interstate NHS That Are Reliable (the Non-Interstate NHS Travel Time Reliability measure)
Set target to at least: 50%
- Truck Travel Time Reliability Index
Set target to less than: 2.00

Ex. Florida Metropolitan Planning Areas

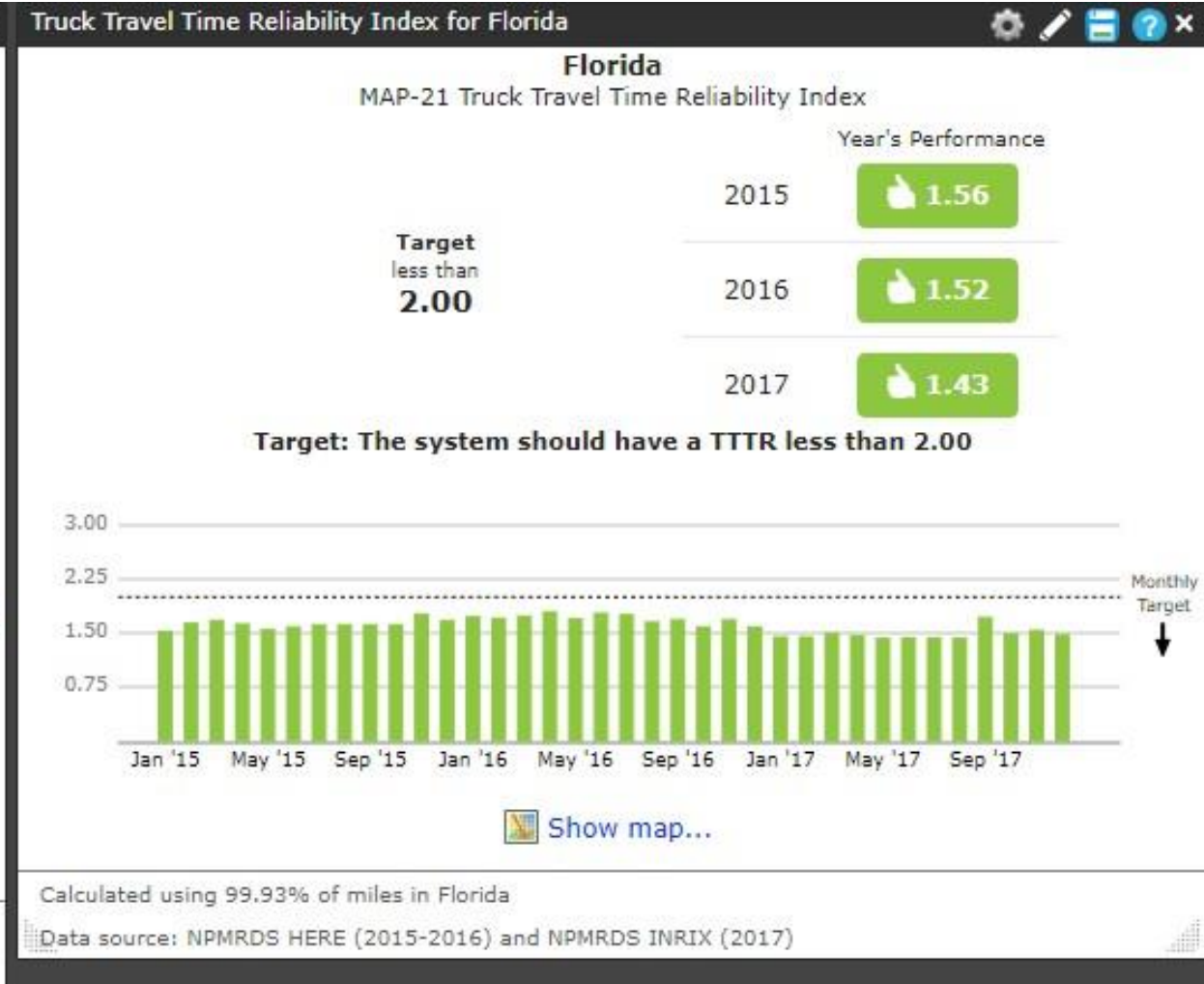
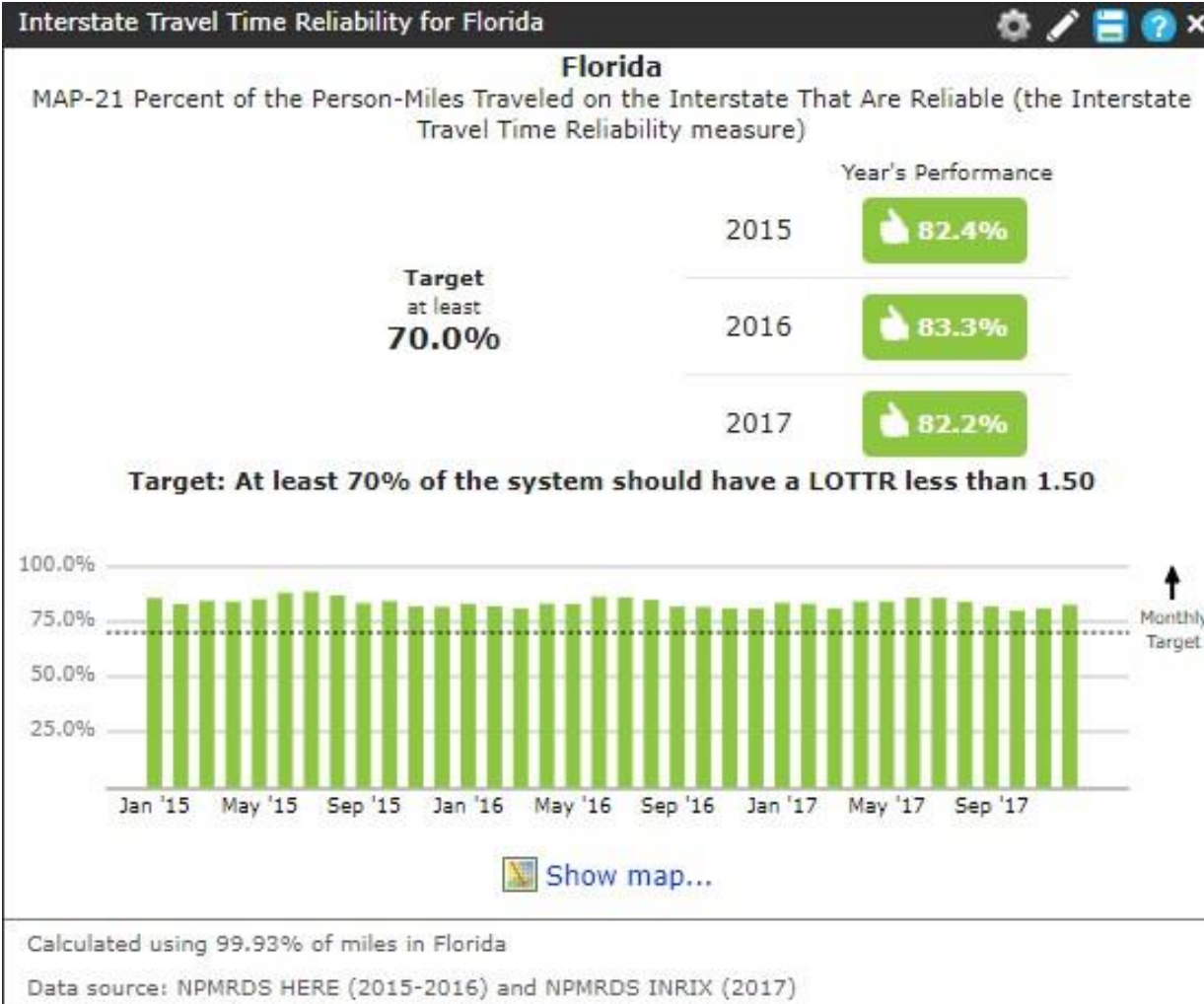
Dashboard – MAP-21 (Examples)



DASHBOARD

Create your own personal dashboards to monitor corridor performance in regions of interest.

[Tutorial](#) [Help](#)



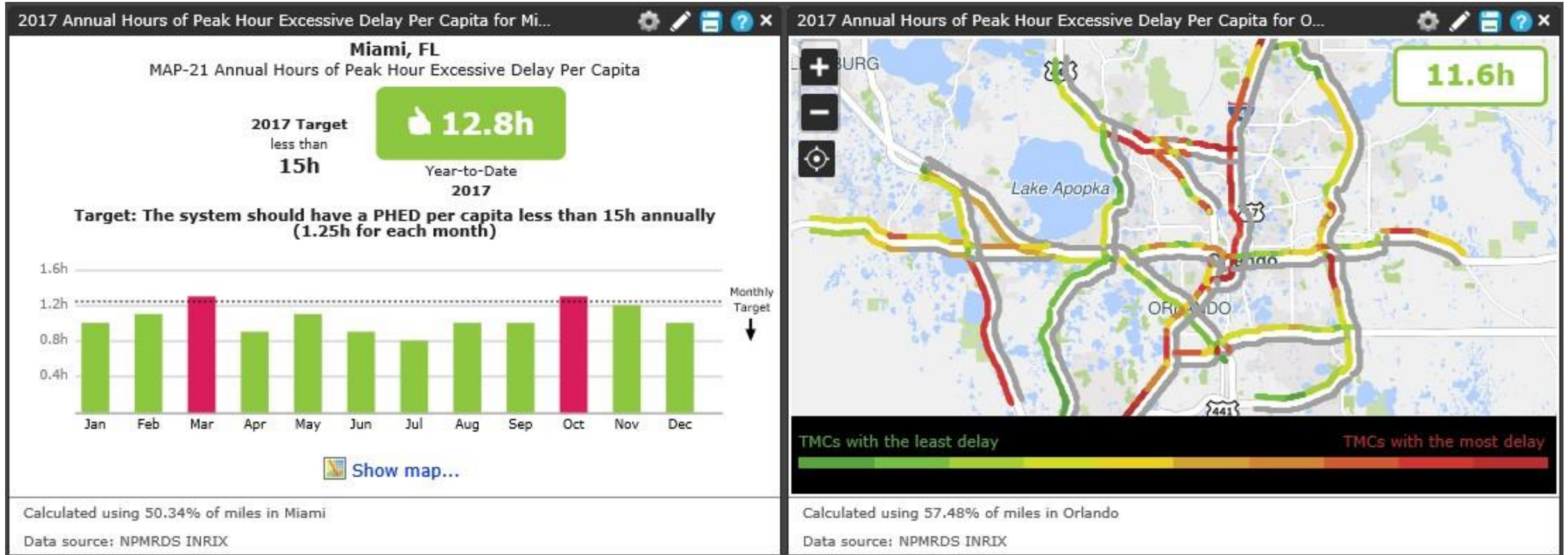
Dashboard – MAP-21 (Examples)



DASHBOARD
Create your own personal dashboards to monitor corridor performance in regions of interest.

[Tutorial](#) [Help](#)

Annual Hours of Peak Hour Excessive Delay per Capita



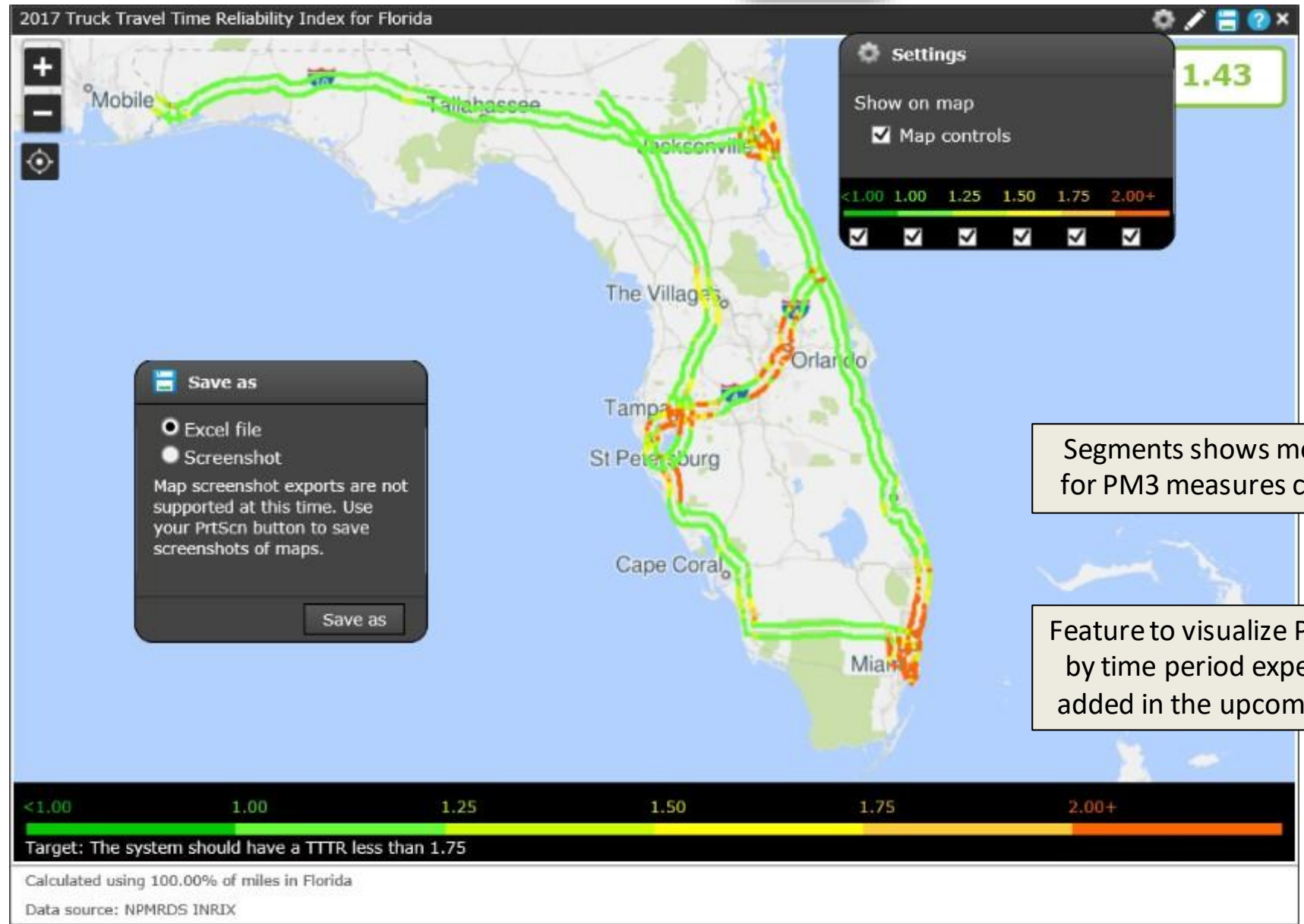
FDOT is encouraged to report the Posted Speed Limits for the full extent of the NHS via HPMS. Tool will still generate the measures based on available data.

Dashboard – MAP-21 (Examples)



DASHBOARD
Create your own personal dashboards to monitor corridor performance in regions of interest.

[Tutorial](#) [Help](#)



Segments shows metrics used for PM3 measures calculations

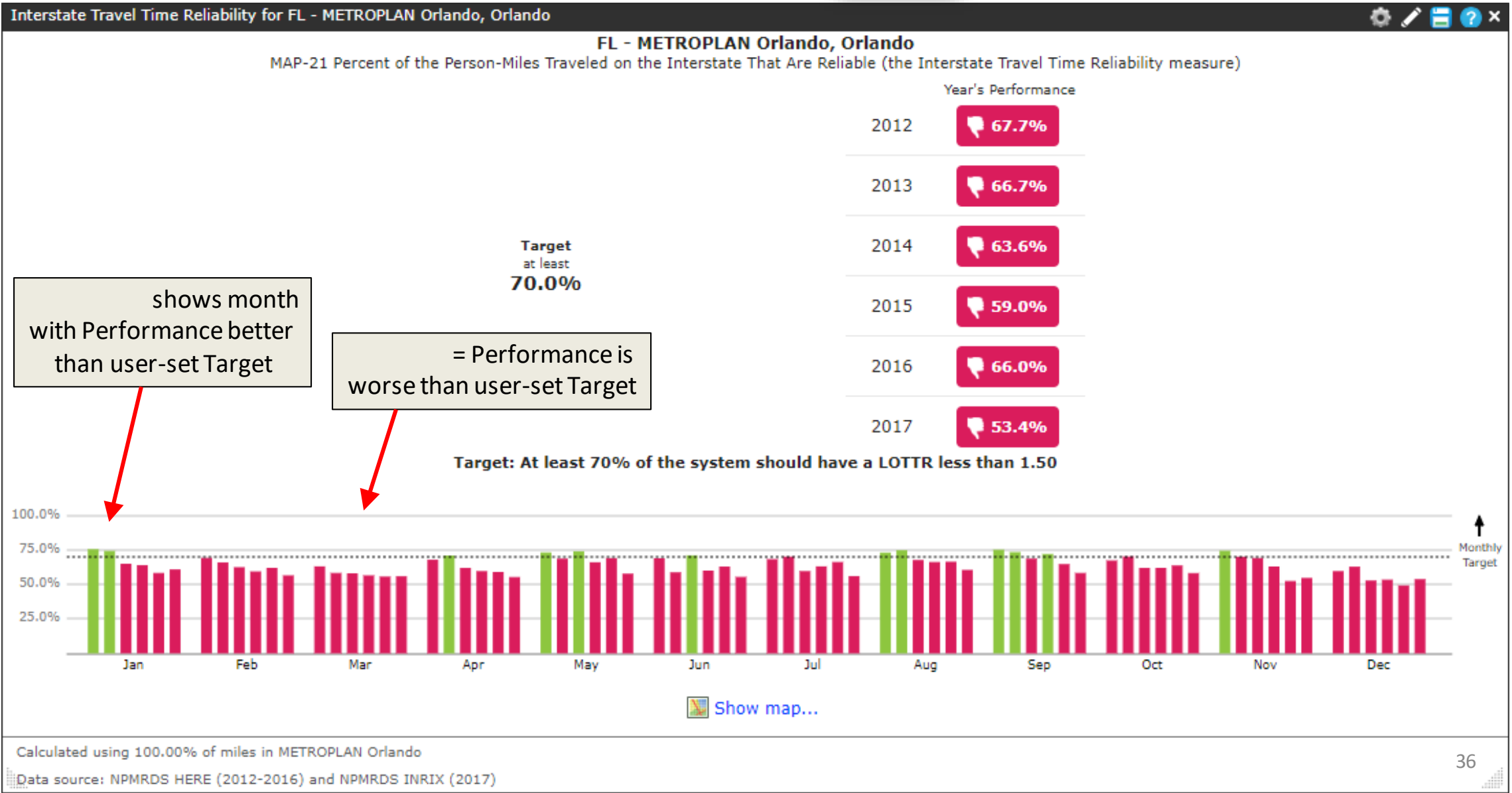
Feature to visualize PM3 metrics by time period expected to be added in the upcoming months

Dashboard – MAP-21 (Examples)



DASHBOARD
 Create your own personal dashboards to monitor corridor performance in regions of interest.

[Tutorial](#) [Help](#)



Dashboard – MAP-21 (Examples)

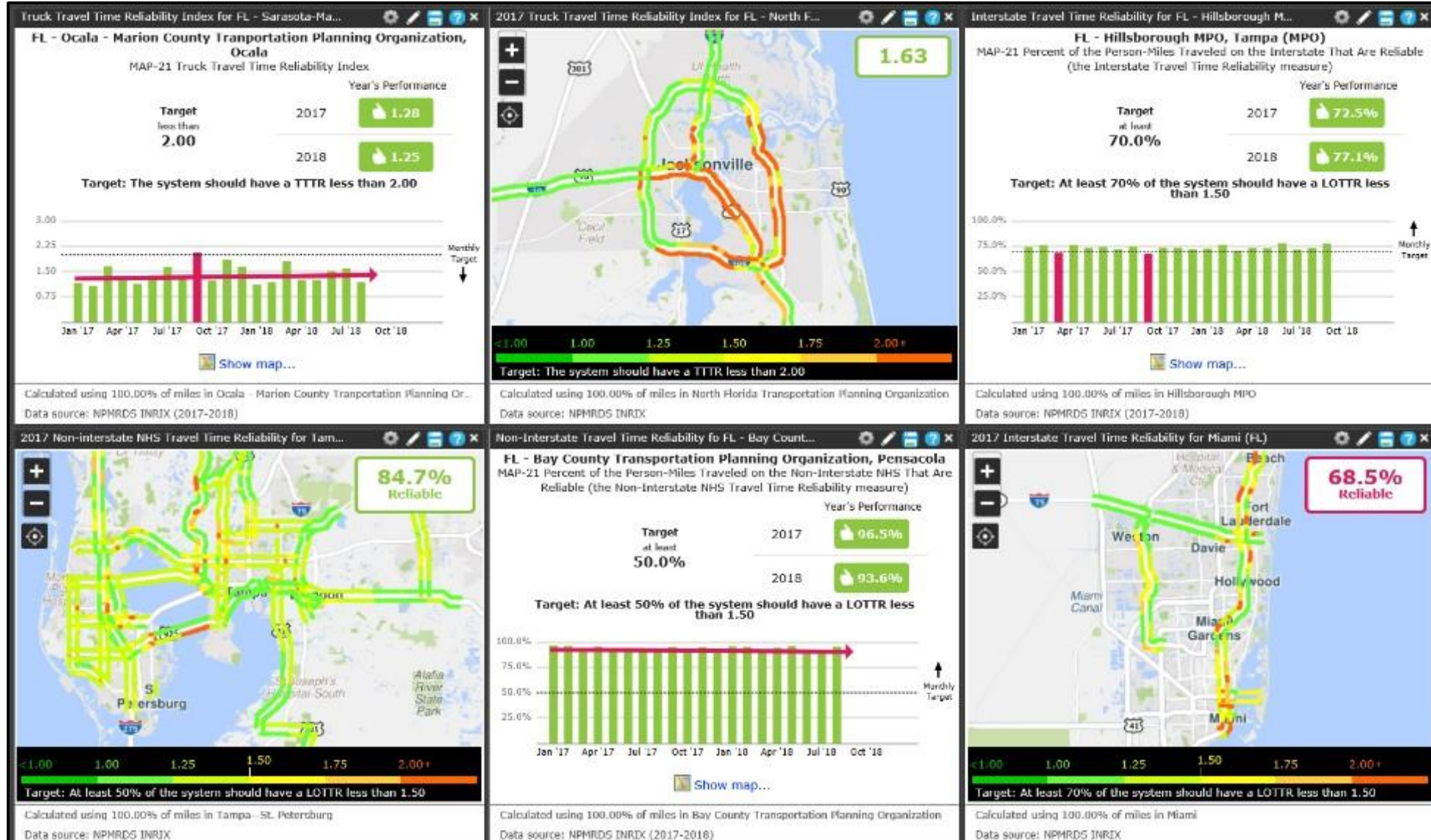


DASHBOARD

Create your own personal dashboards to monitor corridor performance in regions of interest.

[Tutorial](#) [Help](#)

Widgets can be arranged and resized to user preference



Dashboard – PM3 Report

+ Create PM3 report



DASHBOARD

Create your own personal dashboards to monitor corridor performance in regions of interest.

[Tutorial](#) [Help](#)

PM3 Metrics for HPMS Reporting and Documentation

Create PM3 Report

Our MAP-21 tools are fully up to date with the final MAP-21 ruling. Learn about them in our [tutorials](#).

1. Select geography:

- State:
- MPAs:
- UZAs:

We have speed limit data for 47.55% of TMCs for your selected geography. You may still generate a report, but it will be incomplete. To provide speed limit data, please follow the procedure described [here](#) or contact us at intake@ntis.org.

2. Select one or more years:

2017

Your selected time periods:

3. Evening peak period:

For the calculation of Annual Hours of Peak Hour Excessive Delay Per Capita, state DOTs and MPOs may choose from two different evening peak periods. Please choose one.

- 3pm - 7pm
- 4pm - 8pm

Creates Downloadable Data Spreadsheet (.csv) for HPMS submission



DASHBOARD

Create your own personal dashboards to monitor corridor performance in regions of interest.

[Tutorial](#) [Help](#)

- Access to other features, including monitoring speed and travel time for corridors, and list of bottlenecks for a region or corridor
- Data is provided by HERE in real-time; updates every minute
- Additional features for performance comparison, reliability charts, and incidents & events will be added in the near future

Dashboard – Speed and Travel Time



DASHBOARD
Create your own personal dashboards to monitor corridor performance in regions of interest.

[Tutorial](#) [Help](#)

Interface for Creating this Widget:



Speed and Travel Time Table

1. Select one or more corridors.

Road Saved TMC Set [Advanced](#)

HERE Search in Florida...

Your selected roads [Remove all](#)

- I-95 Northbound
- I-95 Southbound
- I-95 EXPRESS LN Northbound
- I-95 EXPRESS LN Southbound
- SR-826 Northbound
- SR-826 Southbound

[Save as TMC set](#)

2. Select one or more columns:

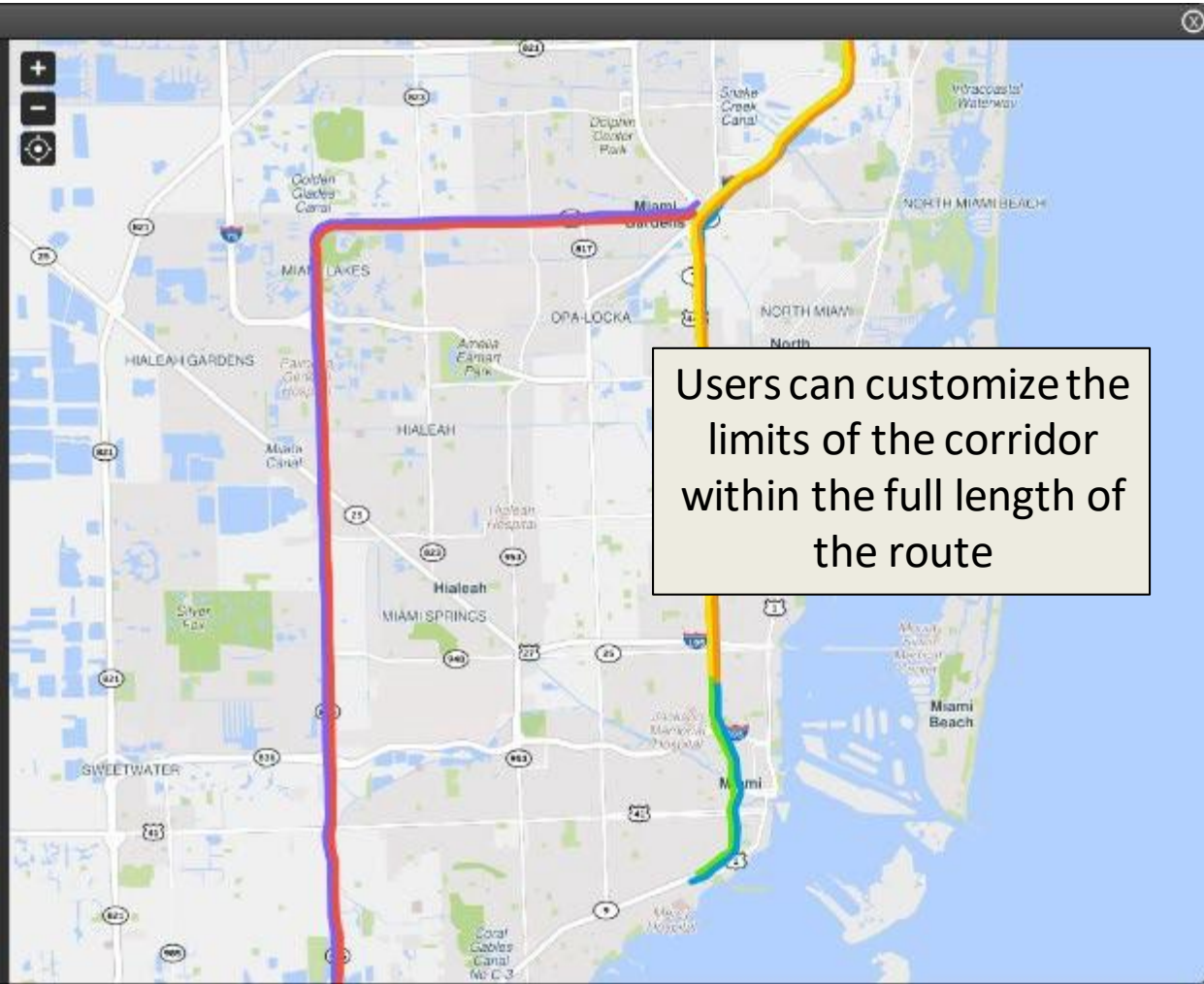
- Average Speed Travel Time
- Current Current
- Historic Historic
- Differential Differential

3. Select data source:

- HERE
- INRIX
- TomTom

4. Name speed and travel time table(s)

[SAVE WIDGET](#)



Users can customize the limits of the corridor within the full length of the route

Widget:


Corridor	Average Speed			Travel Time		
	Differential	Current	Historic	Differential	Current	Historic
I-95 NB	↑ 5	58 mph	53 mph	↓ 1	07 min	08 min
I-95 SB	↓ 19	34 mph	53 mph	↑ 5	14 min	09 min
I-95 EXPRESS LN NB	↑ 7	61 mph	54 mph	-	11 min	-
I-95 EXPRESS LN SB	↓ 9	44 mph	53 mph	-	15 min	-
SR-826 NB	↓ 2	51 mph	53 mph	↑ 1	13 min	12 min
SR-826 SB	↓ 13	40 mph	53 mph	↑ 3	15 min	12 min

Using HERE data Updated Sep 27, 2018 9:52 AM (20s ago)

← Real-Time (Updates Every Minute)

Dashboard – Ranked Bottleneck





DASHBOARD
Create your own personal dashboards to monitor corridor performance in regions of interest.

[Tutorial](#) [Help](#)

Interface for Creating this Widget:



Ranked Bottleneck Table

Widget:

1. Select roads:

TMC segments from **HERE**

Road Region Segment codes Map Saved [Advanced](#)

Search in Florida

Your selected roads [Remove all](#)

Directions:
 Eastbound Westbound
 Interchanges: 75
 Entire Partial
 264 miles of roadway selected (296 TMC codes)
 Segments from **HERE** [Report a problem with this road](#)
[Save as segment set](#)

2. Add columns:
 State Length Duration

3. Select data source:
 HERE
 INRIX
 TomTom

4. Display the **8** **longest bottlenecks**

Ranked Bottleneck Table (I-4), Tampa-Orlando-Daytona Beach

	Location	Length(miles)	Duration
1	I-4 W @ FL-414/MAITLAND BLVD/EXIT 47	8.77	21 min
2	I-4 W @ MCINTOSH RD	8.06	46 min
3	I-4 E @ FL-557/EXIT 22	6.92	41 min
4	I-4 W @ COUNTY LINE RD/EXIT 15	2.76	1 hr 10 min
5	I-4 W @ I-275	2.54	37 min
6	I-4 W @ DEBARY AVE/DEBARY DR/EXIT 53	2.24	36 min
7	I-4 W @ FL-574/E DR MARTIN LUTHER KING JR BLVD/EXIT 4	1.57	16 min
8	I-4 E @ CONROY RD	1.09	15 min

Using HERE data Updated Nov 5, 2018 7:31 AM (5s ago)

Dashboard – Ranked Bottleneck

#1

#1 Bottleneck Ranking - Using HERE data

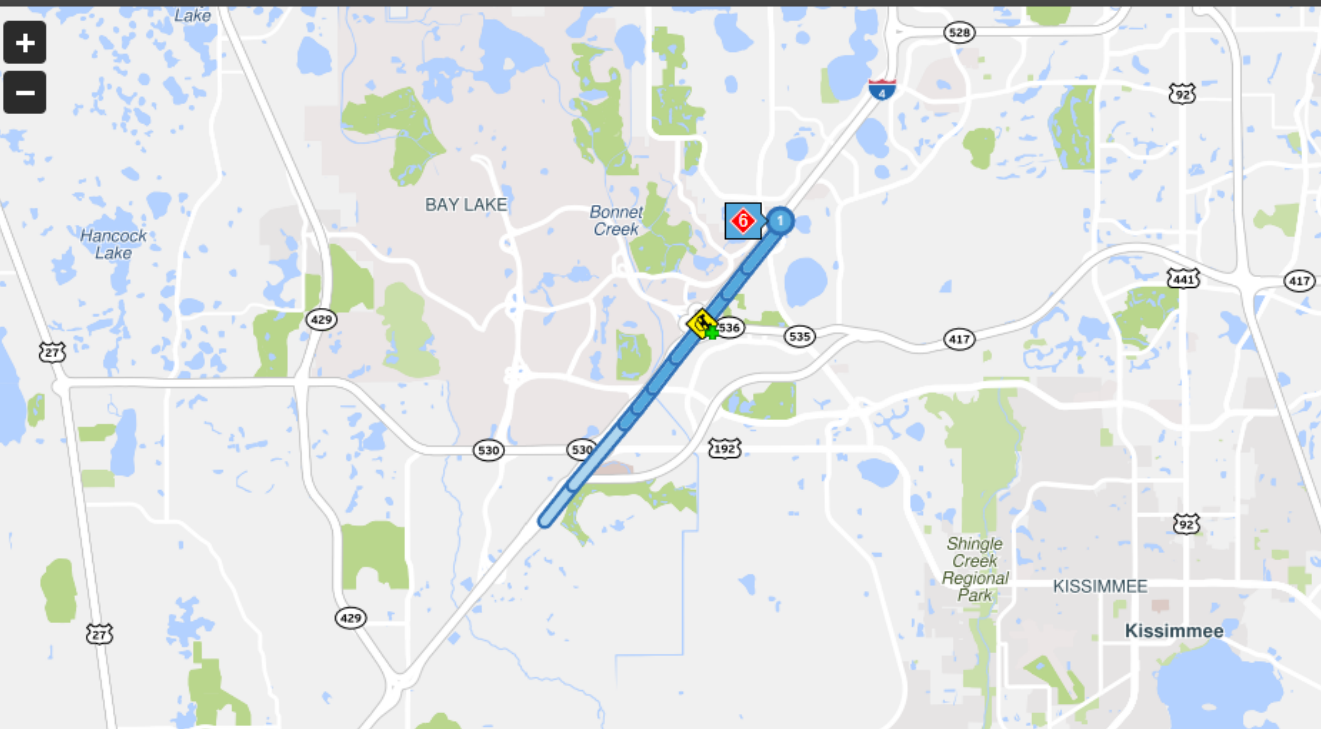
Bottleneck Ranking for I-4 between July 18, 2022 and July 22, 2022 displayed in segment-local timezones (105 total)

+ Add Visualization Dis

Rank	Map	Head Location	Bottleneck Profile			Influence		Base Impact Weighted By			
			Average Max Length	Average Daily Duration	Total Duration	Agency-Reported Events	Base Impact	Speed Differential	Congestion	Total Delay	
1	<input type="checkbox"/>	I-4 E @ SR-535/EXIT 68	3.67	11 h 15 m	2 d 8 h 18 m	6	11,392	503,328	27,444	37,688,710	
2	<input type="checkbox"/>	I-4 E @ SR-429-TOLL/EXIT 60	7.32	5 h 2 m	1 d 1 h 12 m	41	11,545	478,985	23,296	21,269,982	
3	<input type="checkbox"/>	I-4 E @ CR-532/EXIT 58	8.07	7 h 39 m	1 d 14 h 19 m	17	15,488	651,153	27,235	21,010,016	
4	<input type="checkbox"/>	I-4 W @ CENTRAL FLORIDA PKWY/EXIT 71	3.04	8 h 43 m	1 d 19 h 36 m	8	6,623	243,844	11,712	17,211,940	
5	<input type="checkbox"/>	I-4 W @ SR-429-TOLL/EXIT 60	4.42	5 h 14 m	1 d 2 h 10 m	41	7,038	315,832	17,007	16,782,231	
6	<input type="checkbox"/>	I-4 W @ CR-532/EXIT 58	5.4	3 h 38 m	18 h 12 m	43	4,842	198,904	9,538	9,382,235	

Map I-4 E @ SR-535/EXIT 68

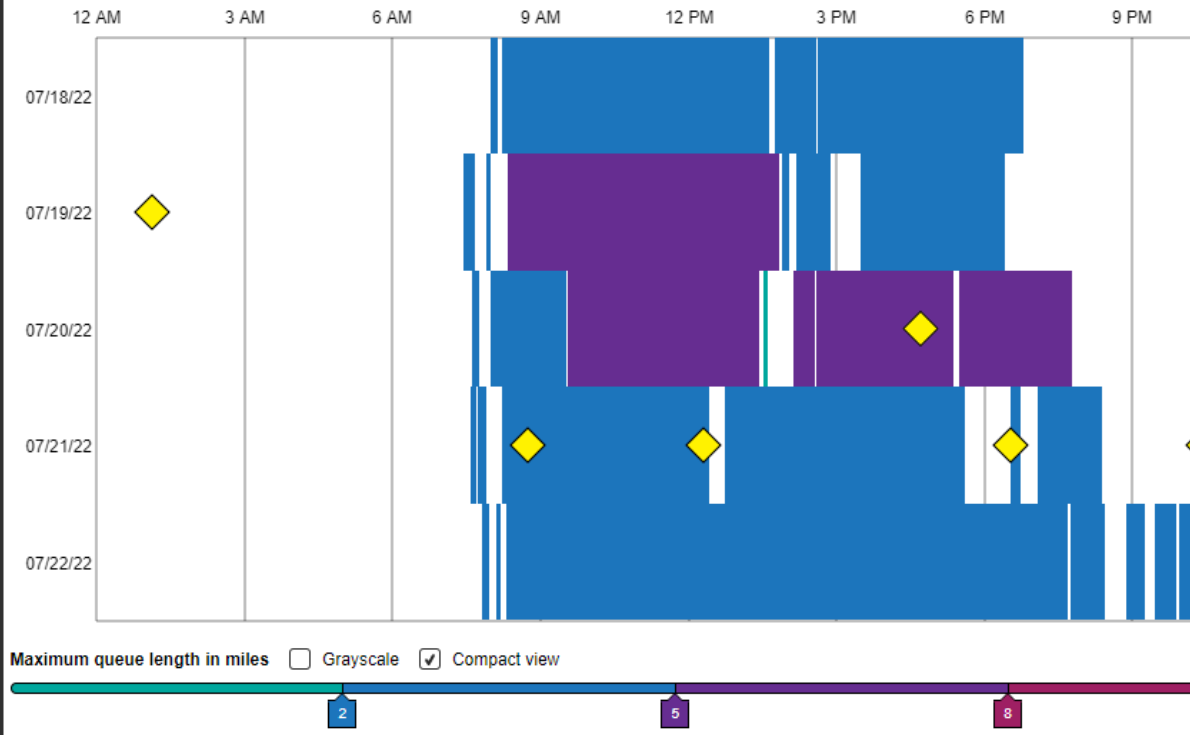
Display Options



Selected Location Location head Queue (at max length) Number of Incidents

Timeline I-4 E @ SR-535/EXIT 68

Display



Dashboard – Ranked Bottleneck

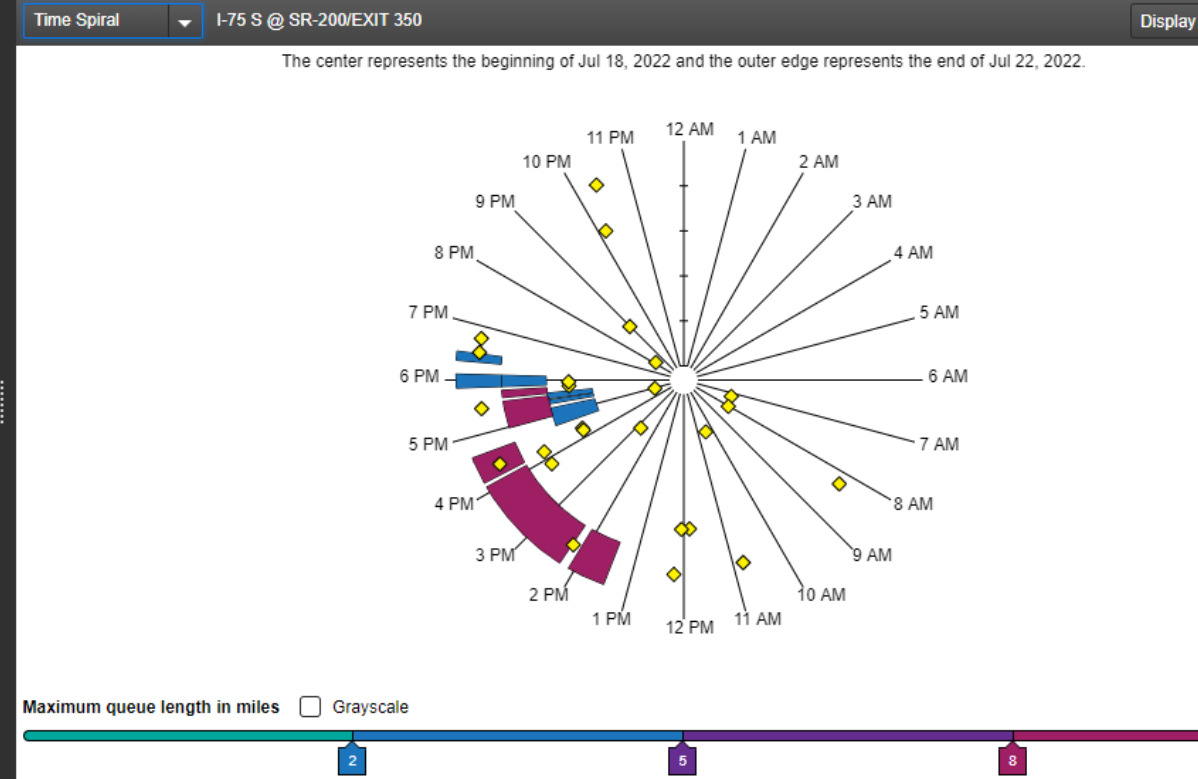
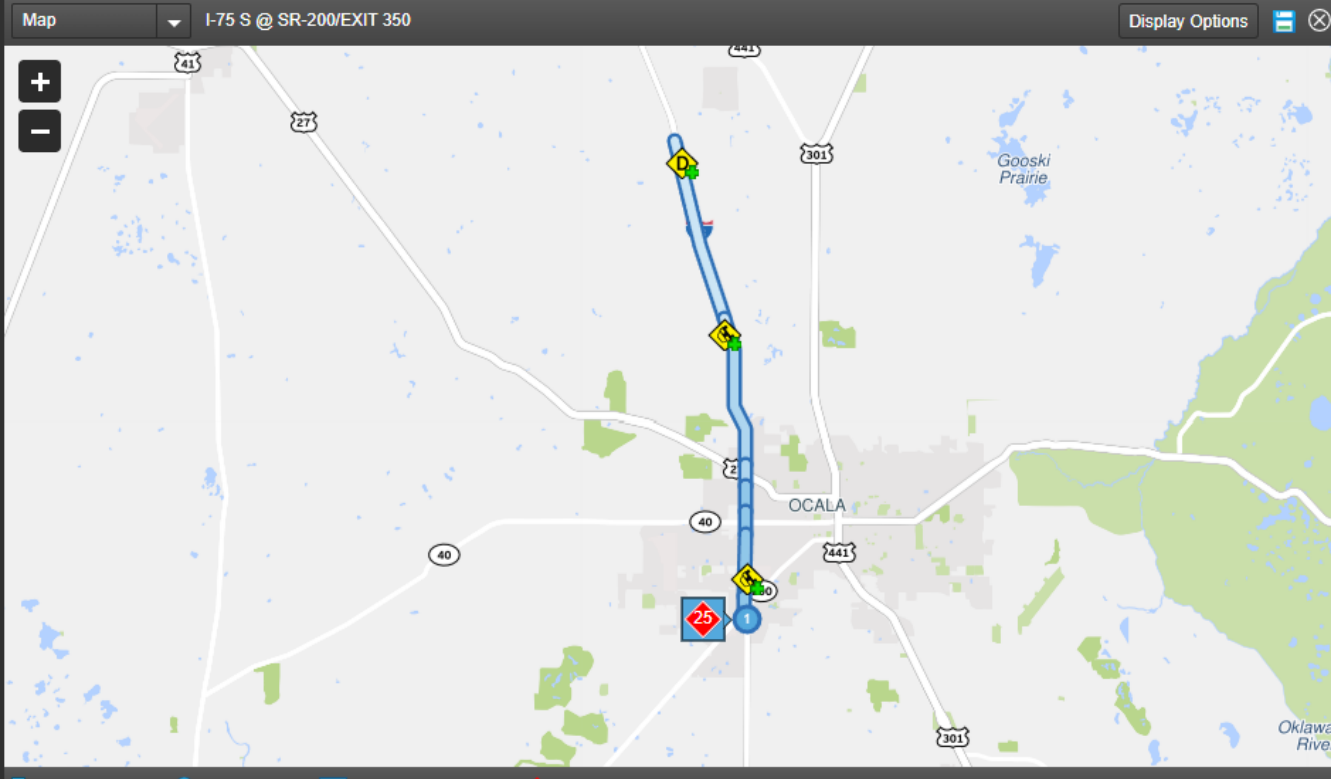
#1

#1 Bottleneck Ranking - Using HERE data

Bottleneck Ranking for I-75 between CR-318/Exit 368 and Florida's Tpke/Exit 328 between July 18, 2022 and July 22, 2022 displayed in segment-local timezones (15 total)

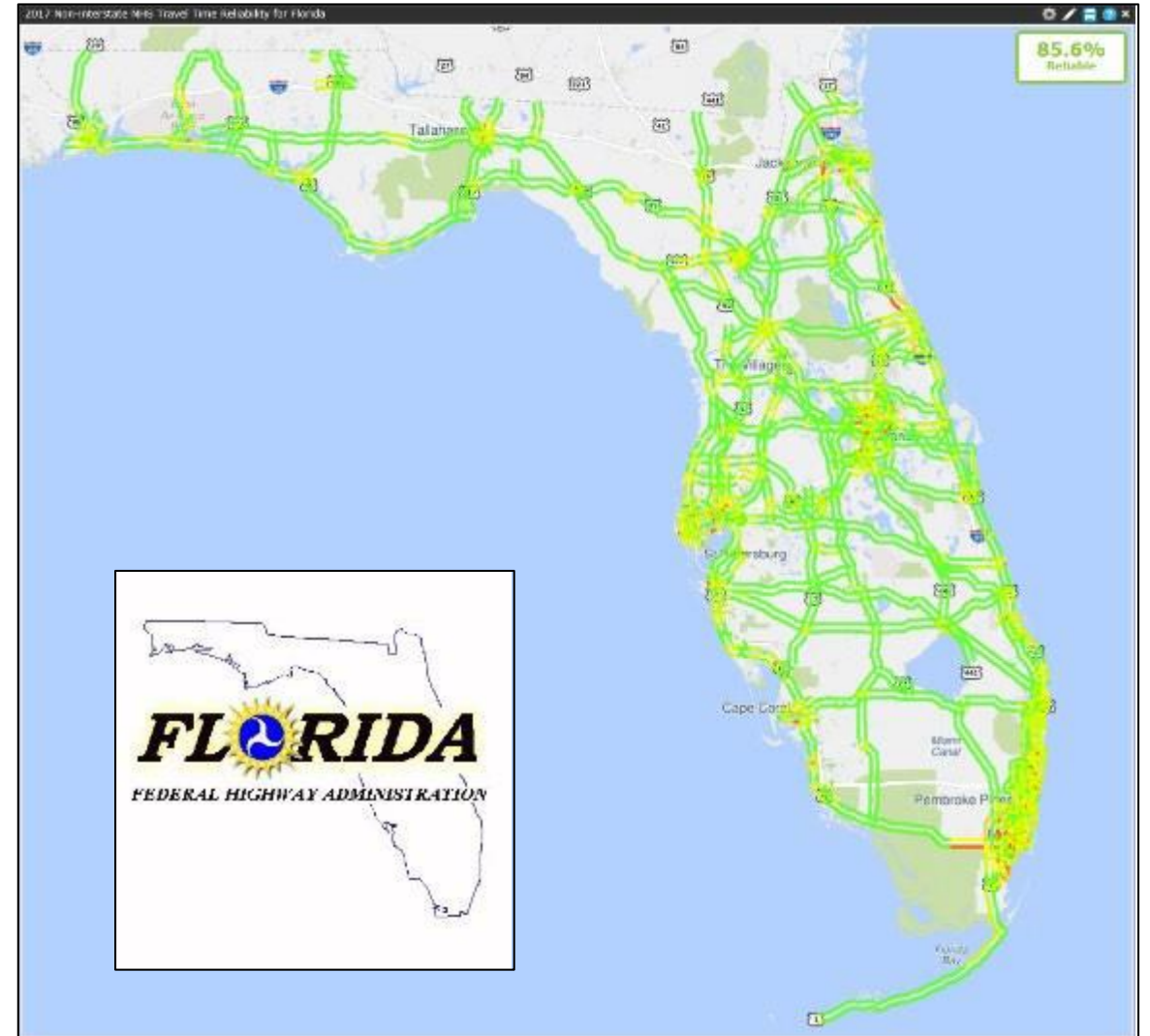
+ Add Visualization Display

Rank	Map	Head Location	Bottleneck Profile			Influence		Base Impact Weighted By				
			Average Max Length	Average Daily Duration	Total Duration	Agency-Reported Events	Base Impact	Speed Differential	Congestion	Total Delay		
1	<input type="checkbox"/>	I-75 S @ SR-200/EXIT 350	6.94	1 h	5 h 2 m	26	1,813	75,035	3,000	1,523,107		
2	<input type="checkbox"/>	I-75 S @ CR-484/EXIT 341	13.36	18 m	1 h 33 m	44	1,088	41,437	1,527	784,369		
3	<input type="checkbox"/>	I-75 N @ SUMTER/MARION COUNTY LINE	6.99	24 m	2 h	24	812	31,692	1,220	581,997		
4	<input type="checkbox"/>	I-75 N @ CR-484/EXIT 341	12.12	16 m	1 h 20 m	45	616	22,848	823	362,741		
5	<input type="checkbox"/>	I-75 N @ SR-200/EXIT 350	15.23	8 m	40 m	67	574	19,107	675	289,013		
6	<input type="checkbox"/>	I-75 S @ SR-40/EXIT 352	6.68	11 m	59 m	19	311	13,105	539	288,581		



Features for Florida Users

- Dashboard
 - MAP-21/PM3 Metrics
 - Other Metrics
- ➔ • Deep-Dive Analytics



2017 Non-Interstate NHS Travel Time Reliability



- Advanced data analytics provide Florida users ability to conduct analyses
 - Spatial: customizable for area of concern (by counties, roads, TMC codes, or map-selection)
 - Temporal: customizable for period of concern (by days, months, years, etc.)
- Enable performance reporting, post incident reviews, problem identification, project prioritization, before/after, work zone monitoring, rapid response to inquiries, press release preparation, and more.
- Data sources include:
 - NPMRDS (All of NHS in the US)
 - HERE (Florida network only)



Interface for Running Analysis:

The screenshot displays the 'Probe Data Analytics Suite' interface. The top navigation bar includes the product name, a search icon, a download icon, a play icon, a bar chart icon, a table icon, a '#1' award icon, a '\$' icon, and a user profile icon. The main content area is divided into several sections:

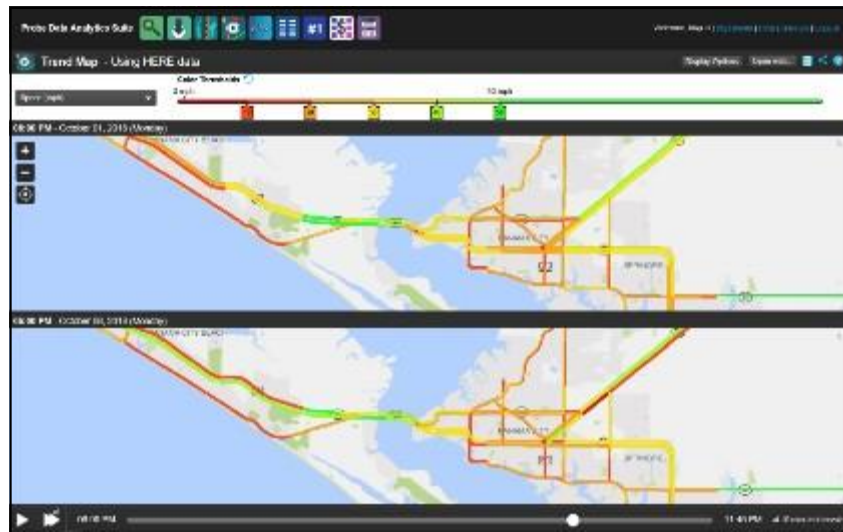
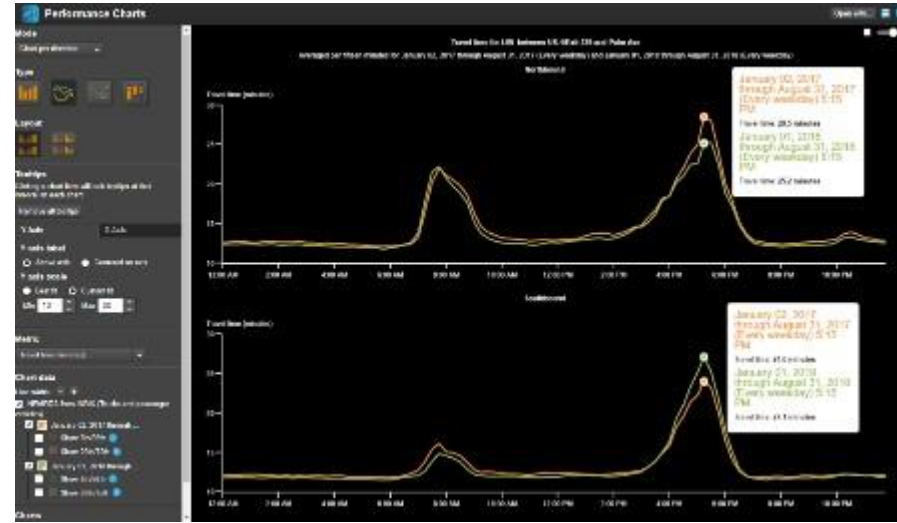
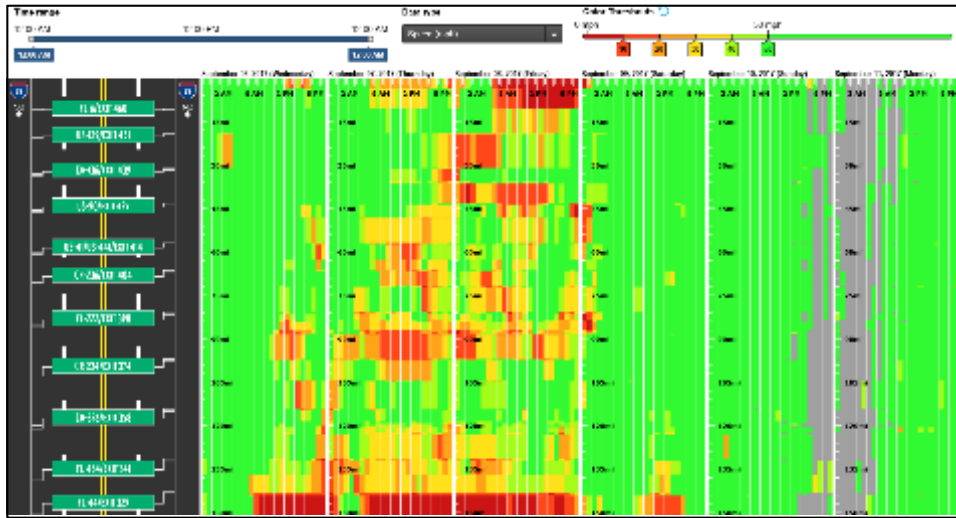
- Trend Map:** A section with a play button icon and a description: "The Trend Map shows you to create animated maps showing changes in congestion over the course of time at various granularities. The maps can be exported to animated GIFs and MP4s."
- 1. Select roads:** A configuration panel for selecting roads. It includes a dropdown for 'TMC segments from' (set to 'HERE'), a table with columns 'Road', 'Region', 'Segment codes', 'Map', and 'Saved', and a search input for 'Zip codes' (with an example '20742,20904'). A 'Save as segment set' button is at the bottom.
- 2. Select one or more time periods to analyze:** A panel for selecting time periods. It has tabs for 'Day(s)', 'Month(s)', and 'Year'. The 'Month(s)' tab is active, showing a date range from '2018 August' to '2018 October' with a '3 months' duration. Below this, there are radio buttons for 'Create a single time period for this range' and 'Create a time period for each month within this range'. A 'Limit to specific days of week' section includes checkboxes for 'Sun', 'Mon', 'Tue', 'Wed', 'Thu', 'Fri', and 'Sat'.
- 3. Select data sources:** A list of data sources with checkboxes. 'HERE' is checked. Other options include 'INRIX', 'NPMRDS from INRIX (Passenger vehicles)', 'NPMRDS from INRIX (Trucks and passenger vehicles)', 'NPMRDS from INRIX (Trucks)', 'NPMRDS from HERE (Passenger vehicles)', 'NPMRDS from HERE (Trucks and passenger vehicles)', 'NPMRDS from HERE (Trucks)', and 'TomTom'.
- 4. Select granularity:** A list of time intervals with radio buttons. '1 minute' is selected. Other options are '5 minutes', '10 minutes', '15 minutes', and '1 hour'.

A 'SUBMIT' button is located at the bottom right of the configuration panels. On the right side of the interface, a map of a city area is shown with a network of blue lines representing the selected roads. The map includes labels for 'St. Joseph Square', 'Benedict', 'Oldsmar', 'Channel A', 'Largo', 'Cross Bayou Channel', 'Pinellas', 'Tampa Bay', and 'Tampa'. A 'Welcome' message and navigation links ('My History', 'Help', 'Tutorials', 'Logout') are visible in the top right corner.

Deep Dive Data Analytics



Analysis Output Examples:



Link Type	Link ID	Link Name	Link Length	Link Speed	Link Volume	Link Delay	Link Status
...
...
...
...
...
...
...
...
...
...

Deep Dive – Congestion Scan

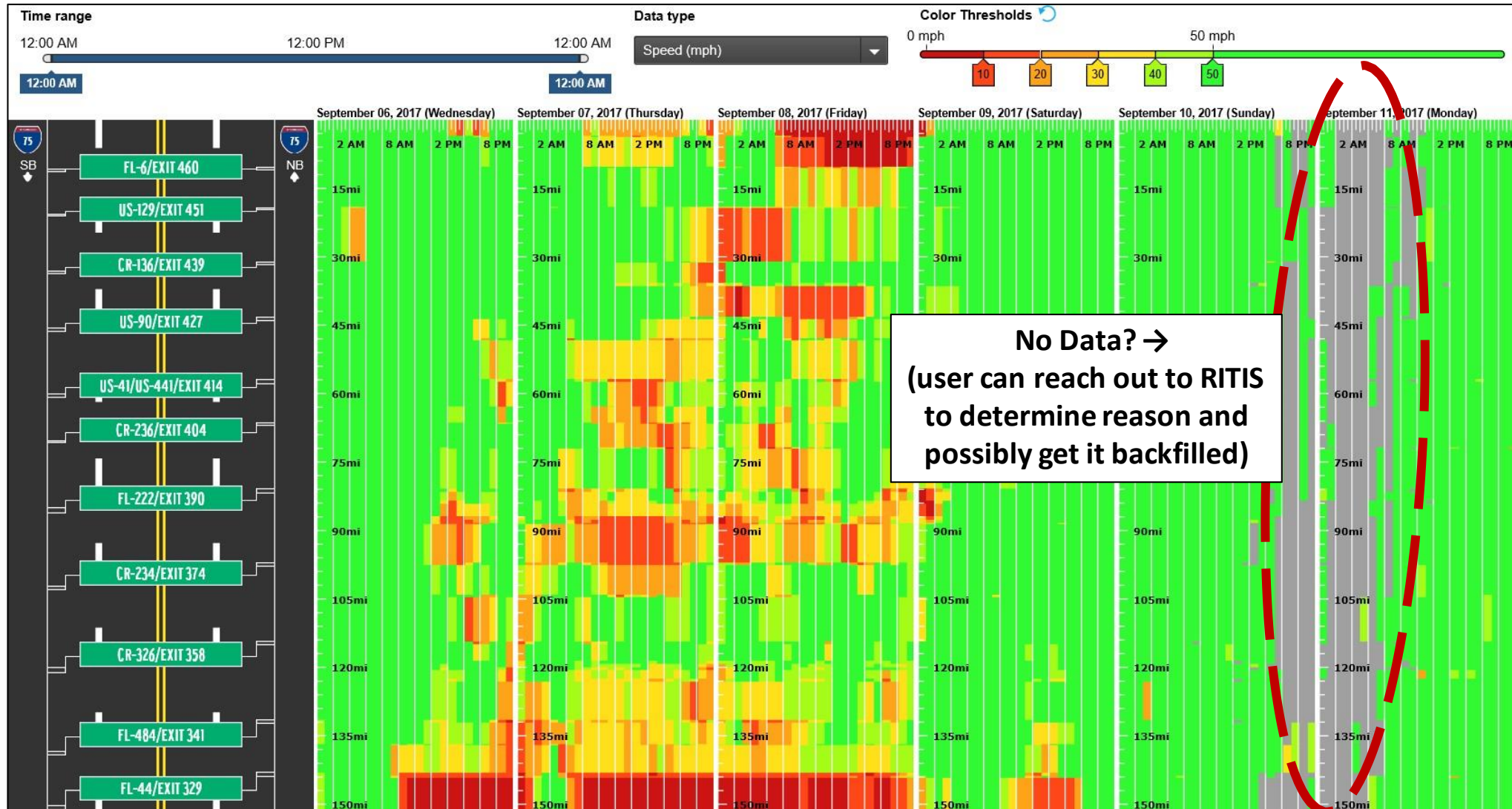


CONGESTION SCAN

Analyze the rise and fall of congested conditions on a stretch of road.

[Tutorial](#) [Help](#) [History](#)

I-75 Hurricane Irma Evacuation (Sept. 2017)



Deep Dive – Trend Map

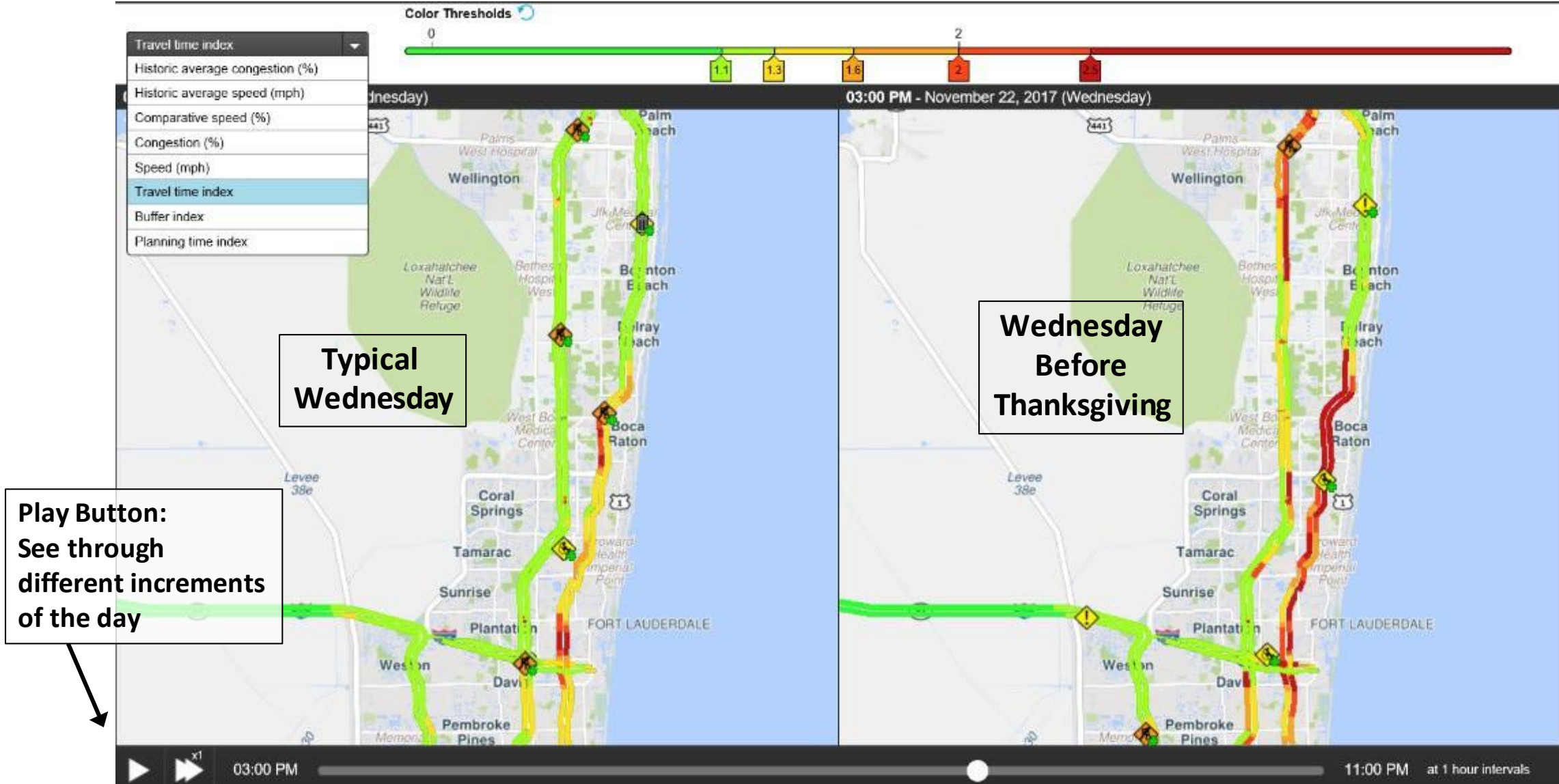


TREND MAP

Create animated maps of roadway conditions.

[Tutorial](#) [Help](#) [History](#)

Holiday Rush: Thanksgiving Day



Deep Dive – Trend Map

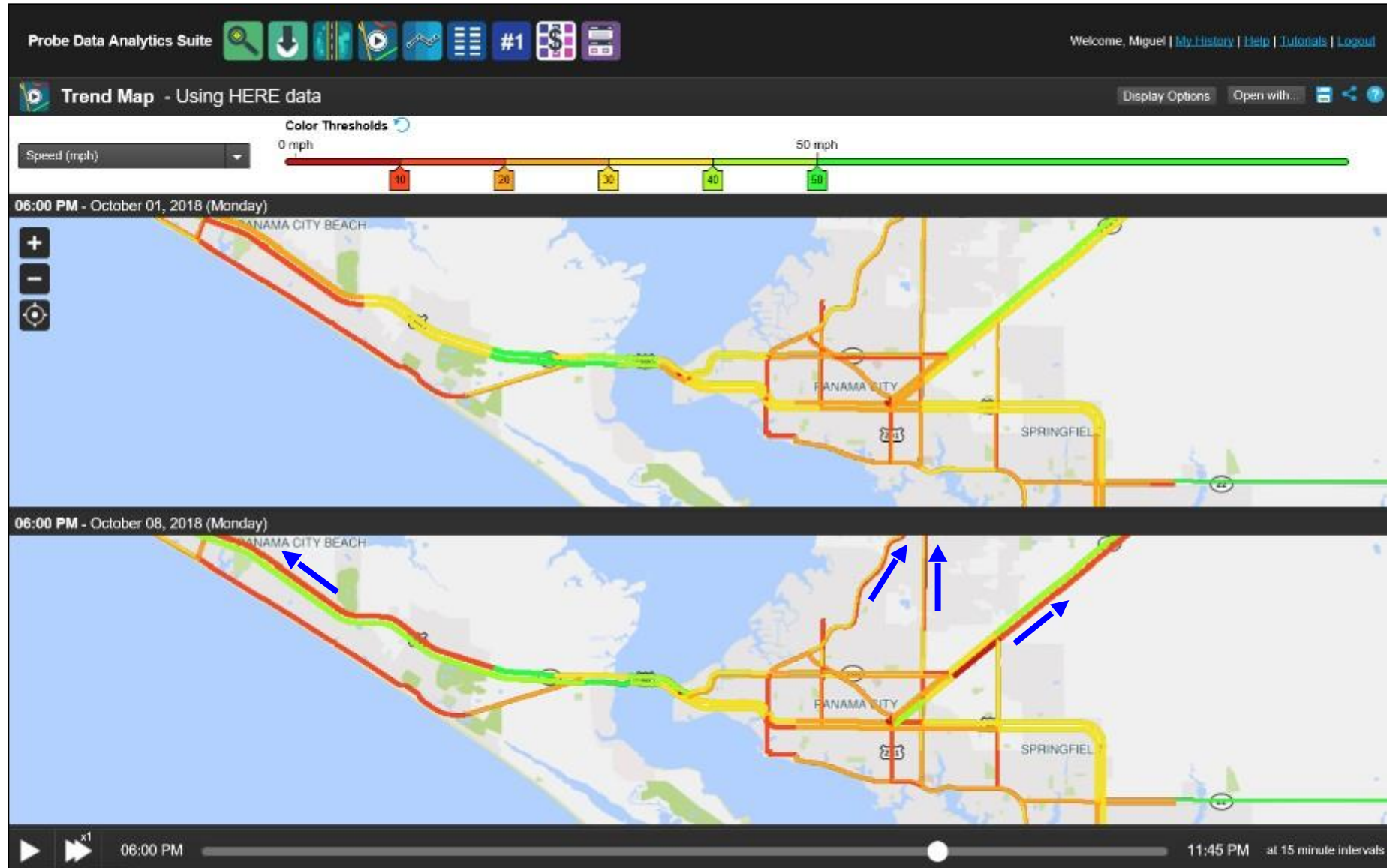


TREND MAP

Create animated maps of roadway conditions.

[Tutorial](#) [Help](#) [History](#)

Hurricane Michael Evacuation (Oct. 8, 2018 @ 6:00 PM), Panama City, FL



Monday, Oct. 1st
(Typical
Monday)

Monday, Oct. 8th
(Mandatory
Evacuation Order
Issued)

Deep Dive – Trend Map

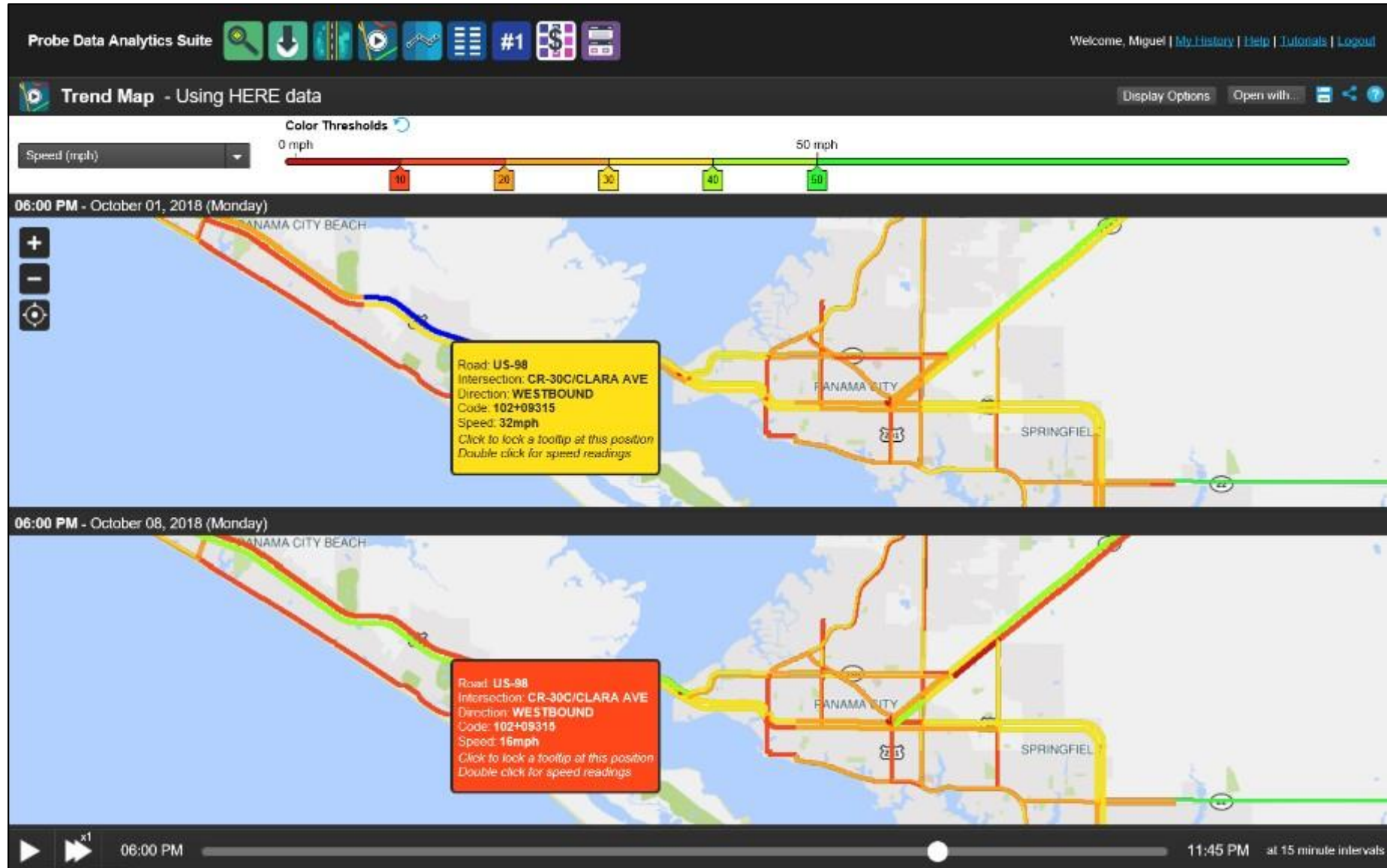


TREND MAP

Create animated maps of roadway conditions.

[Tutorial](#) [Help](#) [History](#)

Hurricane Michael Evacuation (Oct. 8, 2018 @ 6:00 PM), Panama City, FL



Monday, Oct. 1st
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Issued)

Deep Dive – Trend Map

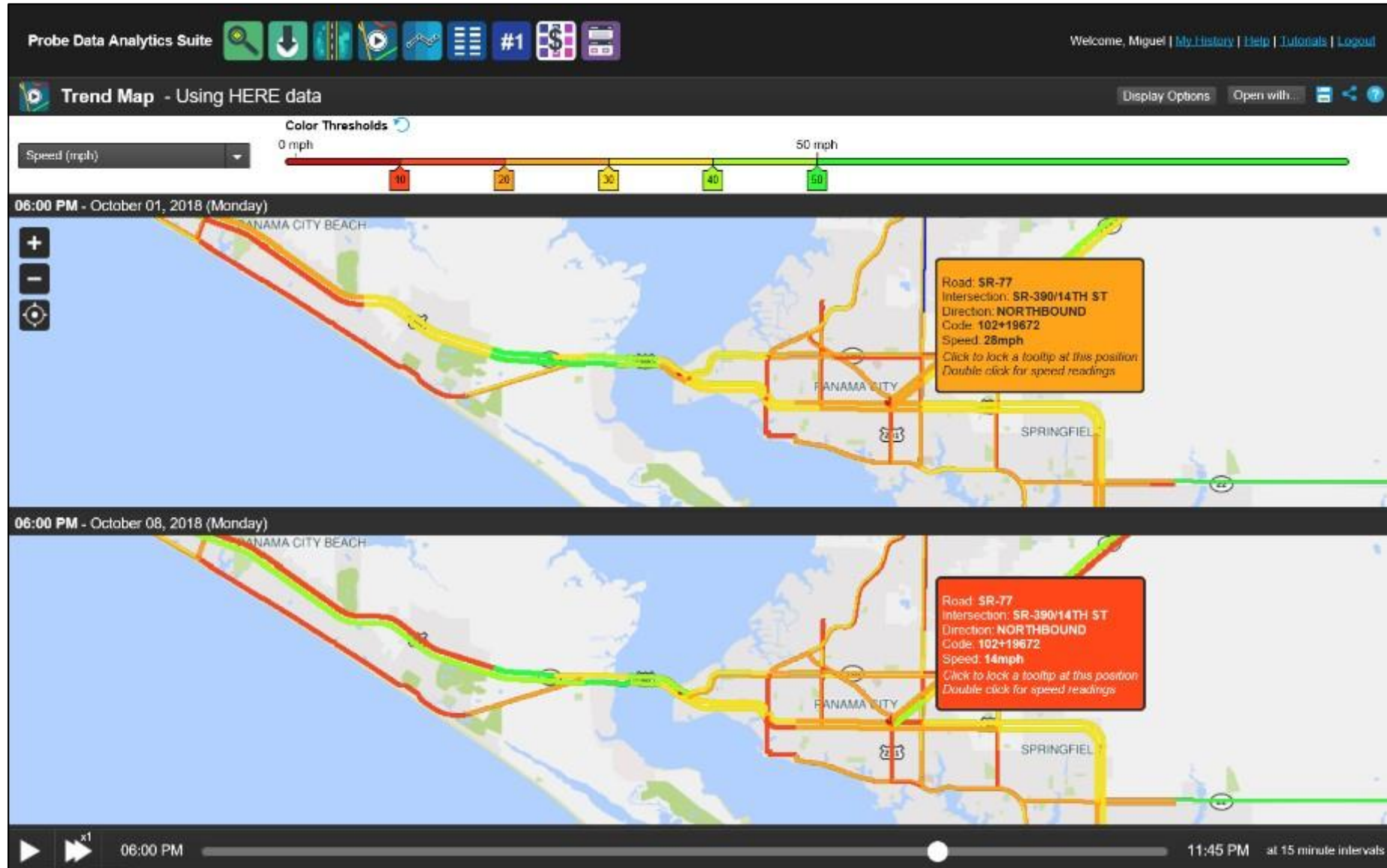


TREND MAP

Create animated maps of roadway conditions.

[Tutorial](#) [Help](#) [History](#)

Hurricane Michael Evacuation (Oct. 8, 2018 @ 6:00 PM), Panama City, FL



Monday, Oct. 1st
(Typical
Monday)

Monday, Oct. 8th
(Mandatory
Evacuation Order
Issued)

Deep Dive – Trend Map

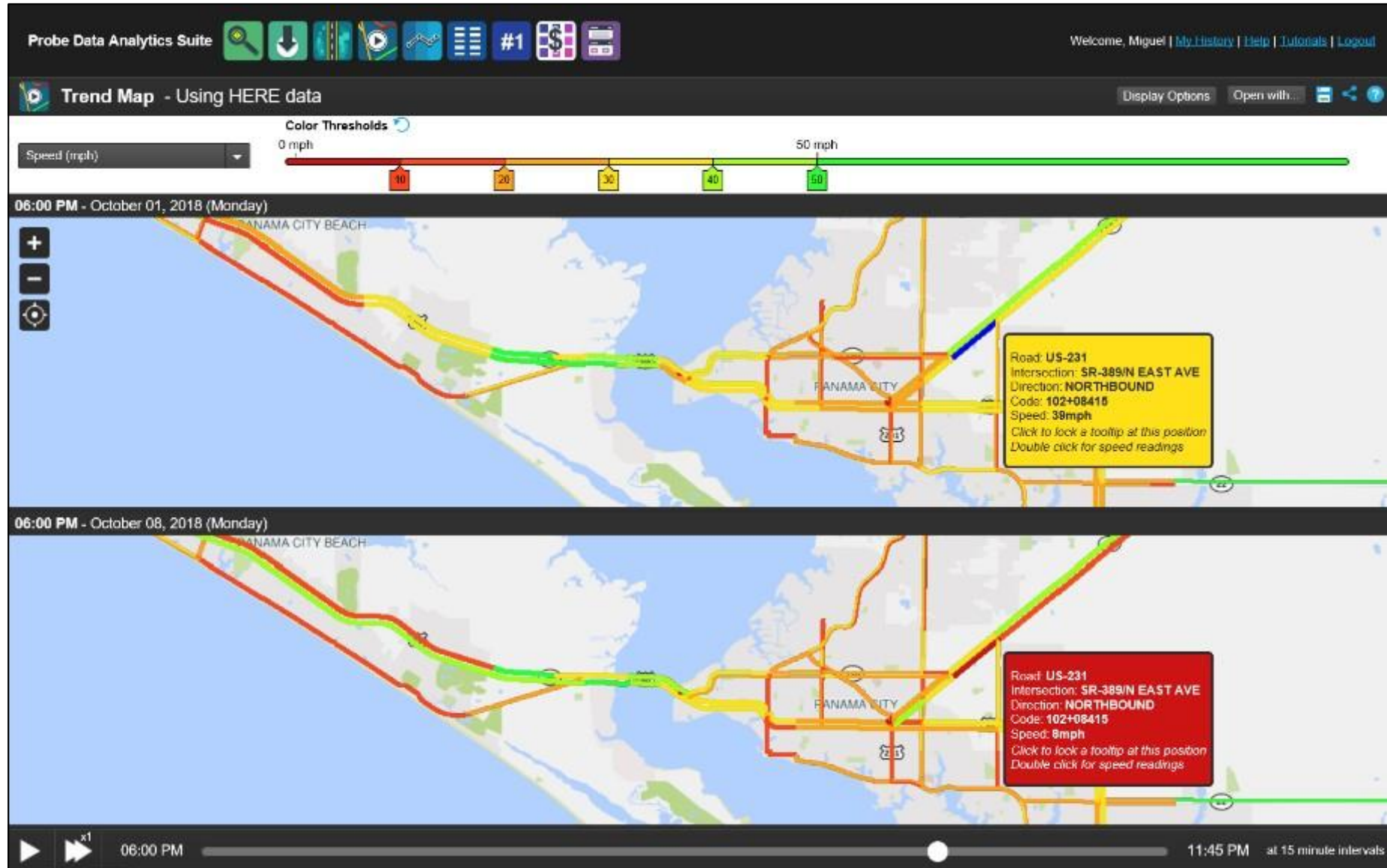


TREND MAP

Create animated maps of roadway conditions.

[Tutorial](#) [Help](#) [History](#)

Hurricane Michael Evacuation (Oct. 8, 2018 @ 6:00 PM), Panama City, FL



Monday, Oct. 1st
(Typical
Monday)

Monday, Oct. 8th
(Mandatory
Evacuation Order
Issued)

Deep Dive – Trend Map

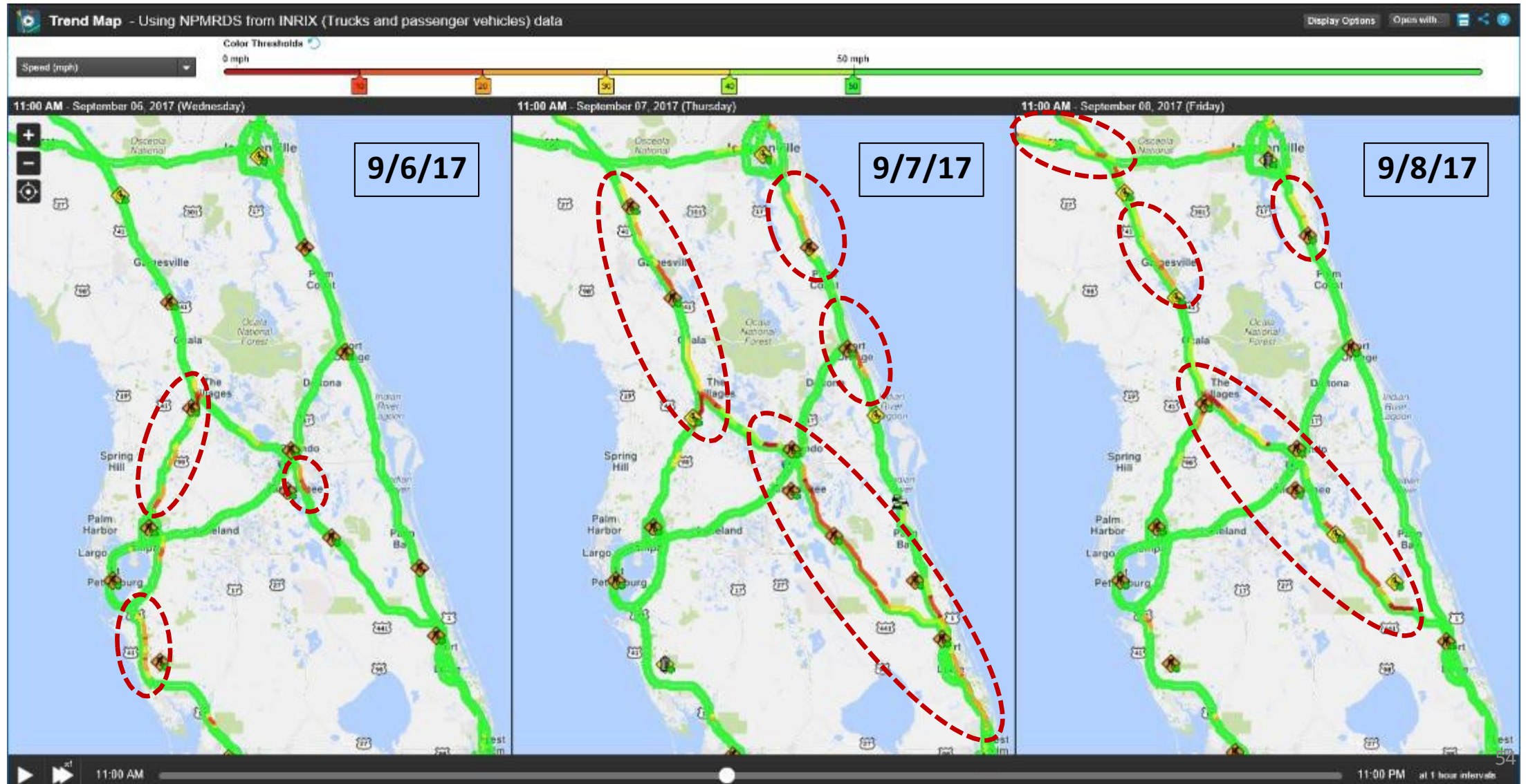


TREND MAP

Create animated maps of roadway conditions.

[Tutorial](#) [Help](#) [History](#)

Hurricane Irma Evacuation (Sept. 6-8, 2017 @ 11:00 AM), Interstates & FL Turnpike



Deep Dive – Performance Charts



PERFORMANCE CHARTS

Chart performance metrics over time.

[Tutorial](#) [Help](#) [History](#)

Comparing year-to-year change

Performance Charts - Using HERE data

Mode
Chart per direction

Type
[Bar chart icon] [Line chart icon] [Area chart icon] [Table icon]

Layout
[Bar chart icon] [Line chart icon]

Tooltips
Clicking a chart item will lock tooltips at that interval on each chart
Remove all tooltips

Y Axis | **X Axis**

Y axis label
 Above axis Centered on axis

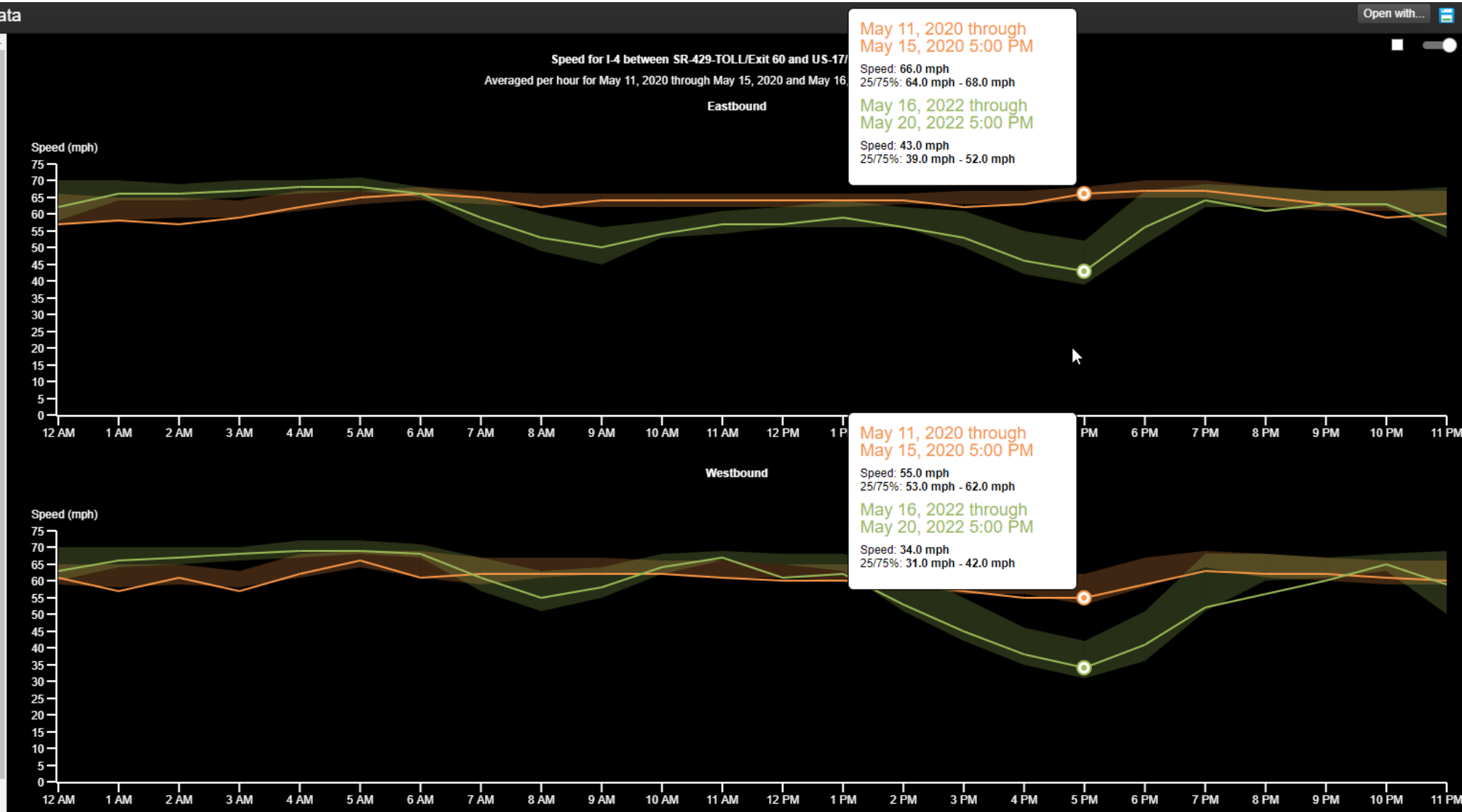
Y axis scale
 Best fit Custom fit

Metric
Speed (mph)

Chart data
Line width: - +
 HERE

- May 11, 2020 through May 15, 2020
 - Show 5th/95th
 - Show 25th/75th
- May 16, 2022 through May 20, 2022
 - Show 5th/95th
 - Show 25th/75th

Charts



Deep Dive – Performance Charts

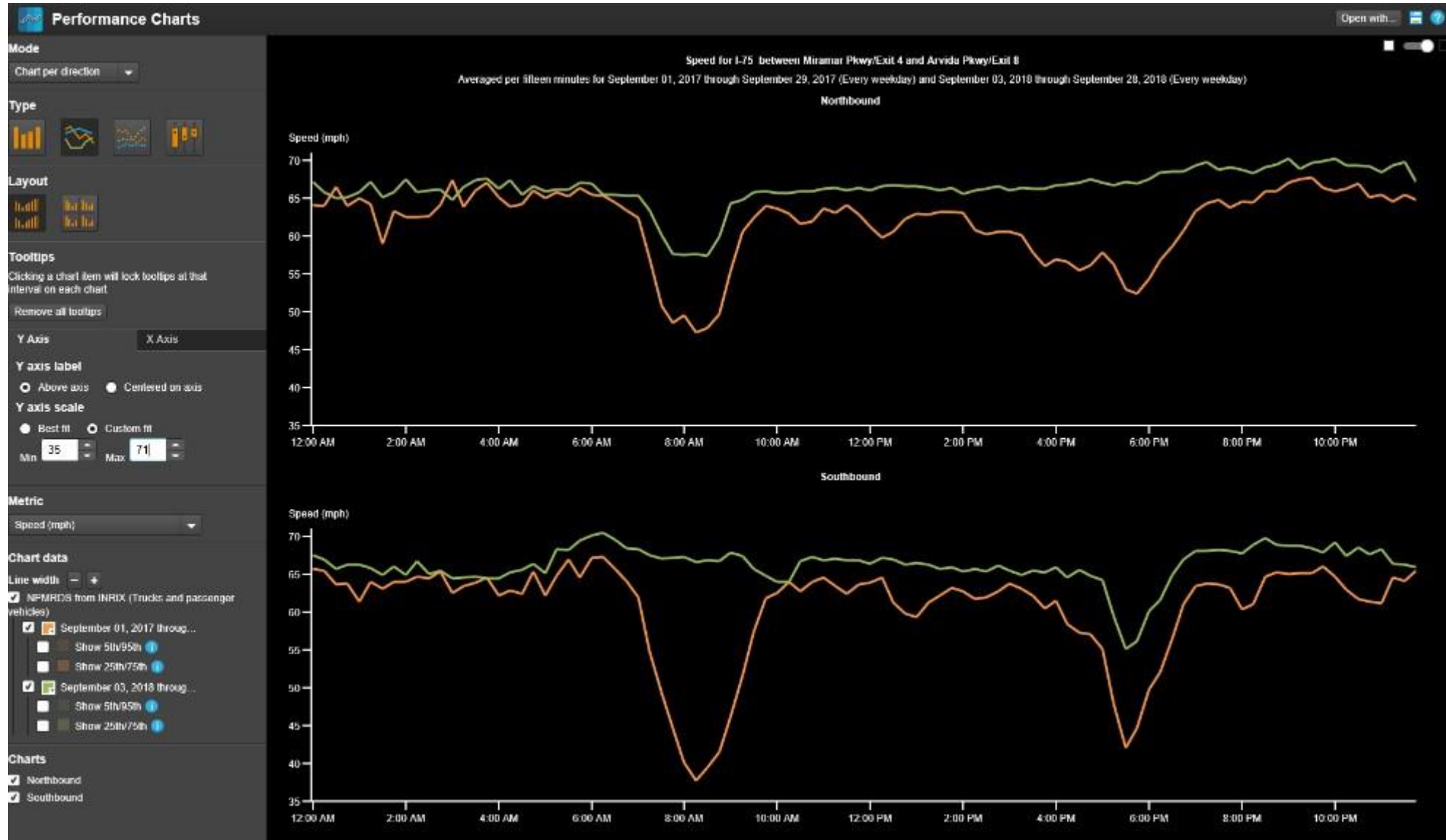


PERFORMANCE CHARTS

Chart performance metrics over time.

[Tutorial](#) [Help](#) [History](#)

Before-and-after opening of Express Lanes (I-75 Broward)



Deep Dive – Performance Summaries



PERFORMANCE SUMMARIES
 Report on Buffer Time Index, Planning Time Index, and other performance metrics.
[Tutorial](#) [Help](#) [History](#)

Report metrics for any area and time period

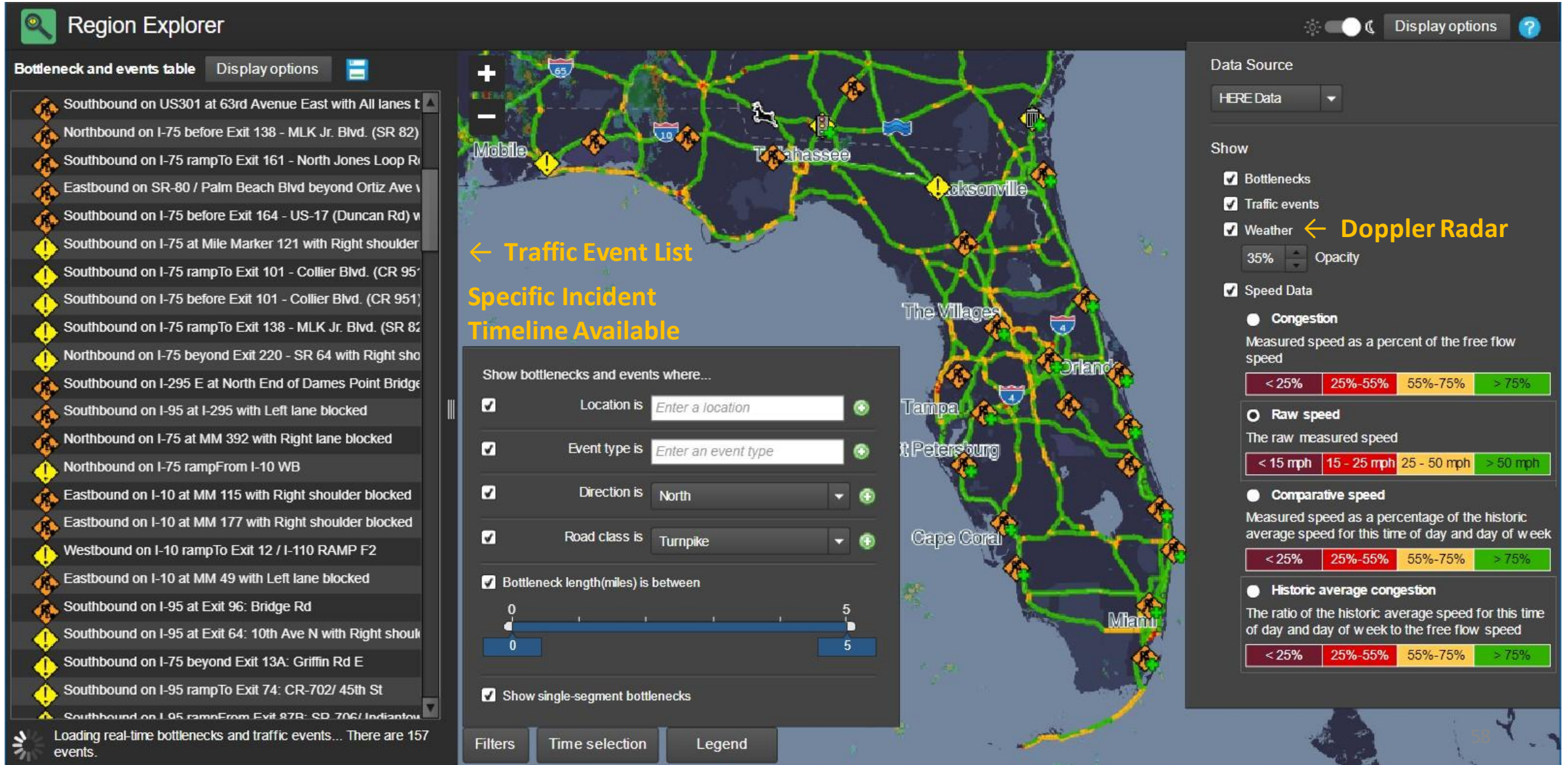
Performance Summaries		I-95 between I-95 EXP and 151 St St/Exit 11 Southbound using NPMRDS from INRIX (Trucks and passenger vehicles) data						
April 2018 Northbound		April 2018 Southbound						
April 2018								
	Speed (mph)	Buffer time (minutes)	Buffer index	Planning time (minutes)	Planning time index	Travel time (minutes)	Travel time index	
	7 AM - to - 8 AM	7 AM - to - 8 AM	7 AM - to - 8 AM	7 AM - to - 8 AM	7 AM - to - 8 AM	7 AM - to - 8 AM	7 AM - to - 8 AM	
Mon	27.84	27.37	3.00	36.51	4.99	19.32	2.64	Mon
Tue	26.91	22.23	2.49	31.14	4.25	19.99	2.73	Tue
Wed	25.86	21.88	2.43	30.89	4.22	20.79	2.84	Wed
Thu	26.71	23.31	2.62	32.22	4.40	20.13	2.75	Thu
Fri	27.73	20.07	2.22	29.09	3.97	19.39	2.65	Fri
Weekdays	27.03	22.87	2.54	31.87	4.35	19.89	2.72	Weekdays
Sat	34.62	16.13	1.81	25.06	3.42	15.53	2.12	Sat
Sun	52.03	6.95	0.82	15.46	2.11	10.34	1.41	Sun
Weekends	41.75	15.11	1.73	23.83	3.25	12.88	1.76	Weekends
All Days	29.94	25.41	2.85	34.34	4.69	17.96	2.45	All Days

Deep Dive – Region Explorer

Explore real-time or historical data on bottlenecks, events...



REGION EXPLORER
Explore the relationships between bottlenecks and traffic events in real-time and in the past.
[Tutorial](#) [Help](#)



Region Explorer

Bottleneck and events table [Display options](#)

- Southbound on US301 at 63rd Avenue East with All lanes blocked
- Northbound on I-75 before Exit 138 - MLK Jr. Blvd. (SR 82)
- Southbound on I-75 rampTo Exit 161 - North Jones Loop Rd
- Eastbound on SR-80 / Palm Beach Blvd beyond Ortiz Ave w
- Southbound on I-75 before Exit 164 - US-17 (Duncan Rd) w
- Southbound on I-75 at Mile Marker 121 with Right shoulder blocked
- Southbound on I-75 rampTo Exit 101 - Collier Blvd. (CR 951)
- Southbound on I-75 before Exit 101 - Collier Blvd. (CR 951)
- Southbound on I-75 before Exit 138 - MLK Jr. Blvd. (SR 82)
- Northbound on I-75 beyond Exit 220 - SR 64 with Right shoulder blocked
- Southbound on I-295 E at North End of Dames Point Bridge
- Southbound on I-95 at I-295 with Left lane blocked
- Northbound on I-75 at MM 392 with Right lane blocked
- Northbound on I-75 rampFrom I-10 WB
- Eastbound on I-10 at MM 115 with Right shoulder blocked
- Eastbound on I-10 at MM 177 with Right shoulder blocked
- Westbound on I-10 rampTo Exit 12 / I-110 RAMP F2
- Eastbound on I-10 at MM 49 with Left lane blocked
- Southbound on I-95 at Exit 96: Bridge Rd
- Southbound on I-95 at Exit 64: 10th Ave N with Right shoulder blocked
- Southbound on I-75 beyond Exit 13A: Griffin Rd E
- Southbound on I-95 rampTo Exit 74: CR-702/ 45th St
- Southbound on I-95 rampFrom Exit 87B: SR 706/ Indianou

← **Traffic Event List**
Specific Incident Timeline Available

Show bottlenecks and events where...

- Location is
- Event type is
- Direction is
- Road class is
- Bottleneck length(miles) is between
- Show single-segment bottlenecks

Data Source
HERE Data

Show

- Bottlenecks
- Traffic events
- Weather ← **Doppler Radar**
35% Opacity
- Speed Data
 - Congestion**
Measured speed as a percent of the free flow speed
 < 25% 25%-55% 55%-75% > 75%
 - Raw speed**
The raw measured speed
 < 15 mph 15 - 25 mph 25 - 50 mph > 50 mph
 - Comparative speed**
Measured speed as a percentage of the historic average speed for this time of day and day of week
 < 25% 25%-55% 55%-75% > 75%
 - Historic average congestion**
The ratio of the historic average speed for this time of day and day of week to the free flow speed
 < 25% 25%-55% 55%-75% > 75%

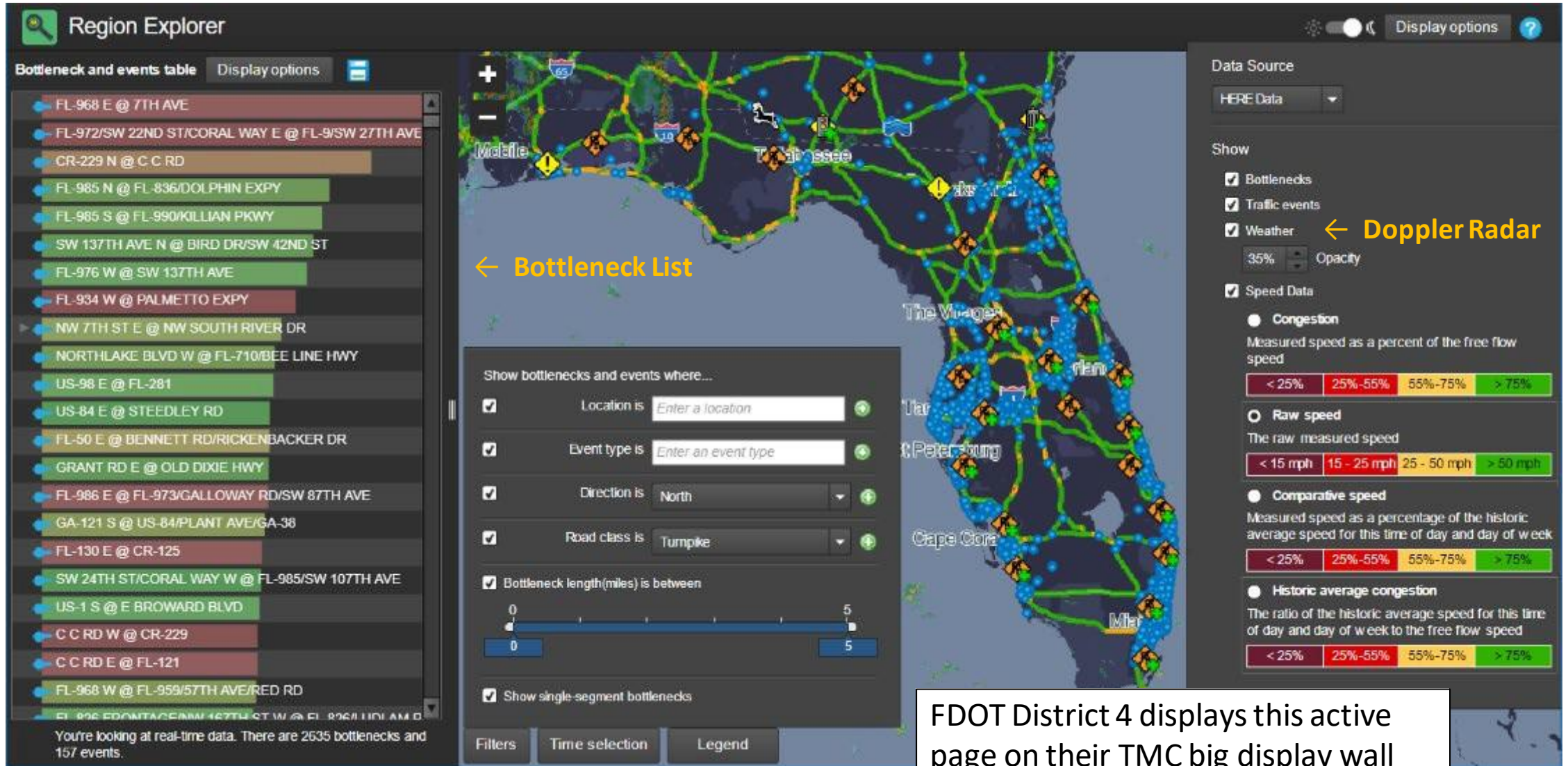
Filters Time selection Legend

Deep Dive – Region Explorer

Explore real-time or historical data on bottlenecks, events...



REGION EXPLORER
Explore the relationships between bottlenecks and traffic events in real-time and in the past.
[Tutorial](#) [Help](#)



Region Explorer

Bottleneck and events table | Display options

- FL-968 E @ 7TH AVE
- FL-972/SW 22ND ST/CORAL WAY E @ FL-9/SW 27TH AVE
- CR-229 N @ C C RD
- FL-985 N @ FL-836/DOLPHIN EXPY
- FL-985 S @ FL-990/KILLIAN PKWY
- SW 137TH AVE N @ BIRD DR/SW 42ND ST
- FL-976 W @ SW 137TH AVE
- FL-934 W @ PALMETTO EXPY
- NW 7TH ST E @ NW SOUTH RIVER DR
- NORTHLAKE BLVD W @ FL-710/BEE LINE HWY
- US-98 E @ FL-281
- US-84 E @ STEEDLEY RD
- FL-50 E @ BENNETT RD/RICKENBACKER DR
- GRANT RD E @ OLD DIXIE HWY
- FL-986 E @ FL-973/GALLOWAY RD/SW 87TH AVE
- GA-121 S @ US-84/PLANT AVE/GA-38
- FL-130 E @ CR-125
- SW 24TH ST/CORAL WAY W @ FL-985/SW 107TH AVE
- US-1 S @ E BROWARD BLVD
- C C RD W @ CR-229
- C C RD E @ FL-121
- FL-968 W @ FL-959/57TH AVE/RED RD
- FL-836 EDGEMONT AVE/SW 167TH ST W @ FL-990/KILLIAN PKWY

You're looking at real-time data. There are 2635 bottlenecks and 157 events.

← Bottleneck List

Show bottlenecks and events where...

- Location is
- Event type is
- Direction is
- Road class is
- Bottleneck length(miles) is between
- Show single-segment bottlenecks

← Doppler Radar

Data Source
HERE Data

Show

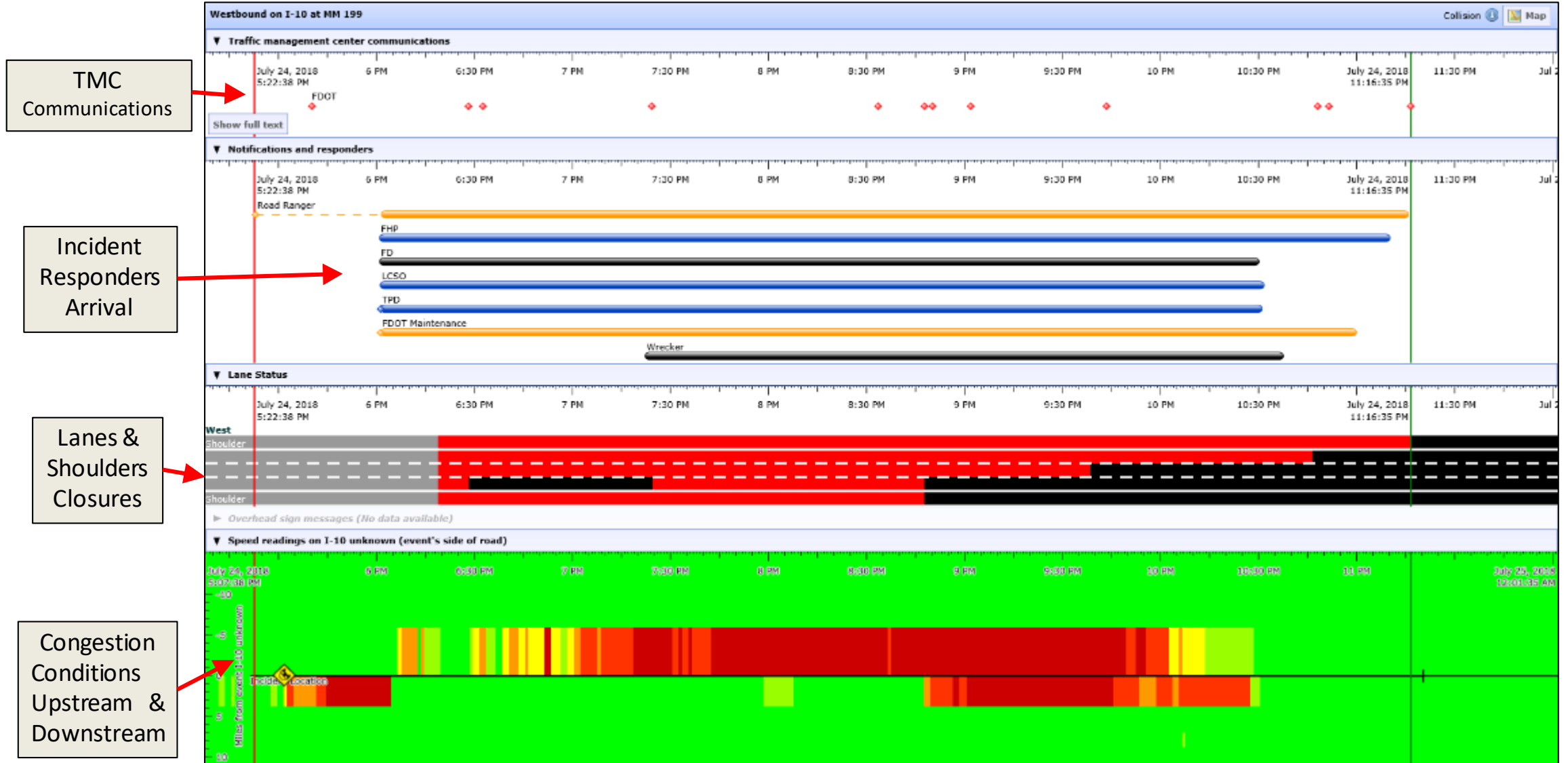
- Bottlenecks
- Traffic events
- Weather Opacity
- Speed Data
 - Congestion
Measured speed as a percent of the free flow speed
 < 25% 25%-55% 55%-75% > 75%
 - Raw speed
The raw measured speed
 < 15 mph 15 - 25 mph 25 - 50 mph > 50 mph
 - Comparative speed
Measured speed as a percentage of the historic average speed for this time of day and day of week
 < 25% 25%-55% 55%-75% > 75%
 - Historic average congestion
The ratio of the historic average speed for this time of day and day of week to the free flow speed
 < 25% 25%-55% 55%-75% > 75%

Filters | Time selection | Legend

FDOT District 4 displays this active page on their TMC big display wall

Deep Dive – Region Explorer - Event Timeline

Information on incident events, from reporting to clearance



Deep Dive – User Delay Cost

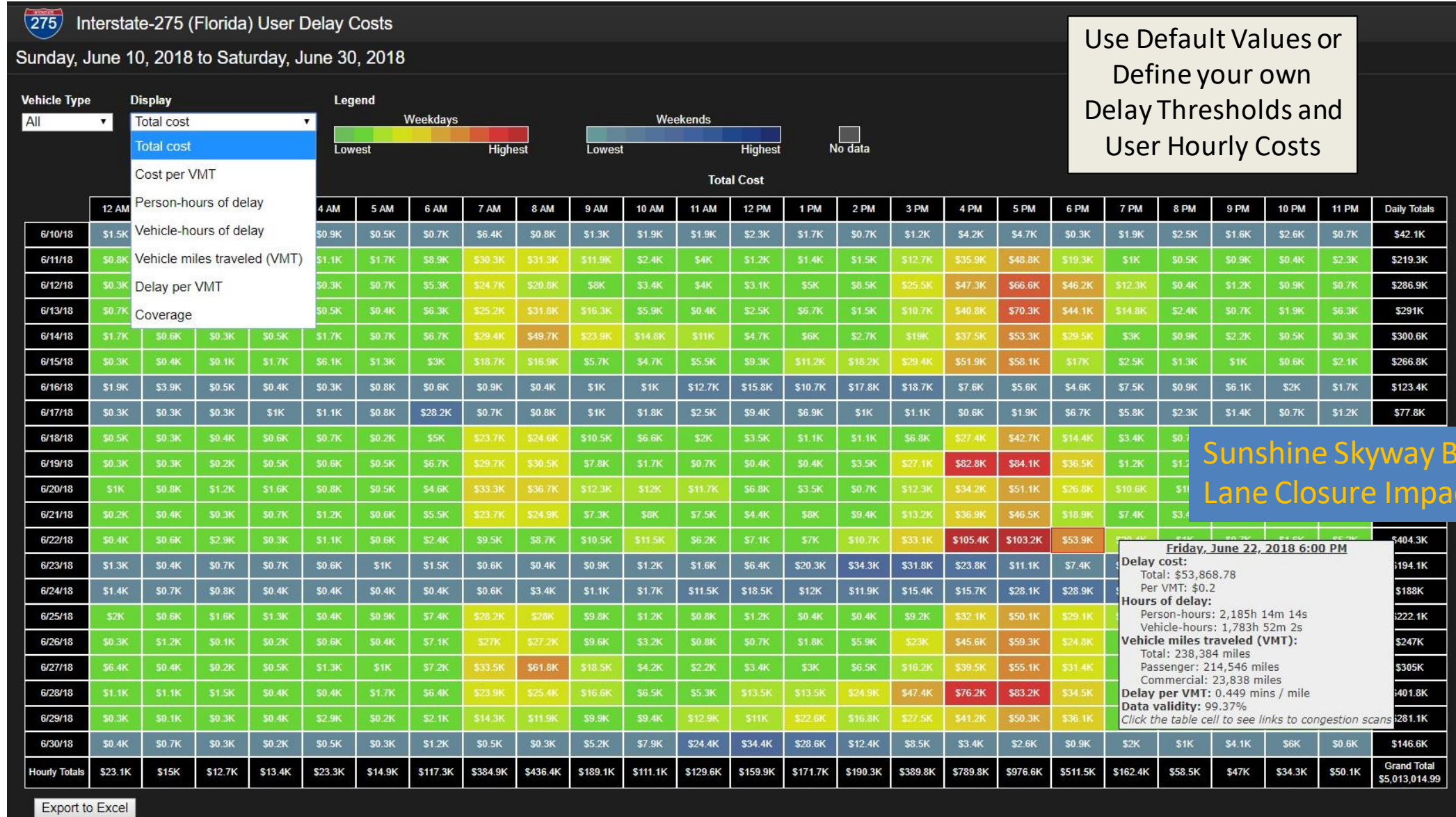


USER DELAY COST ANALYSIS

Put a dollar amount on how much a road's performance impacts its users.

[Tutorial](#) [Help](#) [History](#)

Impact of Delay on Users



Use Default Values or Define your own Delay Thresholds and User Hourly Costs

Sunshine Skyway Br Lane Closure Impact

Friday, June 22, 2018 6:00 PM

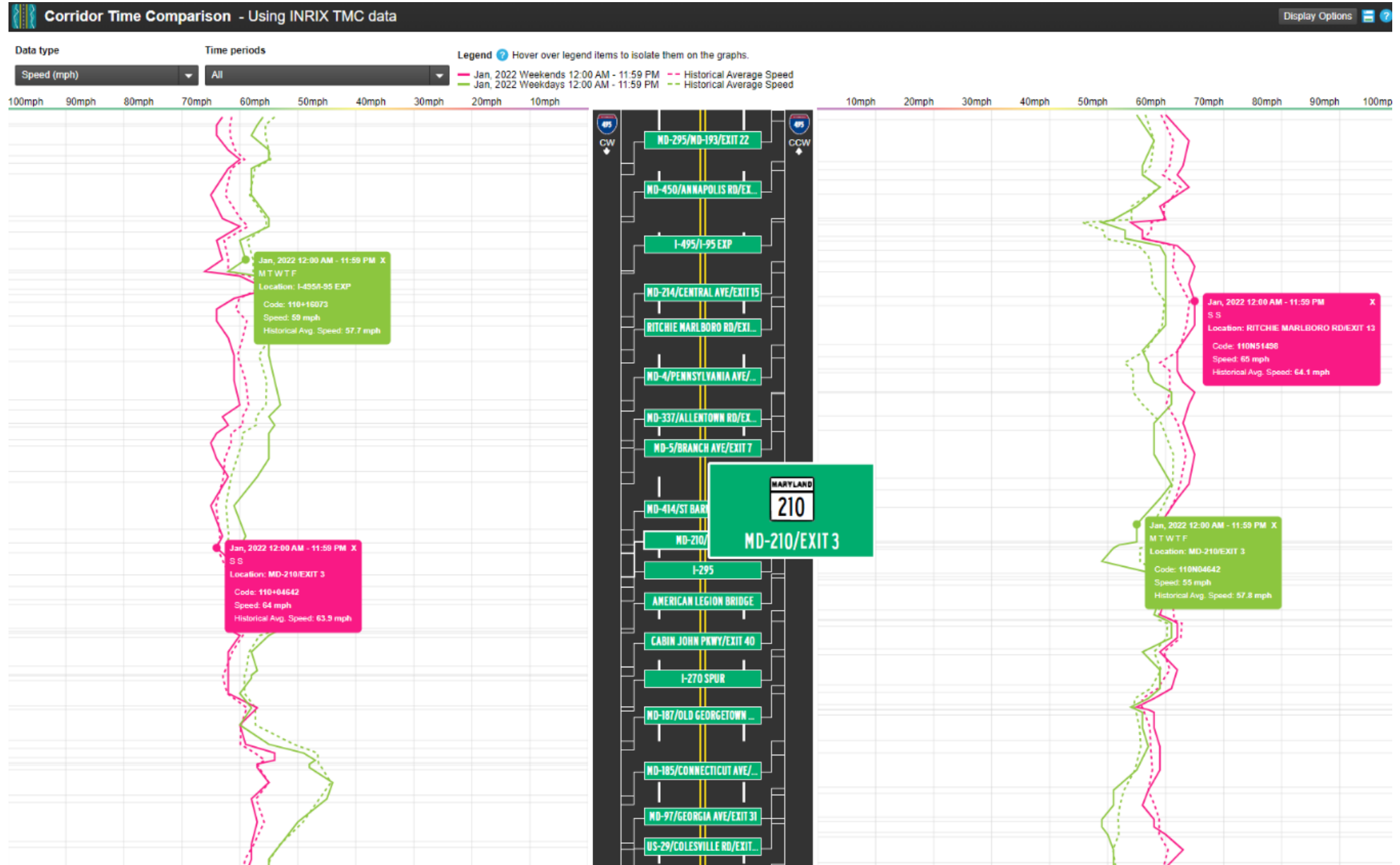
Delay cost:
 Total: \$53,868.78
 Per VMT: \$0.2

Hours of delay:
 Person-hours: 2,185h 14m 14s
 Vehicle-hours: 1,783h 52m 2s

Vehicle miles traveled (VMT):
 Total: 238,384 miles
 Passenger: 214,546 miles
 Commercial: 23,838 miles

Delay per VMT: 0.449 mins / mile
Data validity: 99.37%
 Click the table cell to see links to congestion scans

Other Analytics – Corridor Time Comparison



Other Analytics – Energy Use and Emissions



Energy Use and Emissions Charts - I-270 Northbound between I-270 (SPUR) and MD-121



Sunday, August 16, 2015 to Friday, August 21, 2015 (6 Days)



Metric

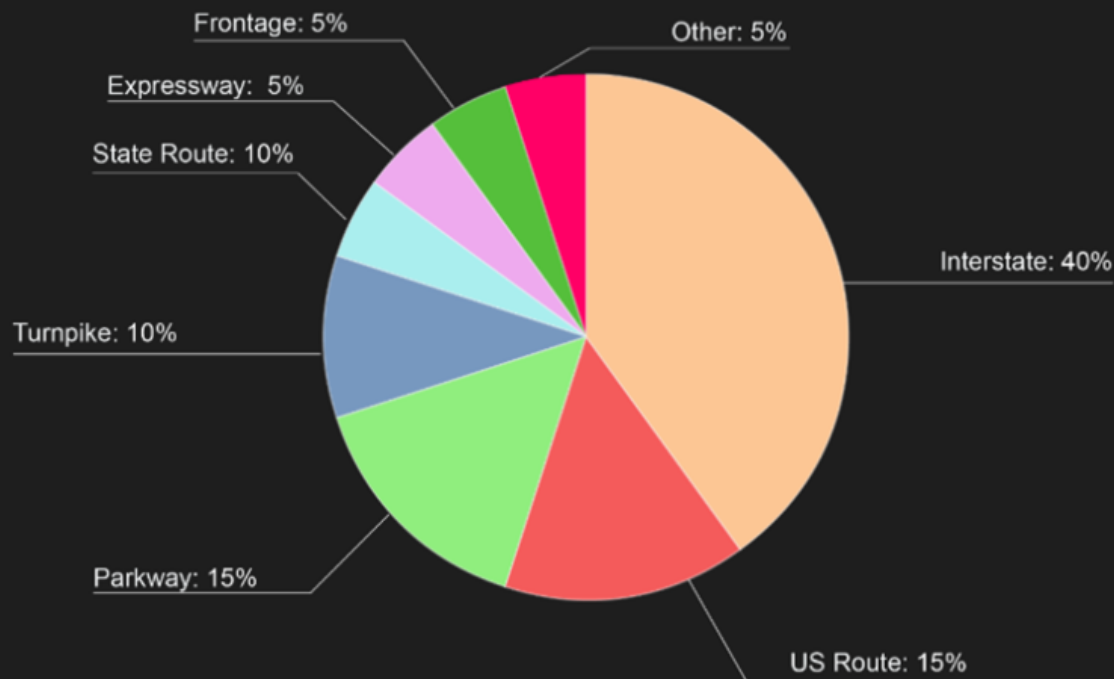
Total Energy Use (Route-E)

Breakdown By

Road Class

Percentages Numbers

Total Energy Use in BTUs (Route-E) by Road Class



Road Class	Road Mileage	BTUs	VMT	BTUs / VMT
Interstate	1,320.1 mi	287.18k	8,348,613	27,300
U.S. Route	874 mi	99.2k	6,345,657	13,142
Turnpike	431 mi	79.2k	4,296,231	7,060
State Route	212 mi	29.2k	3,213,132	3,470
Expressway	123.1 mi	23.2k	1,252,800	1,410
Frontage	87 mi	24.4k	1,123,472	1,400
Other	32 mi	21.3k	732,300	982

Other Analytics – Speed Threshold Breakdown

Speed Threshold Breakdown

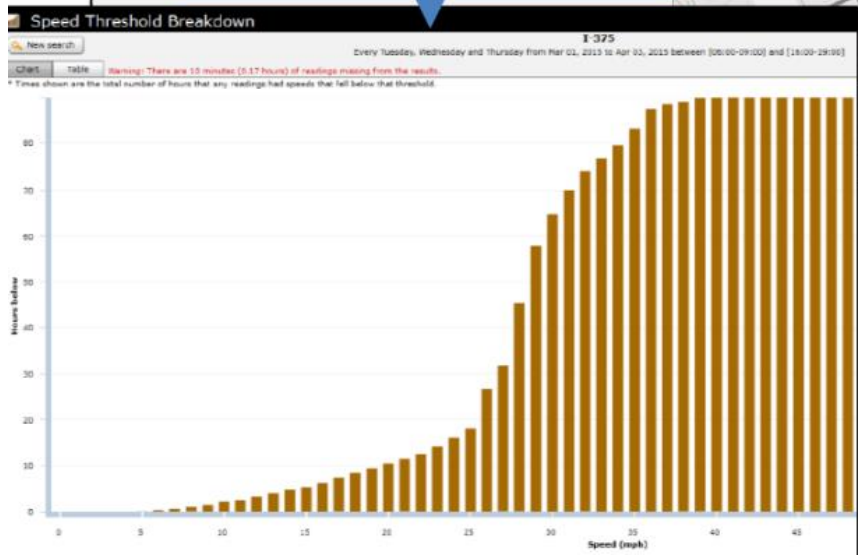
Choose a stretch of road and a date range you would like to view speed counts for.

- Road**
 Region: Search in all states...
 Your selected roads: I-975
 Directions: Northbound Southbound
 Entire road Partial road
 3.37 miles of roadway selected (12 TMC codes)
- Date range**
 09/25/2015 - 09/25/2015
- Days of week**
 Sun Mon Tue Wed Thu Fri Sat
- Time of day**
 12:00 AM - 11:59 PM
 12:00 AM - 11:59 PM

Submit

Chart Results

Tabular Results



Speed Threshold Breakdown

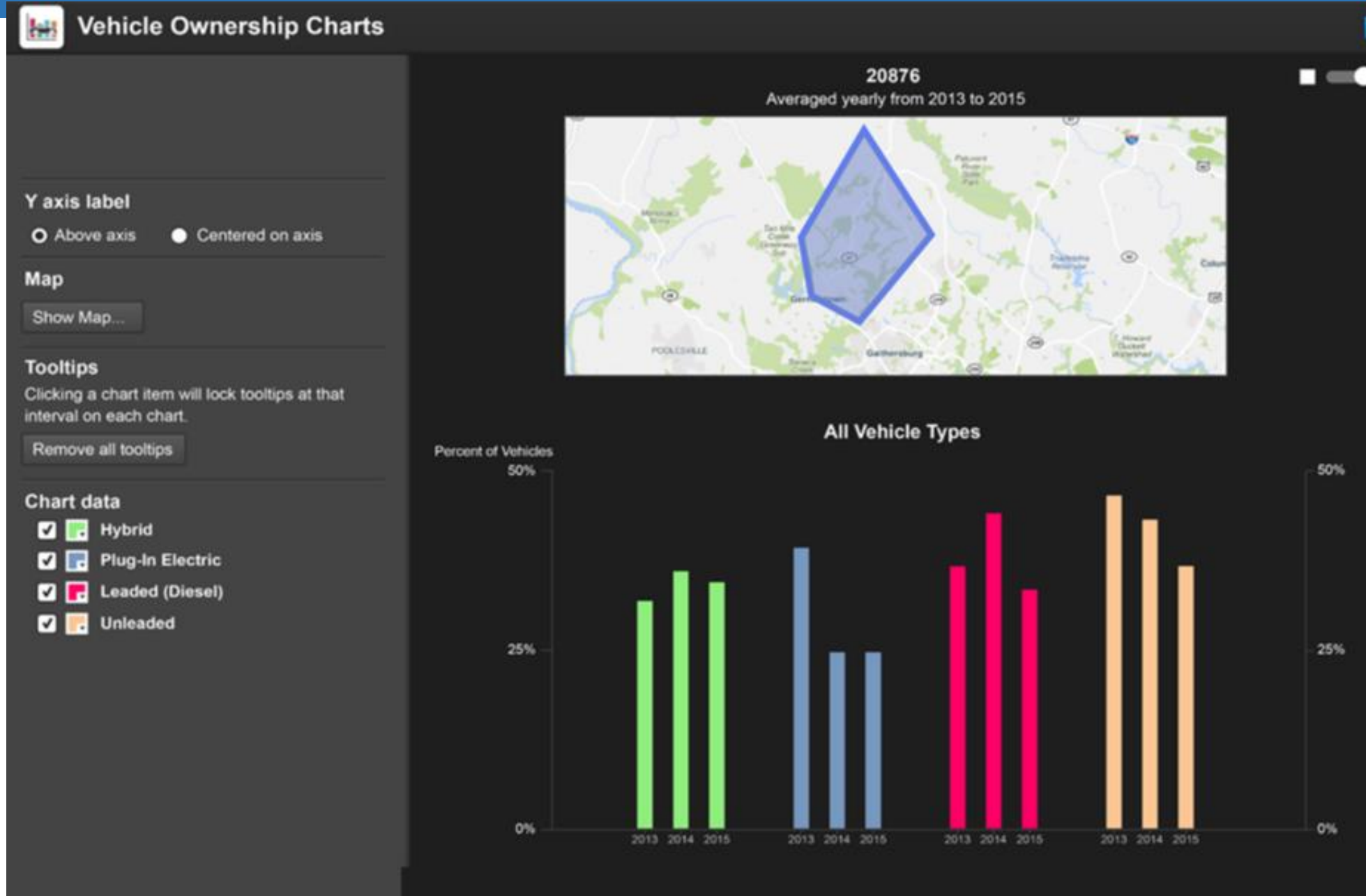
Every Tuesday, Wednesday and Thursday from Mar 01, 2015 to Apr 03, 2015 between [00:00-09:00] and [18:00-28:00]

Warning: There are 10 minutes (0.17 hours) of readings missing from the results.

Speed	Number of readings	% of readings below	Hours Below	% of time below	Minutes Below	% of readings above	Hours Above	% of time above
0	0	0.00	0.00	0.00	0	100.00	89.83	99.99
1	0	0.00	0.00	0.00	0	100.00	89.83	99.81
2	0	0.00	0.00	0.00	0	100.00	89.83	99.81
3	0	0.00	0.00	0.00	0	100.00	89.83	99.81
4	0	0.00	0.00	0.00	0	100.00	89.83	99.81
5	2	0.01	0.03	0.04	1	99.99	89.80	99.81
6	17	0.04	0.27	0.30	16	99.96	89.57	99.78
7	36	0.09	0.63	0.68	30	99.91	89.13	99.78
8	70	0.18	1.20	1.25	63	99.82	88.80	99.63
9	109	0.28	1.49	1.59	100	99.72	88.40	99.23
10	137	0.40	1.83	1.93	120	99.60	87.72	98.80
11	189	0.48	2.52	2.62	180	99.52	86.93	98.40
12	237	0.61	3.20	3.30	230	99.41	86.20	98.00
13	300	0.76	4.30	4.44	290	99.24	85.20	97.50
14	375	0.93	4.83	5.07	360	99.07	84.00	97.00
15	469	1.13	6.27	6.60	450	98.87	82.50	96.50
16	526	1.38	8.27	8.66	510	98.62	80.70	96.00
17	612	1.59	7.30	8.15	430	98.41	78.50	95.50
18	709	1.82	6.40	8.33	300	98.19	75.80	95.00
19	800	2.04	9.37	10.41	80	97.95	72.50	94.50
20	899	2.22	10.47	11.03	620	97.73	70.80	94.00
21	1016	2.42	11.93	12.01	490	97.51	68.80	93.50
22	1123	2.69	12.40	12.91	740	97.30	66.30	93.00
23	1204	2.91	14.23	14.24	600	97.09	63.30	92.50
24	1469	2.78	18.03	17.81	90	96.87	60.30	92.00
25	1719	4.42	20.13	20.13	1000	96.66	57.30	91.50
26	2102	5.62	28.00	28.78	1000	96.45	54.30	91.00

% of readings above	Hours Above	% of time above
100.00	89.83	99.81
100.00	89.83	99.81
100.00	89.83	99.81
100.00	89.83	99.81
100.00	89.83	99.81
100.00	89.83	99.81
100.00	89.83	99.81
100.00	89.83	99.81
100.00	89.83	99.81
100.00	89.83	99.81
99.99	89.80	99.78
99.96	89.57	99.52
99.91	89.33	99.26

Other Analytics – Vehicle Ownership Charts



Other Analytics – Clearance Times

Clearance Time for I-95 between SR-206/Exit 305 and SR-44/Exit 249



FDOT

For Collision

Past 3 years

Average Clearance Time

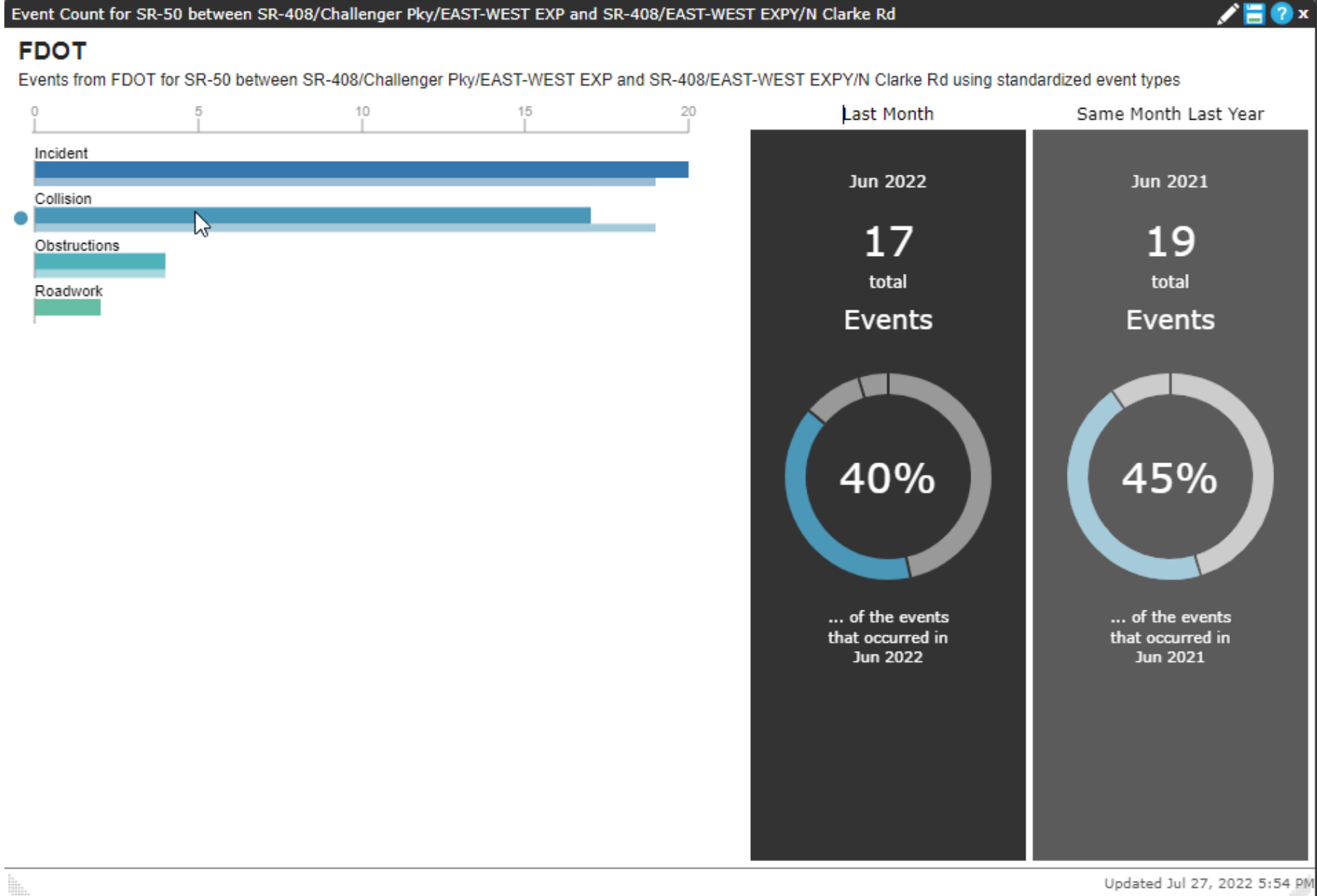
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2022	2 h 48 m	1 h 53 m	2 h 33 m	1 h 49 m	2 h 7 m	1 h 25 m	1 h 18 m					
2021	1 h 36 m	1 h 29 m	1 h 28 m	1 h 59 m	1 h 23 m	1 h 44 m	1 h 30 m	1 h 14 m	1 h 17 m	1 h 47 m	1 h 31 m	1 h 49 m
2020	1 h 26 m	1 h 4 m	1 h 37 m								54 m	2 h 4 m
2019	1 h 40 m	1 h 36 m	1 h 47 m	1 h 4 m	1 h 2 m		1 h 42 m	1 h 10 m	2 h 7 m	1 h 33 m	1 h 16 m	1 h 23 m

Legend



Low clearance time High clearance time

Other Analytics – Event Counts by Type



Contents

- Overview of Data Analytics Tool
- How to Gain Access to the Tool
- Features for Florida Users
- Data Downloader
- Help & Tutorials
- Contacts for further Support

Data Downloader

Massive Data Downloader



MASSIVE DATA DOWNLOADER

Download raw probe data from our archive for offline analysis.

[Tutorial](#) [Help](#) [History](#)

Download Data for spec. region/road, metrics, times...

1. Select roads

Road Region List of TMC codes Map Saved TMC Set [Advanced](#)

NPMRDS INRIX Search in Florida...

Your selected roads: I-110 between Fairfield Dr/Exit 4 and I-10

Directions: Northbound Southbound Interchanges: 5 Entire Partial From: Intersection To: Intersection FAIRFIELD DR/EXIT 4 I-10

8.04 miles of roadway selected (9 TMC codes)

TMCs from NPMRDS INRIX [Report a problem with this road](#)

Save as TMC set

2. Select one or more date ranges

01/01/2017 - through - 05/31/2017

01/01/2018 - through - 05/31/2018

+ Add another date range

3. Select days of week

Sun Mon Tue Wed Thu Fri Sat

4. Select one or more times of day

12:00 AM - to - 11:50 PM

+ Add another time of day

5. Select data sources and measures

HERE

INRIX

NPMRDS from INRIX (Passenger vehicles)

NPMRDS from INRIX (Trucks and passenger vehicles)

Speed

Historic average speed

Reference speed

Travel time

Data Density

NPMRDS from INRIX (Trucks)

NPMRDS from HERE (Passenger vehicles)

NPMRDS from HERE (Trucks and passenger vehicles)

NPMRDS from HERE (Trucks)

TomTom

6. Select units for travel time

Seconds

Minutes

7. Null record handling

Include records with null values

8. Select averaging

Don't Average

5 minutes

10 minutes

15 minutes

1 hour

9. Provide title

My Data

10. Notification

Send me an email when this export is ready to download

SUBMIT

Creates Downloadable Data Spreadsheet (.csv) for Offline Analysis

- Overview of Data Analytics Tool
- How to Gain Access to the Tool
- Features for Florida Users
- Data Downloader
- Help & Tutorials
- Contacts for further Support

Help & Tutorials



TUTORIALS

Learn how to use each of the tools in the suite.

- Detailed explanations available on everything found in PDA Suite
- Detailed Video Tutorials on the use of every tool, widget and feature
- Direct access to Help and Tutorials from each tool
- New analysis templates are posted in the Help File section (e.g., holiday travel forecast, before-after study...)
- Free Monthly Training on RITIS (<https://matoc.org/training/>)
- In-Person training for groups can be arranged through RITIS.

General Information
The Probe Data Analytics Suite
NPMRDS FAQs
▼ Data Types
DITTLAB
HERE
INRIX
▼ NPMRDS
NPMRDS Label Mapping
TomTom
Providing Your Volume Data
▼ Performance Metrics
Aggregating Metrics Across Multiple TMCs
Key Variables for Performance Metrics
Aggregating Speed Data for Each Road Segment TMC
▼ TMC Codes
Maps displaying TMCs differently
▼ Incident/Event Icons
Bottleneck Ranking Incident Icons
▼ Bottlenecks
Algorithm
Additional Metrics
Sample Scenarios
MAP-21
Support

Tools
Selecting Roads
▼ Region Explorer
Filters
Time Selection
Raw Speed Readings
Displaying Bottlenecks
▼ Massive Data Downloader
Submitting export requests
Results format
▼ Congestion Scan
Submitting queries
▼ Results format
Road Display
Icon Locations
Display Plot
▼ Trend Map
Exports
Performance Charts
Performance Summaries
Bottleneck Ranking
▼ Speed Threshold Breakdown
Chart
Table

▼ User Delay Cost Analysis
▼ User Delay Cost Report Parameters
Costs
Percent of Commercial and Passenger Vehicles
Defining Where Delay Should be Calculated
Define What to Calculate Delay Against
Volume Data Providers
▼ How User Delay Cost is Calculated
Using AADT Counts
Limiting Volumes
Applying Vehicle Percentages
Vehicle-Miles of Travel
Travel Delay
Delay Cost
UDC Report Totals
Hourly Volume Distribution Charts
Calculating Cost with Vehicle Miles Traveled (VMT)
User Delay Cost Warnings
▼ Dashboard
Speed and Travel Time Table
Ranked Bottleneck Table
▼ MAP-21
Parameters and Calculations
My History

Contacts to Remember (once again)

For help with the data analytics tool: support@ritis.org

For information on NPMRDS: https://ops.fhwa.dot.gov/perf_measurement/index.htm

For help with Data Sharing Agreement: npmrds@ritis.org (for NPMRDS data set)

For Non-FDOT user-access help: christine.shafik@dot.state.fl.us (for other PDA data sets)

For information on PM3 implementation in Florida: <https://www.fhwa.dot.gov/fldiv/tpm.cfm>

FDOT TPM PM3 Implementation points of contact:

Jessica.VanDenBogaert@dot.state.fl.us, Mark.Reichert@dot.state.fl.us (FDOT Central Office)

Frank.Corrado@dot.gov (FHWA Florida Division)

- Overview of Data Analytics Tool
- How to Gain Access to the Tool
- Features for Florida Users
- Data Downloader
- Help & Tutorials
- Contacts for further Support

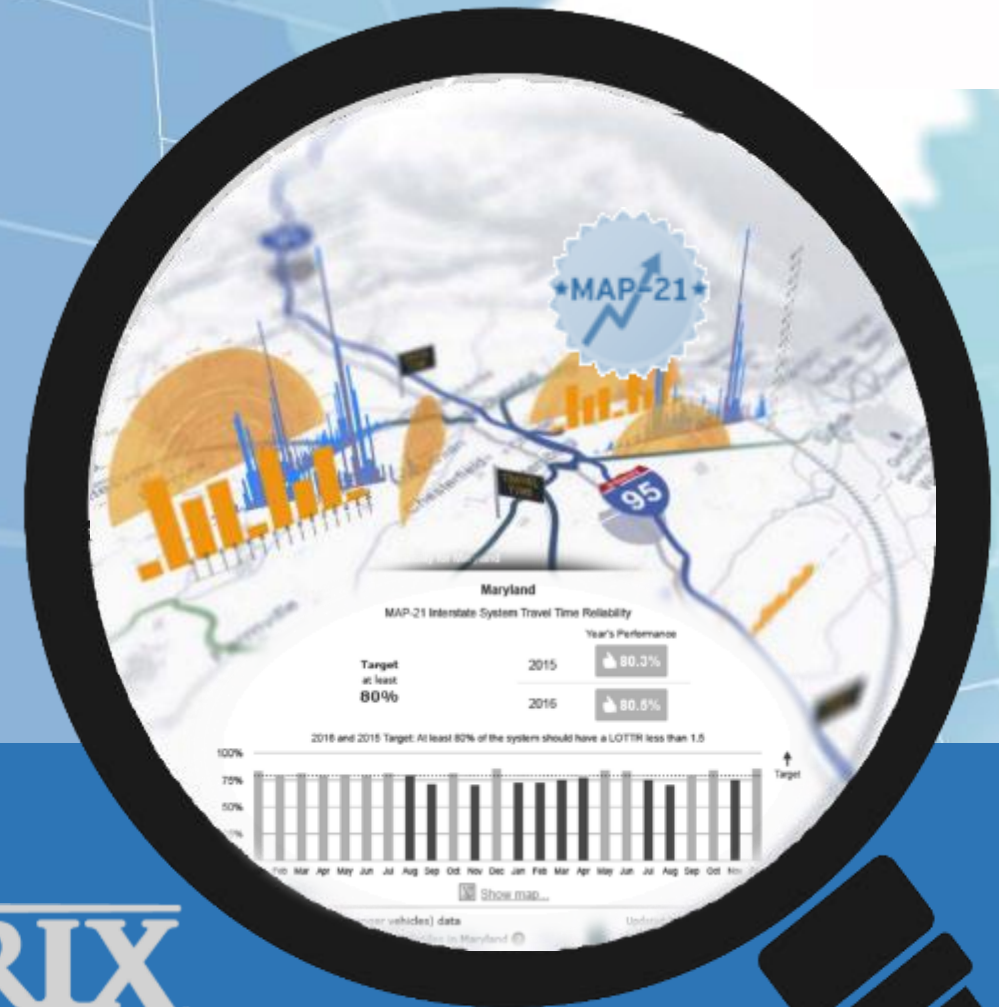
Contacts for further Support

Probe Data / NPMRDS Analytics

(revised by FHWA Division for Florida)



Questions?

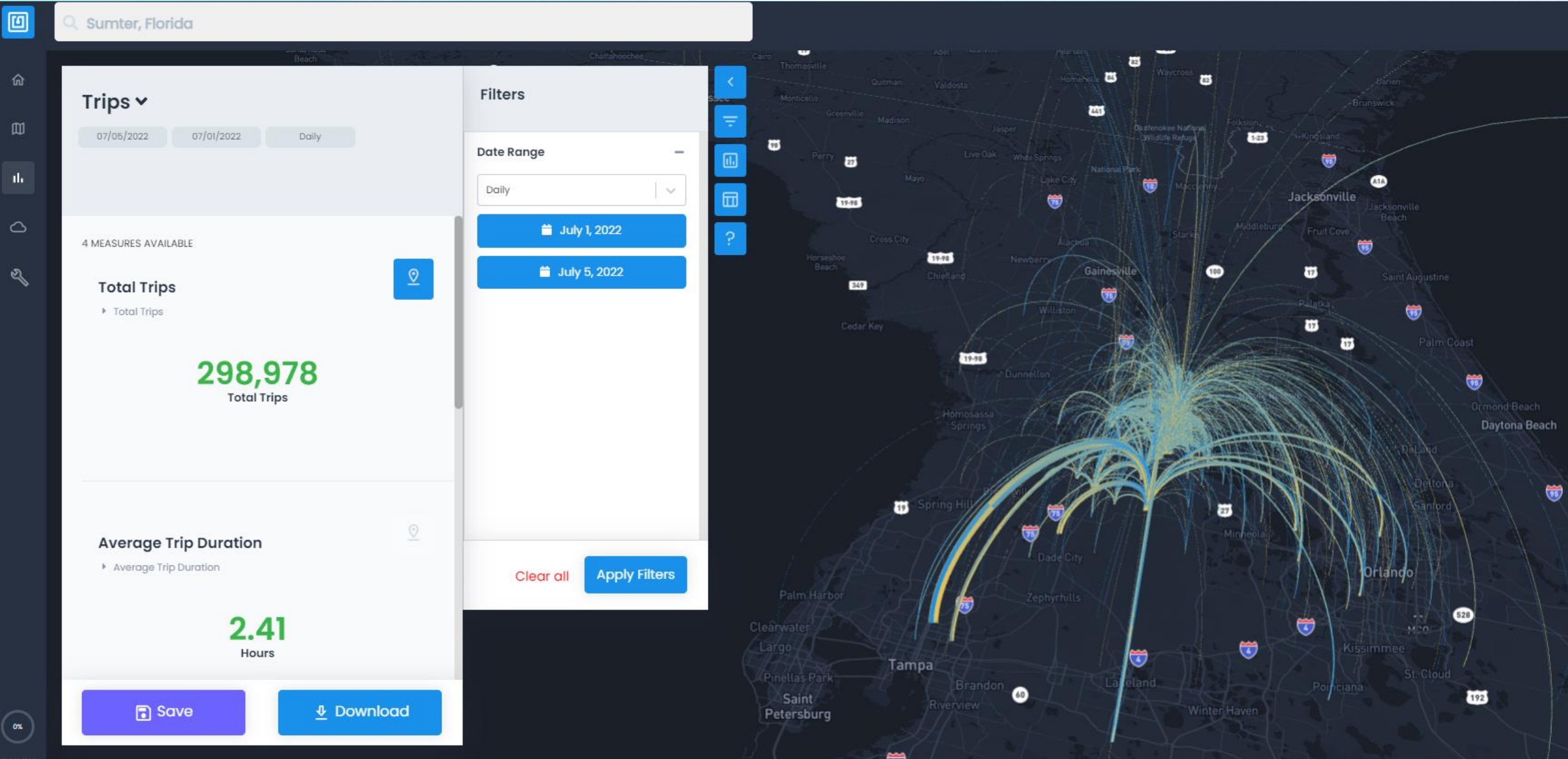


UrbanSDK

- Data visualization platform
 - Studio – GIS platform where you can upload your own spatial data or other available datasets (e.g., Census data) to conduct analyses
 - Insights – custom information related to transportation planning, management, and safety
 - Data Hub – publicly available datasets to download or add to Insights/Studio platform



UrbanSDK – Insights



UrbanSDK – Insights

- Bridges – geolocates all bridges within a region and provides characteristics

The screenshot displays the UrbanSDK Bridges Insights interface for Brevard, Florida. The interface is divided into several sections:

- Search Bar:** Located at the top, containing the text "Brevard, Florida".
- Map:** A dark-themed map showing the geographical distribution of bridges in Brevard, Florida, with blue dots representing individual bridge locations. Major roads like I-95 and SR 406 are visible.
- Summary Panel (Left):**
 - Bridges:** A dropdown menu.
 - Filters:** "2019" and "Yearly" buttons.
 - Measures:** "8 MEASURES AVAILABLE".
 - Total Bridge Inspections:** A large green number "250" with the text "Total Bridge Inspections" below it. A sub-note reads "Total number of bridges with inspection results." A location pin icon is to the right.
 - Poor Inspection Conditions:** A large green number "3" with the text "Poor Inspection Conditions" below it. A sub-note reads "Total number of bridges with poor inspection results." A location pin icon is to the right.
 - Actions:** "Save" and "Download" buttons at the bottom.
- Bridge Detail Panel (Right):** A white box titled "Total Bridges]" containing the following data:

Bridge ID	700109
County	Brevard
Maintenance Owner	State Highway Agency
Structure Condition	Good
Year Built	1970
Year Inspected	2019

UrbanSDK – Insights

Greene, Missouri

Speed and Reliability

01/01/2021 01/03/2021 Daily

10 MEASURES AVAILABLE

Average Travel Time - AM Peak

AM Peak

Facility Type	Average Travel Time (AM Peak)
Interstate	50
Highways	110
State Roads	100
Other	10

Average Travel Time - PM Peak

PM Peak

Facility Type	Average Travel Time (PM Peak)
Interstate	110
Highways	120
State Roads	100
Other	10

Filters

- Facility Type +
- Date Range +
- Route +

Clear all Apply Filters

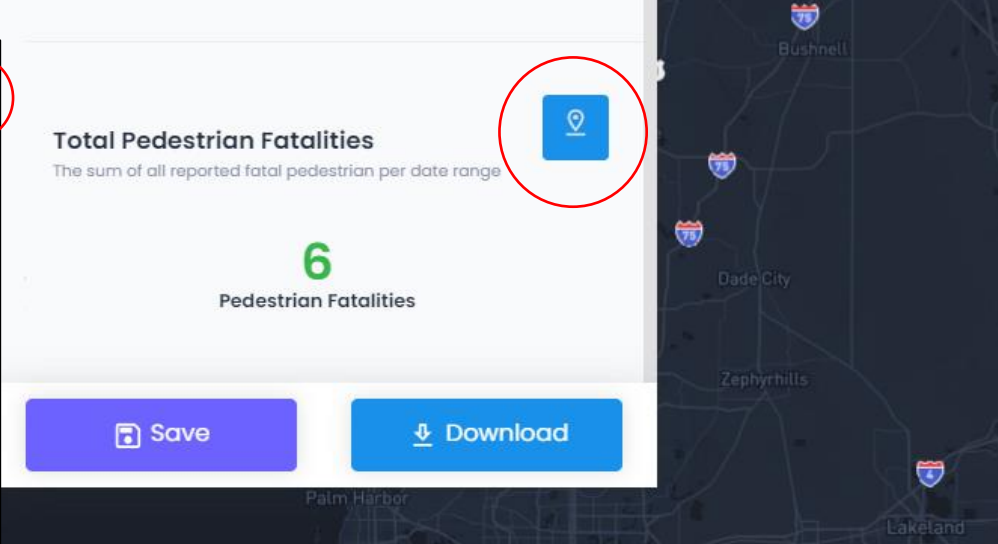
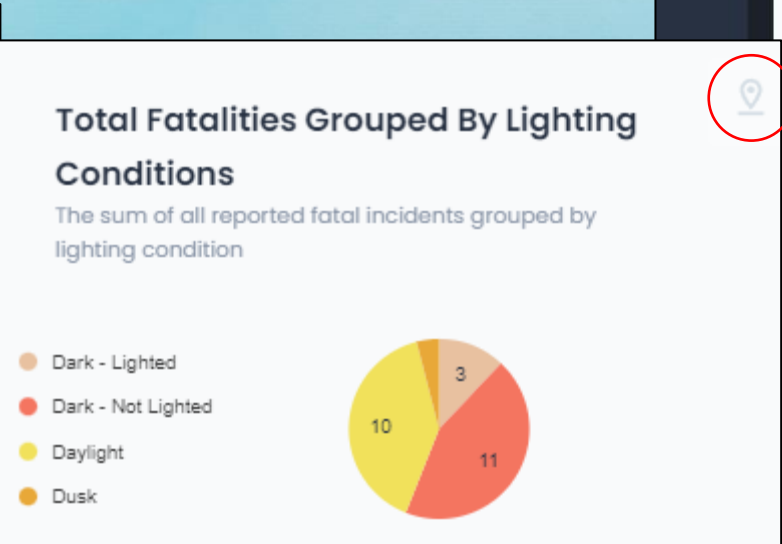
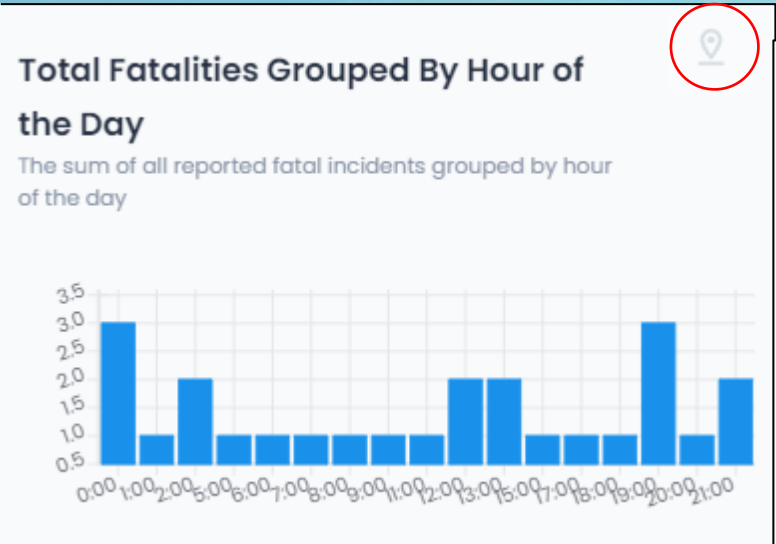
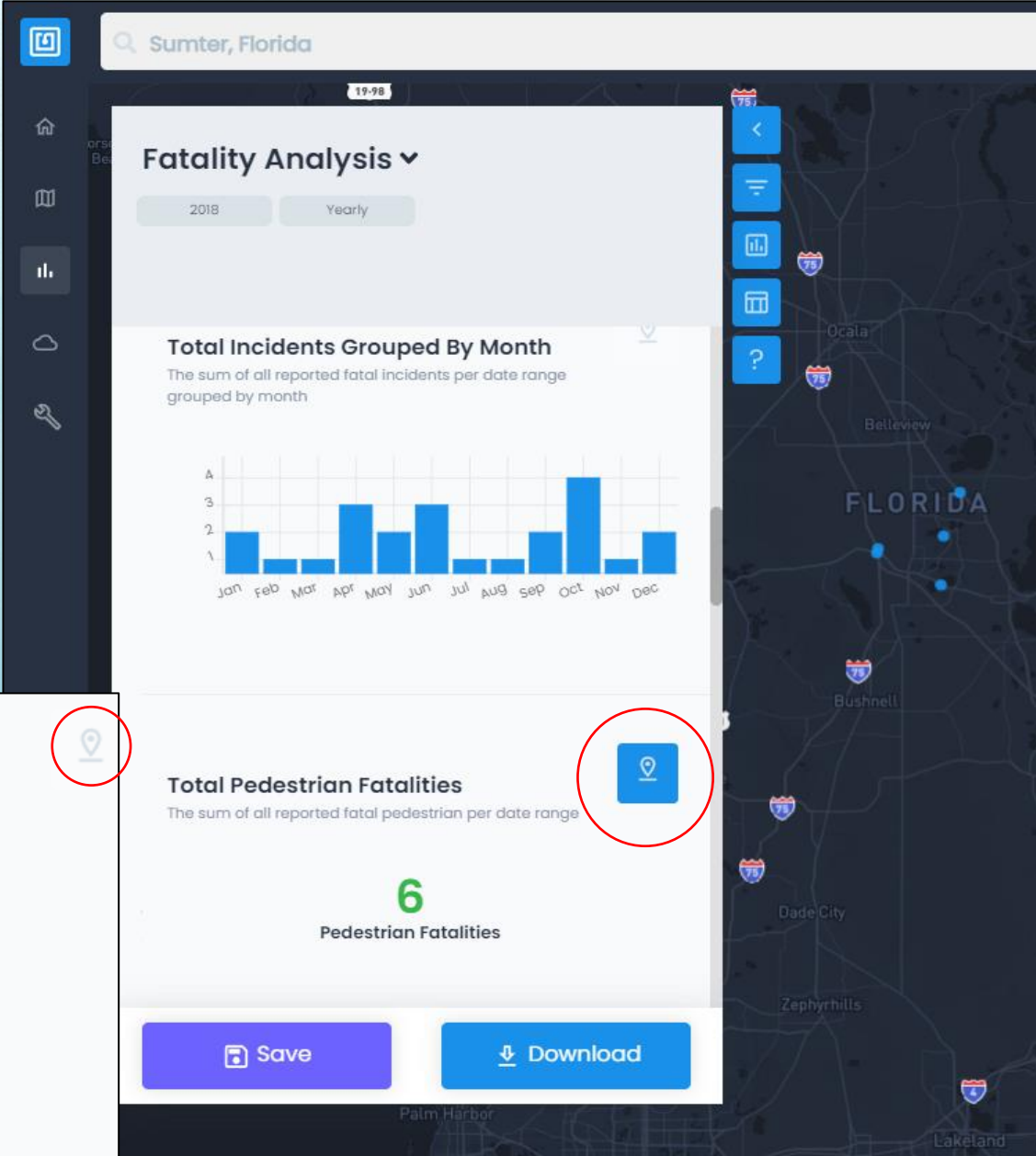
Speed And Reliability

Roadway ID	1973684
Road Name	80
Average Travel Time	N/A
Hours Below Target Speed (35MPH)	N/A

100% QUICK START

UrbanSDK – Insights

- Incident Analysis geolocates all crashes (CARS data) and provides variety of filtering options
- Fatality Analysis can **geolocate** fatal incidents through several filters (ped, WZ, impaired, etc.)



UrbanSDK – Data Hub

- Mobility, Demographics, and other datasets are available
- Previous 5 years of demographics data is available

The screenshot displays the 'Build a Dataset' interface. On the left is a dark sidebar with navigation icons: a home icon, a list icon, a vertical bars icon, a cloud icon, and a key icon. At the bottom of the sidebar is a 'QUICK START' button with a '0%' indicator. The main content area is titled 'Build a Dataset' and shows two selected criteria: 'Pick Location' (Brevard, Florida) and 'Pick Data Type' (English Proficiency). Below these are tabs for 'All', 'Mobility', 'Boundaries', 'Demographics', and 'Population', with 'Mobility' currently selected. Five dataset options are listed, each with a description and an action button: 'Vehicle Availability' (Add +), 'Commute Travel Time' (Add +), 'Average Speed' (Upgrade), 'Travel Time' (Upgrade), and 'Crash Rates & Safety' (Upgrade). On the right side of the interface is a map of the Brevard County area, with a teal-colored polygon highlighting the county's geographic boundary. The map shows major roads and cities like Daytona Beach, Deland, Deltona, Sanford, Orlando, MCO, Kissimmee, St. Cloud, and Sebastian.

UrbanSDK – Data Hub

The screenshot displays the UrbanSDK Data Hub interface. On the left, a sidebar contains navigation icons for home, layers, settings, and search. The top toolbar includes icons for map navigation and data management. The central panel shows the configuration for a polygon layer:

- 59 rows** (Data source information)
- 3db4374e-1e7d-43a7-...** (Layer ID)
- Geojson** (Layer type)
- Basic** (Layer settings section)
- Polygon** (Layer type icon)
- Columns** (Required*)
- Geojson *** (Field: `geo _geojson`)
- Fill Color** (Color gradient bar)
- Stroke Color** (Color bar)
- Stroke Color Based On** (Select a field)
- Opacity** (Slider: 0.29)
- Stroke Width** (Slider: 0.5)
- Height** (Slider)

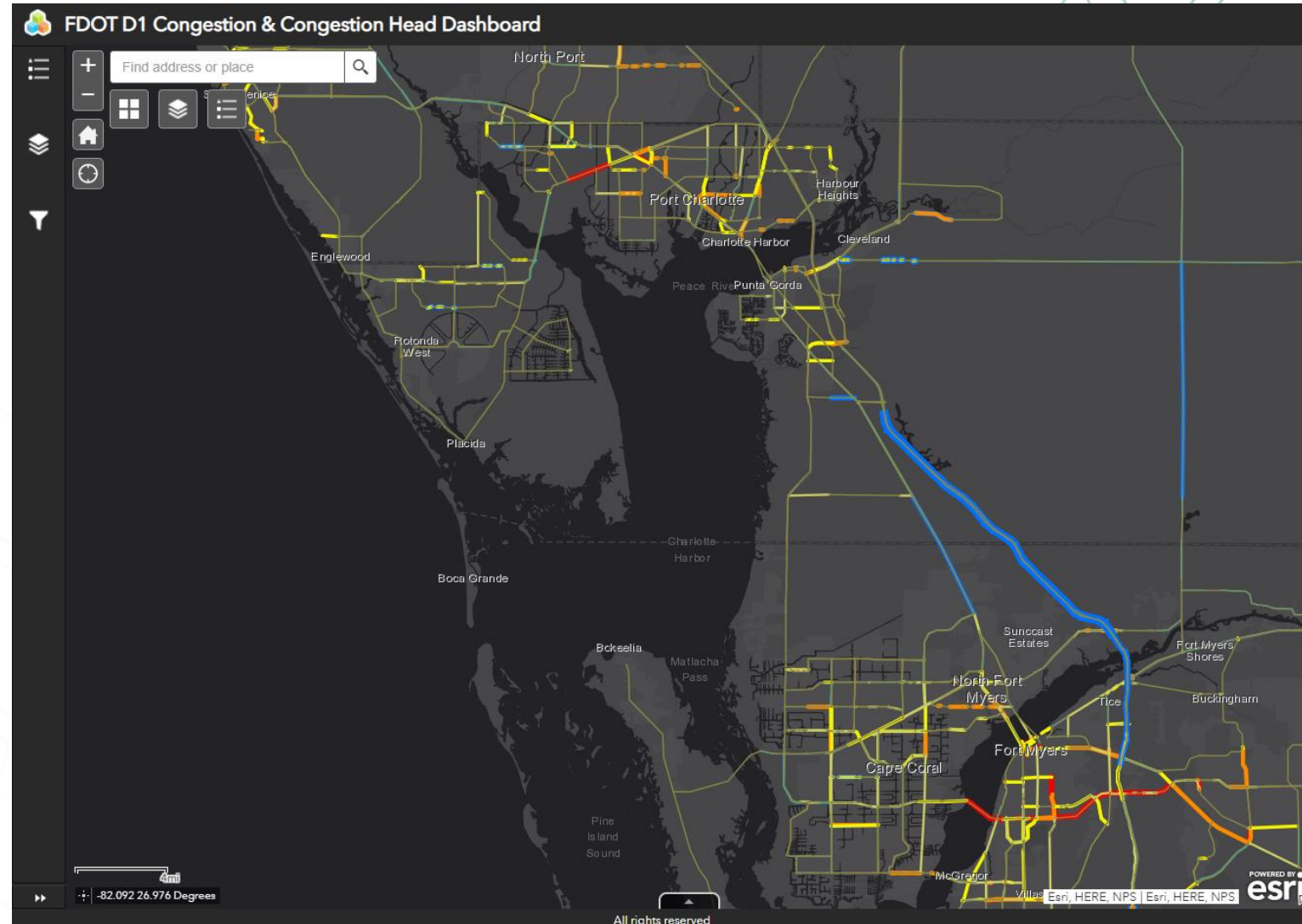
At the bottom of the configuration panel are **Save** and **Download** buttons. The map on the right shows a polygon overlay on a map of Winter Haven, Florida, with various roads and place names visible.

Performance Reporting Using Probe based Speed Data

Determining Percent of Time in Congestion and Congestion Head (Start location of Congestion Events)

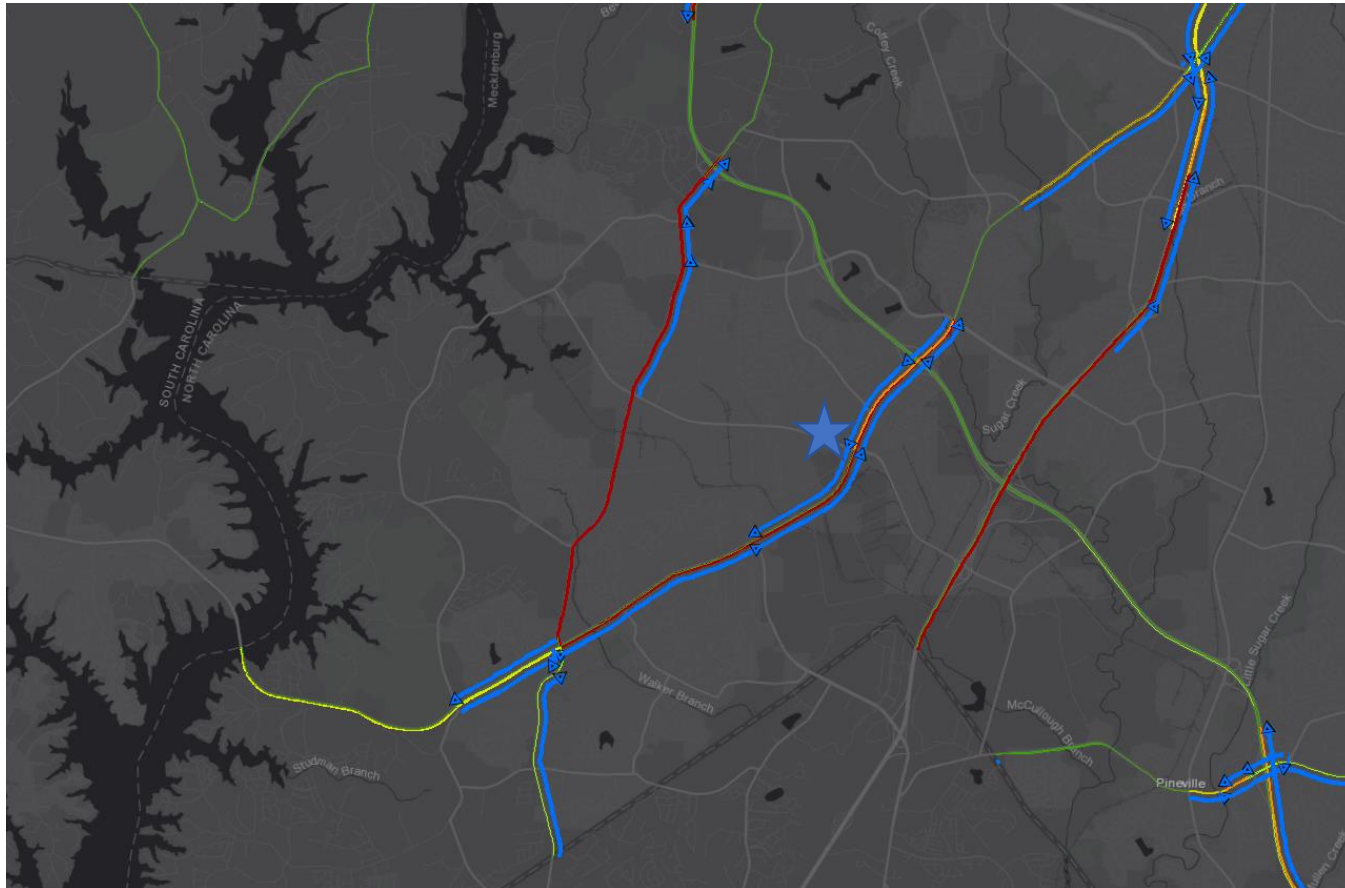
Percent Time in Congestion and Congestion Head

- Percent Time in Congestion during peak period
 - 7-9 AM Peak
 - 4-6 PM Peak
- Congestion Heads (Blue lines) *locations where congestion events begin*
 - 5-10 AM Peak
 - 3-7 PM Peak



Head of Congestion

Congestion = travel speed < 75% of freeflow speed



	TMC	TMC1	TMC2	TMC3	TMC4	TMC5
Length	0.5	0.75	1	0.5	1.5	1.25
T-3	.86	.81	.80	.85	.81	.81
T-2	.82	.81	.82	.81	.80	.82
T-1	.83	.80	.80	.79	.77	.84
T	.81	.79	.80	.76	.65	.83
T2	.82	.80	.81	.60	.55	.82
T3	.82	.81	.72	.55	.45	.80
T4	.79	.71	.68	.55	.74	.79
T5	.78	.72	.59	.50	.80	.81
T6	.81	.76	.52	.48	.81	.82
T7	.82	.78	.65	.54	.79	.80
T8	.81	.80	.70	.67	.82	.82
T9	.77	.81	.76	.76	.85	.84
T10	.80	.82	.77	.80	.85	.85

Close Review of Congestion

- Viewing the congestion with congestion heads starts to tell a complete story
- For example, location shows experiencing congestion 96% of time
- However, the Congestion Head is just beyond the overpass
- This shows that while the bridge is experiencing the congestion, the start is the merge lanes beyond



Prioritization with Congestion

- Congestion Percentages are being used to review upcoming Work Program Projects to determine congestion impact and rank of prioritization for future project needs
- Congestion Metrics are used as a reporting Metric to assist in tracking and understanding patterns on the network

Work Program Year of Failure Speed & Congestion Functional Classification Safety Future Land Use Environmental Improvements

Work Program Projects on Selected Roadway
**Please note, projects are filtered only by Roadway ID to show adjacent projects. URL Links only work on FDOT VPN*

Sort By BMP ▾ 00

FM Segment: 4388701 - ATMS - ARTERIAL TRAFFIC MGMT -- Status: ADOPTED, NOT BEGUN Version: AD -- Phase: CST -- Phase Year: 2016 - 2022 Roadway: 13160000 -- BMP: 0.00 -- EMP: 7.45	PSEE URL FM URL
FM Segment: 4388701 - ATMS - ARTERIAL TRAFFIC MGMT -- Status: ADOPTED, NOT BEGUN Version: AM -- Phase: CST -- Phase Year: 2016 - 2022 Roadway: 13160000 -- BMP: 0.00 -- EMP: 7.45	PSEE URL FM URL
FM Segment: 4388701 - ATMS - ARTERIAL TRAFFIC MGMT -- Status: ADOPTED, NOT BEGUN Version: G1 -- Phase: CST -- Phase Year: 2016 - 2022 Roadway: 13160000 -- BMP: 0.00 -- EMP: 7.45	PSEE URL FM URL
FM Segment: 4350681 - ADD LEFT TURN LANE(S) -- Status: DROPPED/TRANSFERRED Version: CA -- Phase: CST -- Phase Year: 2022 - 2022 Roadway: 13160000 -- BMP: 1.15 -- EMP: 1.35	PSEE URL FM URL
FM Segment: 4491211 - RESURFACING -- Status: CANDIDATE LINE ITEM Version: CA -- Phase: CST -- Phase Year: 2025 - 2025 Roadway: 13160000 -- BMP: 7.48 -- EMP: 9.34	PSEE URL FM URL
FM Segment: 4491211 - RESURFACING -- Status: CANDIDATE LINE ITEM	

Work Program - Current - Administration Phase

Fiscal Year

Work Program Year of Failure **Speed & Congestion** Functional Classification Safety Future Land Use Environmental Improvements

Congestion

Roadway Performance uses the available probe data to provide performance metrics along the selected corridor within a given year including percent of time in congestion and how often that segment is a congestion head (start of congestion).

To view or perform further analysis of the corridor, including evaluating based on select dates or directly querying the big data environment, use the tools located at the bottom of the page (Work Zone Analysis, Letting, or Lane Closure).

FDOTD1_Congestion - Congestion Interstate PM (4-6 PM)

FDOTD1_Congestion - Congestion Heads Interstate TWR PM

- FDOTD1_Congestion - Congestion Interstate AM (7-9 AM)
- FDOTD1_Congestion - Congestion Heads Interstate TWR AM
- FDOTD1_Congestion - Congestion AM (7-9 AM)
- FDOTD1_Congestion - Congestion Heads TWR AM
- FDOTD1_Congestion - Congestion Interstate PM (4-6 PM)
- FDOTD1_Congestion - Congestion Heads Interstate TWR PM
- FDOTD1_Congestion - Congestion PM (4-6 PM)
- FDOTD1_Congestion - Congestion Heads TWR PM
- FDOT D1 TSMO Scope Template Service



D5 ICM PERFORMANCE MANAGEMENT

Sheryl Bradley, I-75 ICM Project Manager

SYSTEMS & OPERATIONS

Real-Time and Historical



Legend

- Greater than 95% Uptime
- ◆ Greater than 90% Uptime
- ◇ Greater than 70% Uptime
- ▲ Greater than 5% Uptime
- ▼ Less than 5% Uptime

Login / Logout

CCTV Usage

Device Uptime

Device Type

Camera

Start Date

07/01/2022

End Date

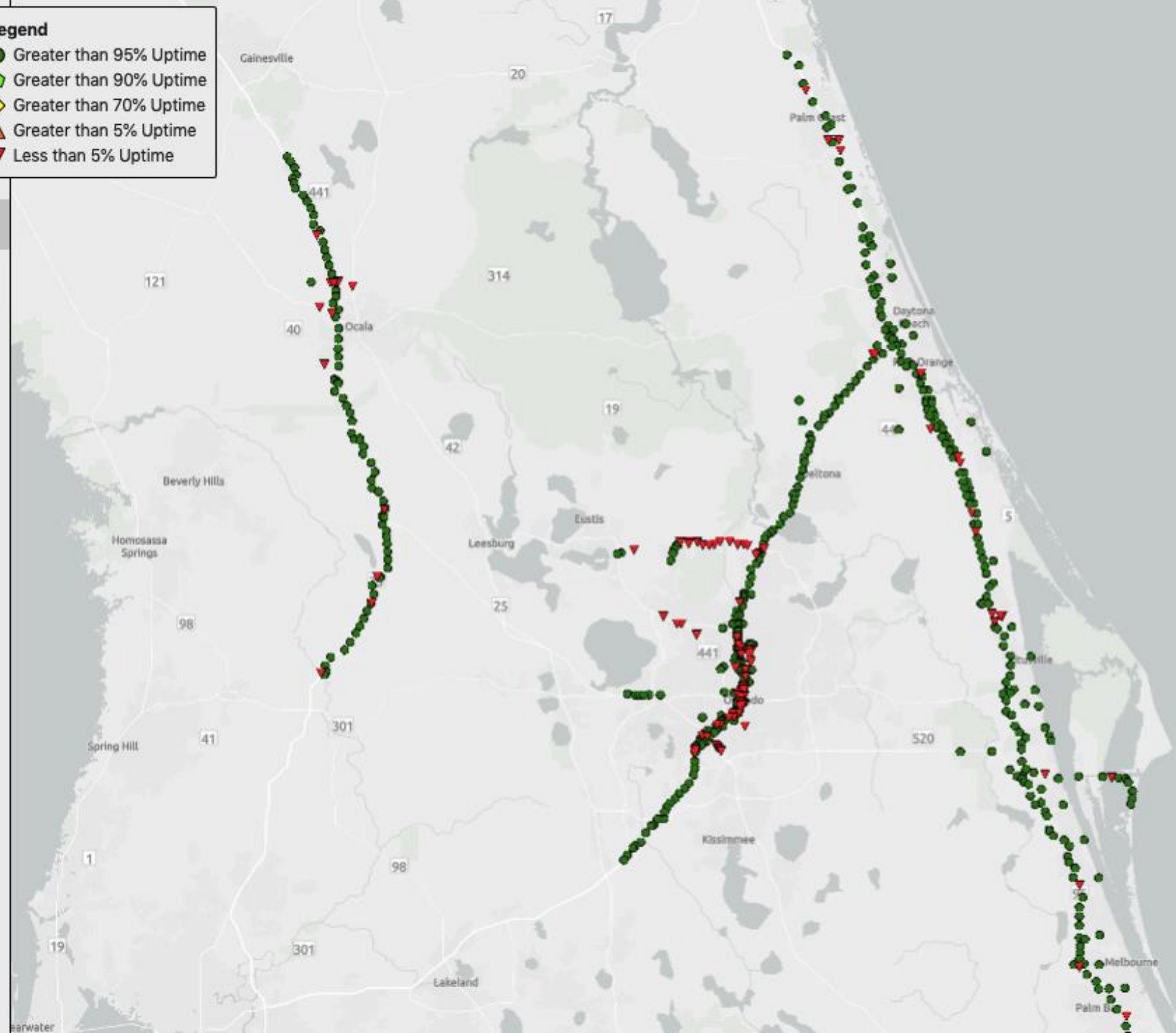
07/28/2022

Travel Time

Sensors

Transit

Prepared for FDOT by
AECOM



Legend

- Greater than 95% Uptime
- ◆ Greater than 90% Uptime
- ◇ Greater than 70% Uptime
- ▲ Greater than 5% Uptime
- ▼ Less than 5% Uptime

Login / Logout

CCTV Usage

Device Uptime

Device Type

Detector

Start Date

07/01/2022

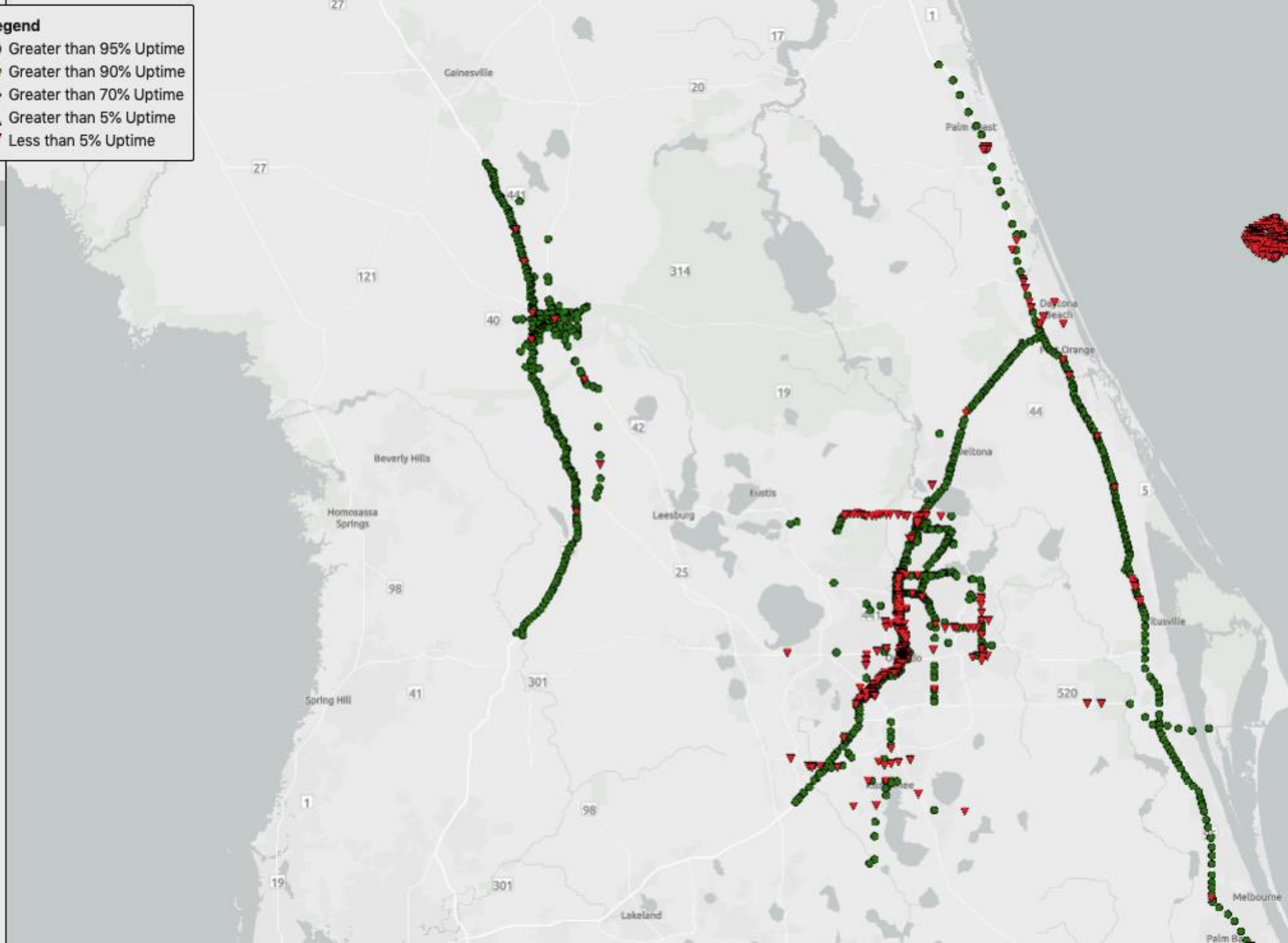
End Date

07/28/2022

Travel Time

Sensors

Transit





Login / Logout

CCTV Usage

Device Uptime

Travel Time

Travel Date

07/16/2022

Selected Time: 15:00

Sensors

Transit

Prepared for FDOT by
AECOM

Legend

75 mph

65 mph

55 mph

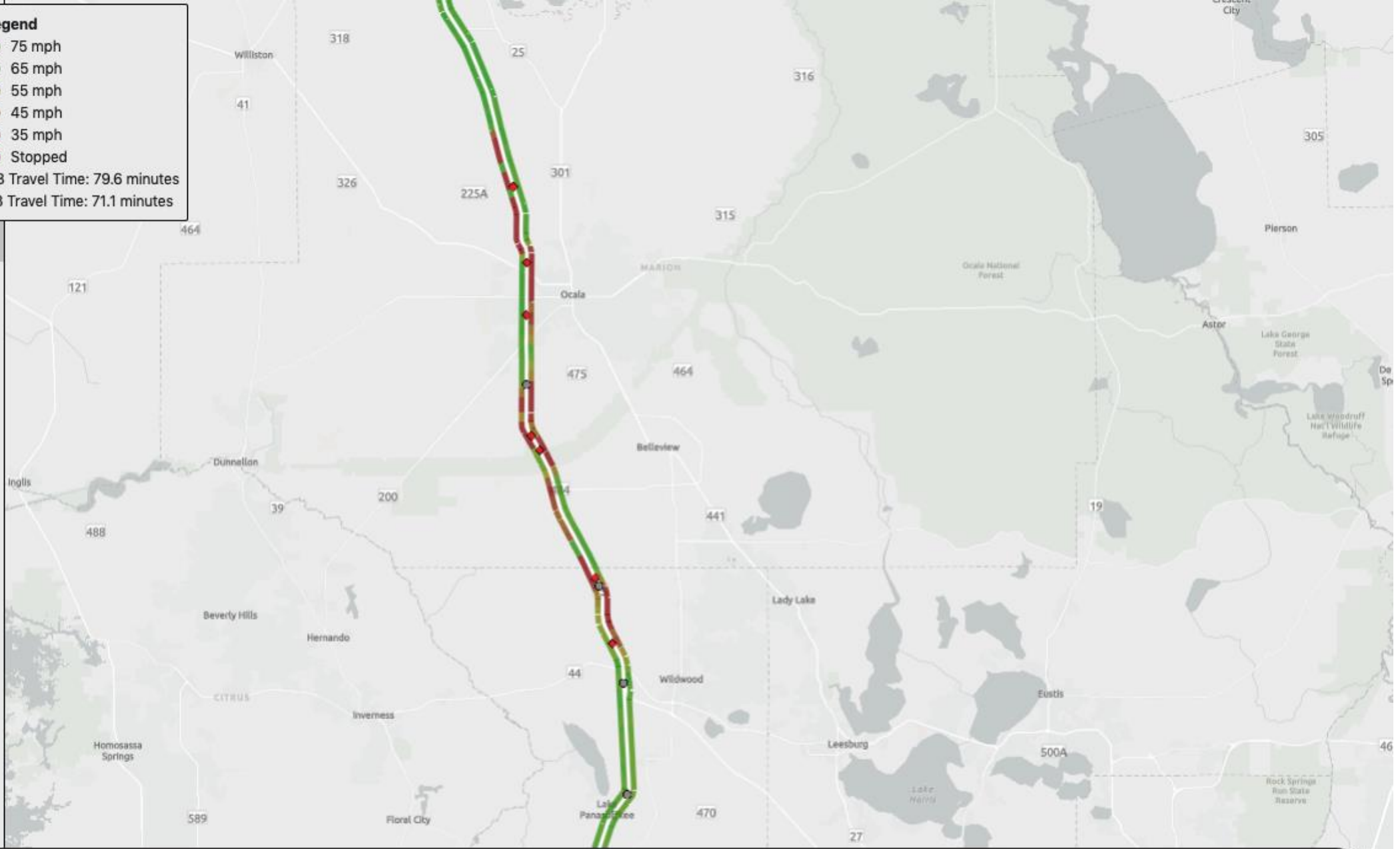
45 mph

35 mph

Stopped

NB Travel Time: 79.6 minutes

SB Travel Time: 71.1 minutes





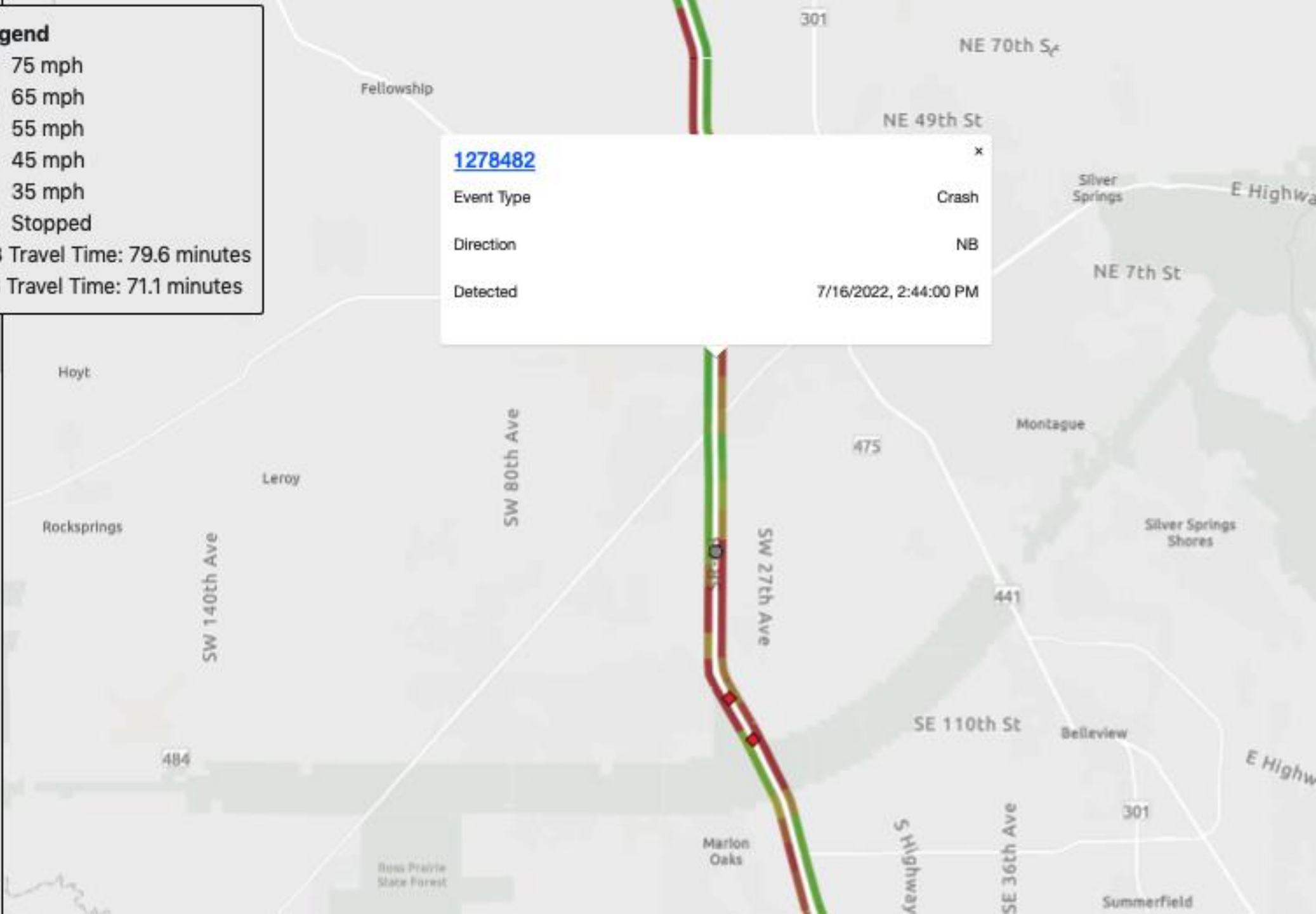
Legend

- 75 mph
- 65 mph
- 55 mph
- 45 mph
- 35 mph
- Stopped

NB Travel Time: 79.6 minutes
 SB Travel Time: 71.1 minutes

[1278482](#) ✕

Event Type	Crash
Direction	NB
Detected	7/16/2022, 2:44:00 PM



Login / Logout

CCTV Usage

Device Uptime

Travel Time

Travel Date

07/16/2022

Selected Time: 15:00

Sensors

Transit



User

Username

KRAECBS

Logout

Event Debriefs

Travel Time Reliability

Operations QC

Clearance

Road Ranger

IDS Detail

IDS Summary

Device Uptime

DMS Report

Shift Reports

Damage Notification

TPAS Logs

ICMSTAT Logs

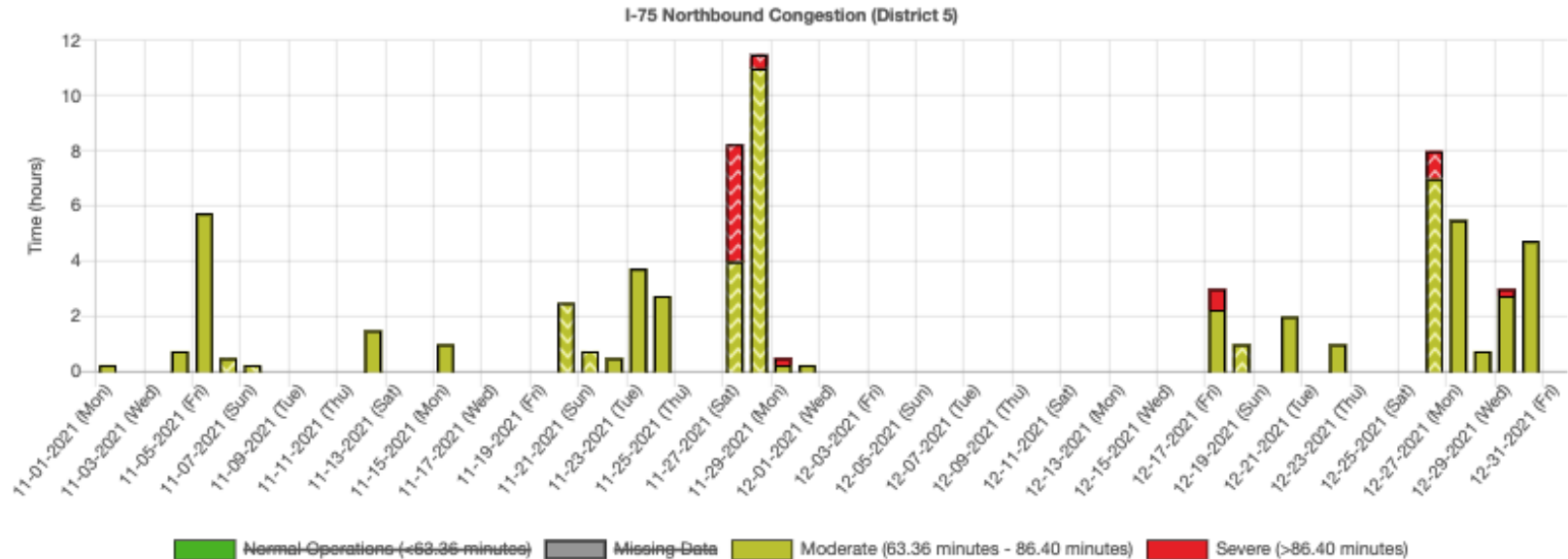
Report Filters

Corridor	District 5 I-75 Northbound		
Start Date	11/01/2021		
End Date	12/31/2021		
Moderate Congestion Threshold (minutes)	63.36	Moderate TTI	1.10
Severe Congestion Threshold (minutes)	86.40	Severe TTI	1.50



Submit

Moderate congestion was experienced:	25 of 61 days
Average moderate congestion time:	1.0 hours
Total moderate congestion time:	62.75 hours
Average speed during moderate congestion:	55.9 mph
Severe congestion was experienced:	6 of 61 days
Average severe congestion time:	0.1 hours
Total severe congestion time:	7 hours
Average speed during severe congestion:	44.1 mph



5:11 AM

User

Username

KRAECBS

Logout

Event Debriefs

Travel Time Reliability

Operations QC

Clearance

Road Ranger

IDS Detail

IDS Summary

Device Uptime

DMS Report

Shift Reports

Damage Notification

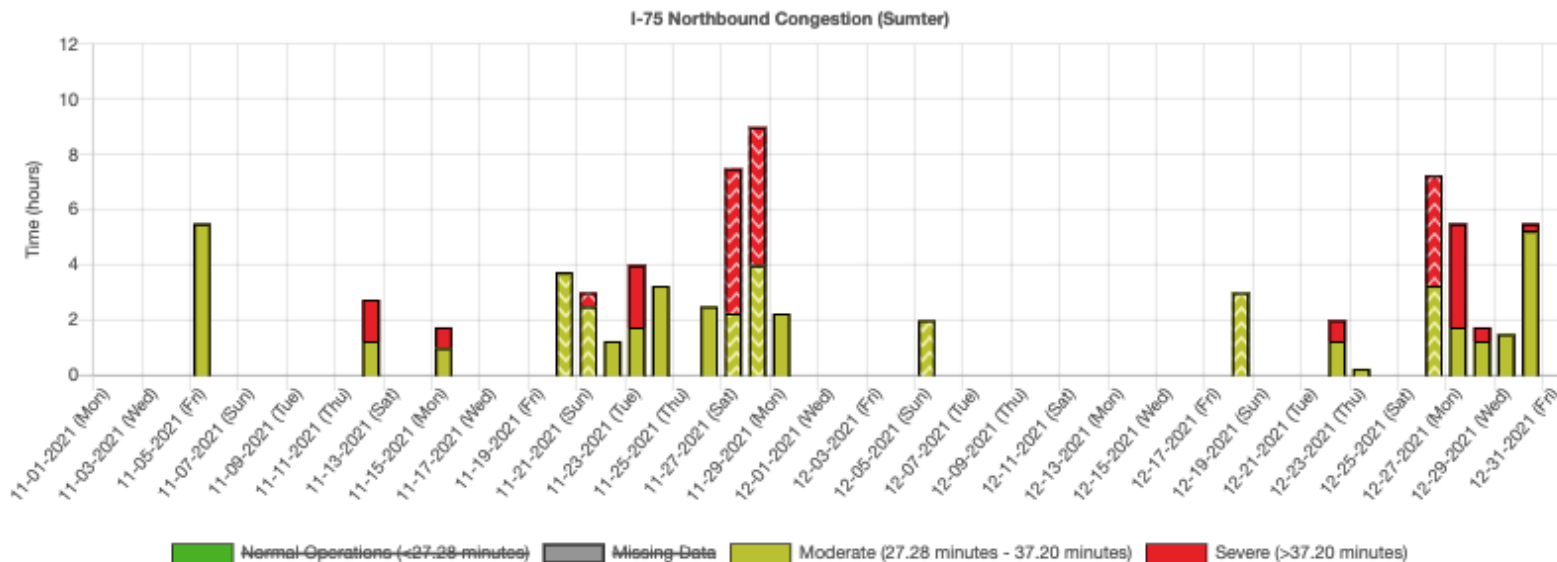
TPAS Logs

ICMSTAT Logs

Corridor	Sumter I-75 Northbound		
Start Date	11/01/2021		
End Date	12/31/2021		
Moderate Congestion Threshold (minutes)	27.28	Moderate TTI	1.10
Severe Congestion Threshold (minutes)	37.20	Severe TTI	1.50

Submit

Moderate congestion was experienced:	21 of 61 days
Average moderate congestion time:	0.8 hours
Total moderate congestion time:	50.75 hours
Average speed during moderate congestion:	55.6 mph
Severe congestion was experienced:	11 of 61 days
Average severe congestion time:	0.4 hours
Total severe congestion time:	24.5 hours
Average speed during severe congestion:	38.7 mph





User

Username

KRAECBS

Logout

Event Debriefs

Travel Time Reliability

Operations QC

Clearance

Road Ranger

IDS Detail

IDS Summary

Device Uptime

DMS Report

Shift Reports

Damage Notification

TPAS Logs

ICMSTAT Logs

Report Filters

Corridor

Sumter I-75 Northbound

Start Date

11/21/2021

End Date

11/28/2021

Moderate Congestion Threshold (minutes)

27.28

Moderate TTI

1.10

Severe Congestion Threshold (minutes)

37.20

Severe TTI

1.50

Submit

Moderate congestion was experienced:

7 of 8 days

Average moderate congestion time:

2.2 hours

Total moderate congestion time:

17.5 hours

Average speed during moderate congestion:

55.7 mph

Severe congestion was experienced:

4 of 8 days

Average severe congestion time:

1.6 hours

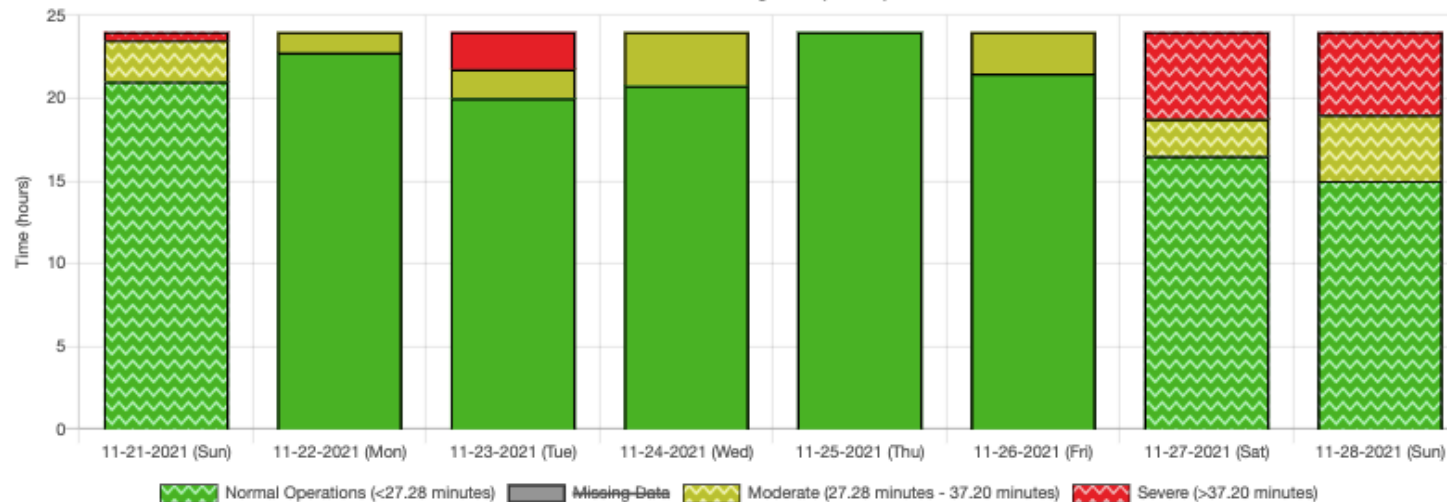
Total severe congestion time:

13 hours

Average speed during severe congestion:

37.9 mph

I-75 Northbound Congestion (Sumter)





User

Username

KRAECBS

Logout

Event Debriefs

Travel Time Reliability

Operations QC

Clearance

Road Ranger

IDS Detail

IDS Summary

Device Uptime

DMS Report

Shift Reports

Damage Notification

TPAS Logs

ICMSTAT Logs

Report Filters

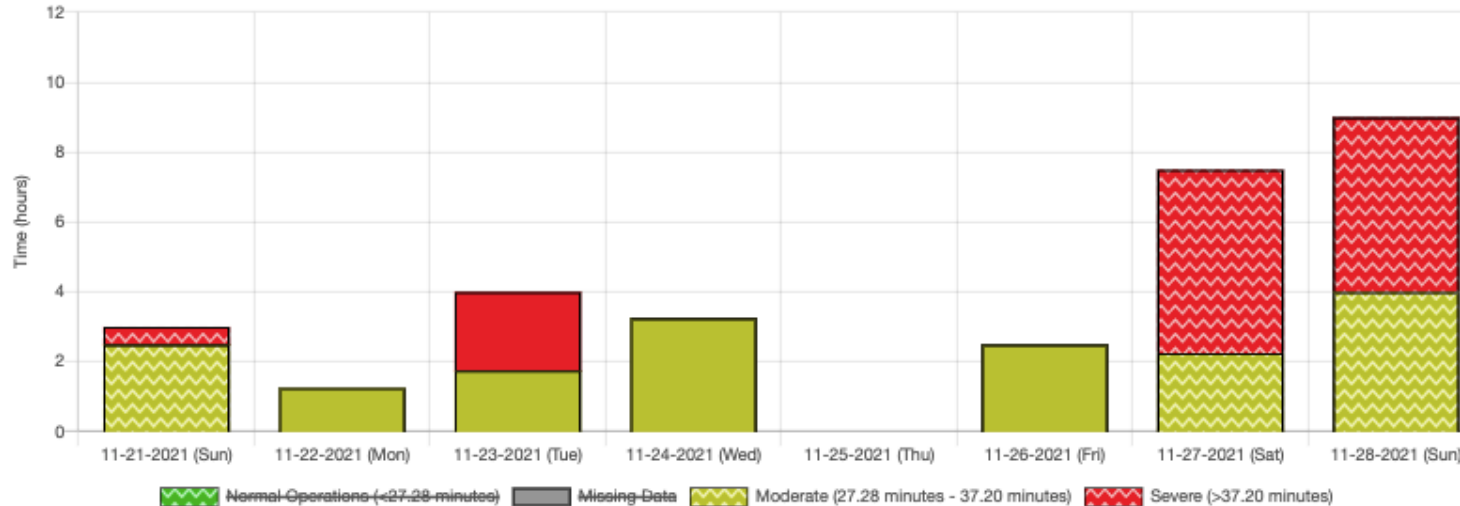
Corridor	Sumter I-75 Northbound		
Start Date	11/21/2021	<input type="calendar"/>	<input type="close"/>
End Date	11/28/2021	<input type="calendar"/>	<input type="close"/>
Moderate Congestion Threshold (minutes)	27.28	Moderate TTI	1.10
Severe Congestion Threshold (minutes)	37.20	Severe TTI	1.50



Submit

Moderate congestion was experienced:	7 of 8 days
Average moderate congestion time:	2.2 hours
Total moderate congestion time:	17.5 hours
Average speed during moderate congestion:	55.7 mph
Severe congestion was experienced:	4 of 8 days
Average severe congestion time:	1.6 hours
Total severe congestion time:	13 hours
Average speed during severe congestion:	37.9 mph

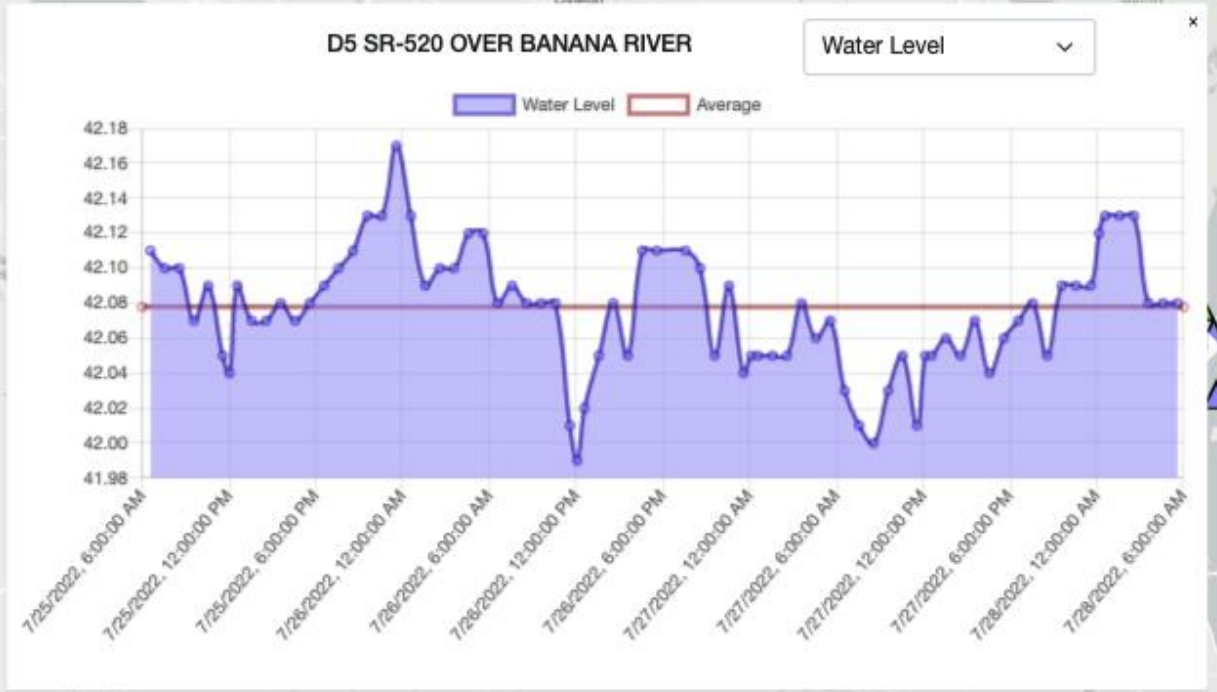
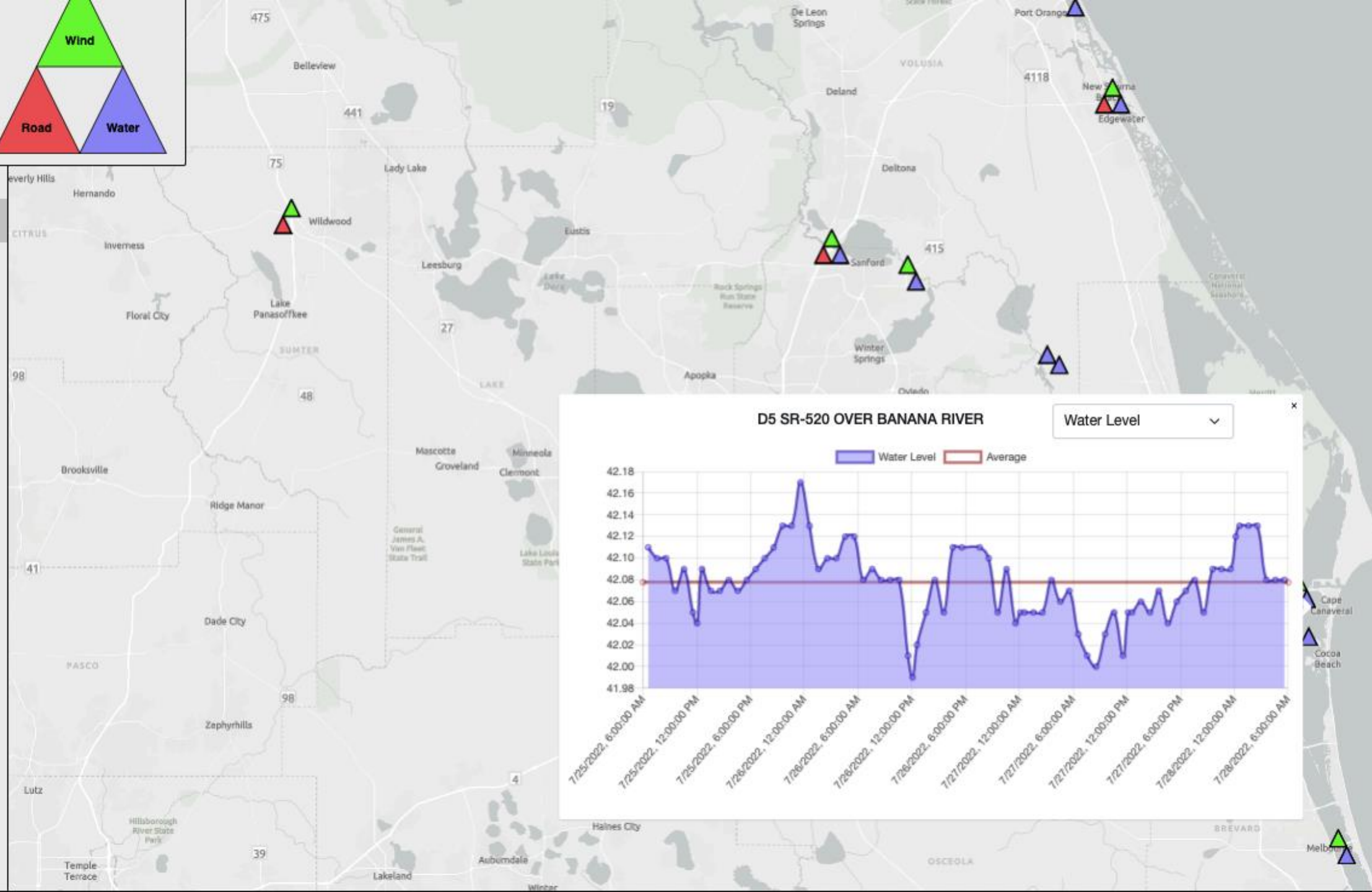
I-75 Northbound Congestion (Sumter)



- Login / Logout
- CCTV Usage
- Device Uptime
- Travel Time
- Sensors
- Transit



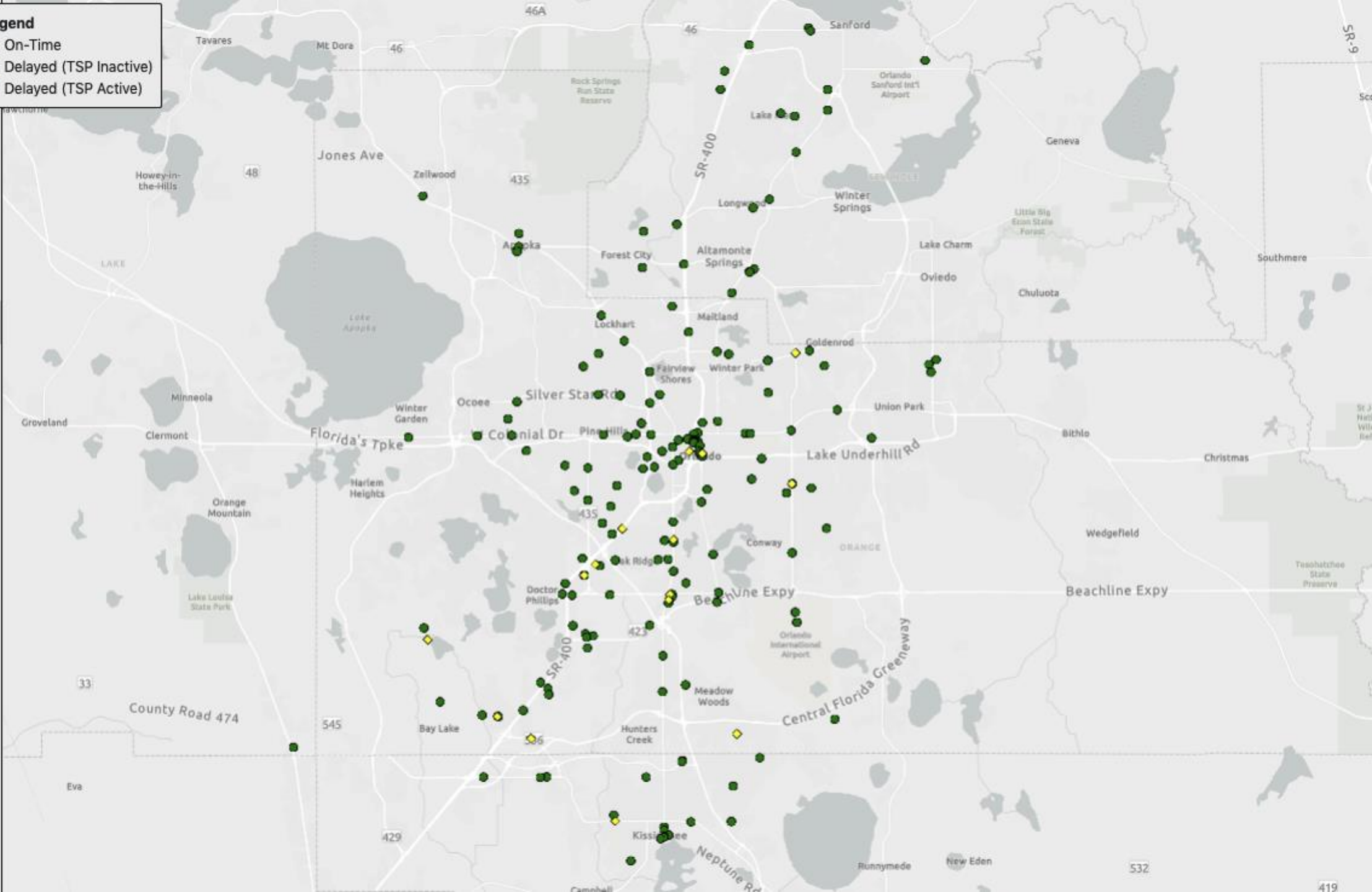
Prepared for FDOT by
AECOM



Legend

- On-Time
- ◆ Delayed (TSP Inactive)
- ▼ Delayed (TSP Active)

- Login / Logout
- CCTV Usage
- Device Uptime
- Travel Time
- Sensors
- Transit**



Prepared for FDOT by
AECOM



User

Username

KRAECBS

Logout

Event Debriefs

Travel Time Reliability

Operations QC

Clearance

Road Ranger

IDS Detail

IDS Summary

Device Uptime

DMS Report

Shift Reports

Damage Notification

TPAS Logs

ICMSTAT Logs

Report Filters

Last * Hours

Responder: I-75 Road Rangers

Start Date: 06/01/2022

End Date: 06/30/2022

Submit

↓	Number of events	1222
	Number of self-found events	631
▼	Number of responses over 30 minutes	137
	Average dispatch time	2:17
	Average response time	24:14
	Average on-scene time	12:49

Event ID	Created	Event Type	Location	Response	On-Scene	Details
1271560	4/4/2022, 11:48:00 AM	Disabled Vehicle	Sumter on I-75 Northbound, Beyond MM 334	0:00	17:25	i
1266147	6/1/2022, 7:20:57 AM	Disabled Vehicle	Marion on I-75 Northbound, At MM 337	0:00	4:53	i
1266148	6/1/2022, 7:21:28 AM	Disabled Vehicle	Sumter on I-75 Northbound, At MM 326	15:45	54:20	i
1266165	6/1/2022, 8:02:51 AM	Disabled Vehicle	Sumter on I-75 Southbound, At MM 326	37:51	13:01	i
1266169	6/1/2022, 8:09:48 AM	Disabled Vehicle	Marion on I-75 Northbound, At MM 355	4:08	8:02	i
1266172	6/1/2022, 8:21:10 AM	Disabled Vehicle	Sumter on I-75 Southbound, At MM 332	0:00	3:48	i
1266183	6/1/2022, 8:49:23 AM	Disabled Vehicle	Sumter on I-75 Southbound, Ramp To Floridas Turnpike	N/A	N/A	i
1266185	6/1/2022, 8:52:17 AM	Disabled Vehicle	Marion on I-75 Northbound, At MM 339	0:00	16:48	i
1266190	6/1/2022, 9:12:25 AM	Debris on Roadway	Sumter on I-75 Northbound, Beyond MM 307	0:00	2:24	i
1266206	6/1/2022, 10:23:20 AM	Disabled Vehicle	Marion on I-75 Southbound, At MM 364	55:27	4:23	i
1266207	6/1/2022, 10:32:40 AM	Debris on Roadway	Marion on I-75 Southbound, At MM 338/Weigh Station	0:00	0:55	i
1266210	6/1/2022, 10:38:31 AM	Disabled Vehicle	Sumter on I-75 Northbound, At Exit 314/SR-48	13:01	26:54	i
1266217	6/1/2022, 11:02:33 AM	Disabled Vehicle	Marion on I-75 Northbound, At MM 363/CR-329	0:00	7:04	i
1266222	6/1/2022, 11:22:35 AM	Crash	Marion on I-75 Northbound, At MM 350/SR-200	16:59	0:27	i
1266224	6/1/2022, 11:34:02 AM	Debris on Roadway	Sumter on I-75 Southbound, At MM 313/CR-476	0:00	4:05	i
1266226	6/1/2022, 11:34:30 AM	Disabled Vehicle	Marion on I-75 Northbound, At MM 339	N/A	N/A	i

Event Debrief (ID 1266222)



1 Narrative [✎](#)

1 Event Number

1266222

Event Type

Crash

County

Marion

1 Event Location

Marion on I-75 Northbound, At MM 350/SR-200

1 Severity

Minor

1 Notifier

FHP

1 Notifier ID

FHP

Opened

6/1/2022, 11:22:35 AM

Duration

1h 19m 38s

Lane Blocked

No

1 Event Location Changed

No

1 Event Type Changed

No

Involved Vehicles

N/A

Asset Damage

N/A

Injuries

N/A

1 Operators

Camille Silvi, Wayne Singleton

1 IDS Acknowledgement

54s

1 Event Confirmation

N/A

1 Road Ranger Dispatch

1m 52s

1 Road Ranger Arrival

N/A

1 Response Plan Activation

N/A

1 Publish to 511

N/A

Notify Maintenance

N/A

1 Roadway Clearance

N/A

Associated Events (0)

Nearby Events (22)

IDS Alarms (10)

CCTV Use (12)

DMS Use (0)

Publish History (0)

Road Rangers



24 Hour Average

Dispatch	41s
On Duty Dispatch	38s
Response	21m 35s
On-Scene	19m 51s

Active Now



Critical Events	0	-
Lane Blocking	0	-
Abandoned Vehicles	4	307h 33m
Recent Events (1 hour)	1	

Travel Speed



↑ Marion NB	77 mph
↓ Marion SB	76 mph
↑ Sumter NB	77 mph
↓ Sumter SB	75 mph

Event Response



24 Hour Average

Total	33
Verification	6m 30s
Response	8m 47s
Open Roads	14m 14s
Clearance	20m 41s
Departure	1h 07m

Device Status



Cameras	93%	5
Detectors	94%	8
DMS	100%	0
DMS (TPAS)	80%	1
MIMS Tickets		14

Performance Metrics



Camera Use	2h 20m
TPAS Logs	21m 28s
TSS Alarm	81s
FHP Alarm	87s
Event Ownership	53s

Response Plan & OOS



1280339 15:05



No light statuses are active

Last updated 7/28/2022, 6:59:46 AM

KRAECBS

Performance Reporting

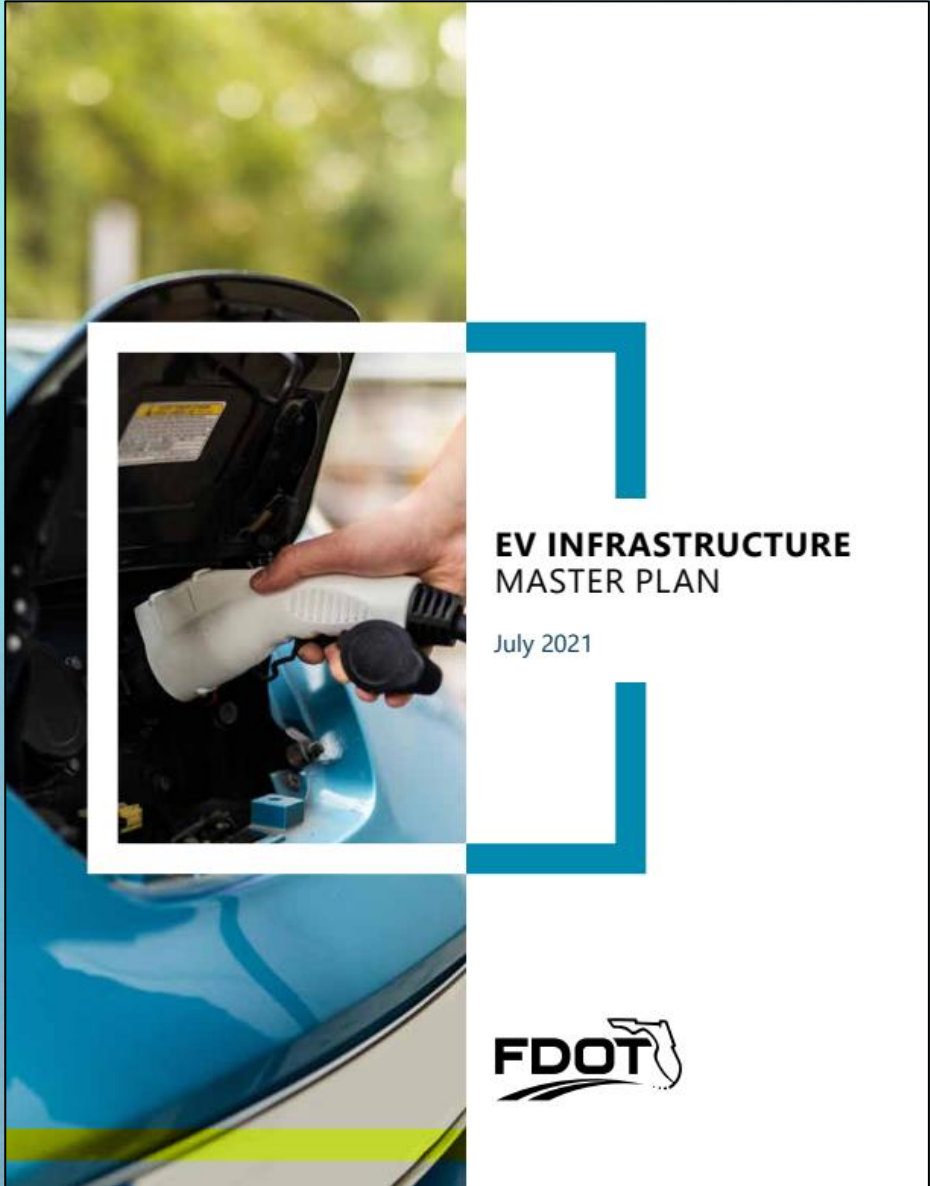
- Do any of these dashboards and reporting platforms meet your agency's needs?
- Where are the gaps?

Questions

Florida's Electric Vehicle Infrastructure Deployment Plan (draft)

David Williams, VHB

EV Infrastructure Master Plan (EVMP)



- EVMP required by F.S. 339.287
 - Requires FDOT to coordinate, develop and recommend Master Plan for the development of EV charging station infrastructure along the SHS
- Guide for future legislative, agency-level, and public outreach efforts
- Overview of EV technology
- Challenges & opportunities associated with EV infrastructure
- Objectives – Support, Encourage, Serve

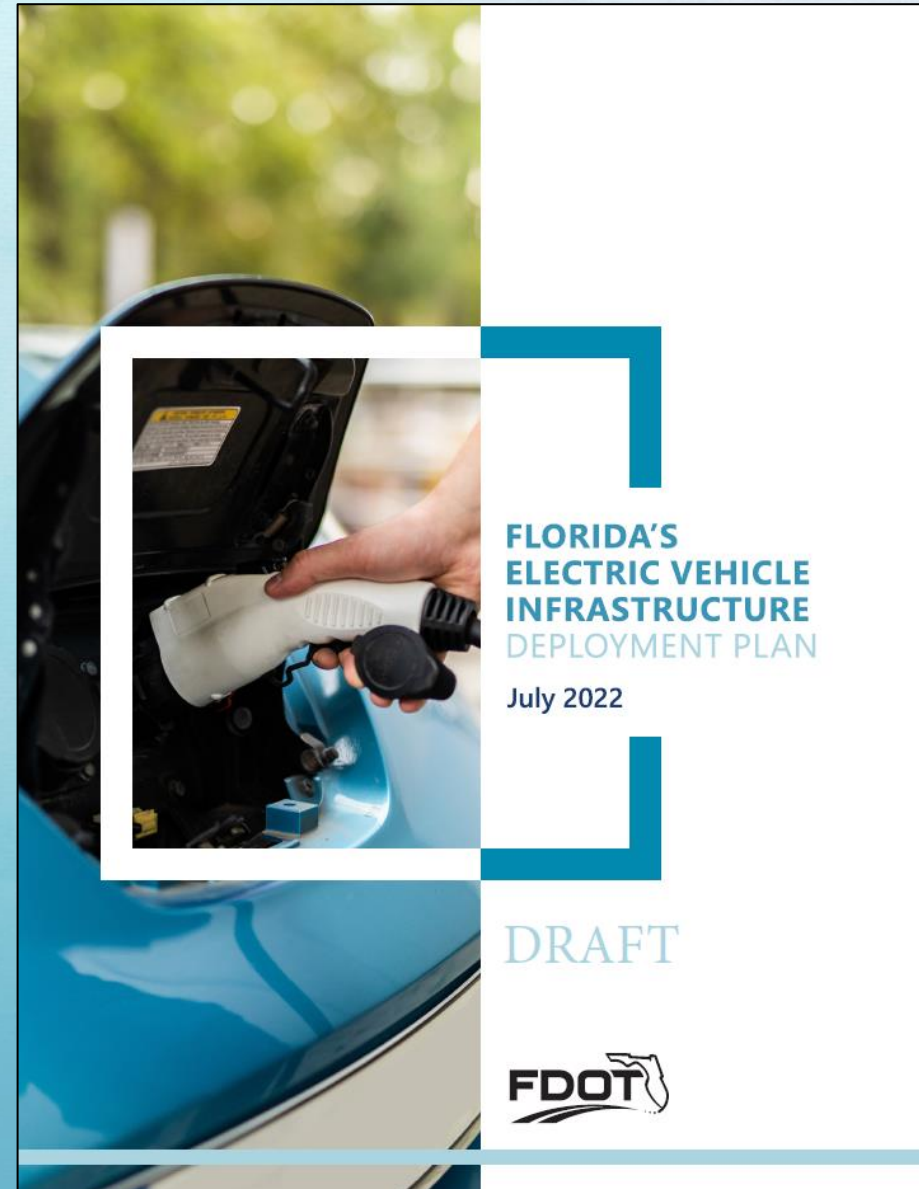
Florida's EV Infrastructure Deployment Plan

- Florida's framework for implementing the National Electric Vehicle Infrastructure (NEVI) Program
 - \$198M to Florida (\$29M in 2022)
- Five-Year Plan
- Builds on the EVMP
- Guide for how EV funds will be invested over five-year timeline of NEVI



Florida's EV Infrastructure Deployment Plan

- Why is the plan important?
 - Florida must develop a Plan to access NEVI funds
 - Details how Florida will implement the program
 - Supports EV charging in rural and underserved areas

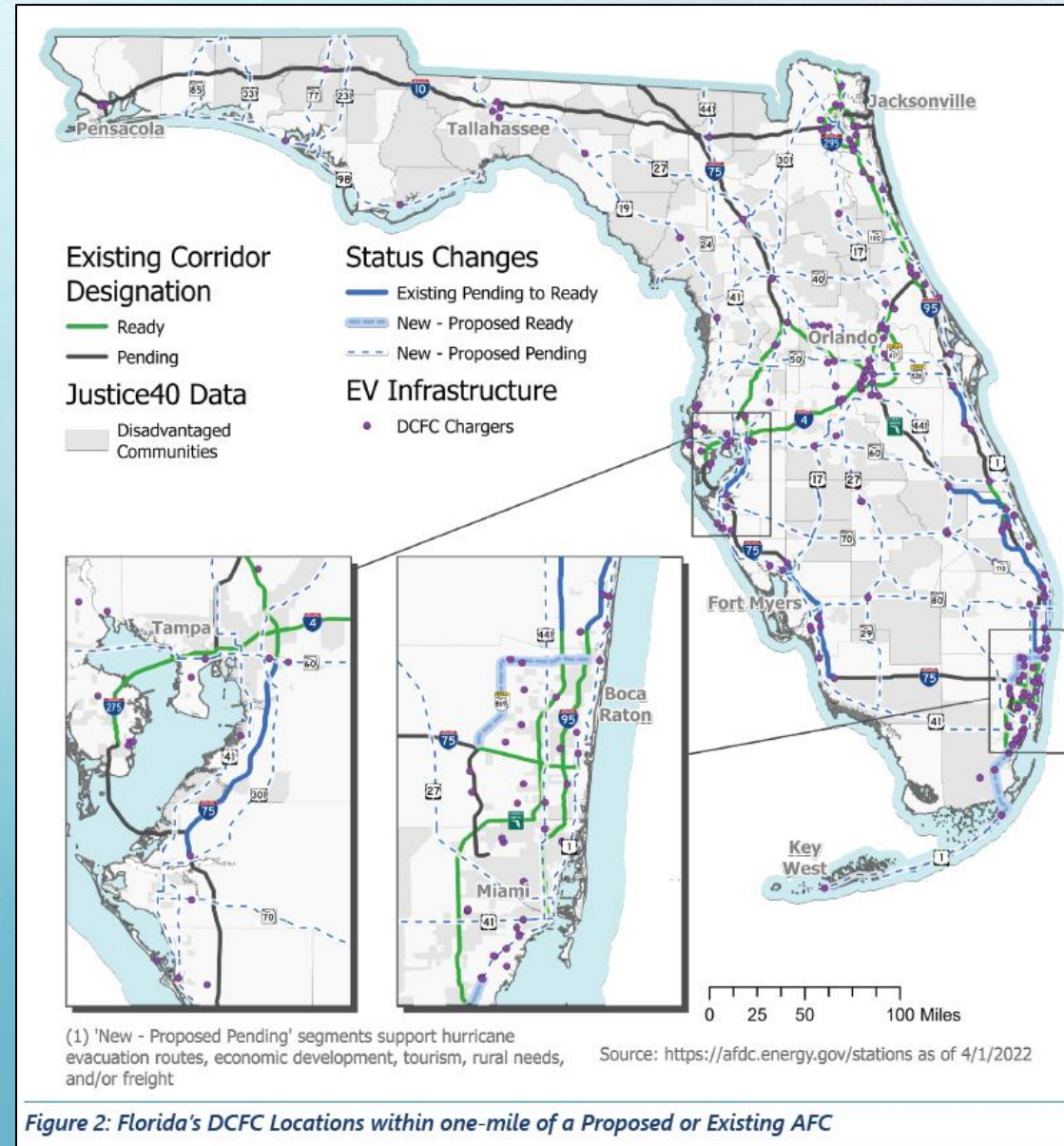


Florida's EV Infrastructure Deployment Plan

- A list of EV charging site locations is not included in the Deployment Plan
 - Seeking innovative applications from stakeholders, who would know of suitable locations for EV infrastructure within the state
- Recognizes that the Federal NEVI grant program is not the only funding source for EV infrastructure; encourages local agencies to seek out other means of funding as well

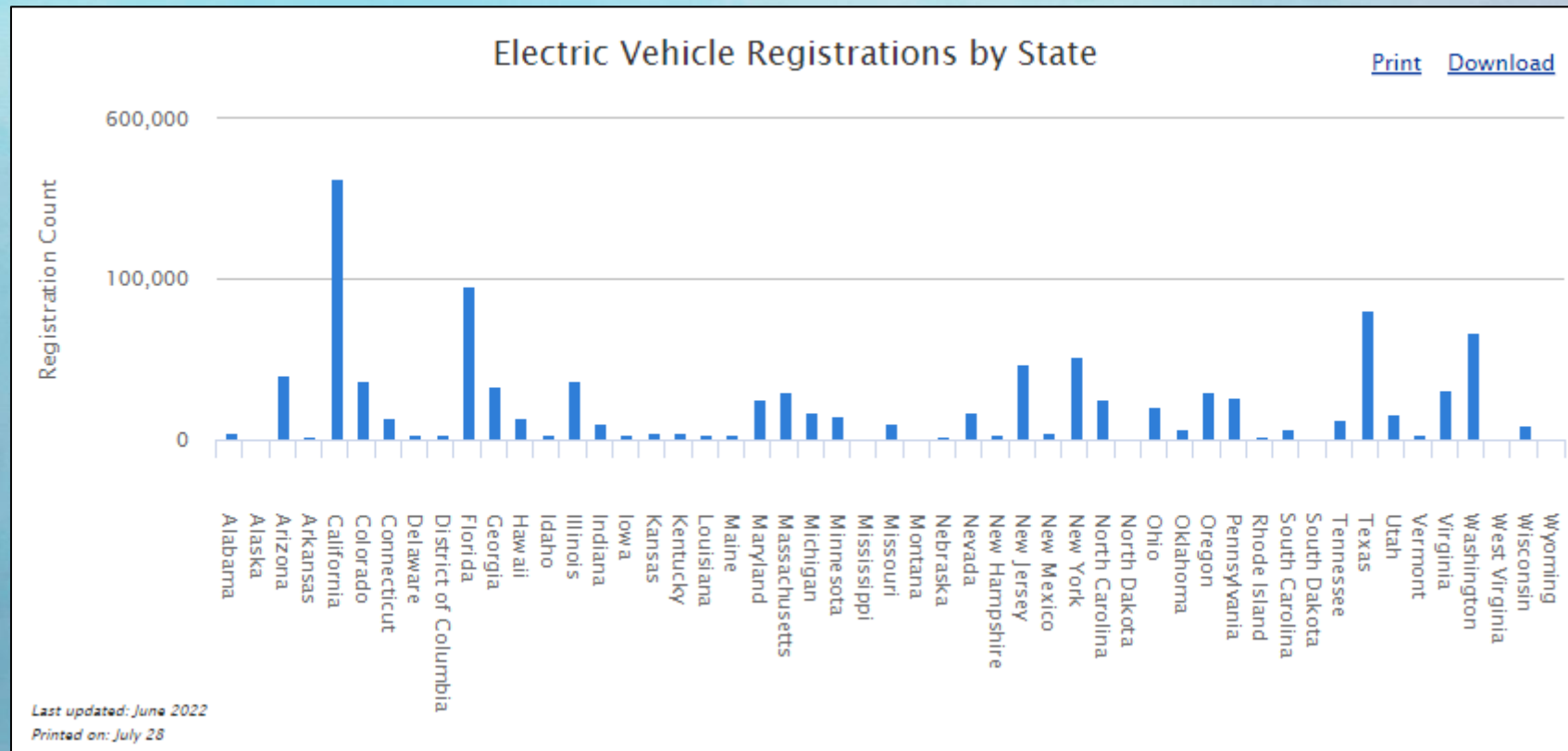
EV Alternative Fuel Corridor (AFC)

- NEVI requires proposed EV charging stations be within 1 mile of AFC
 - EV sites must be no more than 50 miles apart and contain 4+ DCFC ports
- AFC Round 6 Nomination
 - Over 4,000 miles added to network (58% increase)
 - 6,168 total miles
 - Still awaiting approval from USDOT and Department of Energy



Florida in 2022

- Florida consumes 8 billion gallons of gasoline annually
- Florida has the 2nd highest EV sales in nation
- 1,300 publicly available DCFC ports; 900 Level 2 ports



Florida's EV Infrastructure Deployment Plan

Goals for Florida's Plan

Expand energy sources for transportation fuels.

Support emergency evacuation.

Enhance Florida's overall transportation system including rural roadways within disadvantaged communities as well as those with low population densities.

Position Florida as a national leader in EV infrastructure implementation.

Expand energy sources for transportation fuels.

Anticipate changes in travel choices and transportation technologies towards EV adoption.



Florida's EV Infrastructure Deployment Plan

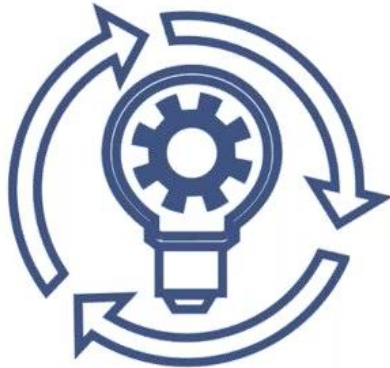
IMPLEMENTATION STRATEGY	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
Planning and Procurement					
Installation and Buildout					
Operations and Maintenance					
Program Evaluations					

Figure 3: Funds Deployment Timeline

Implementation Strategies

Strategies for Implementation

1



Planning

Develop a future-proof EV charging network that is resilient and reliable

2



Installation and Operations

Build convenient, reliable, and accessible DCFC charging infrastructure

3



Emergency Preparedness and Resiliency

Provide access to reliable and resilient DCFC during emergency events

Conditions Analysis

- Existing and Future Conditions
- Travel Patterns
- EV Market Conditions
- EV Freight and Transit Considerations

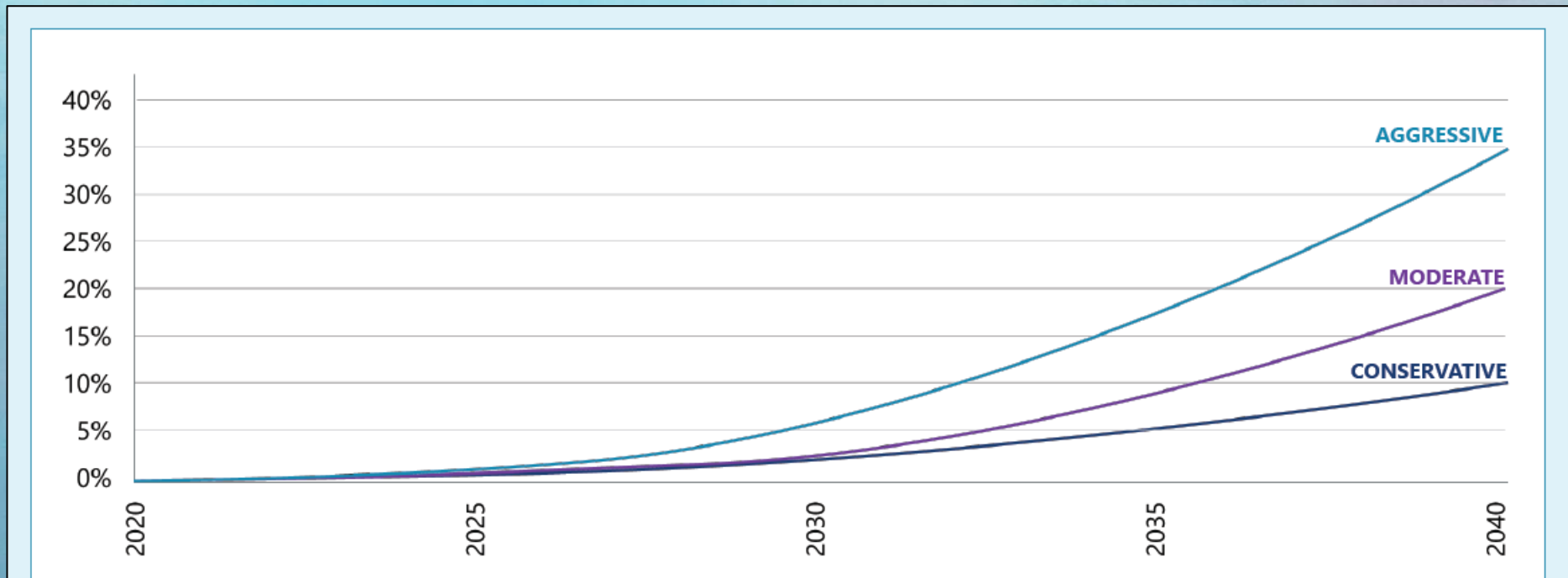


Figure 8: Projected EV Adoption in Florida

Source: Florida's EVMP

Risks and Challenges

Technology

- Rapid technological change of EV charging infrastructure and EV technology.
- Availability of components, including microchips, conduit, fiber optic communication cable, and transformers.
- Consolidation of equipment and service providers creating lack of interoperability with ownership change.
- Ever evolving cybersecurity threats and standardization for consumer, grid, and network protection.

Schedule

- EV charging infrastructure availability and supply chain issues and Buy America requirements.
- Utility infrastructure readiness (transformer locations) and alignment with planned upgrades.
- Non-uniform permitting requirements among municipalities.
- End of term funding and on-going maintenance and operations.
- Contractor resource availability of skilled labor.

Cost

- State financial obligations for long-term operations and maintenance funding.
- Cost escalations due to large scale deployment resulting in material availability shortages.
- Lack of qualified contractors to perform EV charging equipment installation resulting in less competition.

EV Charging Infrastructure Deployment

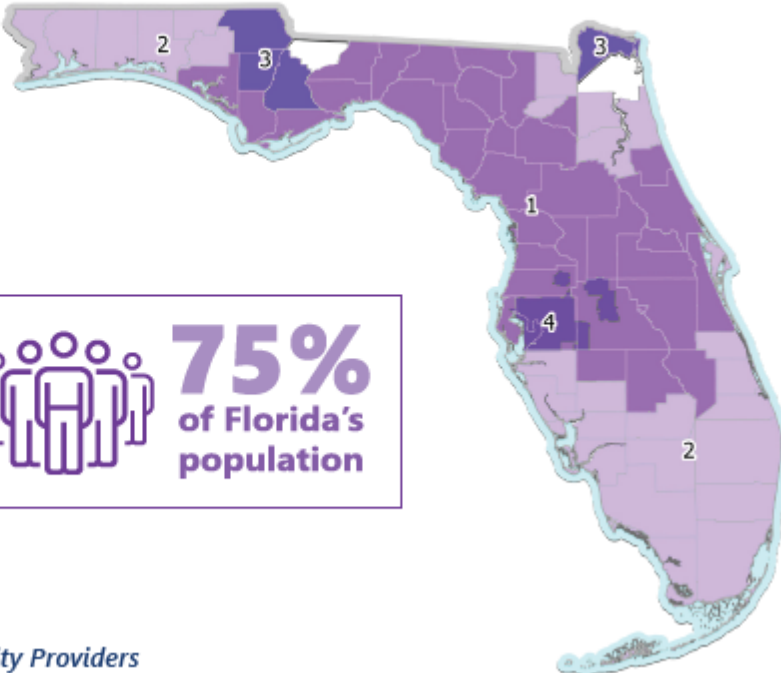
- Early investment of NEVI funds will prioritize sites with O&M funding identified for 5-year duration of program
- Performance-based payments established on site revenue models
 - May include a scalable payment based on site utilization
 - Lower utilized sites may receive higher operational funding (to a limiting amount)
- NEVI requires a 20% non-Federal match
 - Soft match provided by FDOT's toll credit balance; private sector matching may be used in prioritization criterion

EV Charging Infrastructure Deployment

- Upgrading from *Corridor-Pending* to *Corridor-Ready*
- Increasing Capacity/Redundancy along Existing AFC
- State, Regional, and Local Policy

INVESTOR OWNED ELECTRIC UTILITY PROVIDERS

1	Duke Energy Florida, LLC
2	Florida Power & Light Company
3	Florida Public Utilities Company
4	Tampa Electric Company



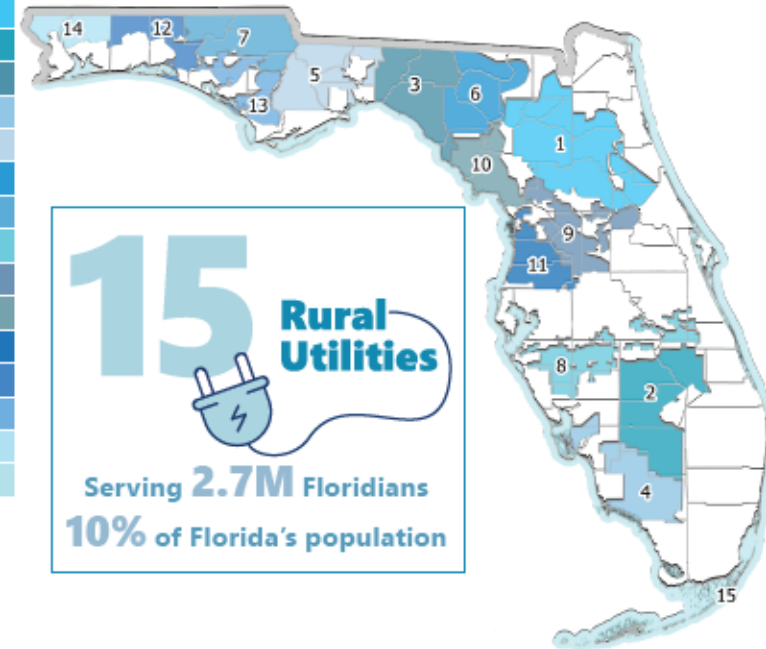
5 Investor Owned Utilities



75% of Florida's population

COOPERATIVE ELECTRIC UTILITY PROVIDERS

1	Clay Electric Cooperative, Inc
2	Glades Electric Coop, Inc
3	Tri-County Electric Coop, Inc
4	Lee County Electric Coop, Inc
5	Talquin Electric Coop, Inc
6	Suwannee Valley Elec Coop Inc
7	West Florida El Coop Assn, Inc
8	Peace River Electric Coop, Inc
9	Sumter Electric Coop, Inc
10	Central Florida Elec Coop, Inc
11	Withlacoochee River Elec Coop
12	Choctawhatche Elec Coop, Inc
13	Gulf Coast Electric Coop, Inc
14	Escambia River Elec Coop, Inc
15	Florida Keys El Coop Assn, Inc



15 Rural Utilities

Serving **2.7M** Floridians
10% of Florida's population

Figure 10: Investor Owned Electric Utility Providers

Figure 11: Cooperative Electric Utility Providers

E

- Upgrading from
- Increasing Cap
- State, Regional

INVESTOR OWNED ELECTRIC UTILITY PROVIDERS

1	Duke Energy Florida, LLC
2	Florida Power & Light Company
3	Florida Public Utilities Company
4	Tampa Electric Company



MUNICIPAL ELECTRIC UTILITY PROVIDERS

1	Reedy Creek Improvement District
2	City of Lake Worth
3	City of Bartow
4	City of Homestead
5	City of Ocala
6	Beaches Energy Services
7	City of New Smyrna Beach
8	City of Clewiston
9	City of Mount Dora
10	JEA
11	City of Winter Park
12	Gainesville Regional Utilities
13	City of Newberry
14	City of Green Cove Springs
15	Havana Power & Light Company
16	Orlando Utilities Comm
17	City of Lakeland
18	City of Tallahassee
19	City of Vero Beach
20	City of Leesburg
21	Kissimmee Utility Authority
22	Fort Pierce Utilities Authority
23	City of Wauchula
24	Utility Board of the City of Key West
25	City of Quincy
26	City of Fort Meade
27	City of Starke
28	City of Blountstown
29	City of Alachua
30	City of Williston
31	City of Bushnell
32	City of Chattahoochee
33	City of Moore Haven

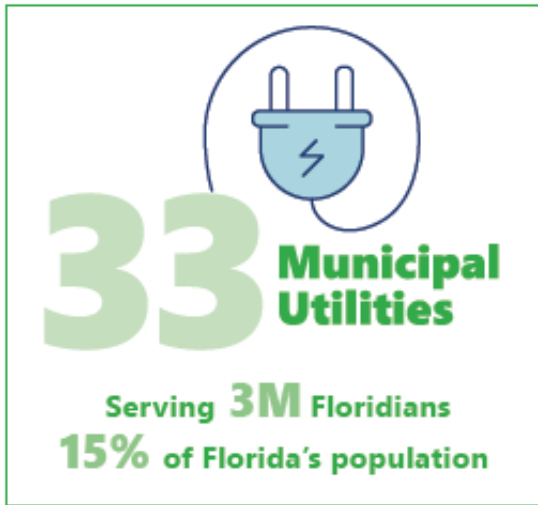
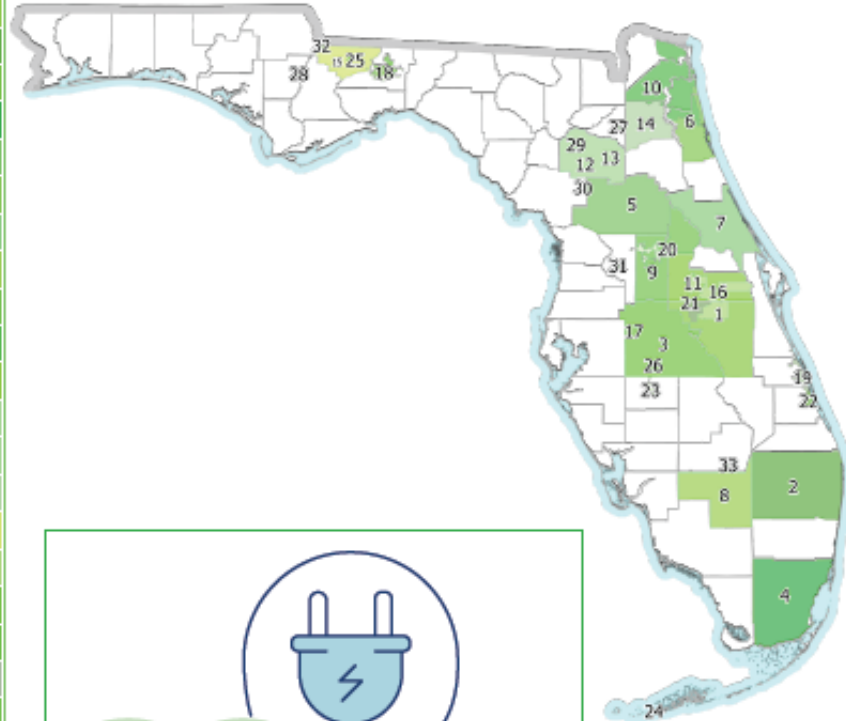


Figure 12: Municipal Electric Utility Providers

COOPERATIVE ELECTRIC UTILITY PROVIDERS

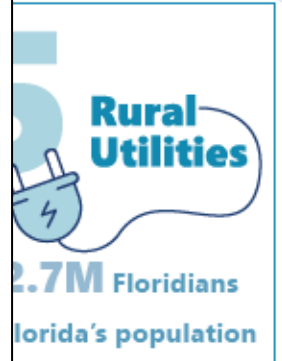
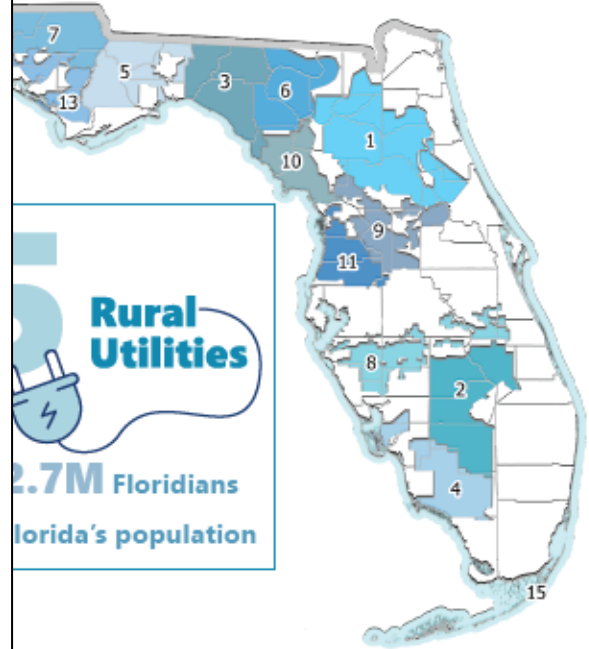


Figure 11: Cooperative Electric Utility Providers

Figure 10: Investor Owned Electric Utility Providers

Implementation – Strategy 1 Planning

1 ACTION

Collect, maintain, and leverage information and data, including performance measures, to inform decision-making

2 ACTION

Collaborate with partners to support the development and operations of the EV charging infrastructure network

3 ACTION

Plan for procurement of EV charging infrastructure

4 ACTION

Monitor potential risks that can delay efficient and effective deployment

Implementation – Strategy 2 Installation & Operations

1

ACTION

Coordinate with stakeholders to identify needs and gaps within the overall EV network

2

ACTION

Focus operations and maintenance on station uptime and reliability through performance reporting

3

ACTION

Deploy a competitive procurement process that supports performance-based management and continuous innovation

Implementation – Strategy 3 Emergency Preparedness & Resiliency

1

ACTION

Deploy a program and contract mechanism to allow for the availability and funding for mobile charging

2

ACTION

Build a network with redundancy and resiliency that supports uninterrupted availability and accessibility

Equity Considerations

- EV charging station locations will address a variety of attributes consistent with Justice40 mapping and guidelines
 - Decrease transportation energy cost burden
 - Lessen environmental exposures to emissions
 - Increase parity in clean energy technology access/adoption
 - Increase equitable adoption by enabling supplier to undertake sites where EV growth is expected, not just where it already exists
 - Increase equitable access to the electric grid by opening EV charging stations

Other Considerations

- Contracting
- Labor and Workforce
- Cybersecurity
- Civil Rights

Program Evaluation

Buildout the AFC Network

- » Track the net number of new DCFC ports installed.
- » Achieve completion of 100 percent AFC buildout.
- » Track the DCFC port per NEVI dollar for the overall program.

Equity

- » Quantify total benefits to Justice40 areas as a percentage of the overall Plan deployment.

Reliability

- » Quantify the DCFC availability of full 150 kW charging and charging duration by session.

Accessibility

- » Confirm and monitor customer satisfaction through surveys.
- » Quantify total charging duration, per port.

Resiliency

- » Calculate percentage of stations deployed with the redundancy of power supply through solar panels, battery storage, generator backup, and/or other mini-grid concept along Interstates and other evacuation routes.

EV Adoption

- » Report the number of new EV registrations over the plan period, reported annually.
- » Measure and monitor GHG reduction.



Questions

Taking Time to FLEX – What's new in Training

David Williams, VHB

TSM&O Focused Learning Education and Experiences (FLEX)

- Types of training in FLEX Portal
 - TSM&O concepts
 - TSM&O applications
 - Field equipment
 - How-to training videos
- FLEX Portal is available with a **free** account

TSM&O Focused Learning Education and Experiences (FLEX)

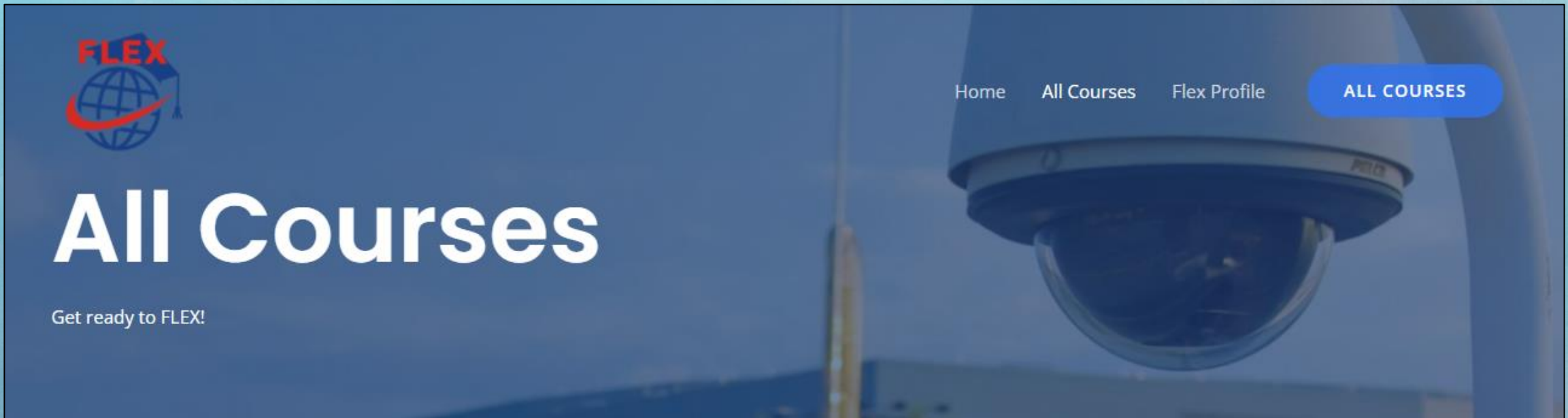
- Active Users – 348
- Courses Completed – 290
- Most Popular Course – *Traffic Signal Training (A)*

- Troubleshooting – *Request Support* button
- For more information, visit: <https://elearning.cflsmartroads.com/>
 - Google: “FDOT FLEX Portal”



Courses Coming Soon to FLEX Portal

- Adaptive Signal Control Technology (ASCT) Training
- ITS CEI Dynamic Message Signs
- ITS CEI Road Weather Information System CBT
- Manual on Uniform Traffic Studies (MUTS)



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ON-DEMAND TSM&O TRAINING

FLEX

SIGN UP ▶ **SIGN IN**

FDOT TSM&O
Transportation Systems Management & Operations

FLEX offers eLearning and blended learning courses to provide complete, flexible training solutions. Users are able to complete online training at their own pace, while individuals and organizations can overcome obstacles such as scheduling, reaching remote employees, and diverse learning styles.

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A valuable tool to support the TSM&O workforce development

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Need Technical Support? **Have a Course Suggestion?**

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Suggestion

We are excited to hear about your course suggestions!
Please do not request technical support through this form.

Name *

First Last

Email *

Enter Email Confirm Email

Would you like us to contact you regarding this suggestion? *

Yes
 No

Suggestion *

SUBMIT

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Complete, flexible training solutions. Users are able to overcome obstacles such as...

Study at Your Own Pace

A valuable tool to support the TSM&O workforce development

► REGISTRATION

Submit a Course Suggestion?

<https://elearning.cfls>

Transpo 2022 Takeaways

Open Discussion

Questions

Current Initiatives

Current Initiatives

- GTT – Canoga product line is EOL / EOS
 - Likely does not impact partner agencies
 - Affects old micro loops that haven't been deployed in last 15 years (likely replaced in recent RRR)
- Please let us know if you've been impacted by this

Current Initiatives

- I-4 Ultimate – Express Lanes
 - Continue to monitor express lanes
 - Looking to finalize deployment plans for WWD equipment
- Wekiva Pkwy
 - Wekiva 6 has been open
 - Wekiva 7A & 7B are nearly complete
 - Wekiva 8 still in construction



Current Initiatives

- Smart Work Zone Trailer
 - Final walkthrough this week
 - Next step – deployment at a construction project
- STROZ
 - Some final integration, configuration, and/or installation is ongoing
- TSMCA Update
 - Draft *Exhibit E Amendment* developed by FDOT Legal
 - Coordinating revisions/signatures with Maintaining Agencies
- Event Management II
 - Final accepted; looking to deploy cameras for BOS confirmation

Current Initiatives

- PedSafe
 - Field equipment deployed/integrated
- PedSafe II
 - Working toward Phase II design plans;
 - Beginning to purchase equipment for trailer
- AV Shuttle
 - Working through electrical charging issues
- Kiosks at UCF
 - Entering O&M Testing passed
- I-4 FRAME (led by District 7)
 - Plans have been completed or near completion for D5

THANK YOU!

Next Consortium – September 29, 2022



TSM&O Consortium Meeting

MEETING AGENDA

Teleconference or
FDOT District 5 RTMC (4975 Wilson Rd, Sanford, FL 32771)

July 28, 2022

10:00 AM-12:00 PM

- 1) WELCOME
- 2) INSYNC ADAPTIVE CONTROL
 - Jay Williams, Volusia County
- 3) PERFORMANCE REPORTING
 - David Williams, VHB
- 4) ELECTRIC VEHICLE INFRASTRUCTURE DEPLOYMENT PLAN (draft)
 - David Williams, VHB
- 5) TRANSP0 2022 TAKEAWAYS (OPEN DISCUSSION)
- 6) CURRENT INITIATIVES