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 % Change in Travel Times	MD Peak % Change in Travel Times	MD Off-peak % Change in Travel Times	PM Peak % 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.

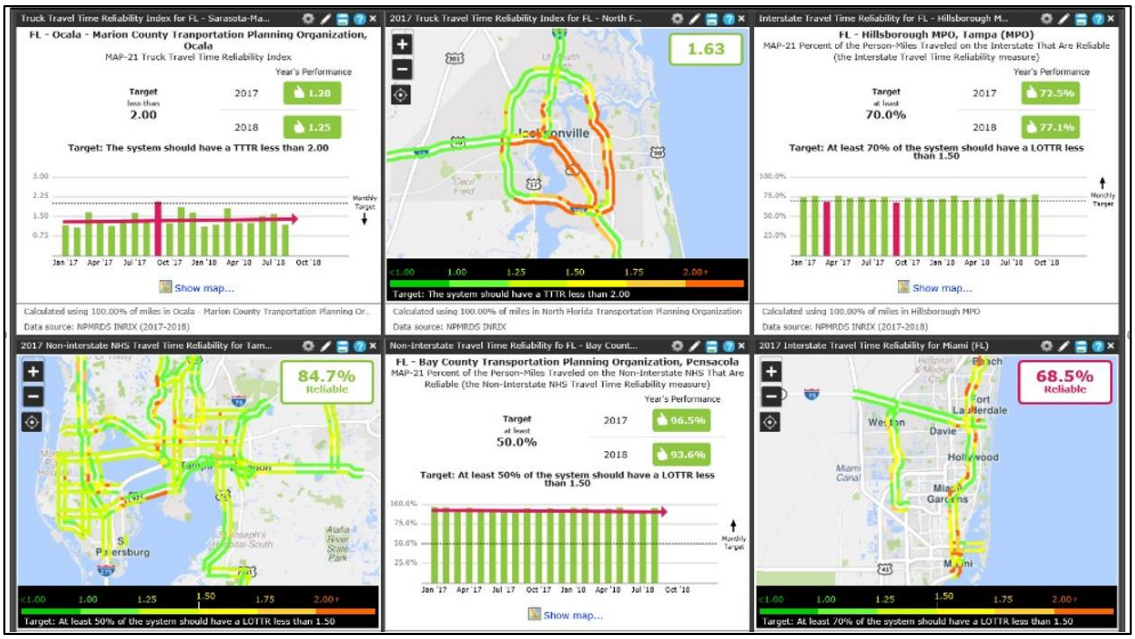
- In 2020, the TSM&O Consortium group conducted its third Capability Maturity Model (CMM) self-assessment as a region, grading how it fulfilled each of the 6 CMM dimensions
  - Respondents gave scores for the region and for their agency; the agency scores were aggregated into a "Composite Score" for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

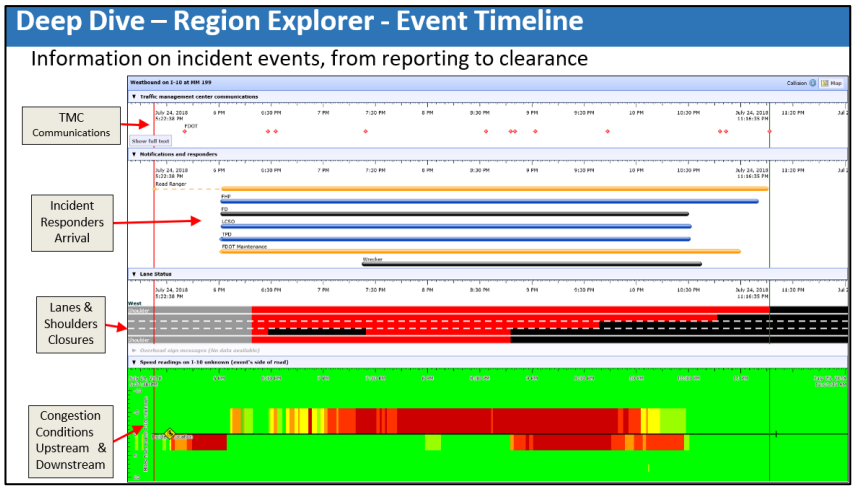
- RITIS Probe Data / NPMRDS Analytics Data
  - The Regional Integrated Transportation Information System (RITIS) provides an advanced data analytics tool to conduct planning and traffic ops analyses
  - The RITIS National Performance Management Research Data Set (NPMRDS) provides a variety of performance 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]

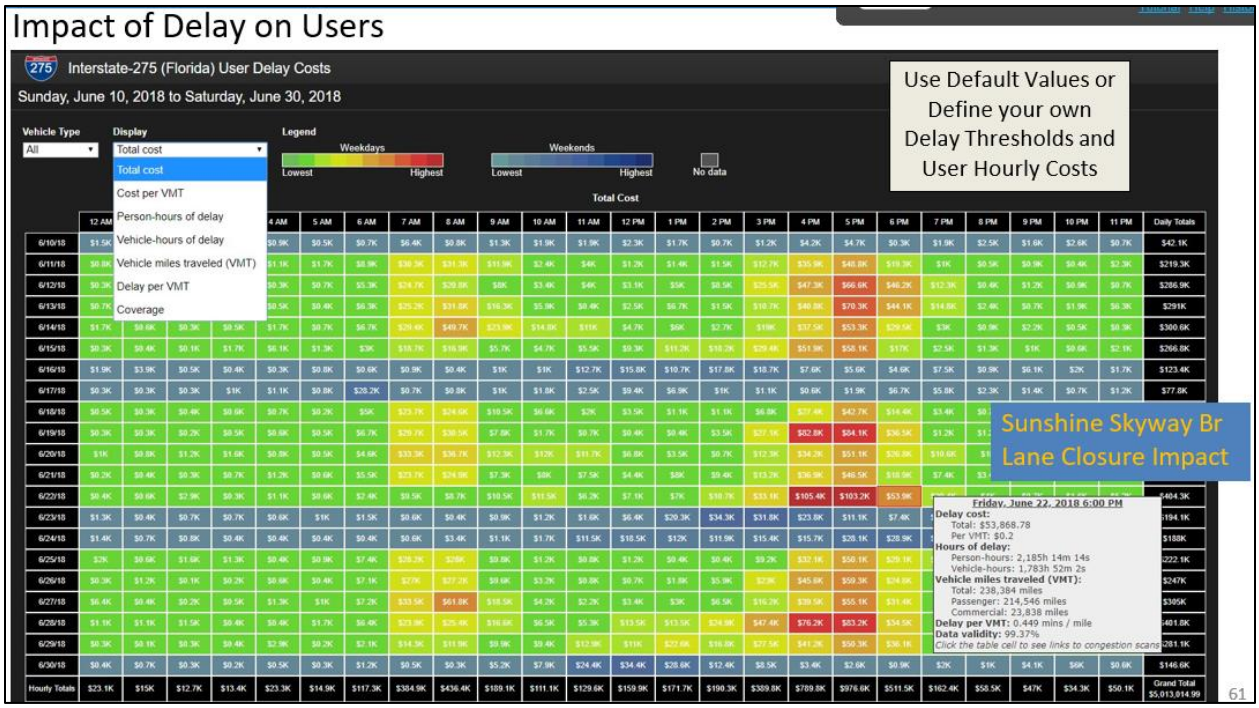
- Speed and Travel Time table
- Interstate Travel Time Reliability
- Ranked Bottleneck Table
- Ranked Bottleneck Comparison
- Trend Map of Congestion
- Reliability Table
- User Delay Cost Table
- Event Count
- Clearance Time



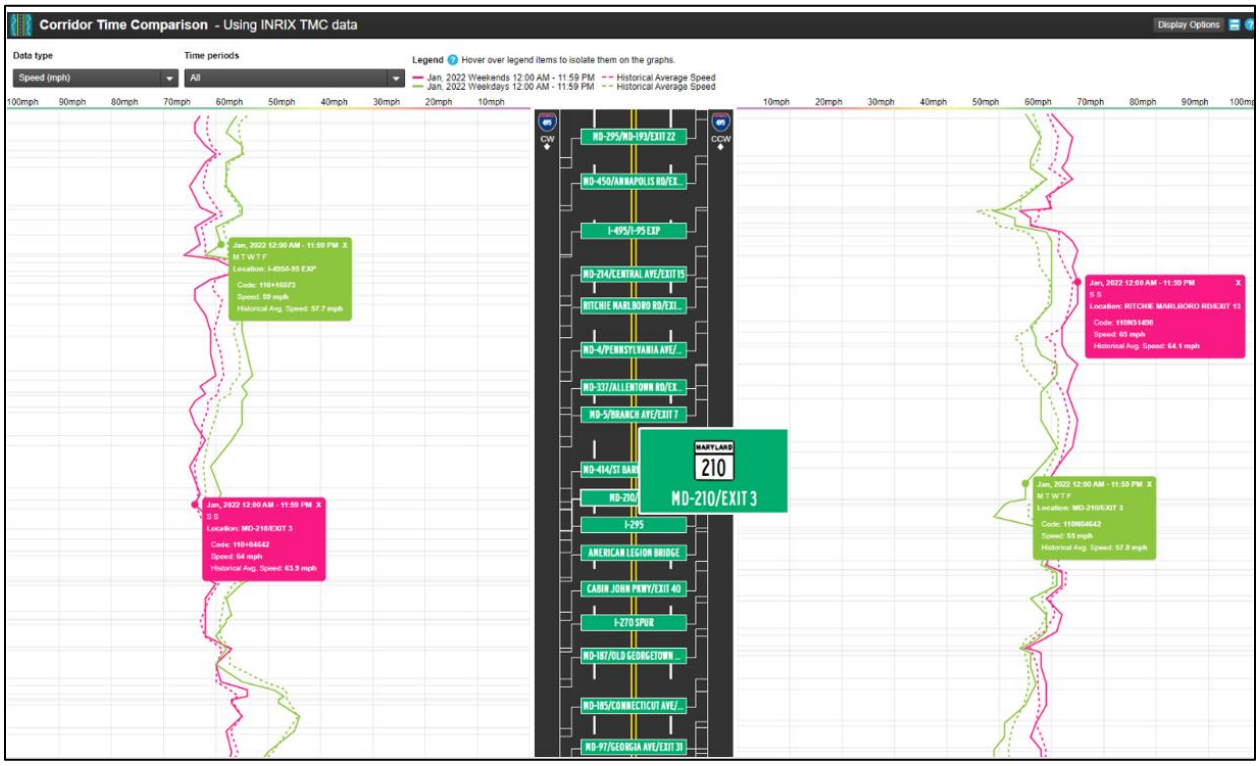
- Region Explorer – Explore real-time or historical data on bottlenecks and events
  - Realtime Event Timeline



- User Delay Costs



- Other Analytics
  - Corridor Time Comparison

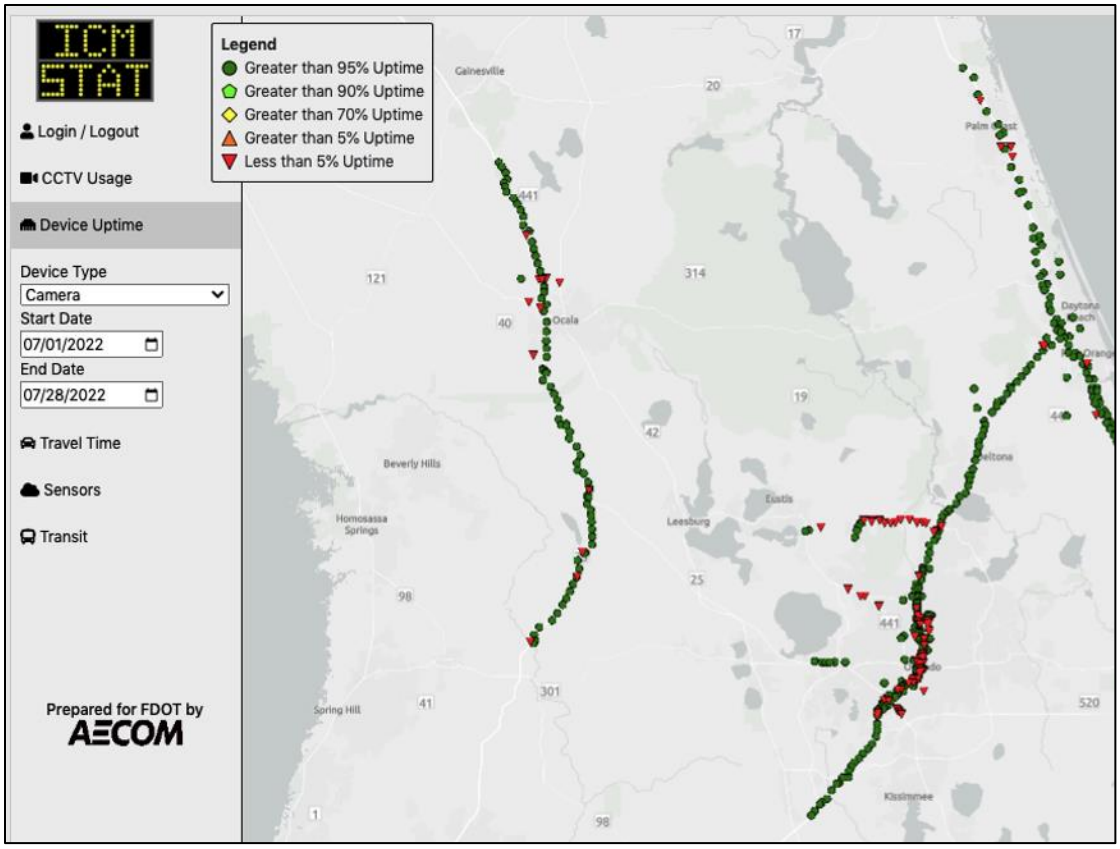


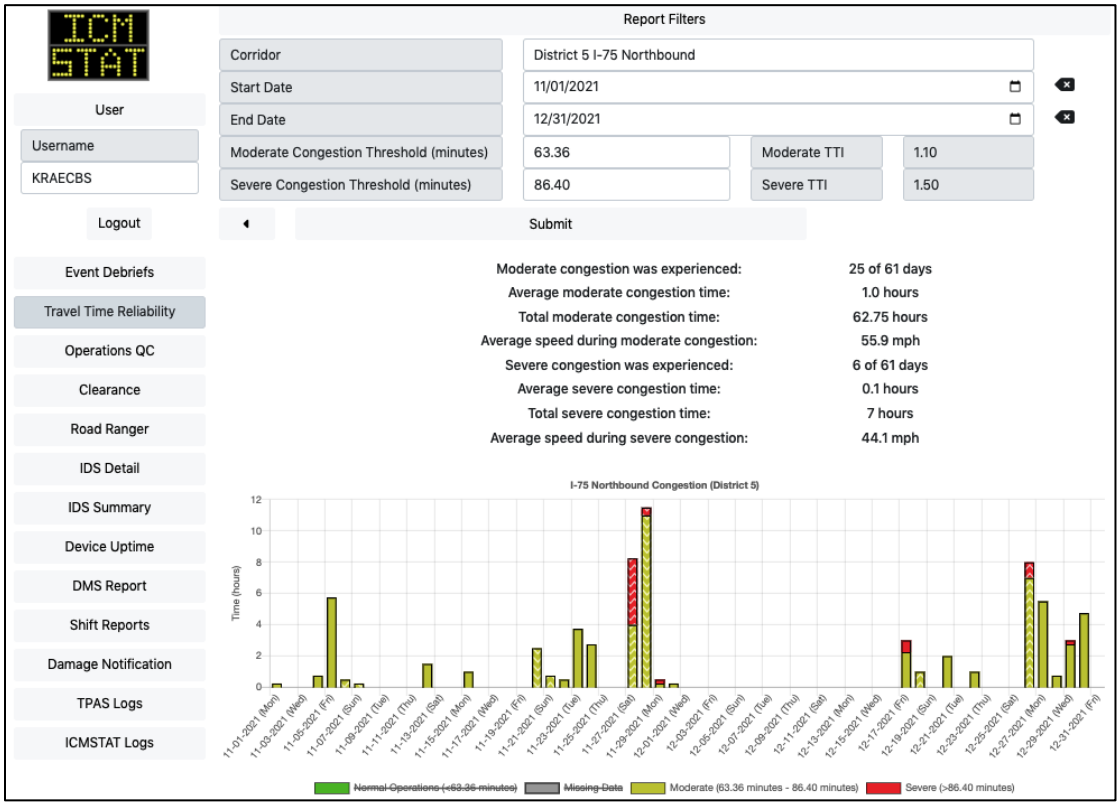
- Energy Use and Emissions

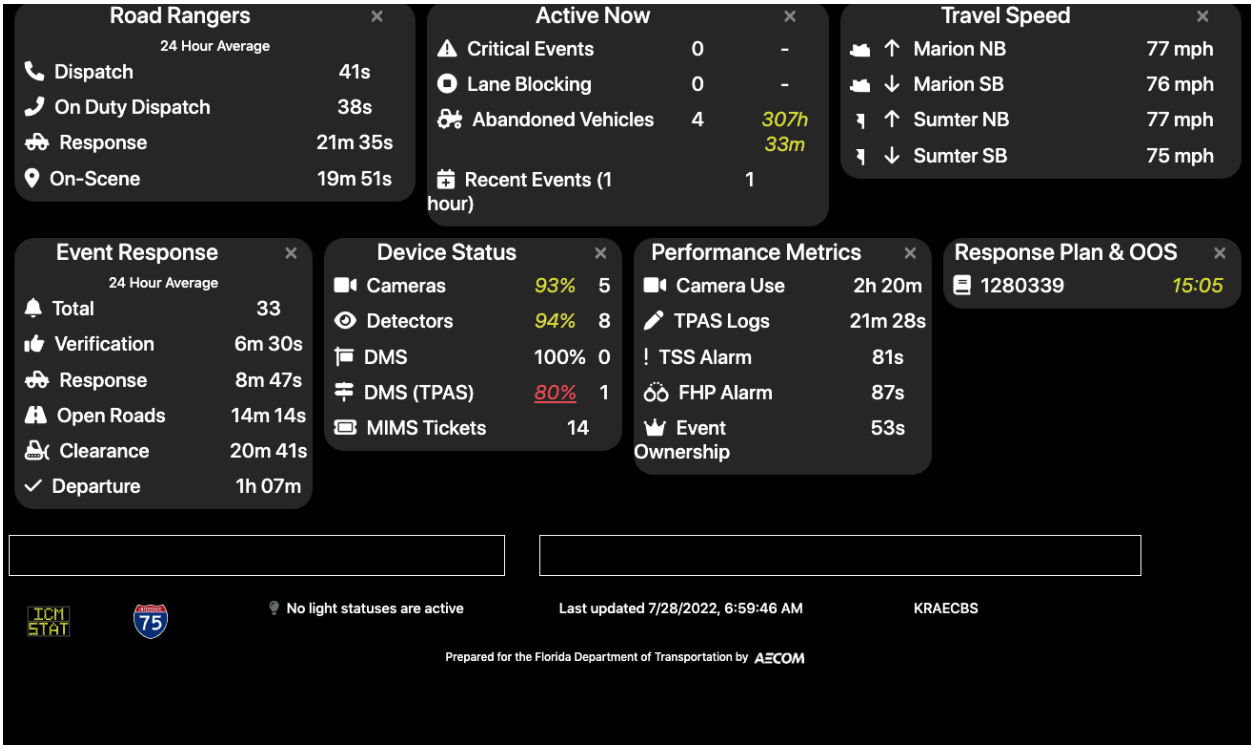
        - Speed Threshold Breakdown
        - Vehicle Ownership Charts
        - Clearance Times
    - Massive Data Downloader – data available for download (.csv format) for regions, roads, metrics, times, etc.
    - HERE data is also available
- UrbanSDK
    - data visualization platform with three components
        - 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


ICM STAT
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
Gainesville
Ocala
Beverly Hills
Homosassa Springs
Spring Hill
Leesburg
Eustis
Deltona
Kissimmee


ICM STAT
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
I-75 Northbound Congestion (District 5)
Time (hours)
Normal Operations (<63.36 minutes)
Missing Data
Moderate (63.36 minutes - 86.40 minutes)
Severe (>86.40 minutes)



- 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

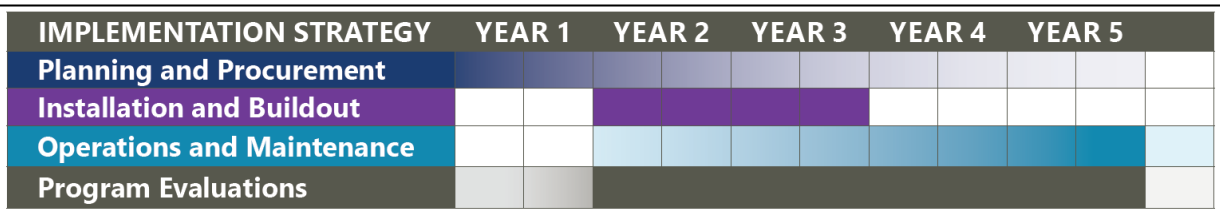


Figure 3: Funds Deployment Timeline

- 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. TRANSPO 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

Transportation Systems Management & Operations

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

Volusia County
FLORIDA

Transportation Systems Management & Operations

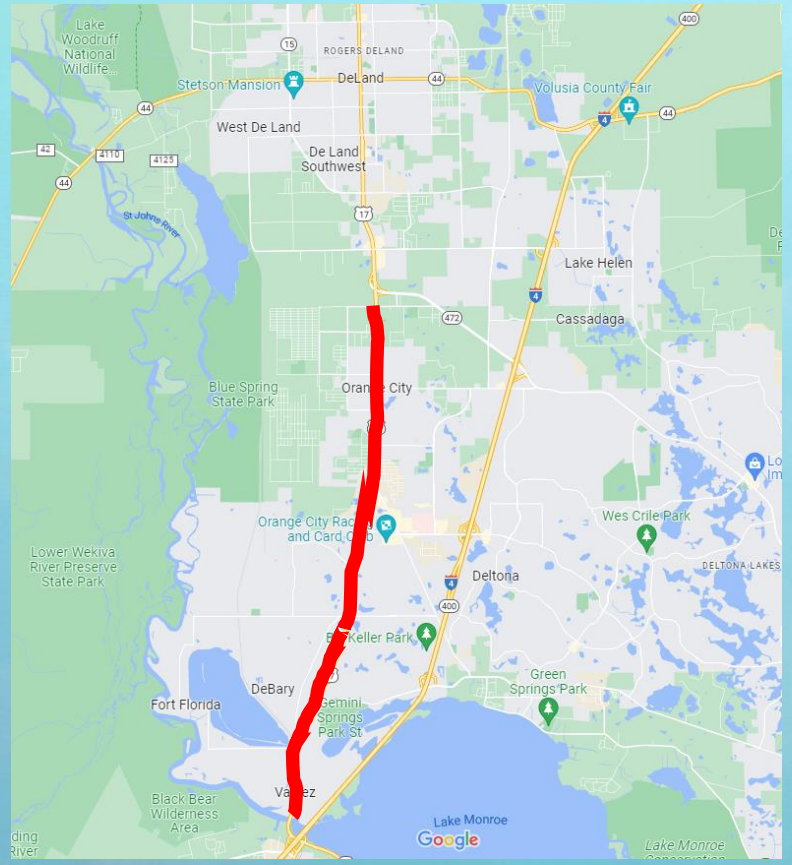
FDOT TSM&O
Transportation Systems Management & Operations

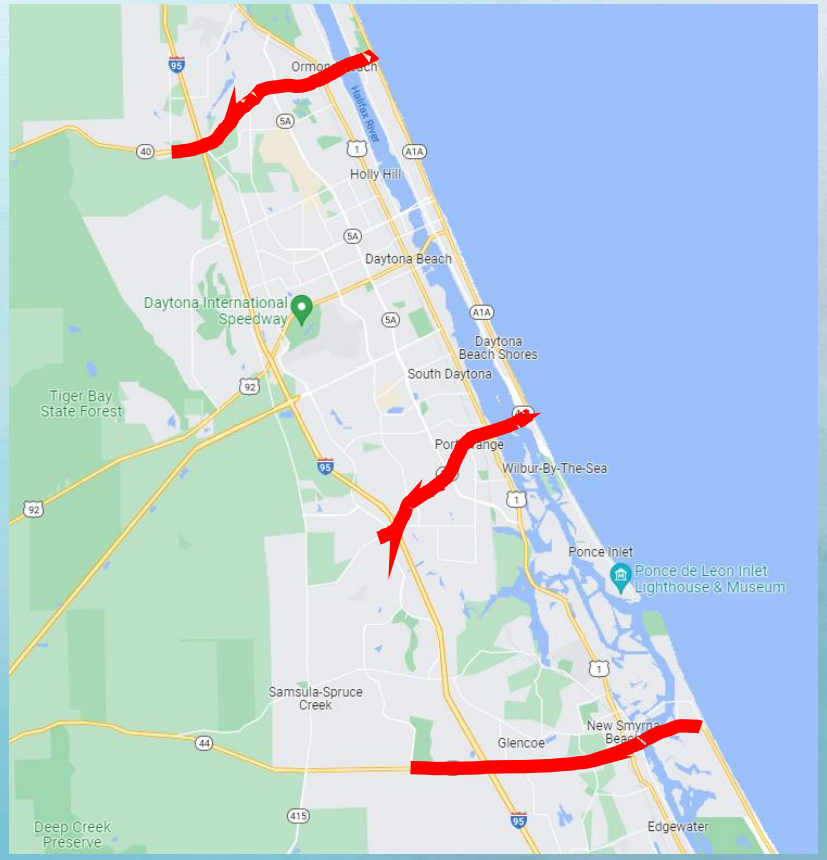
CENTRAL FLORIDA TSM&O CONSORTIUM

Disclaimer

Transportation Systems Management & Operations

4 Corridors, Projects completed within last 2 years





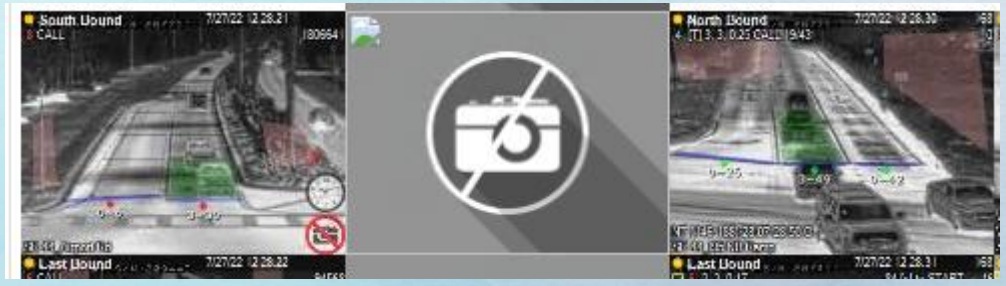
FDOT TSM&O
Transportation Systems Management & Operations

Transportation Systems Management & Operations

CENTRAL FLORIDA TSM&O CONSORTIUM

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 % Change in Travel Times	MD Peak % Change in Travel Times	MD Off-peak % Change in Travel Times	PM Peak % 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

Source: D5 ICM Adaptive Signal Control Corridor Analysis Report

Transportation Systems Management & Operations

FDOT TSM&O
Transportation Systems Management & Operations

CENTRAL FLORIDA TSM&O CONSORTIUM

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

Performance Reporting

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

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

Probe Data / NPMRDS Analytics

(Revised February 2019 by FHWA Division for Florida)

FLORIDA
FEDERAL HIGHWAY ADMINISTRATION

FDOT

MPOAC

Texas Transportation Institute

CATT LABORATORY

THE CENTER FOR ADVANCED TRANSPORTATION TECHNOLOGY UNIVERSITY OF MARYLAND

INRIX

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

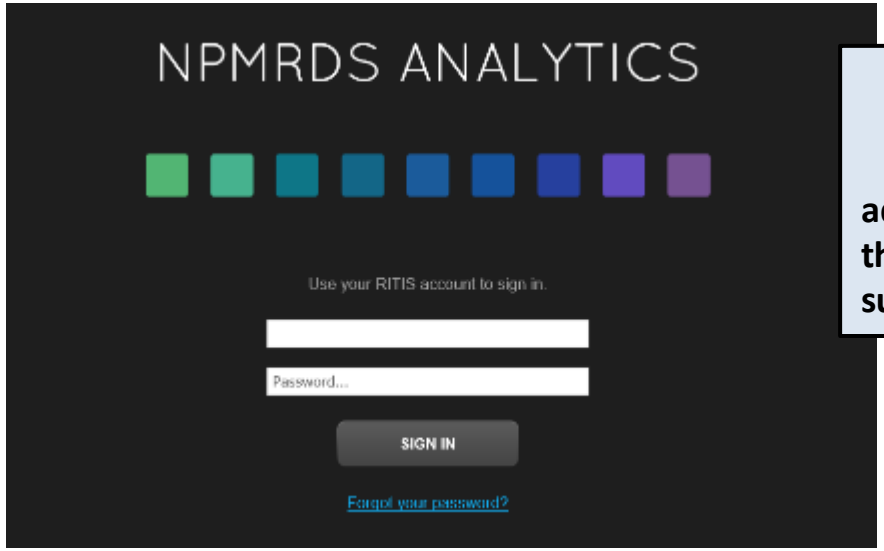
- Overview of Data Analytics Tool
- How to Gain Access to the Tool
- Features for Florida Users
- Data Downloader
- Help & Tutorials
- Contacts for further Support

Contents

Overview of Data Analytics Tool

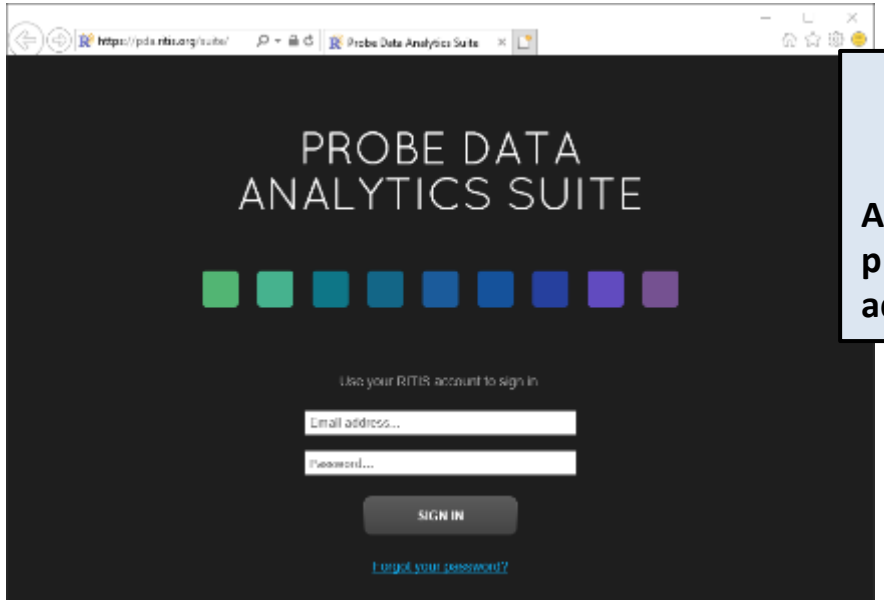
Overview of NPMRDS/Probe Data Analytics (PDA) Suite

- 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

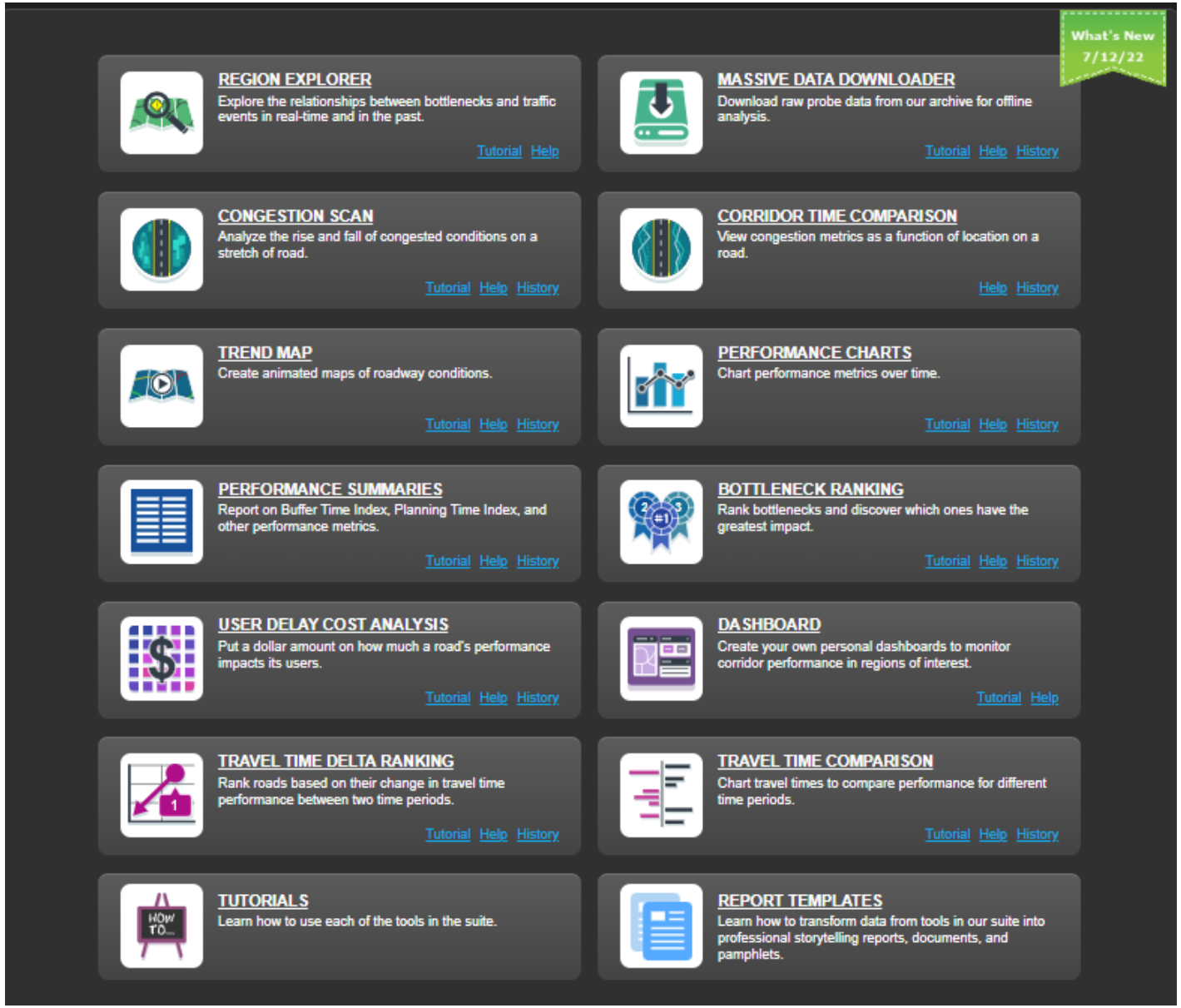
advanced features through Statewide subscription



Florida Version through RITIS

Advanced features plus access to add'l data sets

Main Screen of Probe Data Analytics Suite



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)*

HERE Probe Data

Entire NPMRDS TMC network beyond NPS is available through RITIS

Contents

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

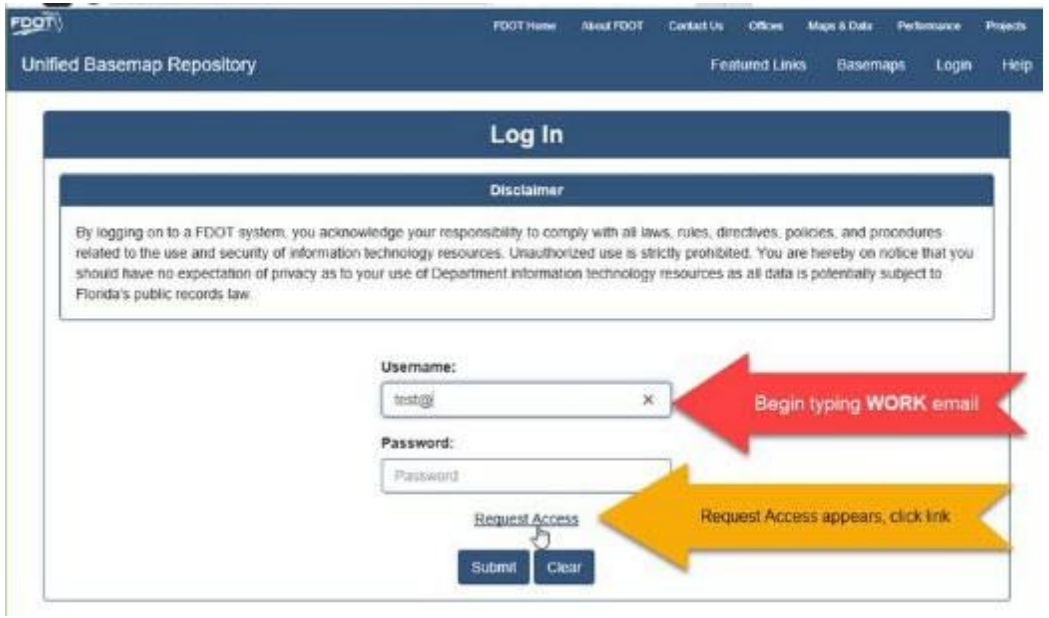
How to Gain Access to the Tool

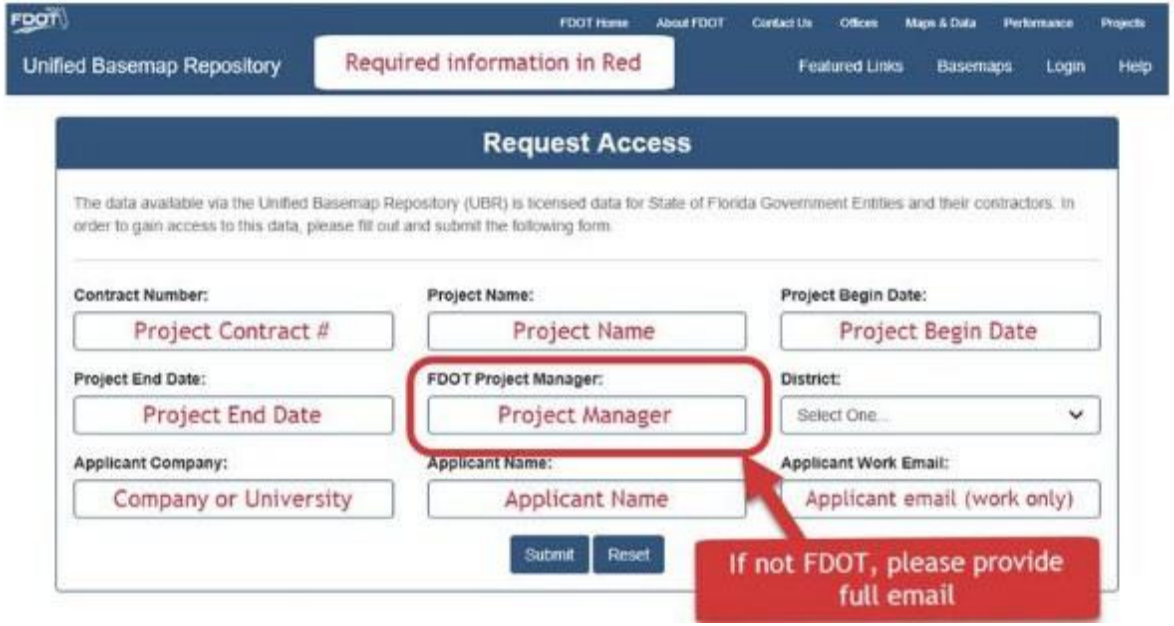
2. Non-FDOT users request access through FDOT Unified Basemap Repository https://ubr.fdot.gov

(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.





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

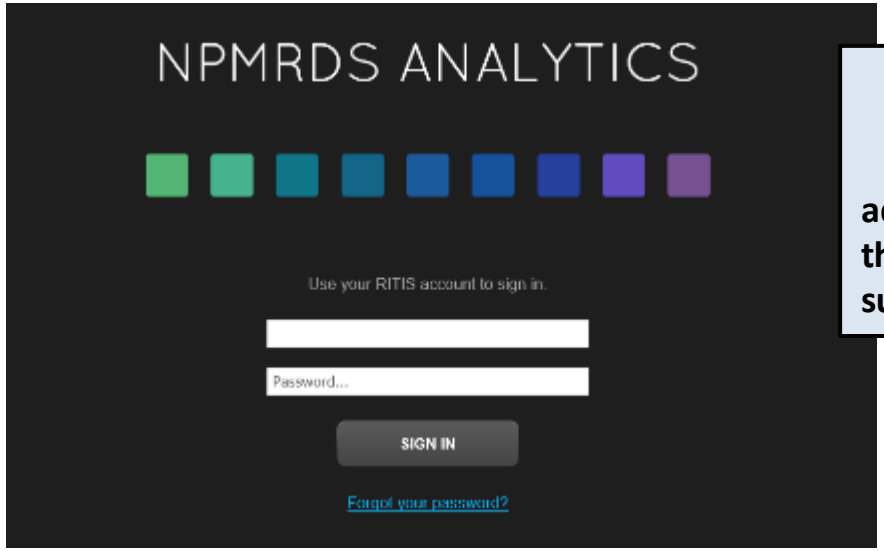
How to Gain Access to the Tool

3. Activate and Access your Account

NPMRDS Data Analytics Suite:
https://npmrds.ritis.org

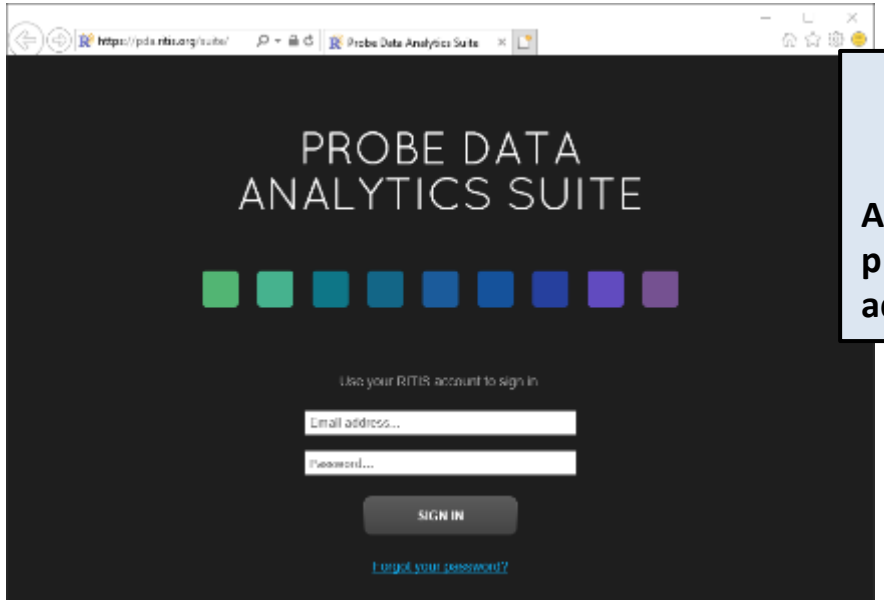
Probe Data Analytics (PDA) Suite:
https://pda.ritis.org

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

Features for Florida Users

Features for Florida Users

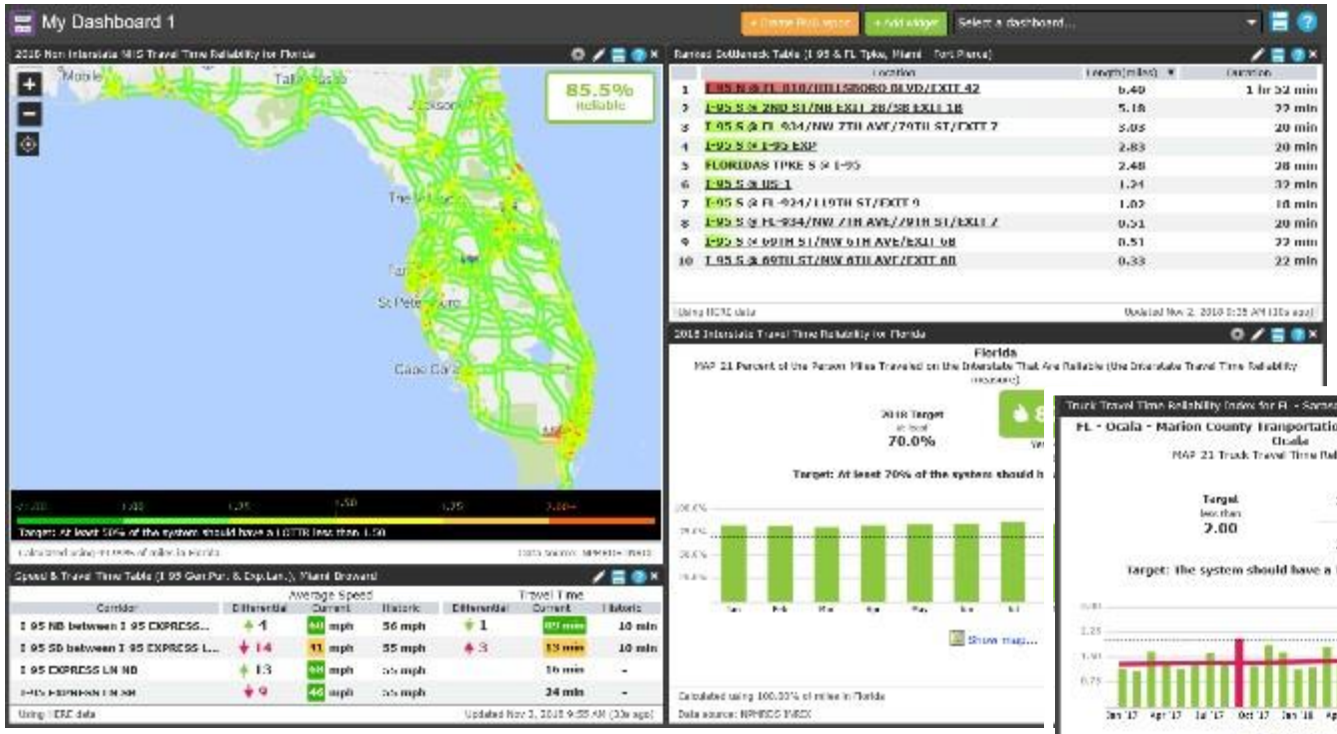
- Dashboard
  - MAP-21/PM3 Metrics
  - Other Metrics
- Deep-Dive Analytics

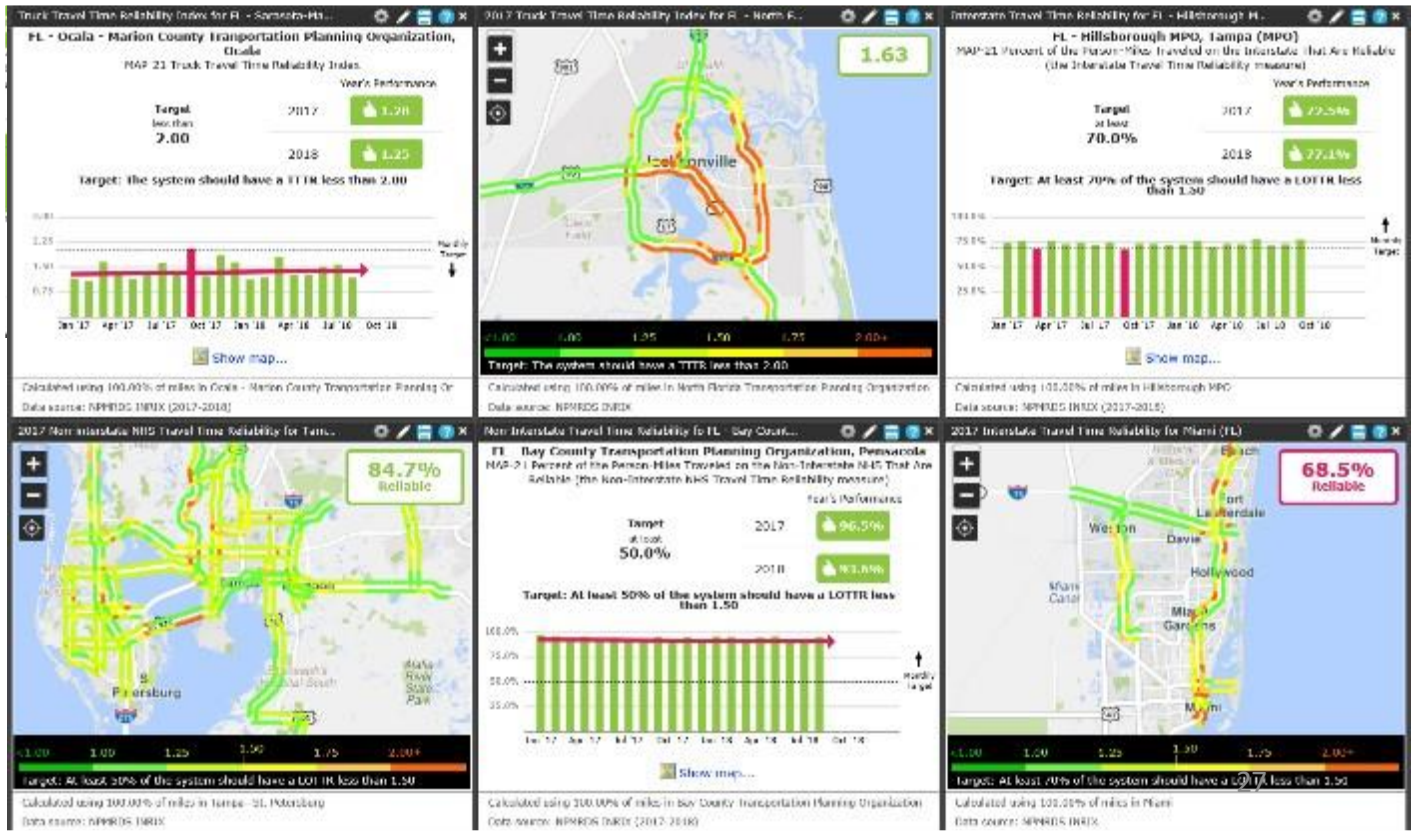
2017 Non-Interstate NHS Travel Time Reliability

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)

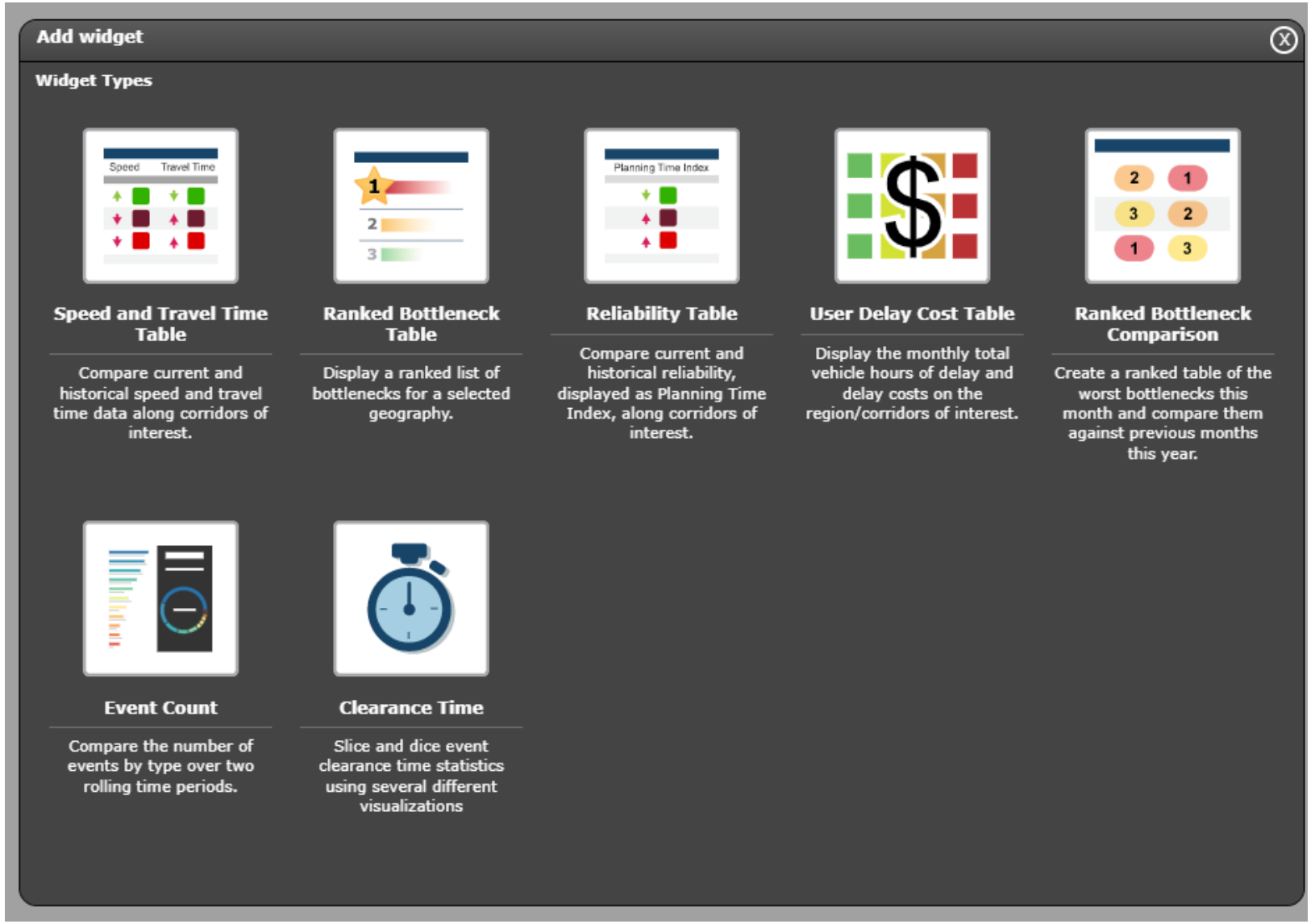
Dashboard – Add Widget

+ Add widget

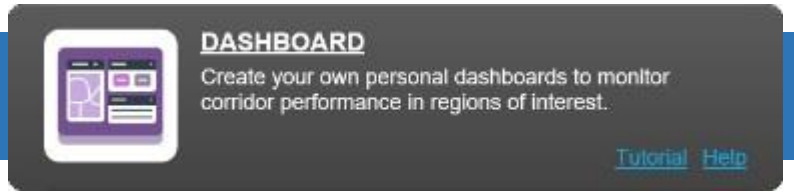
DASHBOARD

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

Tutorial Help



Dashboard – MAP-21/PM3 Metrics



- 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

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.

TPM PM3 2018-2021 Performance Measures for Florida Geographic Locations

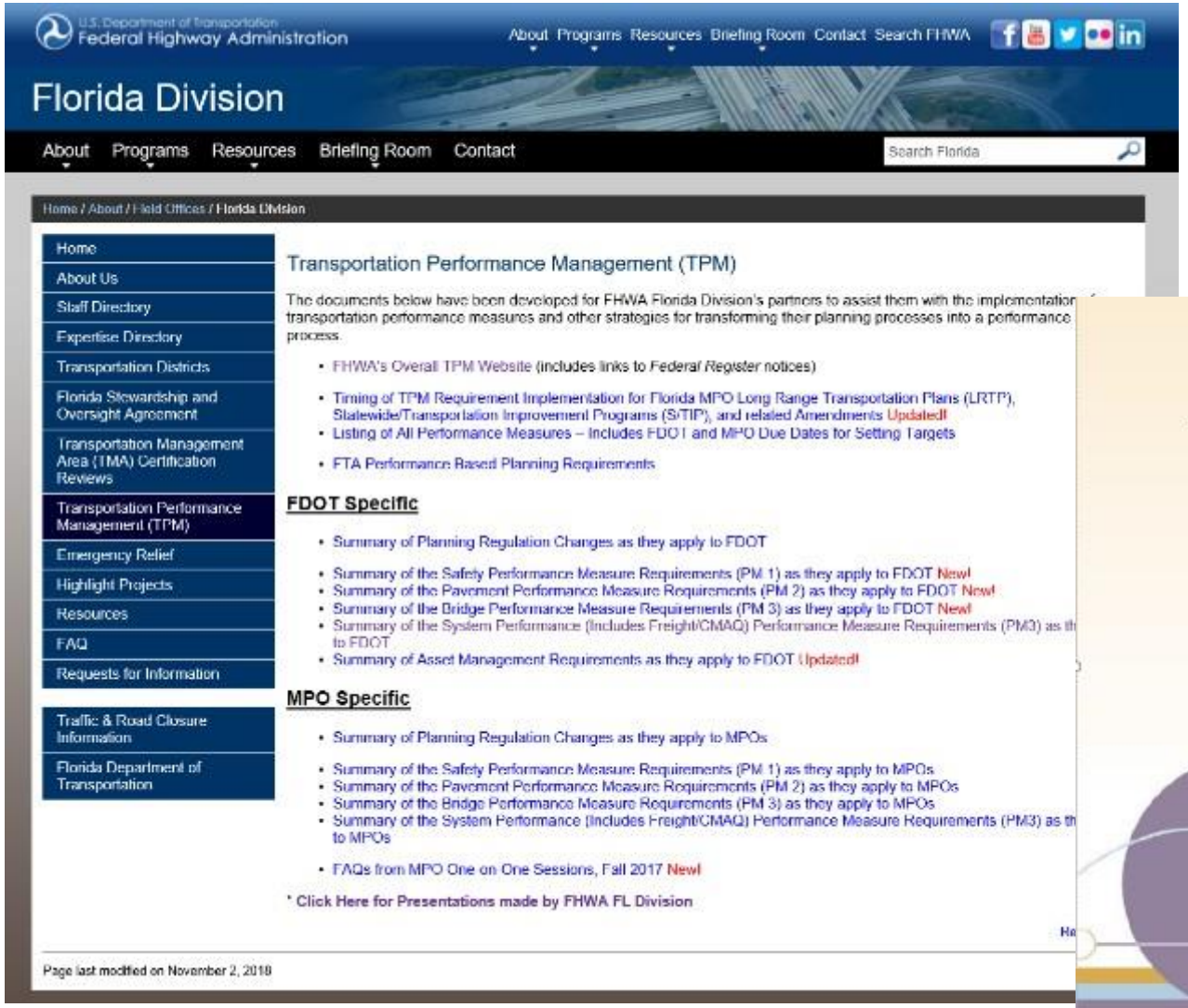
Metropolitan Planning Area (MPA)	Main City	%Interstate Reliable		%NHS Non-Int Reliable		Truck Travel Time Index	
		Baseline	Target	Baseline	Target	Baseline	Target
Bay County TPO	Panama City	N/A	N/A	96.5	50.0*	N/A	N/A
Broward MPO	Fort Lauderdale	67.0	70.0*	81.9	50.0*	1.64	2.00*
Capital Region TPA	Tallahassee	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

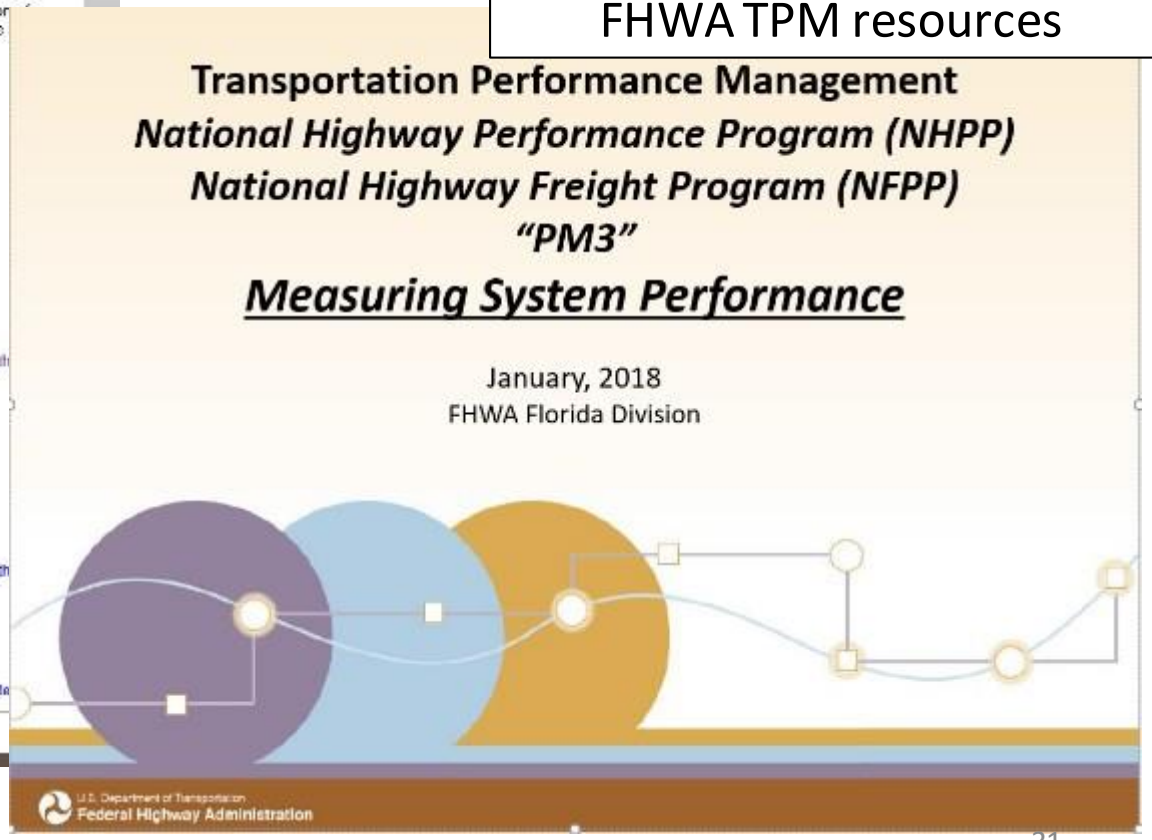
^PHED Measure currently not required for any Florida area. ^^FDOT is encouraged to report the Posted Speed Limits for the NHS via HPMS.

For TPM – PM3 information…

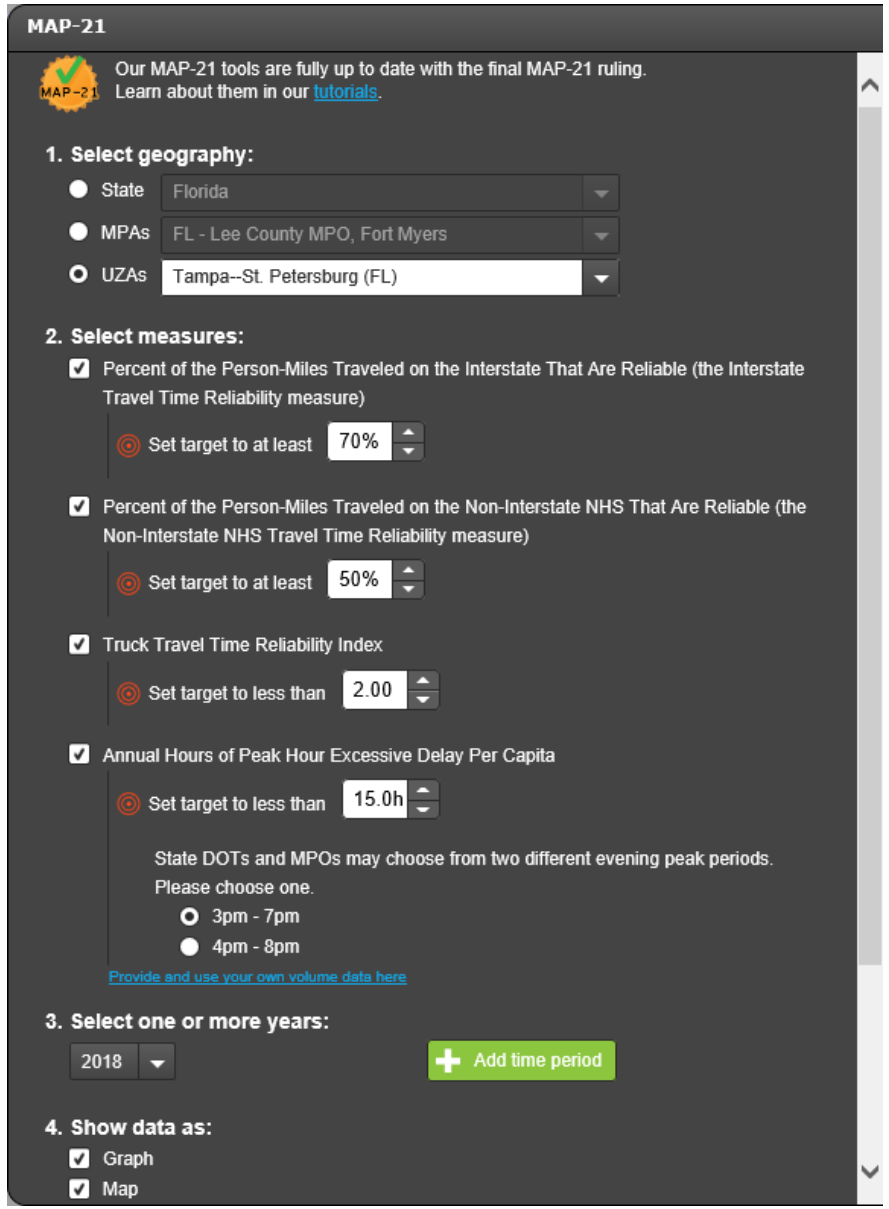


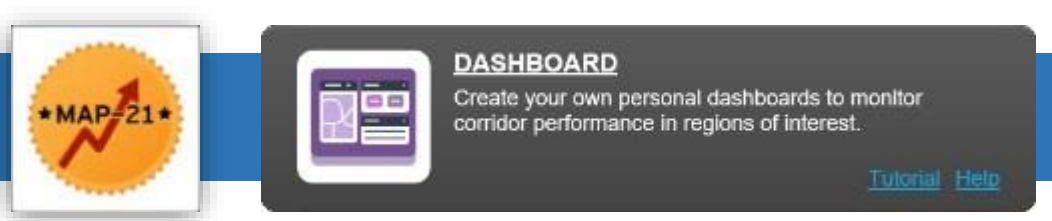
Go to FHWA Florida Division TPM Page

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



Dashboard – MAP-21

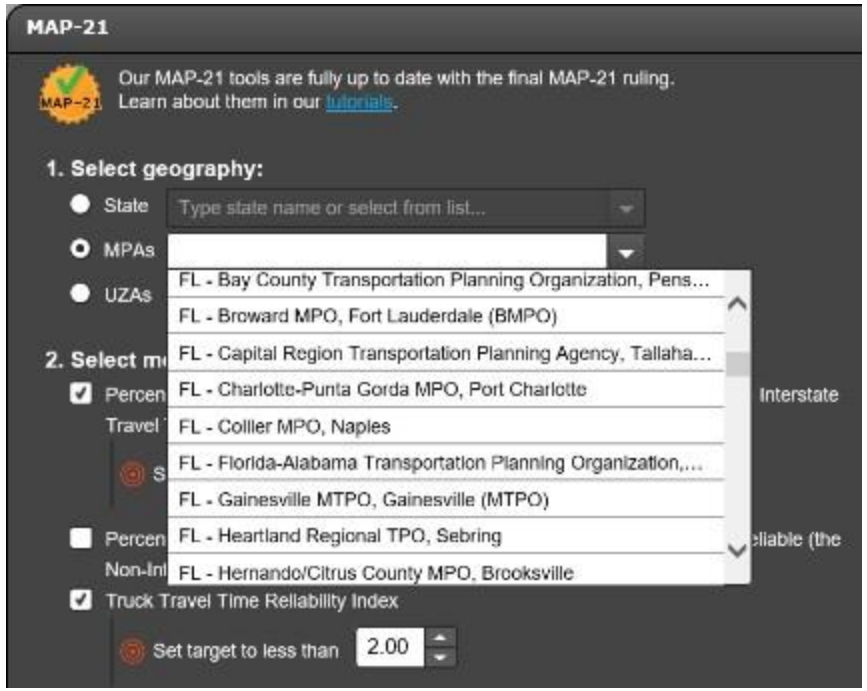




Create Widgets for PM3 Measures and Targets:

- 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*



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

Interstate Travel Time Reliability for Florida

Florida

MAP-21 Percent of the Person-Miles Traveled on the Interstate That Are Reliable (the Interstate Travel Time Reliability measure)

	Year's Performance
2015	82.4%
2016	83.3%
2017	82.2%

Target at least **70.0%**

Target: At least 70% of the system should have a LOTTR less than 1.50

Show map...

Calculated using 99.93% of miles in Florida

Data source: NPMRDS HERE (2015-2016) and NPMRDS INRIX (2017)

Truck Travel Time Reliability Index for Florida

Florida

MAP-21 Truck Travel Time Reliability Index

	Year's Performance
2015	1.56
2016	1.52
2017	1.43

Target less than **2.00**

Target: The system should have a TTTR less than 2.00

Show map...

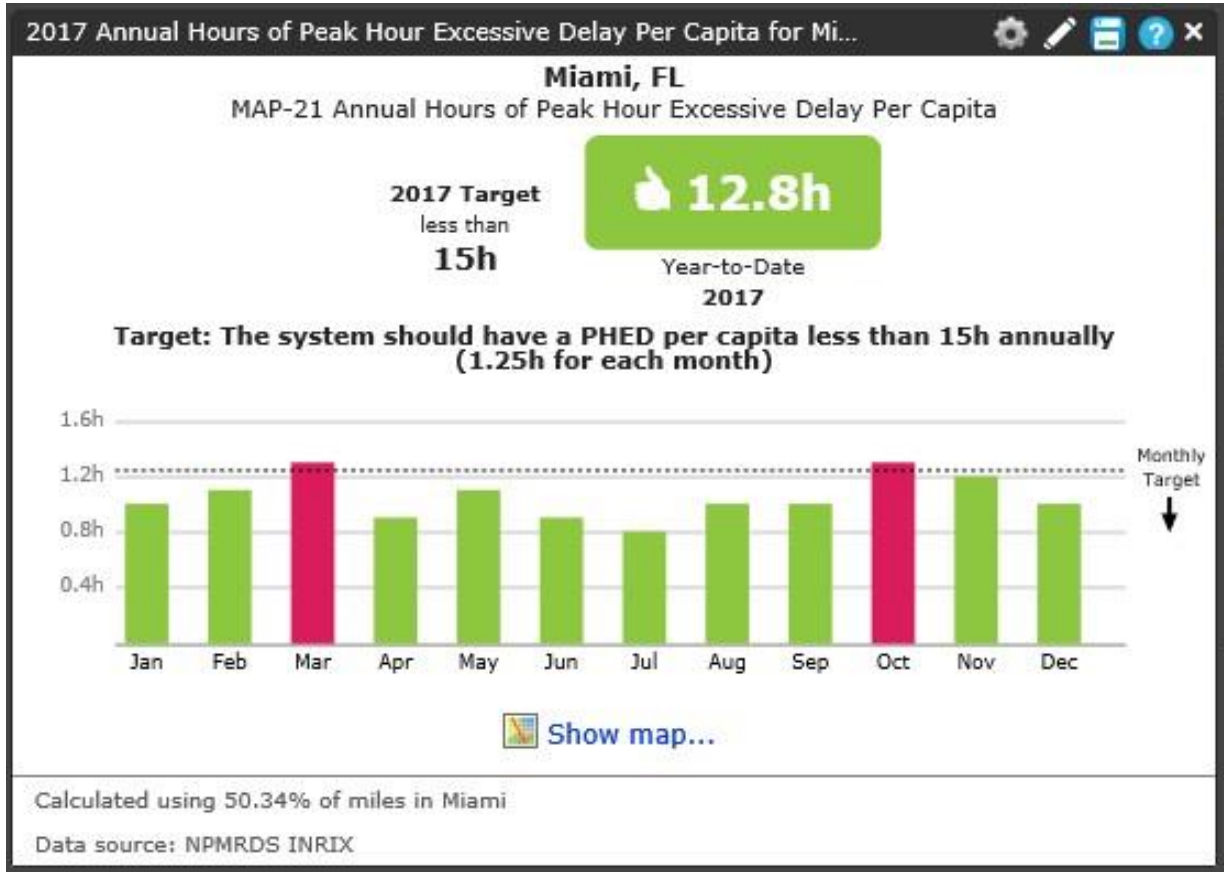
Calculated using 99.93% of miles in Florida

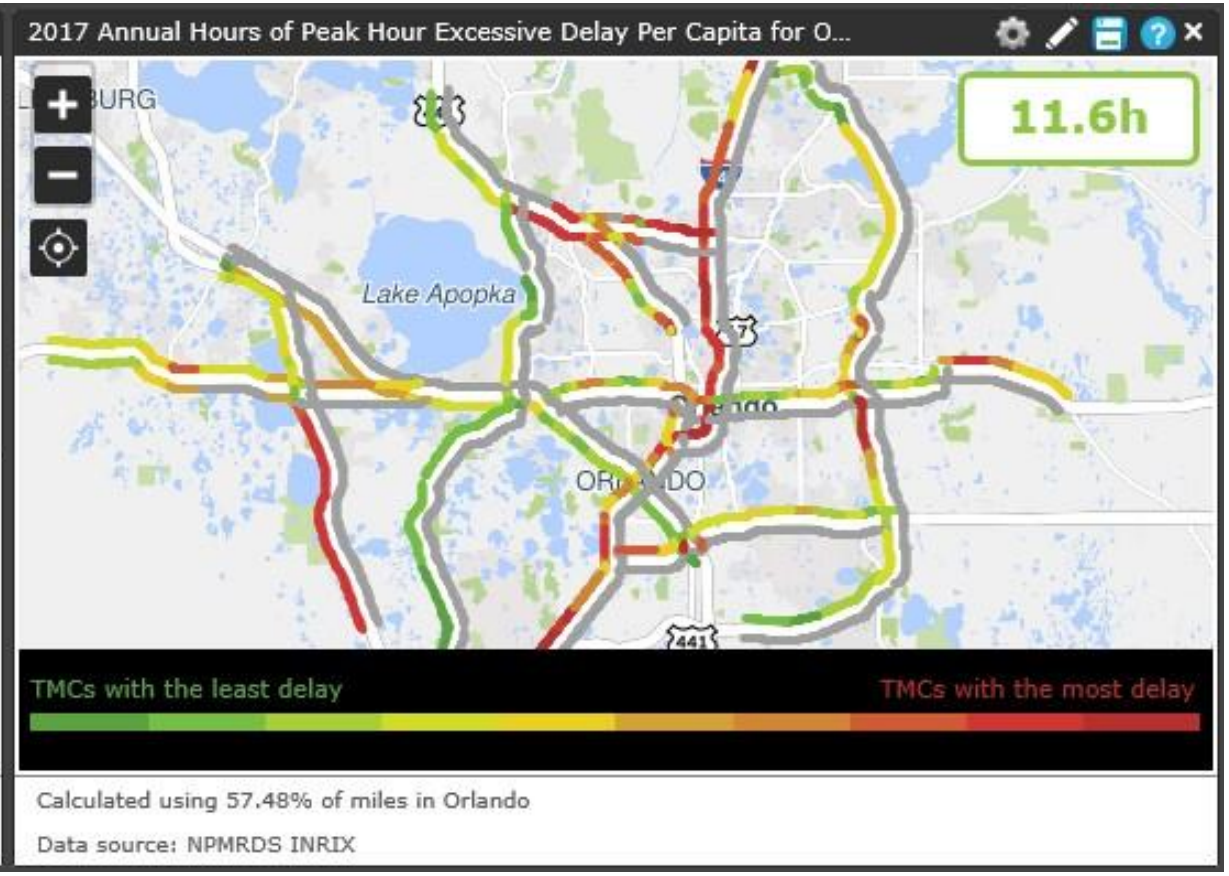
Data source: NPMRDS HERE (2015-2016) and NPMRDS INRIX (2017)

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

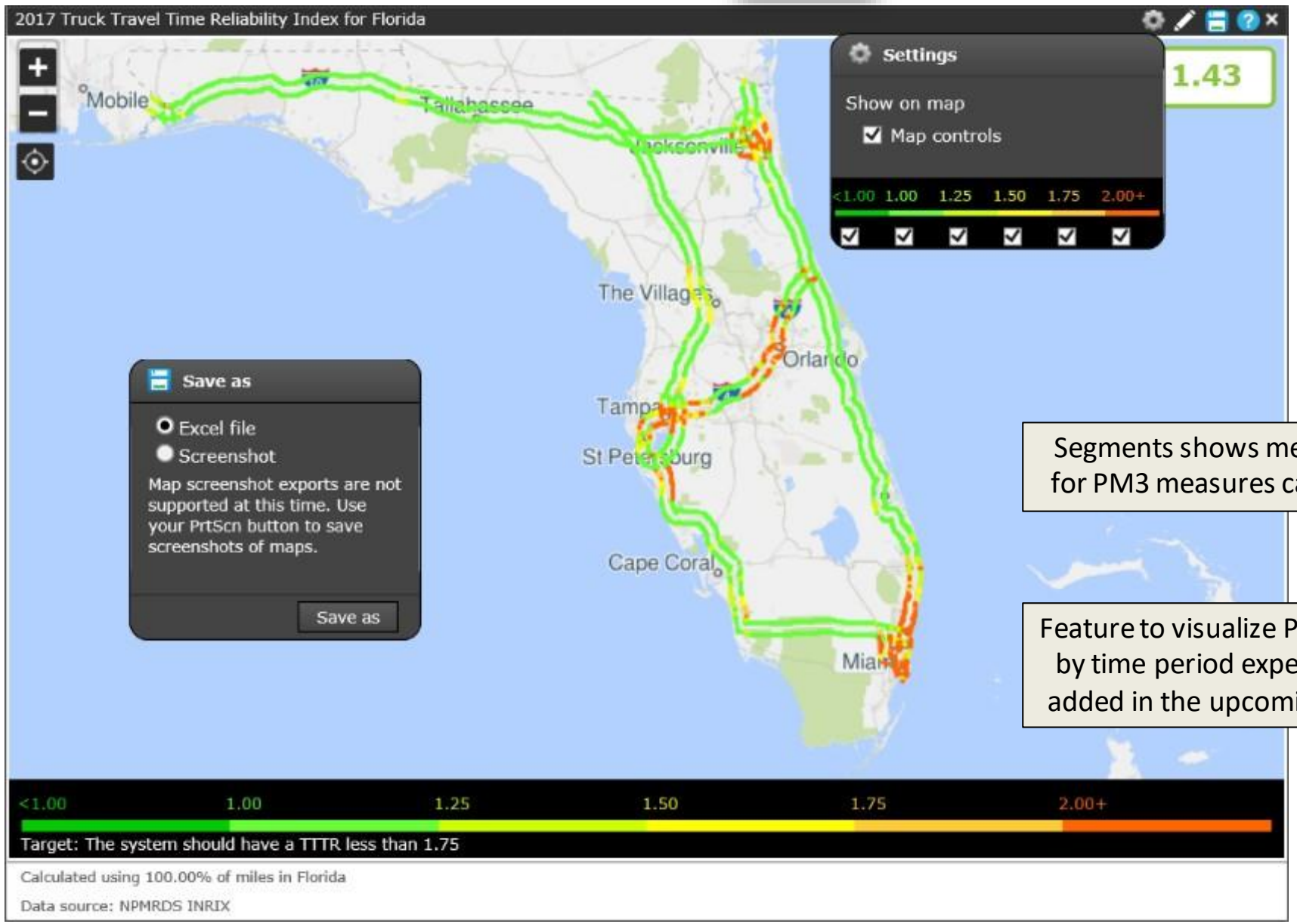




FDOT is encouraged to report the Posted Speed Limits for the full extent of the NHS via HPMS.
Tool will still generate the measures based on available data.

Dashboard – MAP-21 (Examples)

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

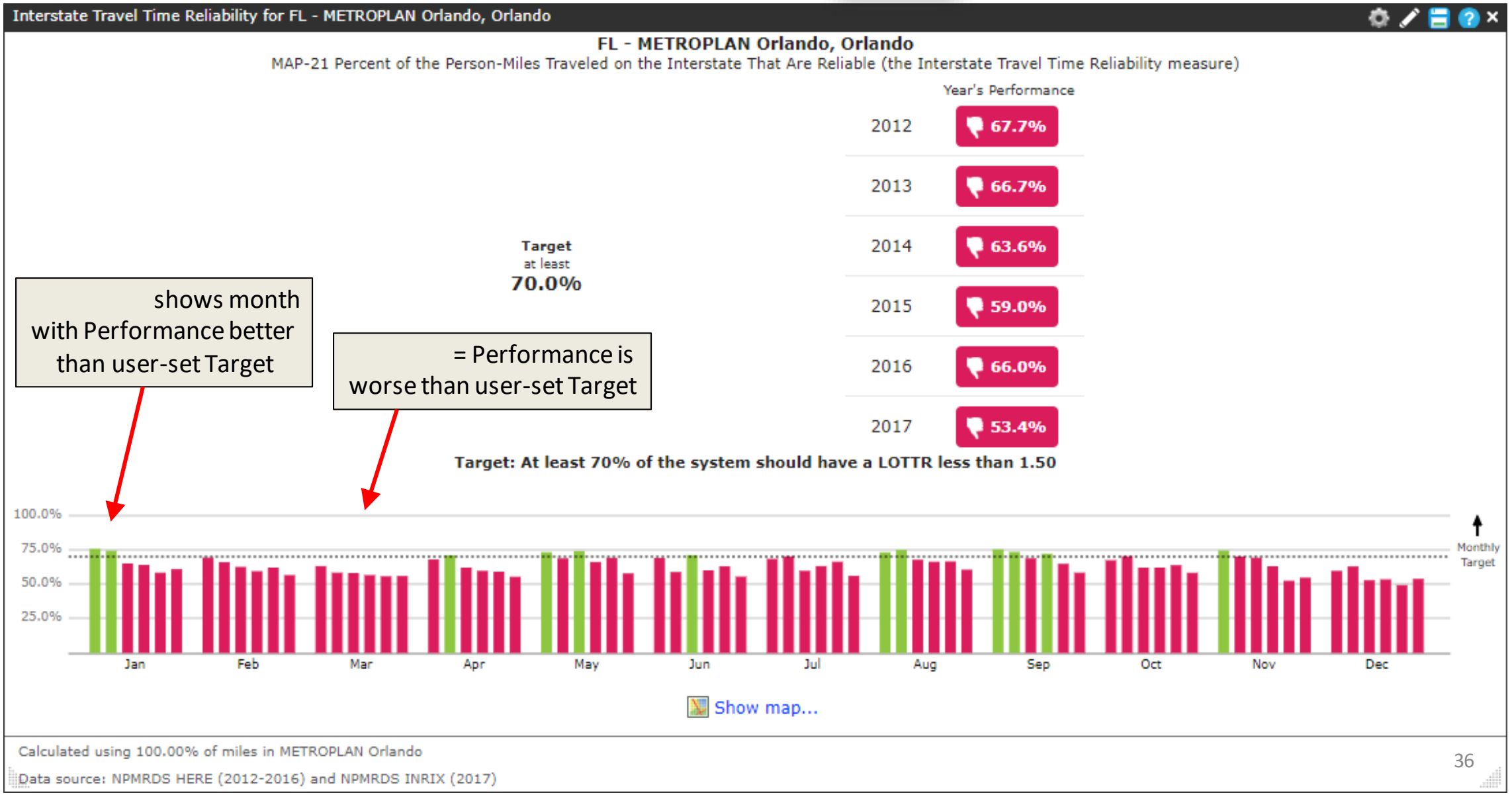


Segments shows metrics used for PM3 measures calculations

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

Dashboard – MAP-21 (Examples)

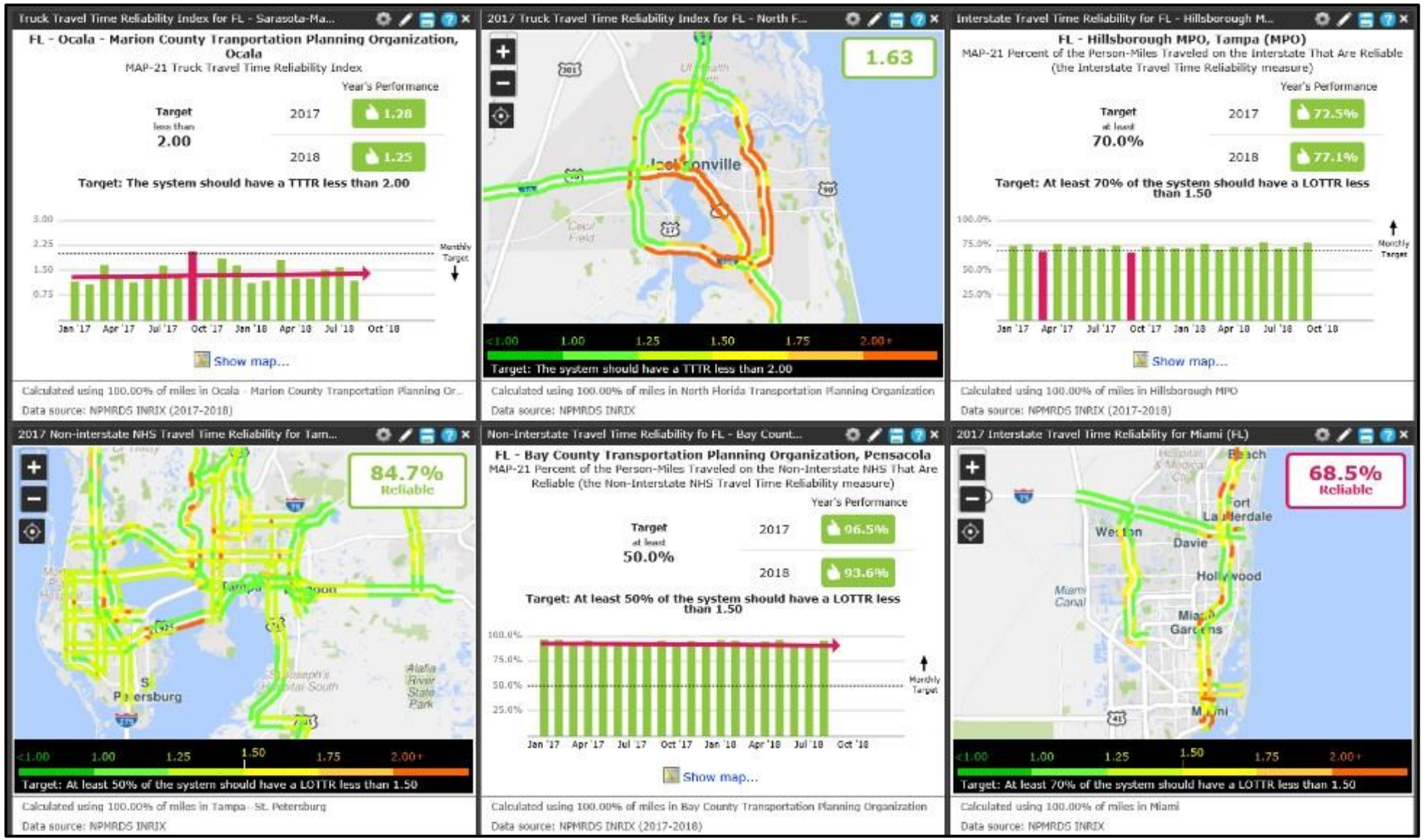
DASHBOARD
Create your own personal dashboards to monitor corridor performance in regions of interest.
Tutorial Help



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

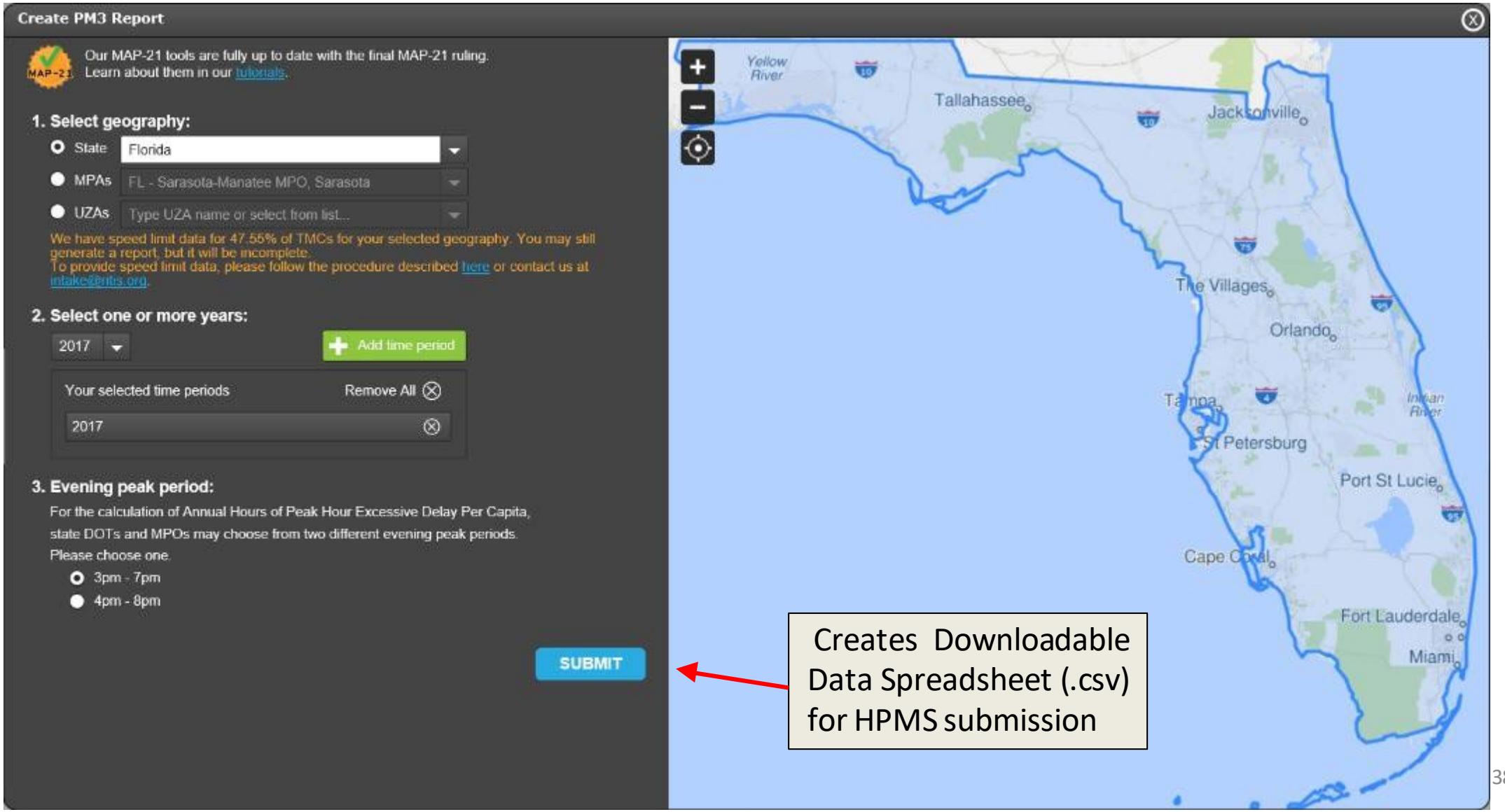


Dashboard – PM3 Report

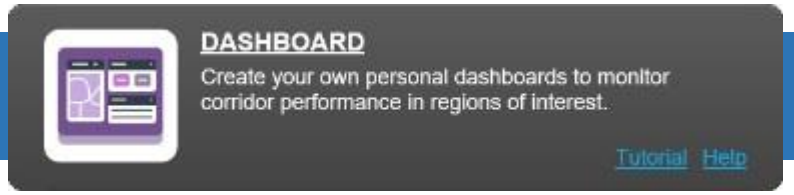
+ Create PM3 report

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

PM3 Metrics for HPMS Reporting and Documentation



Dashboard – Other Metrics



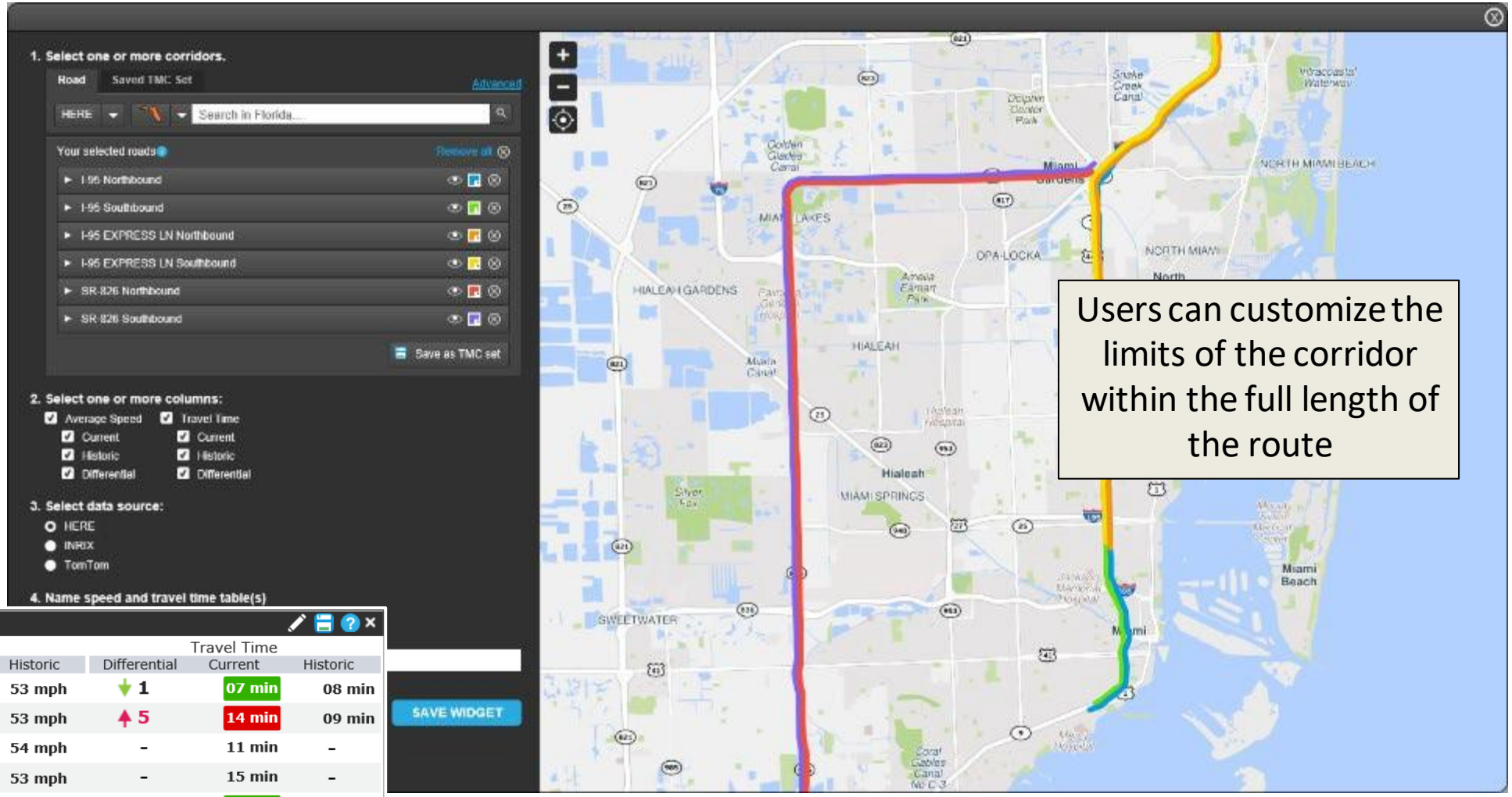
- Access to other features, including monitoring speed and travel time for corridors, and list of bottlenecks for a region or corridor
- Data is provided by HERE in real-time; updates every minute
- Additional features for performance comparison, reliability charts, and incidents & events will be added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

Speed and Travel Time Table

Interface for Creating this Widget:



Widget:

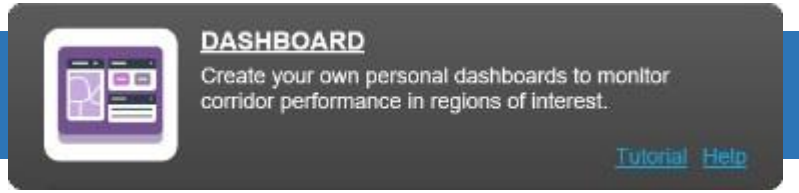
Speed and Travel Time Table

Corridor	Average Speed Differential	Average Speed Current	Average Speed Historic	Travel Time Differential	Travel Time Current	Travel Time 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)

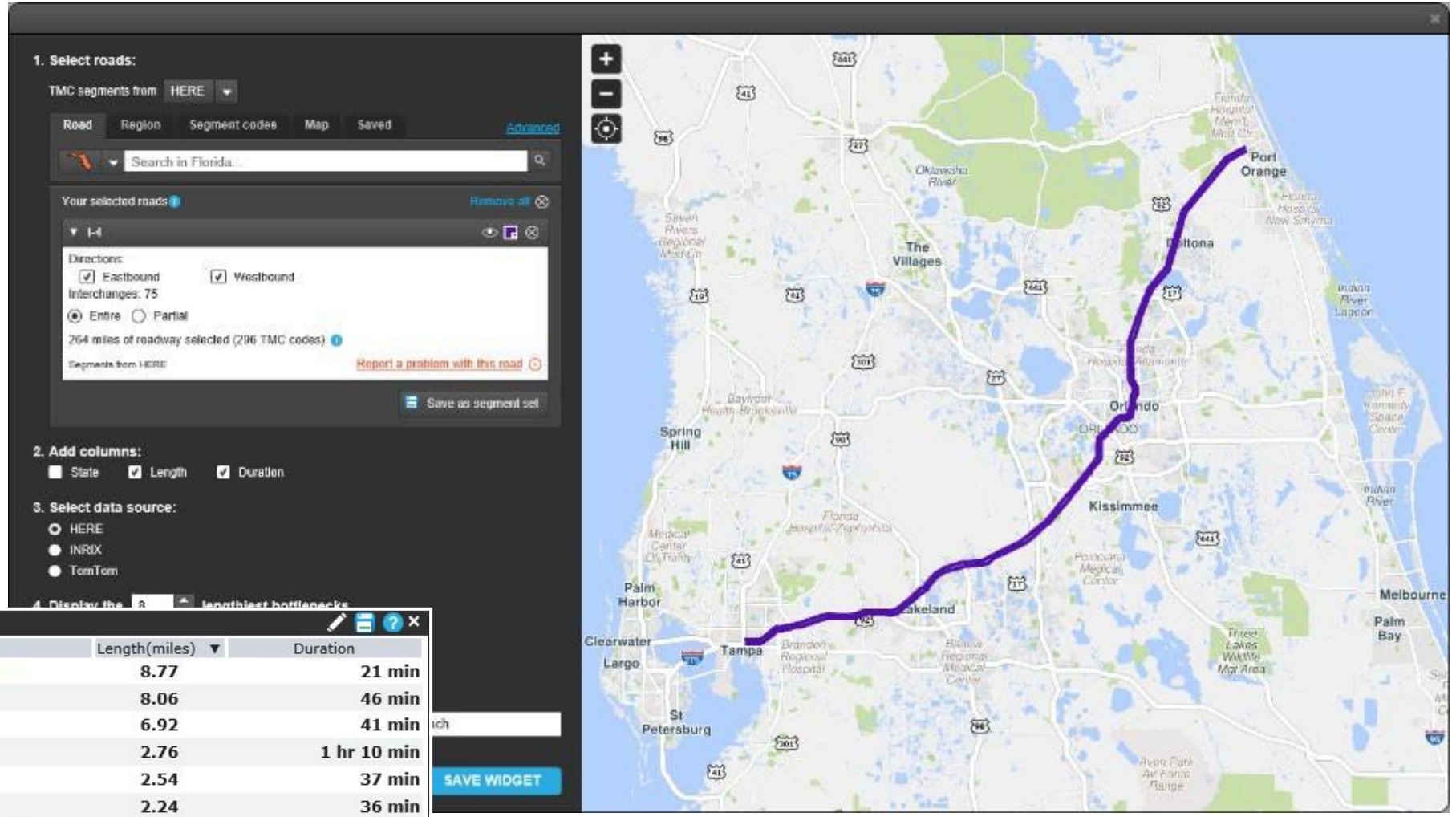
← Real-Time (Updates Every Minute)

Dashboard – Ranked Bottleneck



Ranked Bottleneck Table

Interface for Creating this Widget:



Widget:

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

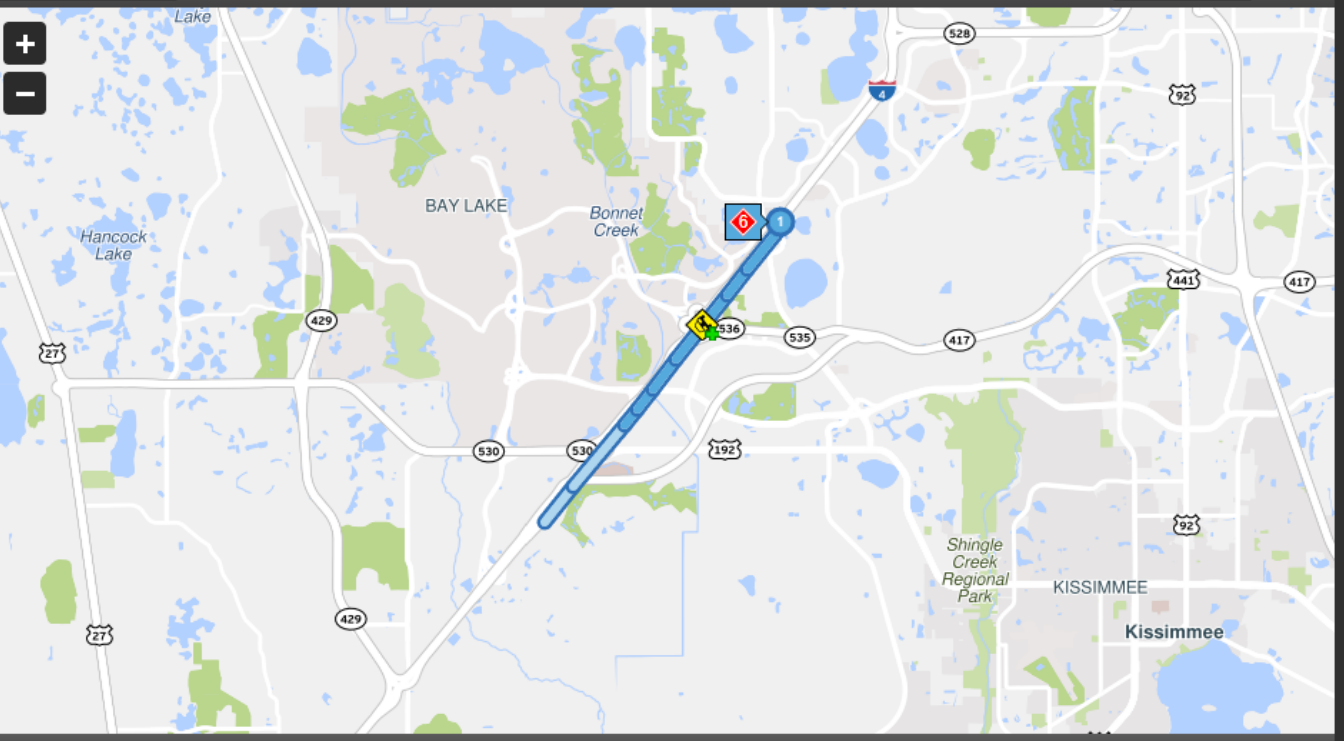
#1 Bottleneck Ranking - Using HERE data

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

+ Add Visualization

			Bottleneck Profile			Influence		Base Impact Weighted By		
Rank	Map	Head Location	Average Max Length	Average Daily Duration	Total Duration	Agency-Reported Events	Base Impact	Speed Differential	Congestion	Total Delay
1	☐	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	☐	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	☐	I-4 E @ CR-532/EXIT 58	8.07	7 h 39 m	1 d 14 h 19 m	17	15,486	651,153	27,235	21,010,016
4	☐	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	☐	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	☐	I-4 W @ CR-532/EXIT 58	5.4	3 h 38 m	18 h 12 m	43	4,842	196,904	9,538	9,362,235

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

Maximum queue length in miles ☐ Grayscale ☑ Compact view

2 5 8

Dashboard – Ranked Bottleneck #1

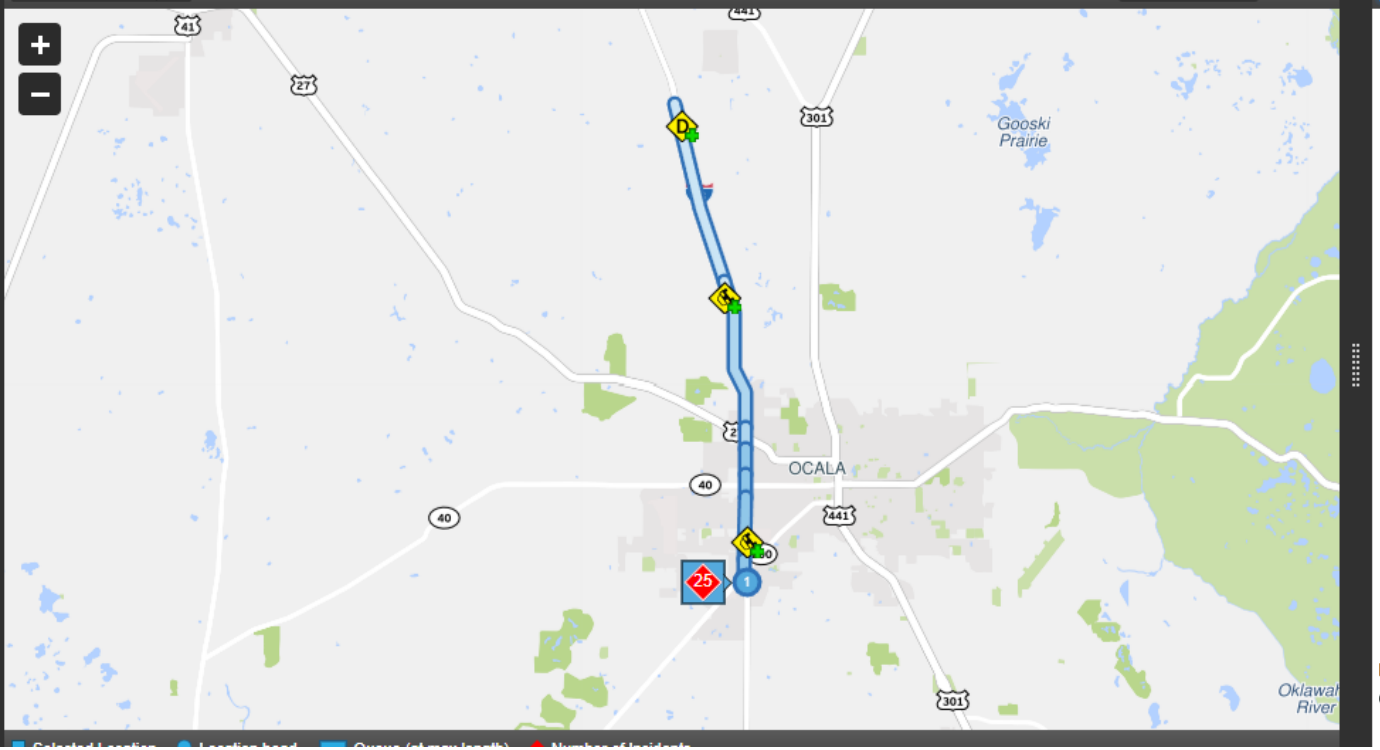
#1 Bottleneck Ranking - Using HERE data

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 | Displ

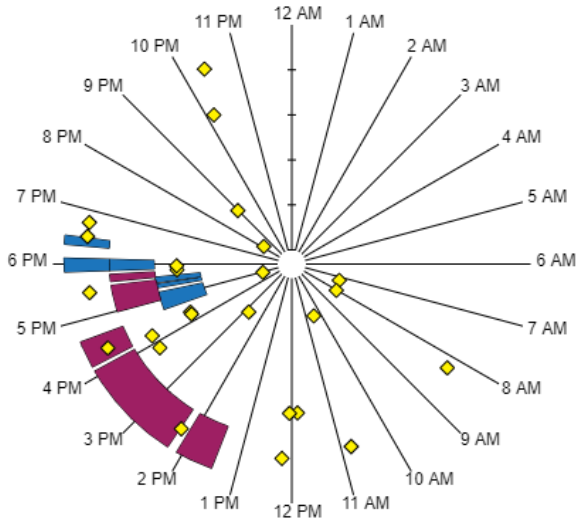
			Bottleneck Profile			Influence		Base Impact Weighted By		
Rank	Map	Head Location	Average Max Length	Average Daily Duration	Total Duration	Agency-Reported Events	Base Impact	Speed Differential	Congestion	Total Delay
1	☐	I-75 S @ SR-200/EXIT 350	6.94	1 h	5 h 2 m	26	1,813	75,035	3,000	1,523,107
2	☐	I-75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

Map | I-75 S @ SR-200/EXIT 350 | Display Options



Time Spiral | I-75 S @ SR-200/EXIT 350 | Display

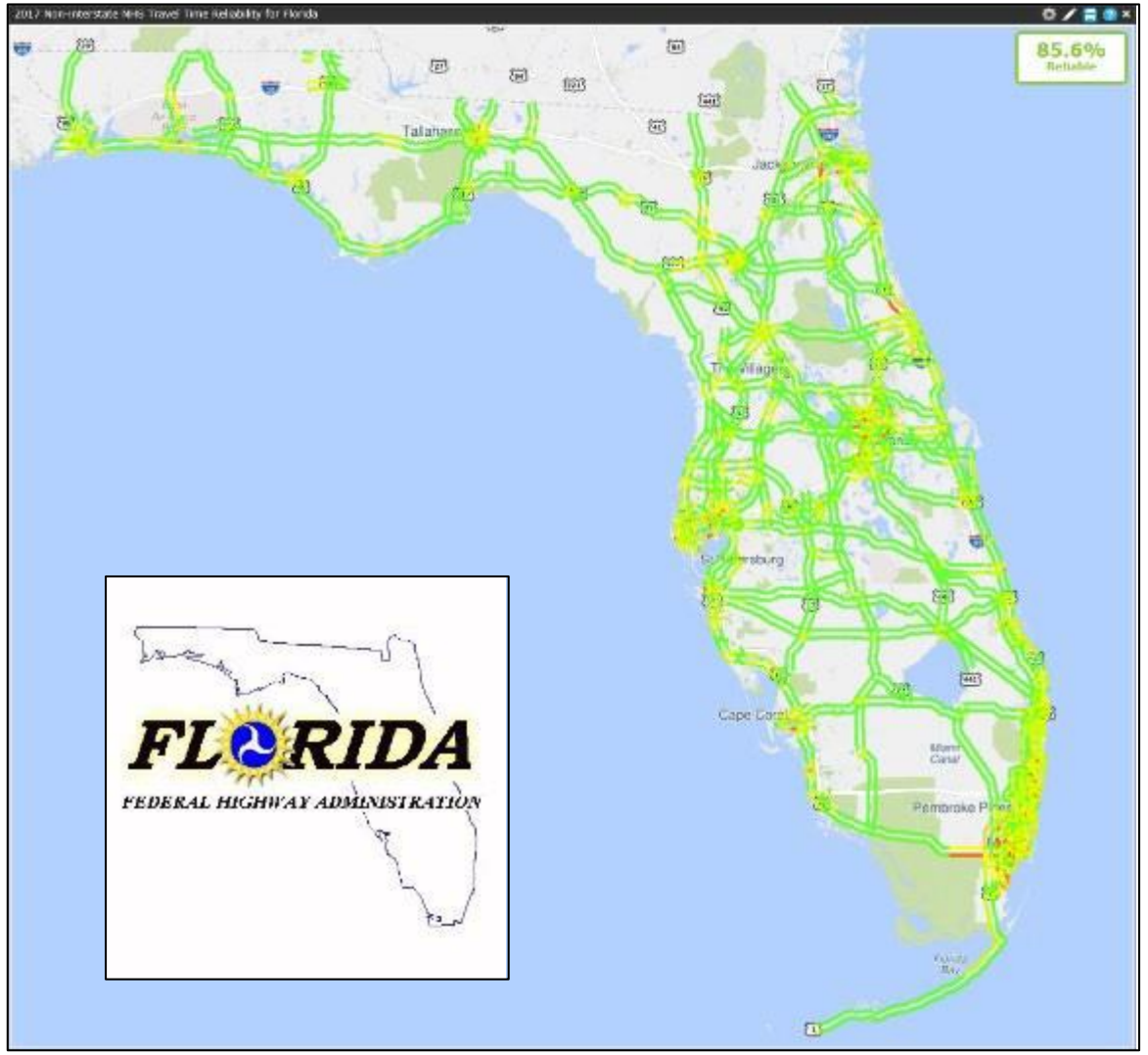
The center represents the beginning of Jul 18, 2022 and the outer edge represents the end of Jul 22, 2022.



Maximum queue length in miles ☐ Grayscale

Features for Florida Users

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



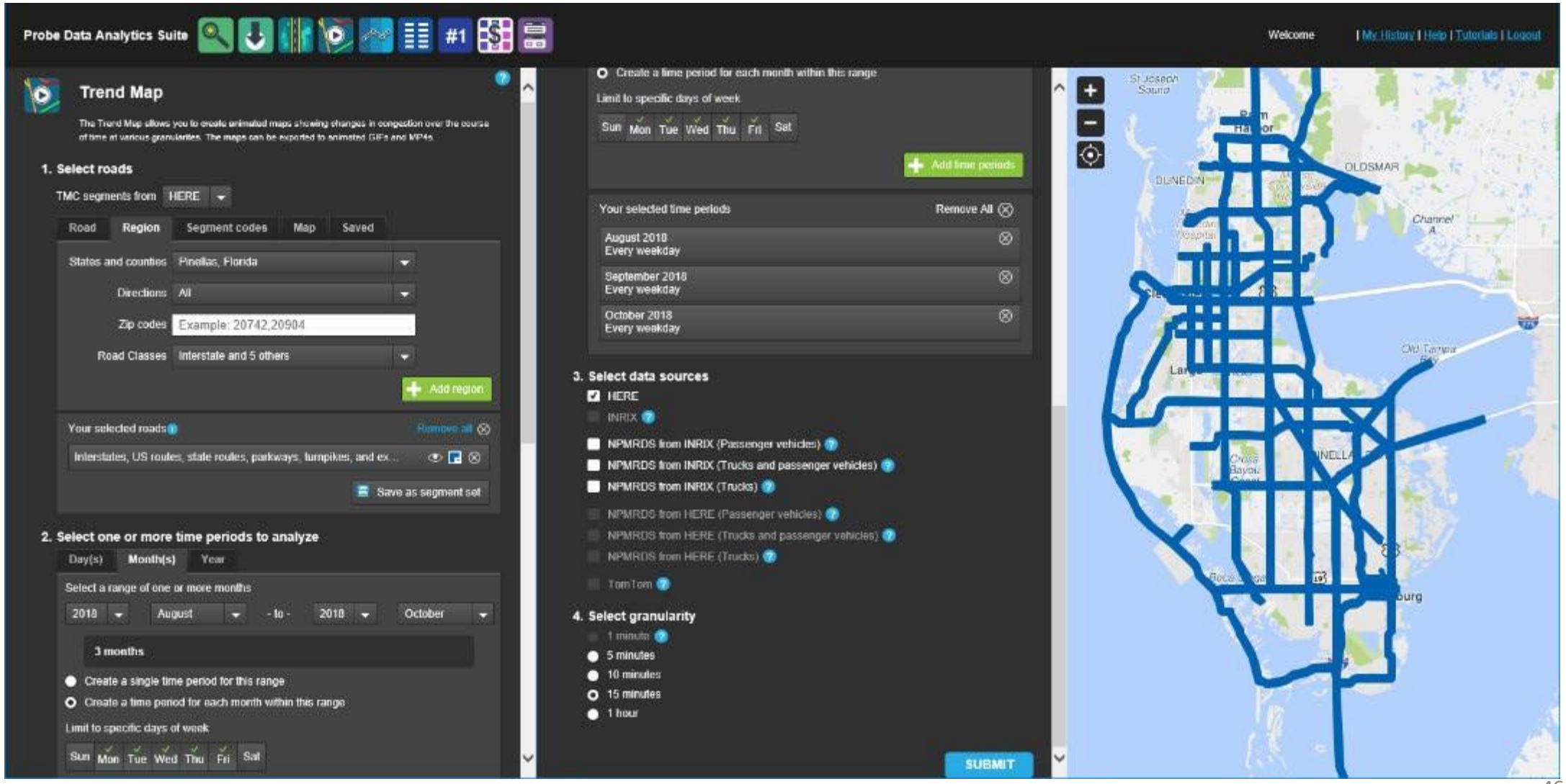
2017 Non-Interstate NHS Travel Time Reliability

Deep Dive Data Analytics

- 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)

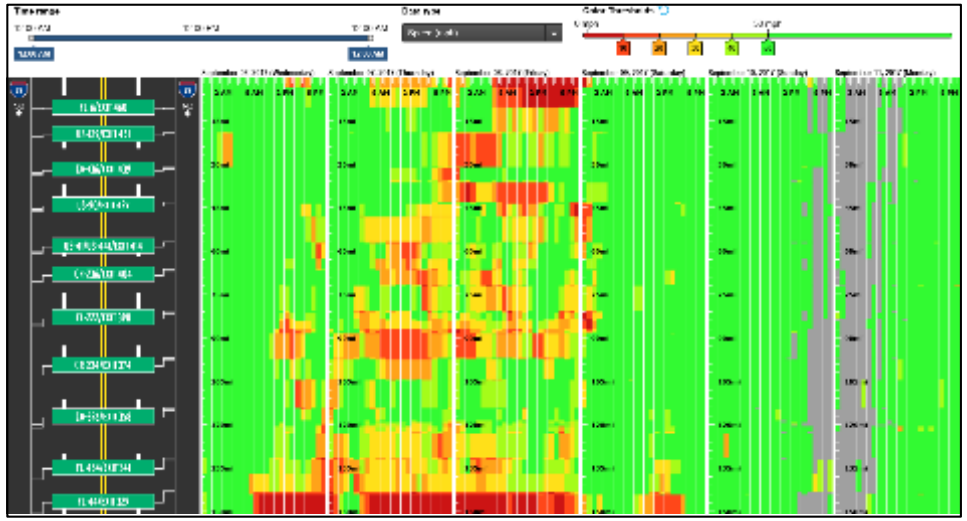
Deep Dive Data Analytics

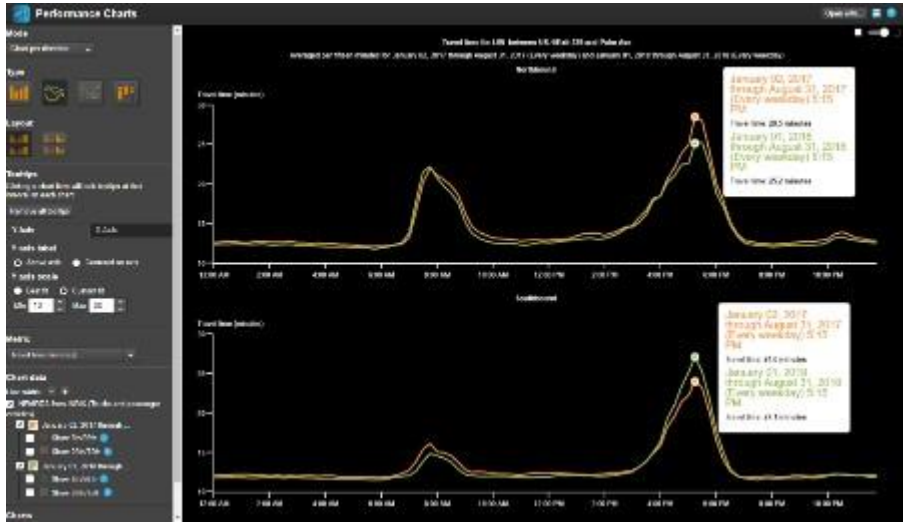
Interface for Running Analysis:

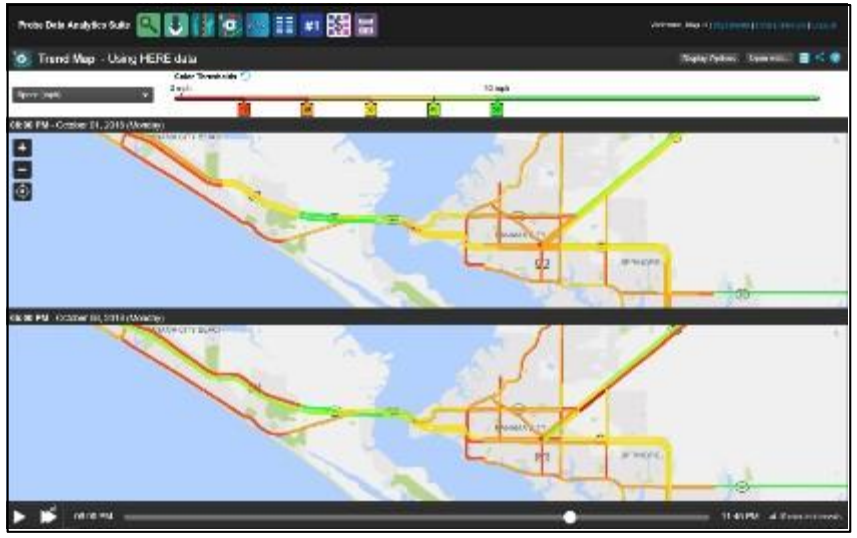


Deep Dive Data Analytics

Analysis Output Examples:



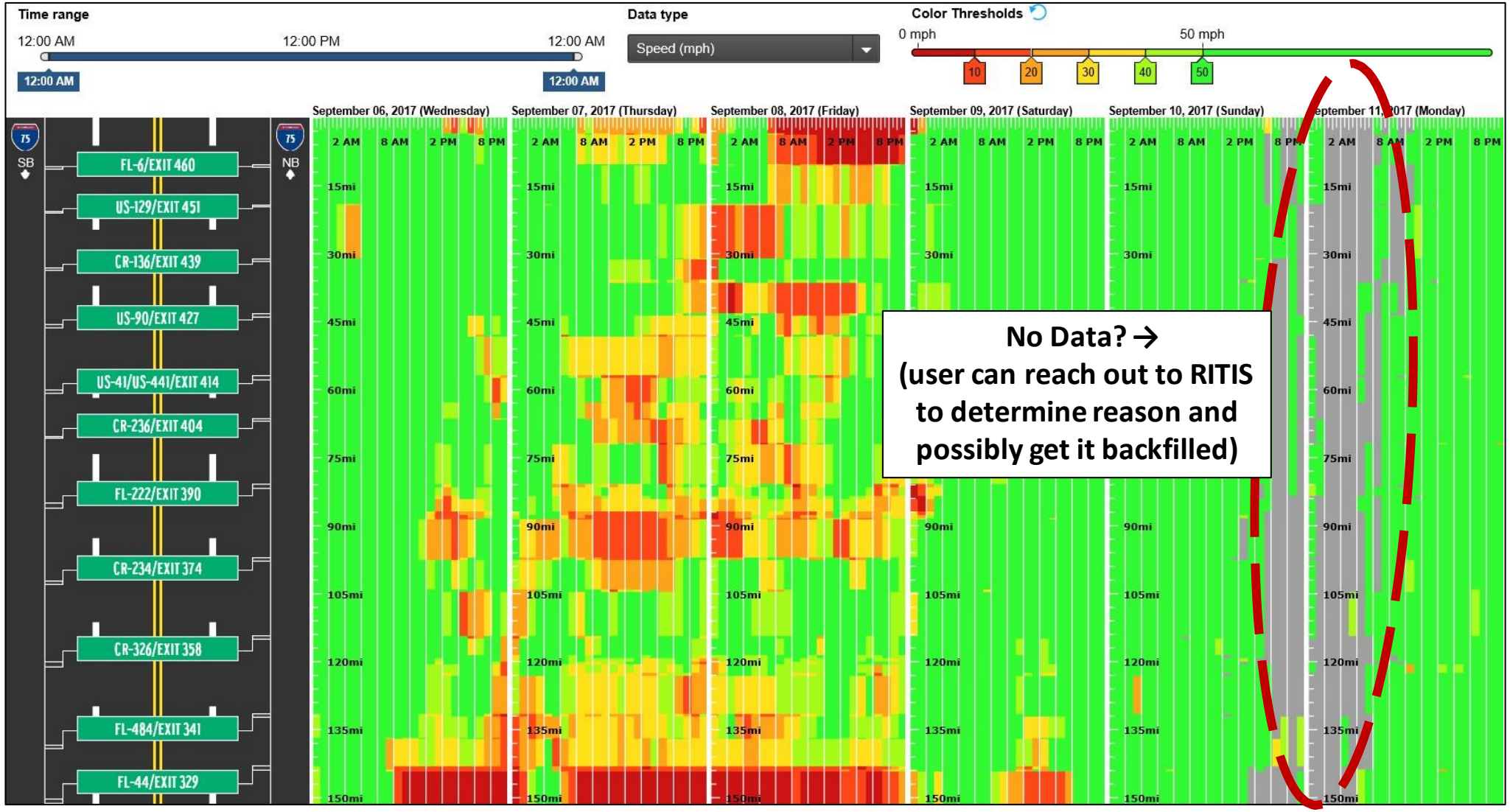




Deep Dive – Congestion Scan

CONGESTION SCAN
Analyze the rise and fall of congested conditions on a stretch of road.
Tutorial Help History

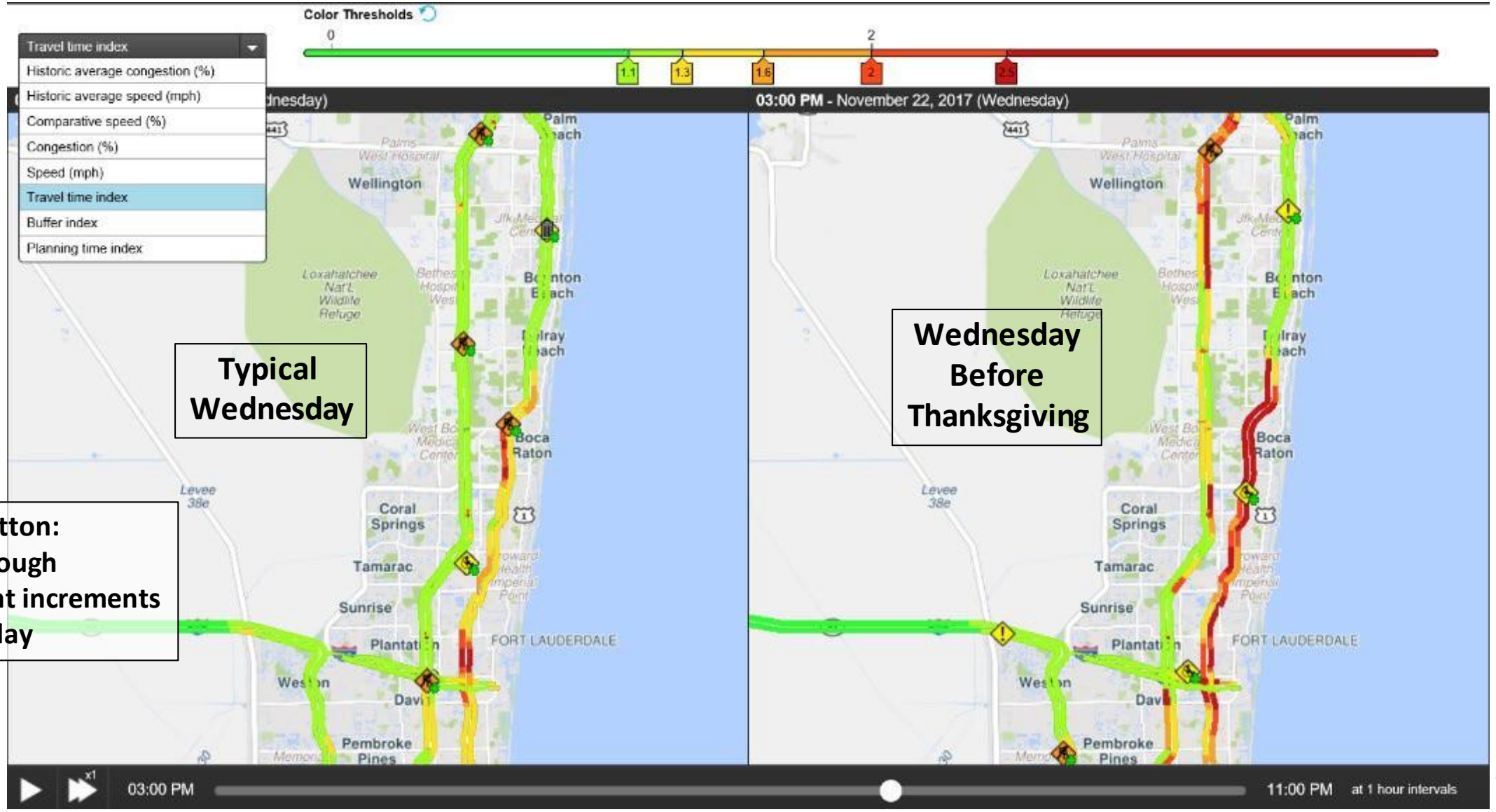
I-75 Hurricane Irma Evacuation (Sept. 2017)



Deep Dive – Trend Map

TREND MAP
Create animated maps of roadway conditions.
Tutorial Help History

Holiday Rush: Thanksgiving Day



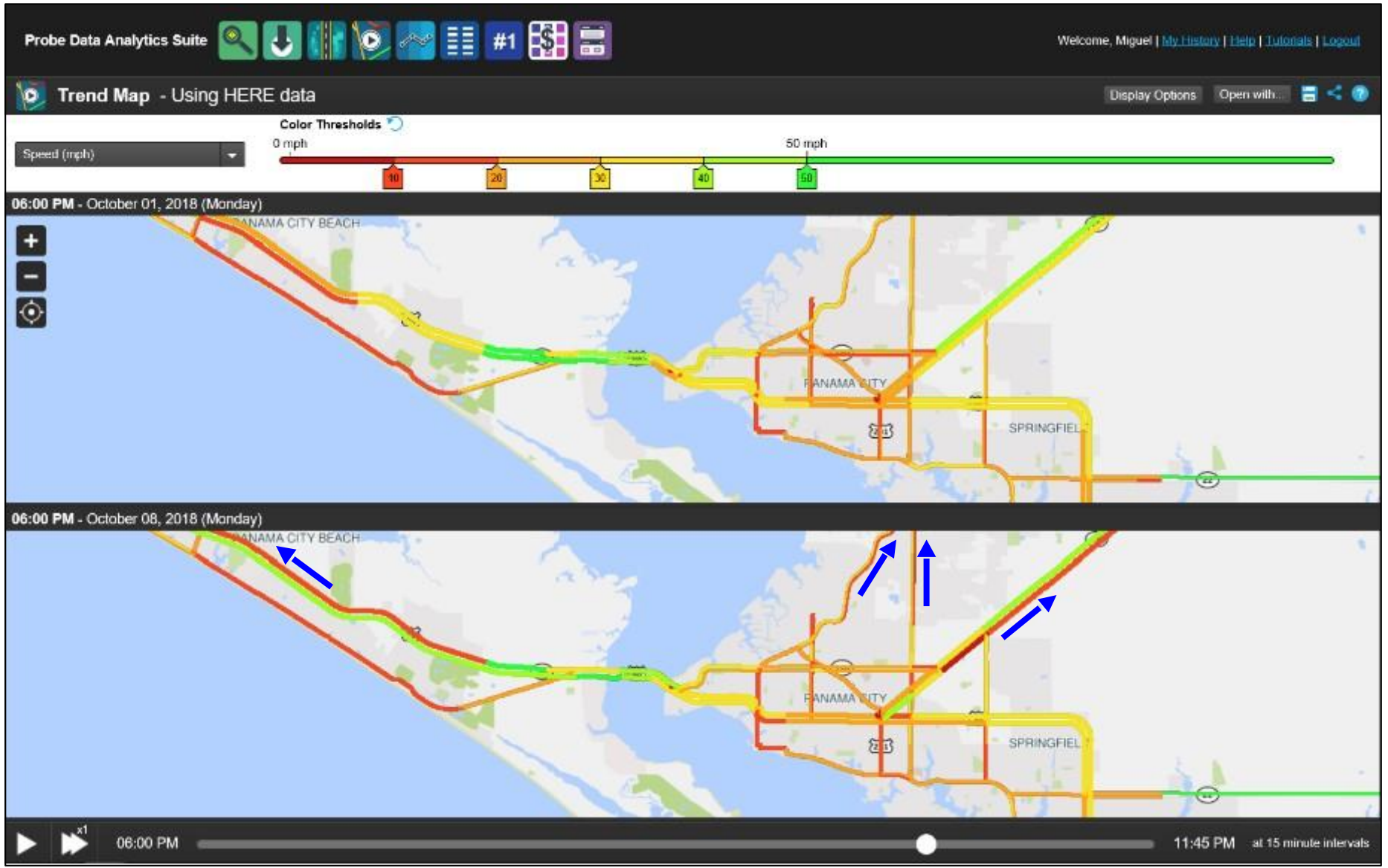
Deep Dive – Trend Map

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)



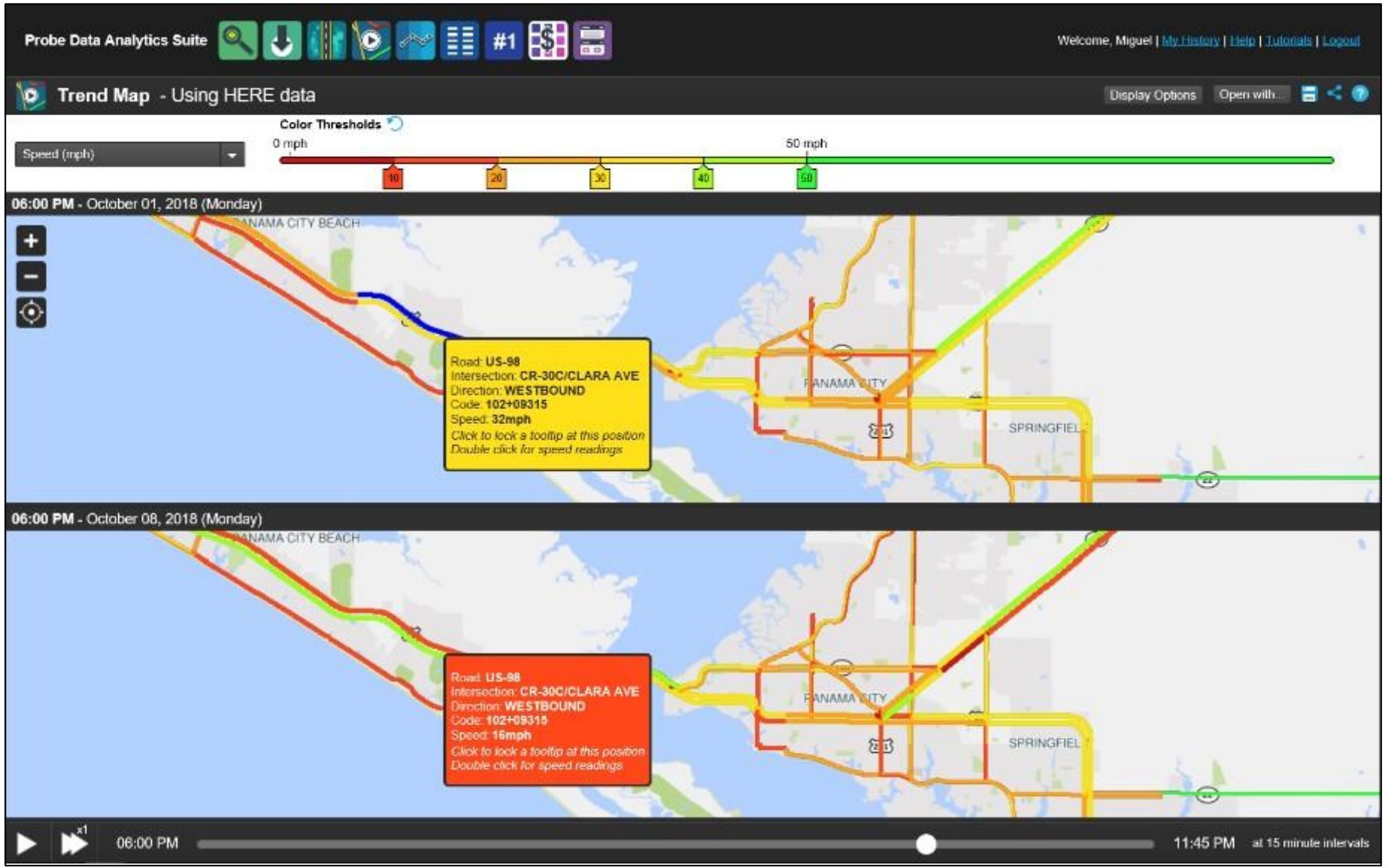
Deep Dive – Trend Map

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 (Typical Monday)

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



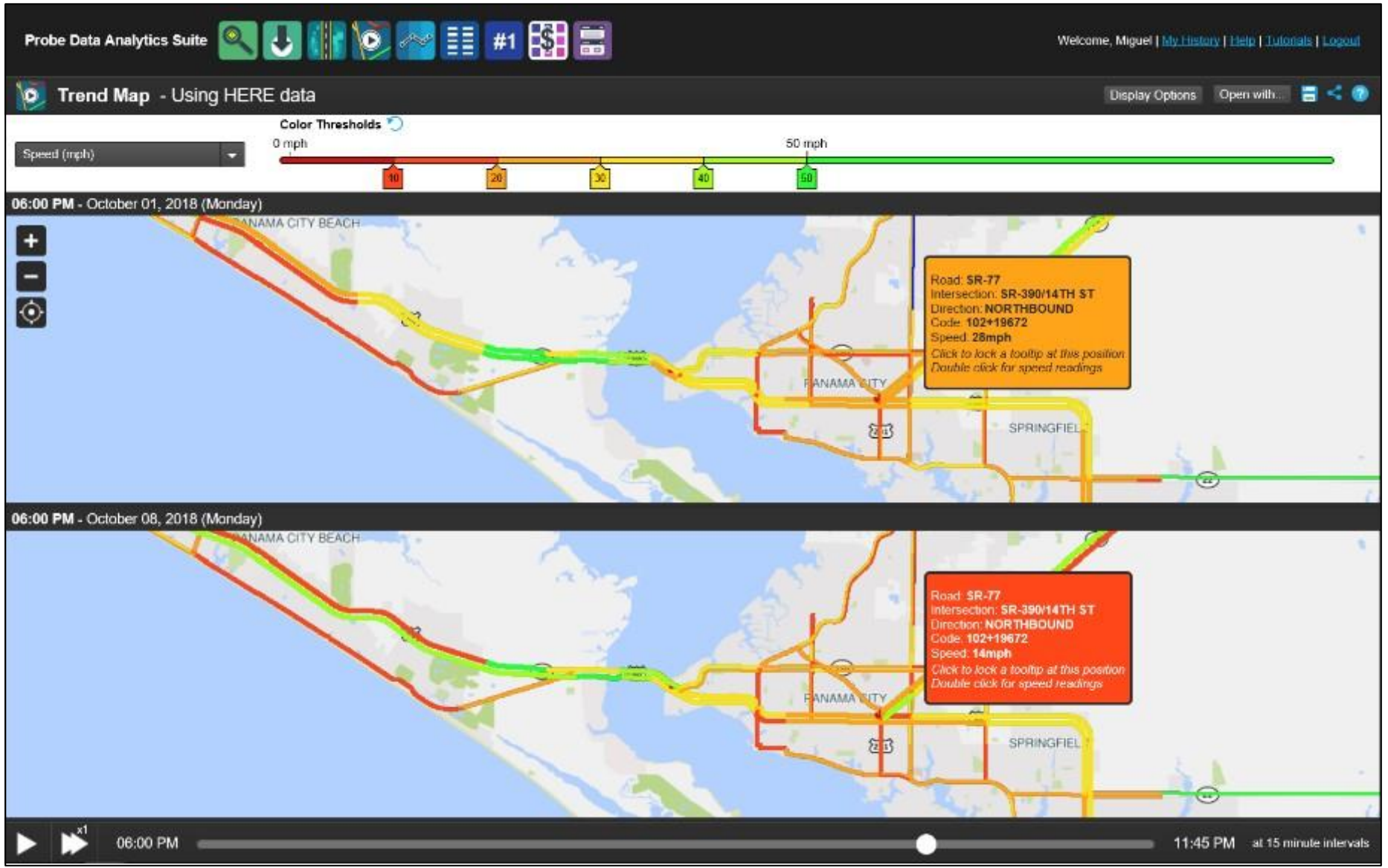
Deep Dive – Trend Map

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)



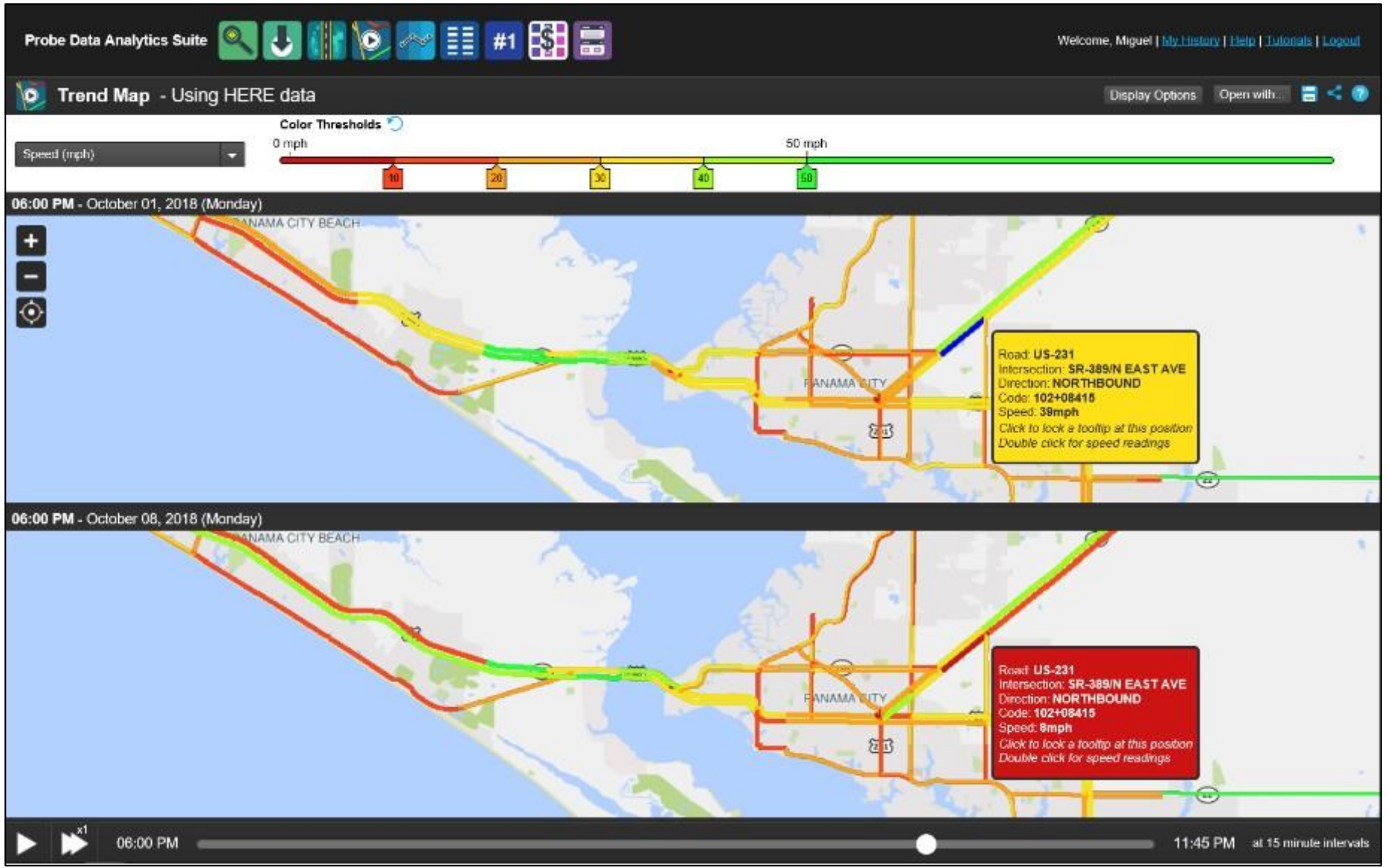
Deep Dive – Trend Map

TREND MAP
Create animated maps of roadway conditions.
Tutorial Help History

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

Monday, Oct. 1st (Typical Monday)

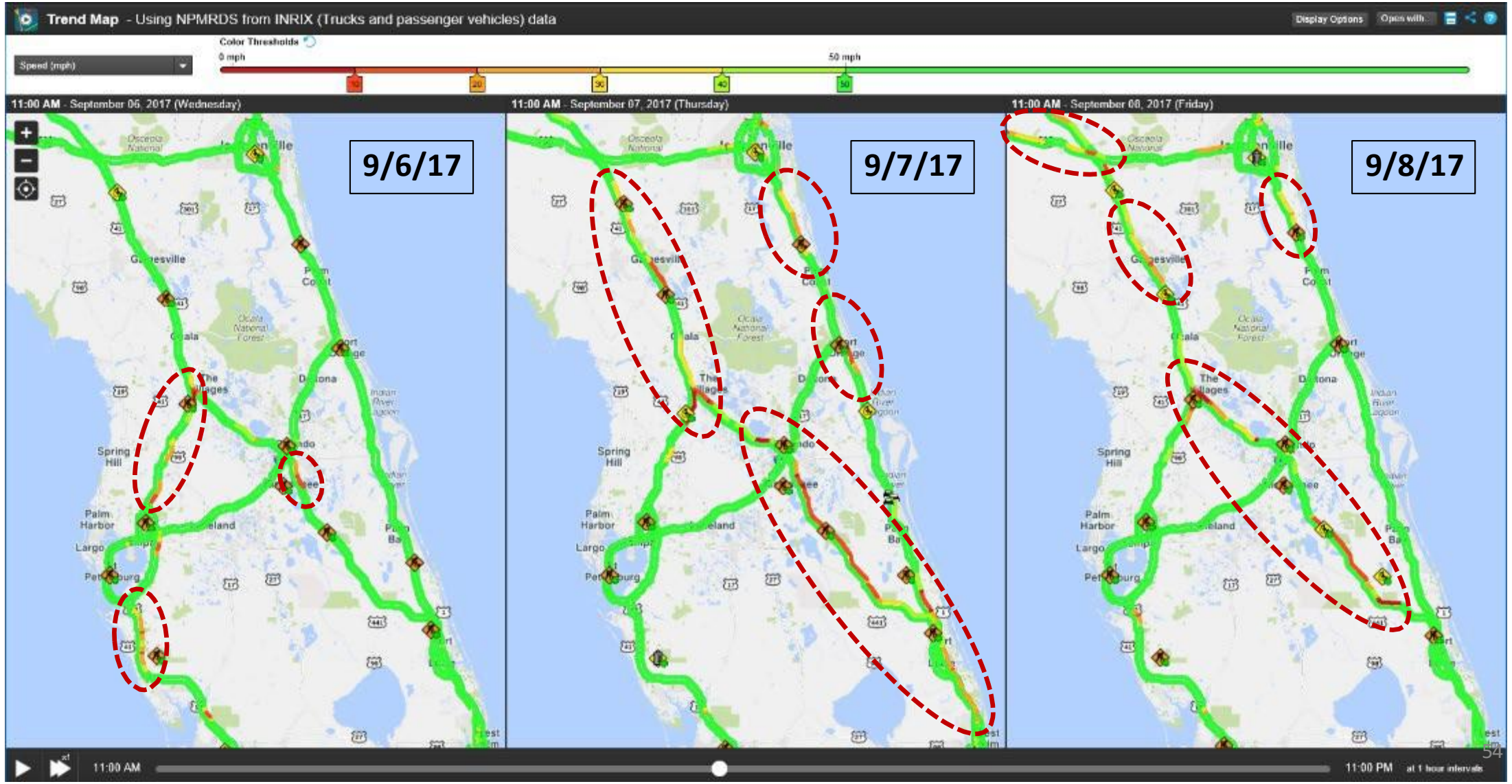
Monday, Oct. 8th (Mandatory Evacuation Order Issued)



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

Open with...

Mode
Chart per direction

Type

Layout

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

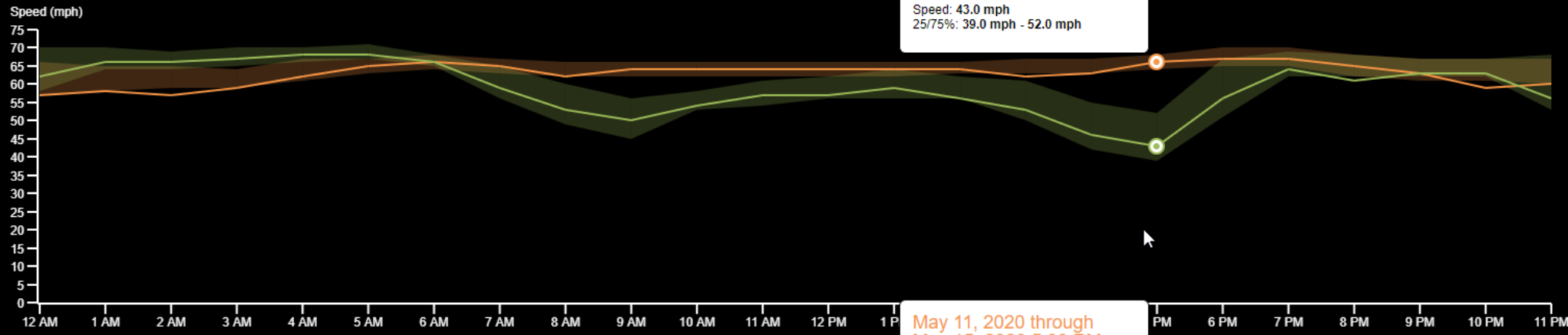
Speed for I-4 between SR-429-TOLL/Exit 60 and US-17/
Averaged per hour for May 11, 2020 through May 15, 2020 and May 16,

Eastbound

May 11, 2020 through May 15, 2020 5:00 PM
Speed: 66.0 mph
25/75%: 64.0 mph - 68.0 mph

May 16, 2022 through May 20, 2022 5:00 PM
Speed: 43.0 mph
25/75%: 39.0 mph - 52.0 mph

Speed (mph)

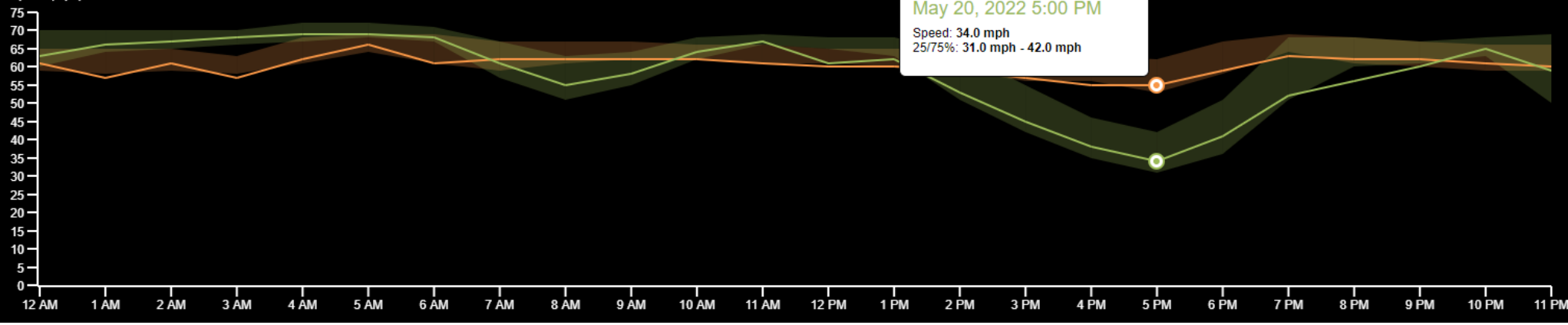


Westbound

May 11, 2020 through May 15, 2020 5:00 PM
Speed: 55.0 mph
25/75%: 53.0 mph - 62.0 mph

May 16, 2022 through May 20, 2022 5:00 PM
Speed: 34.0 mph
25/75%: 31.0 mph - 42.0 mph

Speed (mph)

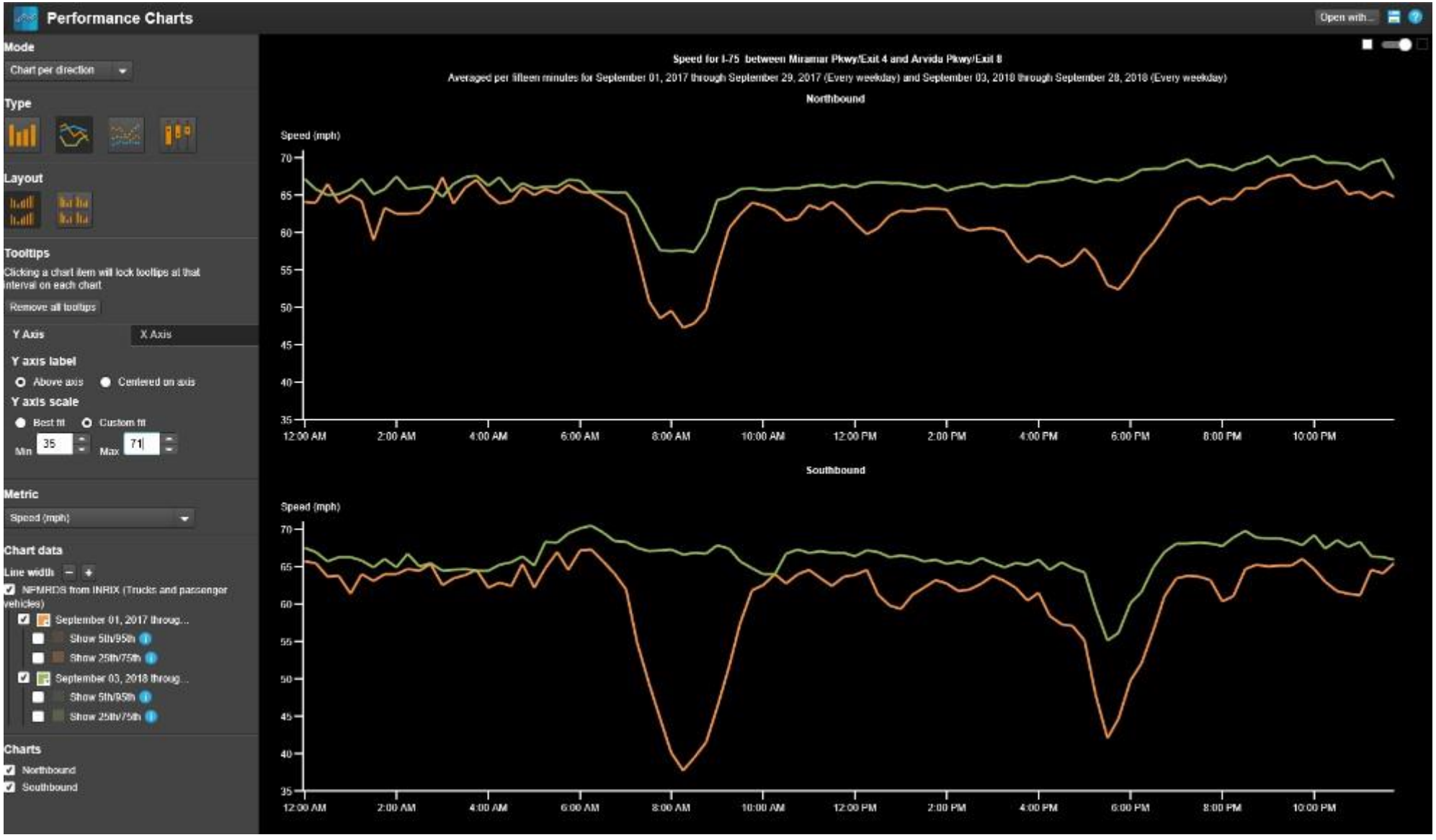


Deep Dive – Performance Charts

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

Open with...

April 2018 Northbound | April 2018 Southbound

I-95 between I-95 EXP and 151St St/Exit 11 Southbound using NPMRDS from INRIX (Trucks and passenger vehicles) data

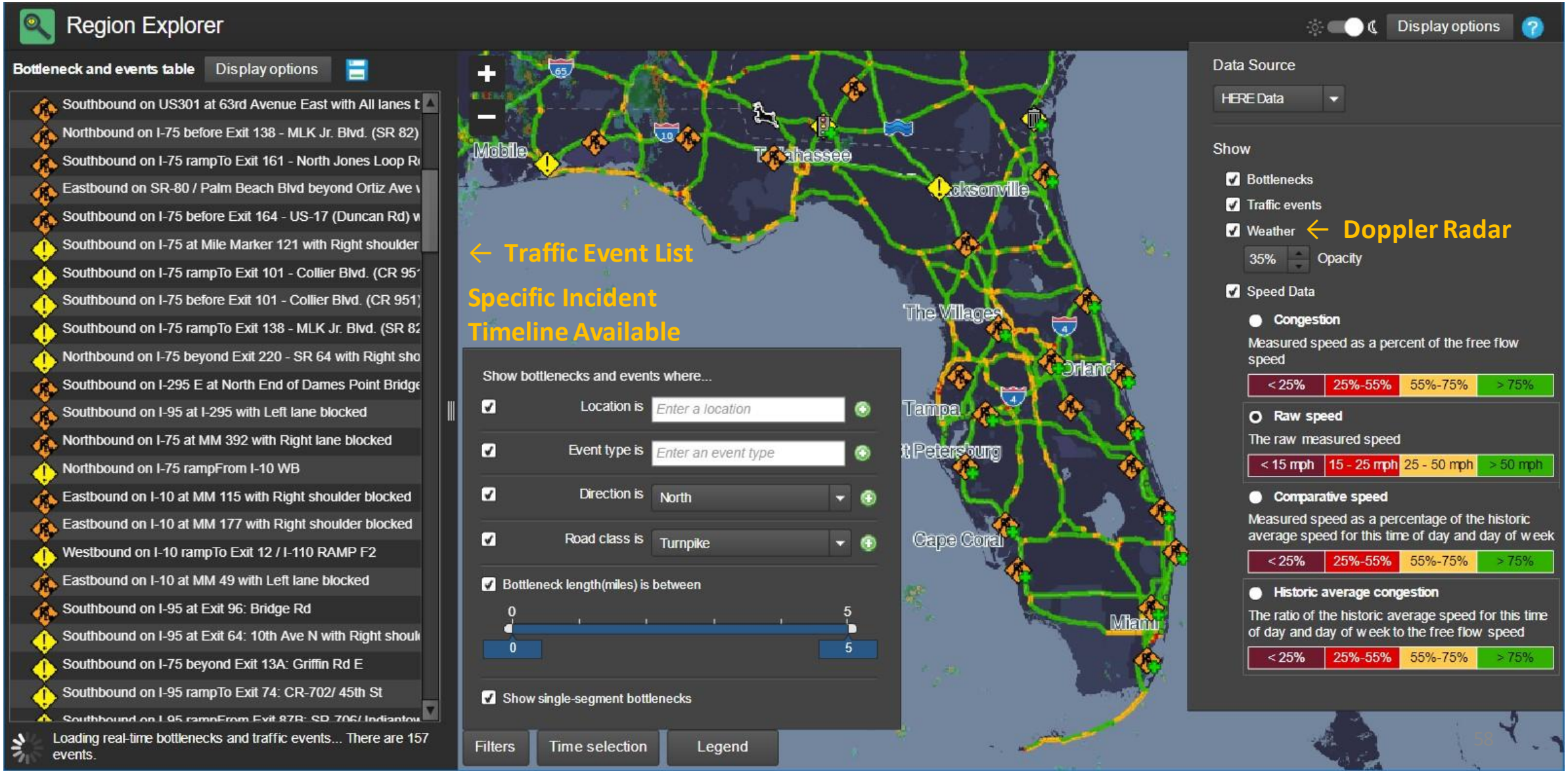
April 2018

	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

REGION EXPLORER
Explore the relationships between bottlenecks and traffic events in real-time and in the past.
Tutorial Help

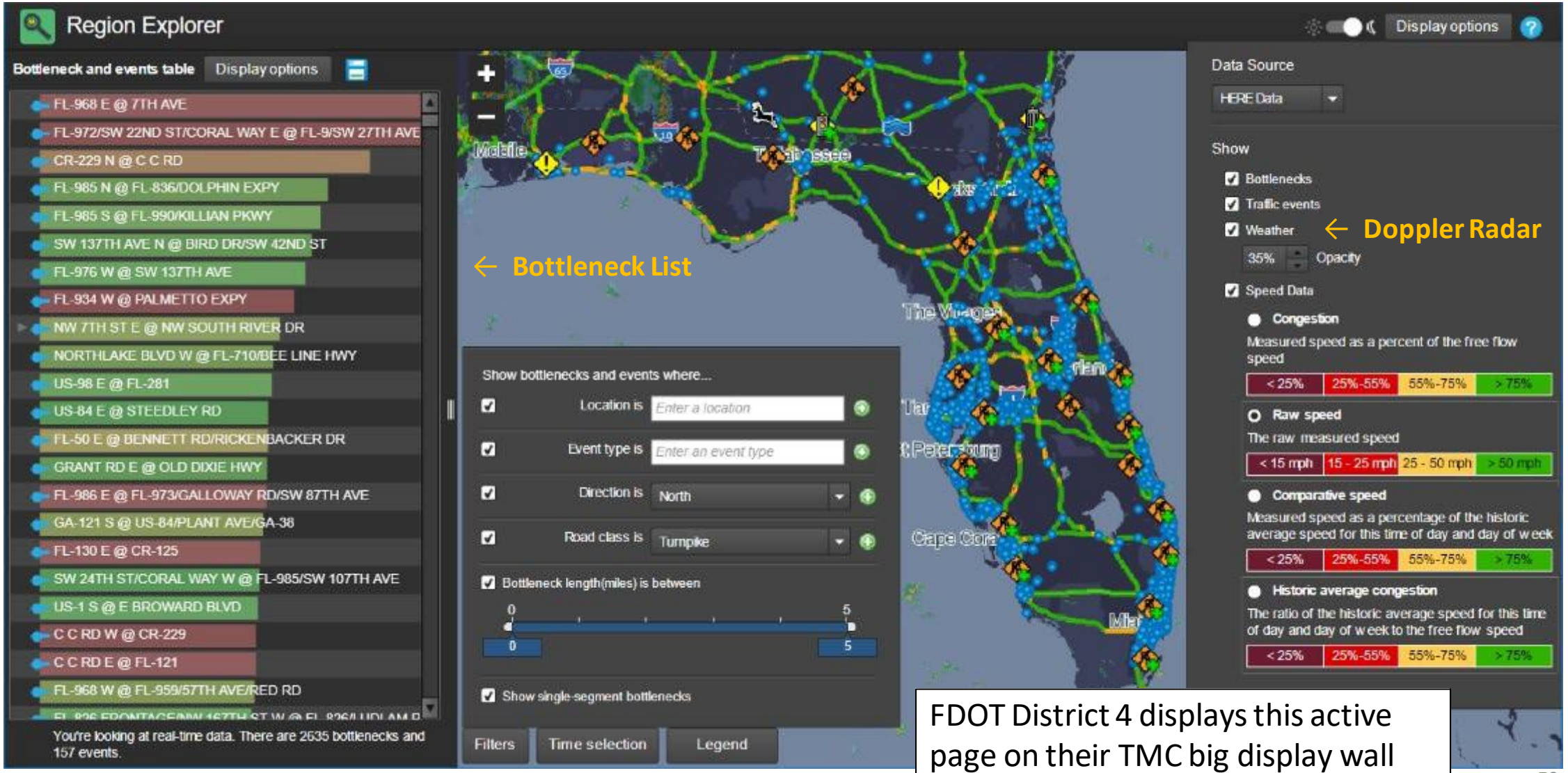
Explore real-time or historical data on bottlenecks, events…



Deep Dive – Region Explorer

REGION EXPLORER
Explore the relationships between bottlenecks and traffic events in real-time and in the past.
Tutorial Help

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



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

Deep Dive – Region Explorer - Event Timeline

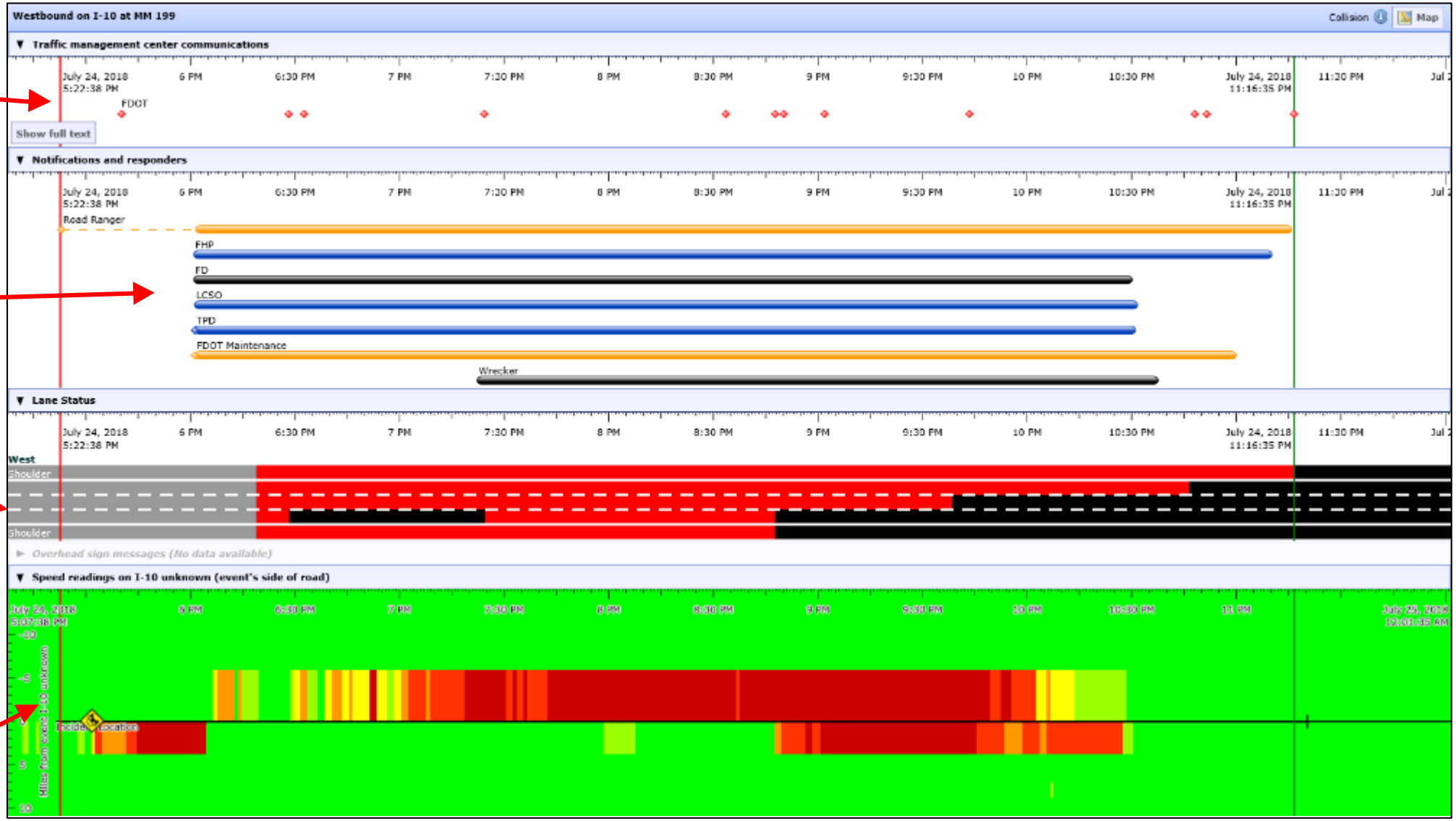
Information on incident events, from reporting to clearance

TMC Communications

Incident Responders Arrival

Lanes & Shoulders Closures

Congestion Conditions Upstream & Downstream



Deep Dive – User Delay Cost

Impact of Delay on Users

USER DELAY COST ANALYSIS
Put a dollar amount on how much a road's performance impacts its users.
Tutorial Help History

Interstate-275 (Florida) User Delay Costs

Sunday, June 10, 2018 to Saturday, June 30, 2018

Vehicle Type: All | Display: Total cost | Legend: Weekdays (Lowest – Highest), Weekends (Lowest – Highest), No data

Total Cost

	12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Daily Totals
6/10/18	$1.5K				$0.9K	$0.5K	$0.7K	$6.4K	$0.8K	$1.3K	$1.9K	$1.9K	$2.3K	$1.7K	$0.7K	$1.2K	$4.2K	$4.7K	$0.3K	$1.9K	$2.5K	$1.6K	$2.6K	$0.7K	$42.1K
6/11/18	$0.8K				$1.1K	$1.7K	$8.9K	$30.3K	$31.3K	$11.9K	$2.4K	$4K	$1.2K	$1.4K	$1.5K	$12.7K	$35.9K	$48.8K	$19.3K	$1K	$0.5K	$0.9K	$0.4K	$2.3K	$219.3K
6/12/18	$0.3K				$0.3K	$0.7K	$5.3K	$24.7K	$20.8K	$8K	$3.4K	$4K	$3.1K	$5K	$8.5K	$25.5K	$47.3K	$66.6K	$46.2K	$12.3K	$0.4K	$1.2K	$0.9K	$0.7K	$286.9K
6/13/18	$0.7K				$0.5K	$0.4K	$6.3K	$25.2K	$31.8K	$16.3K	$5.9K	$0.4K	$2.5K	$6.7K	$1.5K	$10.7K	$40.8K	$70.3K	$44.1K	$14.8K	$2.4K	$0.7K	$1.9K	$6.3K	$291K
6/14/18	$1.7K	$0.6K	$0.3K	$0.5K	$1.7K	$0.7K	$6.7K	$29.4K	$49.7K	$23.9K	$14.8K	$11K	$4.7K	$6K	$2.7K	$19K	$37.5K	$53.3K	$29.5K	$3K	$0.9K	$2.2K	$0.5K	$0.3K	$300.6K
6/15/18	$0.3K	$0.4K	$0.1K	$1.7K	$6.1K	$1.3K	$3K	$18.7K	$16.9K	$5.7K	$4.7K	$5.5K	$9.3K	$11.2K	$18.2K	$29.4K	$51.9K	$58.1K	$17K	$2.5K	$1.3K	$1K	$0.6K	$2.1K	$266.8K
6/16/18	$1.9K	$3.9K	$0.5K	$0.4K	$0.3K	$0.8K	$0.6K	$0.9K	$0.4K	$1K	$1K	$12.7K	$15.8K	$10.7K	$17.8K	$18.7K	$7.6K	$5.6K	$4.6K	$7.5K	$0.9K	$6.1K	$2K	$1.7K	$123.4K
6/17/18	$0.3K	$0.3K	$0.3K	$1K	$1.1K	$0.8K	$28.2K	$0.7K	$0.8K	$1K	$1.8K	$2.5K	$9.4K	$6.9K	$1K	$1.1K	$0.6K	$1.9K	$6.7K	$5.8K	$2.3K	$1.4K	$0.7K	$1.2K	$77.8K
6/18/18	$0.5K	$0.3K	$0.4K	$0.6K	$0.7K	$0.2K	$5K	$23.7K	$24.6K	$10.5K	$6.6K	$2K	$3.5K	$1.1K	$1.1K	$6.8K	$27.4K	$42.7K	$14.4K	$3.4K	$0.3K				
6/19/18	$0.3K	$0.3K	$0.2K	$0.5K	$0.6K	$0.5K	$6.7K	$29.7K	$30.5K	$7.8K	$1.7K	$0.7K	$0.4K	$0.4K	$3.5K	$27.1K	$82.8K	$84.1K	$36.5K	$1.2K	$1.2K				
6/20/18	$1K	$0.8K	$1.2K	$1.6K	$0.8K	$0.5K	$4.6K	$33.3K	$36.7K	$12.3K	$12K	$11.7K	$6.8K	$3.5K	$0.7K	$12.3K	$34.2K	$51.1K	$26.8K	$10.6K	$1K				
6/21/18	$0.2K	$0.4K	$0.3K	$0.7K	$1.2K	$0.6K	$5.5K	$23.7K	$24.9K	$7.3K	$8K	$7.5K	$4.4K	$8K	$9.4K	$13.2K	$36.9K	$46.5K	$18.9K	$7.4K	$3.4K				
6/22/18	$0.4K	$0.6K	$2.9K	$0.3K	$1.1K	$0.6K	$2.4K	$9.5K	$8.7K	$10.5K	$11.5K	$6.2K	$7.1K	$7K	$10.7K	$33.1K	$105.4K	$103.2K	$53.9K						$404.3K
6/23/18	$1.3K	$0.4K	$0.7K	$0.7K	$0.6K	$1K	$1.5K	$0.6K	$0.4K	$0.9K	$1.2K	$1.6K	$6.4K	$20.3K	$34.3K	$31.8K	$23.8K	$11.1K	$7.4K						$194.1K
6/24/18	$1.4K	$0.7K	$0.8K	$0.4K	$0.4K	$0.4K	$0.4K	$0.6K	$3.4K	$1.1K	$1.7K	$11.5K	$18.5K	$12K	$11.9K	$15.4K	$15.7K	$28.1K	$28.9K						$188K
6/25/18	$2K	$0.6K	$1.6K	$1.3K	$0.4K	$0.9K	$7.4K	$28.2K	$28K	$9.8K	$1.2K	$0.8K	$1.2K	$0.4K	$0.4K	$9.2K	$32.1K	$50.1K	$29.1K						$222.1K
6/26/18	$0.3K	$1.2K	$0.1K	$0.2K	$0.6K	$0.4K	$7.1K	$27K	$27.2K	$9.6K	$3.2K	$0.8K	$0.7K	$1.8K	$5.9K	$23K	$45.6K	$59.3K	$24.8K						$247K
6/27/18	$6.4K	$0.4K	$0.2K	$0.5K	$1.3K	$1K	$7.2K	$33.5K	$61.8K	$18.5K	$4.2K	$2.2K	$3.4K	$3K	$6.5K	$16.2K	$39.5K	$55.1K	$31.4K						$305K
6/28/18	$1.1K	$1.1K	$1.5K	$0.4K	$0.4K	$1.7K	$6.4K	$23.9K	$25.4K	$16.6K	$6.5K	$5.3K	$13.5K	$13.5K	$24.9K	$47.4K	$76.2K	$83.2K	$34.5K						$401.8K
6/29/18	$0.3K	$0.1K	$0.3K	$0.4K	$2.9K	$0.2K	$2.1K	$14.3K	$11.9K	$9.9K	$9.4K	$12.9K	$11K	$22.6K	$16.8K	$27.5K	$41.2K	$50.3K	$36.1K						$281.1K
6/30/18	$0.4K	$0.7K	$0.3K	$0.2K	$0.5K	$0.3K	$1.2K	$0.5K	$0.3K	$5.2K	$7.9K	$24.4K	$34.4K	$28.6K	$12.4K	$8.5K	$3.4K	$2.6K	$0.9K	$2K	$1K	$4.1K	$6K	$0.6K	$146.6K
Hourly Totals	$23.1K	$15K	$12.7K	$13.4K	$23.3K	$14.9K	$117.3K	$384.9K	$436.4K	$189.1K	$111.1K	$129.6K	$159.9K	$171.7K	$190.3K	$389.8K	$789.8K	$976.6K	$511.5K	$162.4K	$58.5K	$47K	$34.3K	$50.1K	Grand Total $5,013,014.99

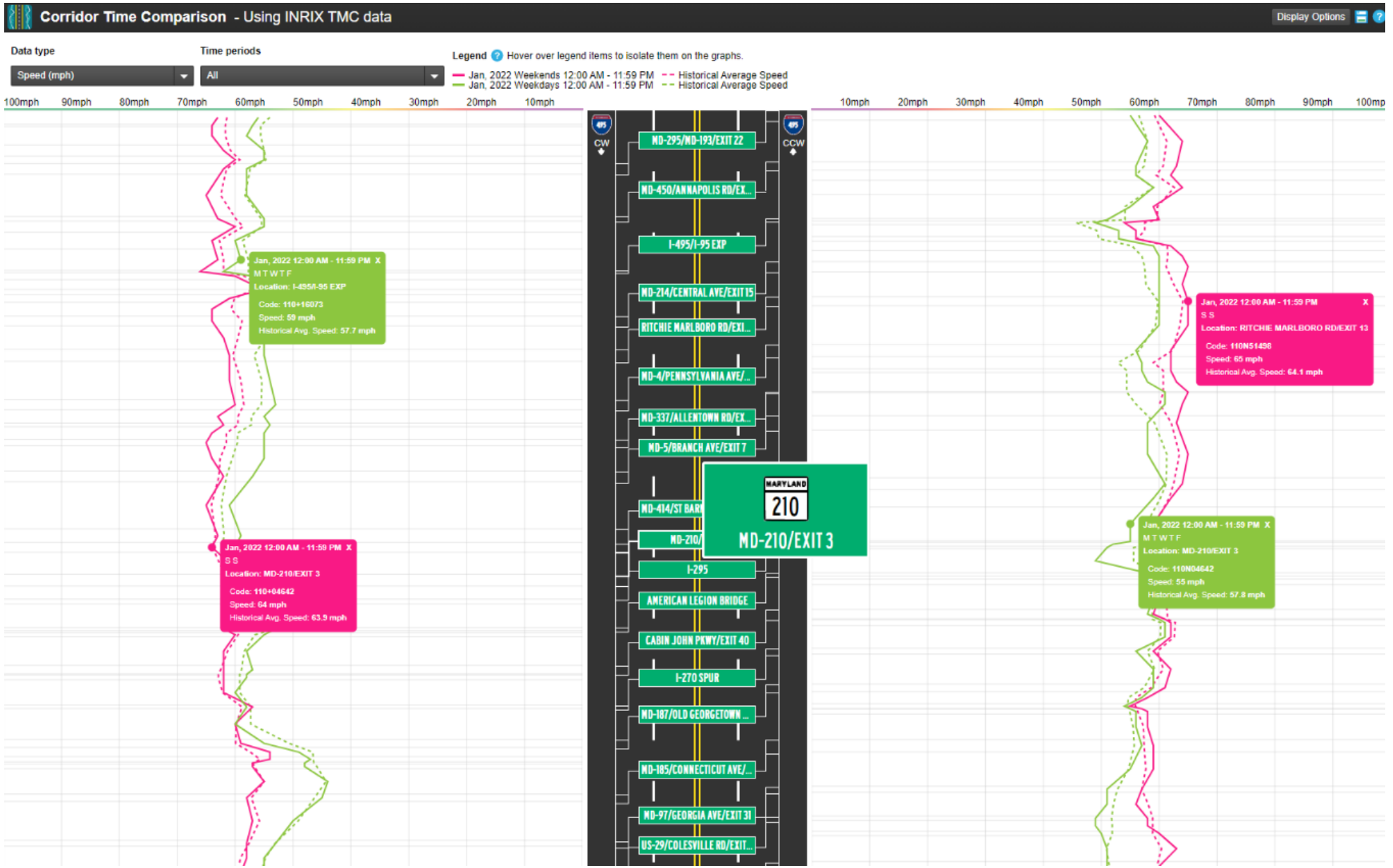
Friday, June 22, 2018 6:00 PM
Delay cost:
Total: $53,868.78
Per VMT: $0.2
Hours of delay:
Person-hours: 2,185h 14m 14s
Vehicle-hours: 1,783h 52m 2s
Vehicle miles traveled (VMT):
Total: 238,384 miles
Passenger: 214,546 miles
Commercial: 23,838 miles
Delay per VMT: 0.449 mins / mile
Data validity: 99.37%
Click the table cell to see links to congestion scans

Export to Excel

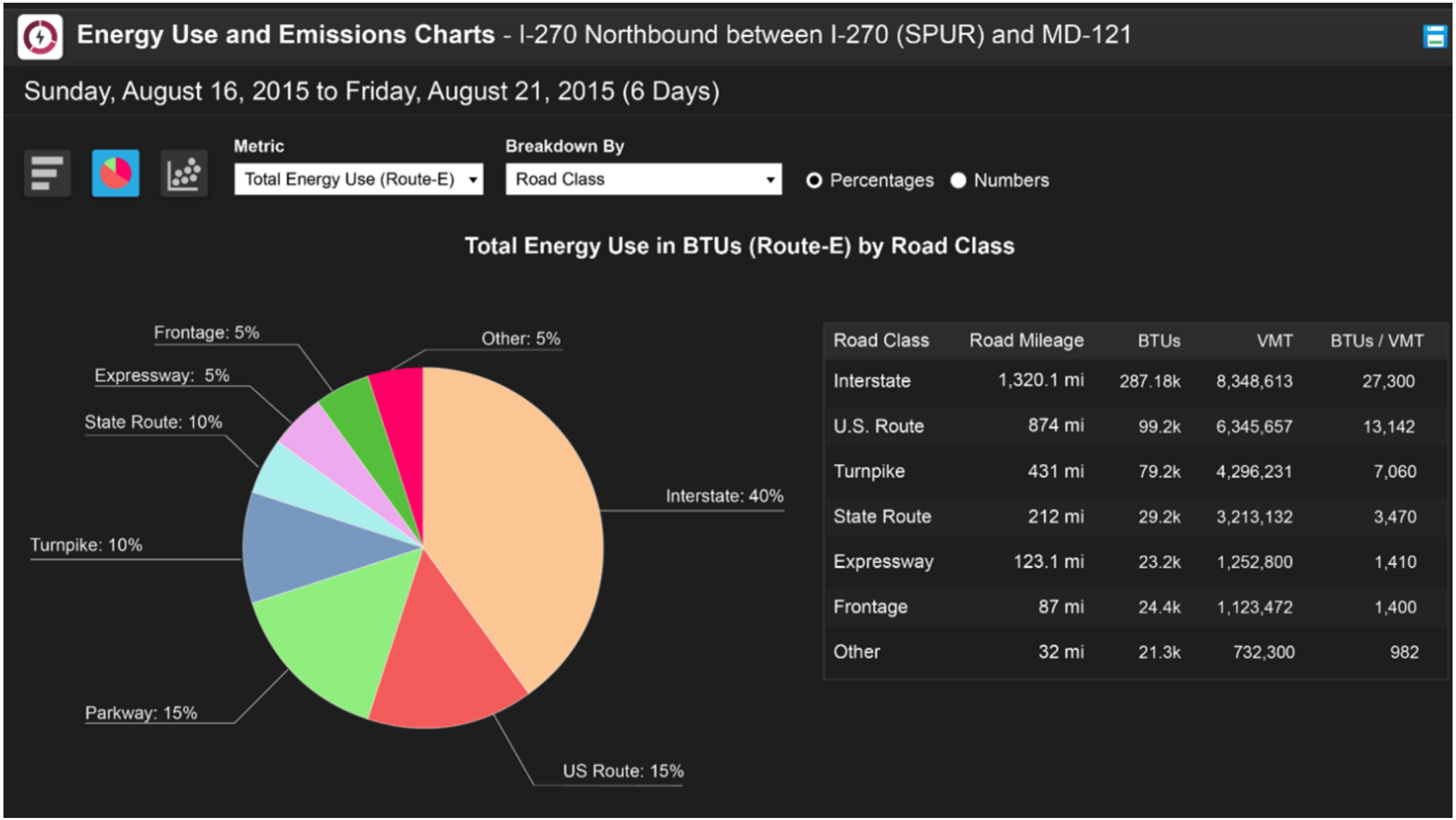
Use Default Values or Define your own Delay Thresholds and User Hourly Costs

Sunshine Skyway Br Lane Closure Impact

Other Analytics – Corridor Time Comparison

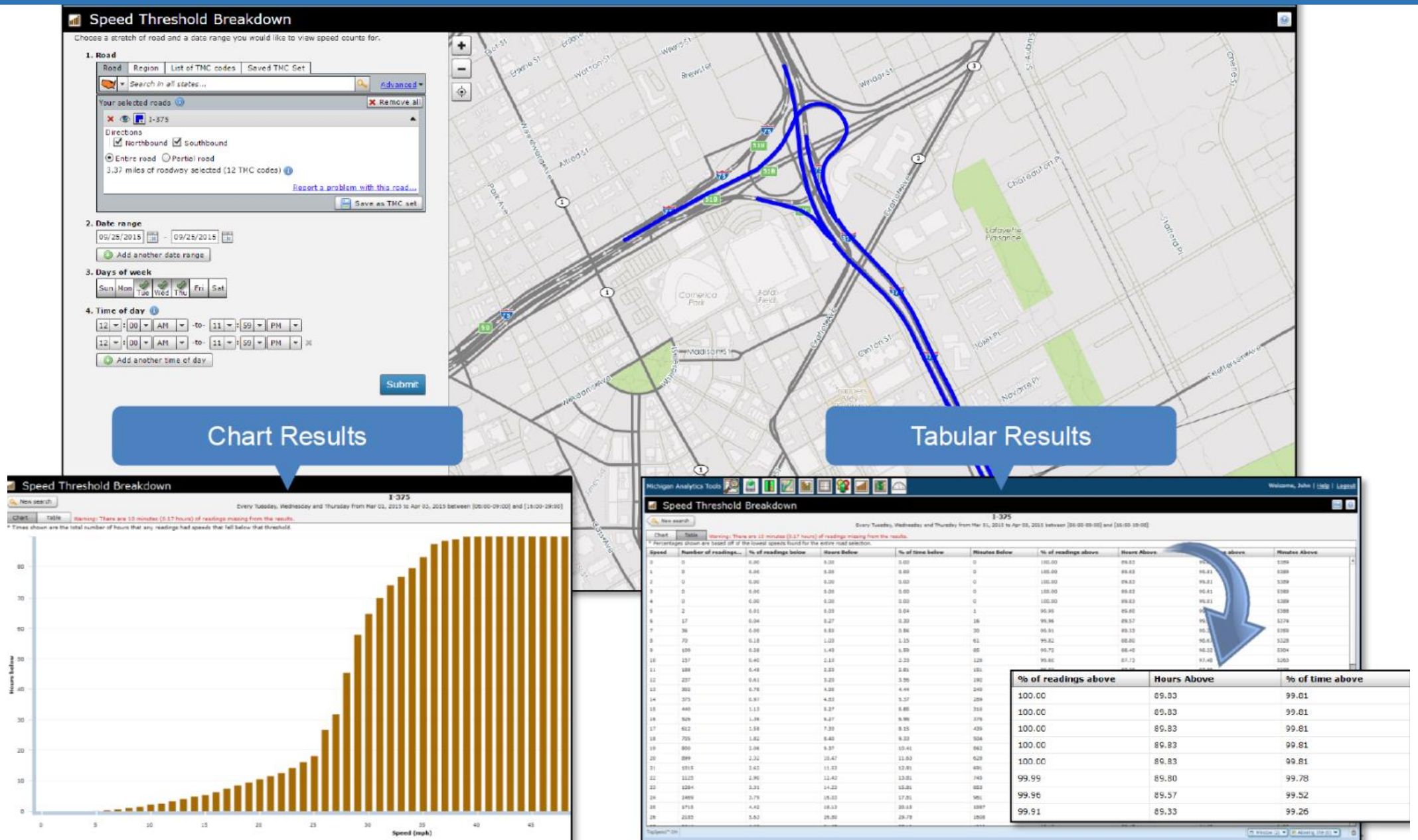


Other Analytics – Energy Use and Emissions

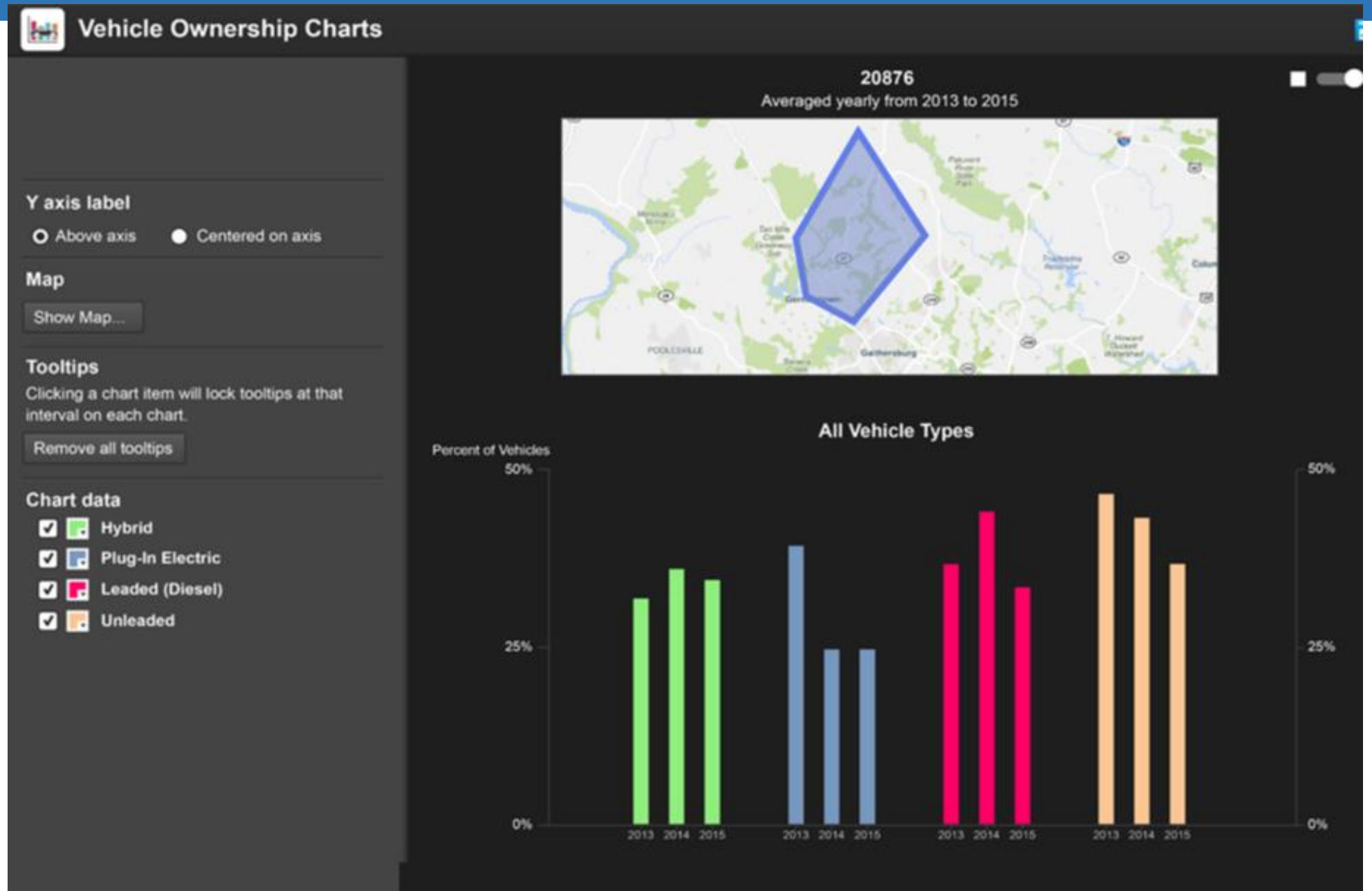


Road Class	Road Mileage	BTUs	VMT	BTUs / VMT
Interstate	1,320.1 mi	287.18k	8,348,613	27,300
U.S. Route	874 mi	99.2k	6,345,657	13,142
Turnpike	431 mi	79.2k	4,296,231	7,060
State Route	212 mi	29.2k	3,213,132	3,470
Expressway	123.1 mi	23.2k	1,252,800	1,410
Frontage	87 mi	24.4k	1,123,472	1,400
Other	32 mi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

Other Analytics – Speed Threshold Breakdown



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

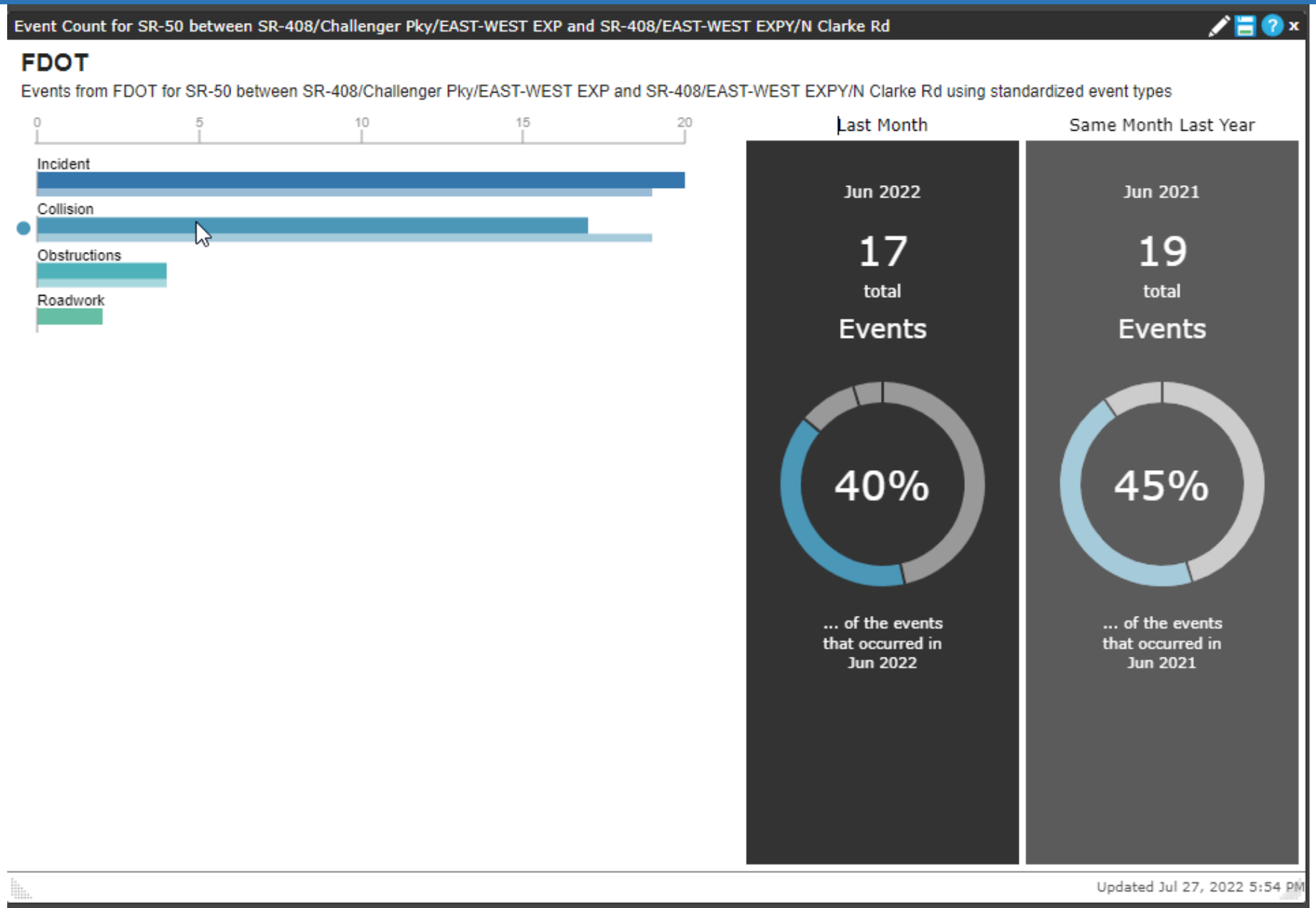
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2022	2 h 48 m	1 h 53 m	2 h 33 m	1 h 49 m	2 h 7 m	1 h 25 m	1 h 18 m					
2021	1 h 36 m	1 h 29 m	1 h 28 m	1 h 59 m	1 h 23 m	1 h 44 m	1 h 30 m	1 h 14 m	1 h 17 m	1 h 47 m	1 h 31 m	1 h 49 m
2020	1 h 26 m	1 h 4 m	1 h 37 m								54 m	2 h 4 m
2019	1 h 40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

Updated Jul 27, 2022 6:59 PM

Other Analytics – Event Counts by Type



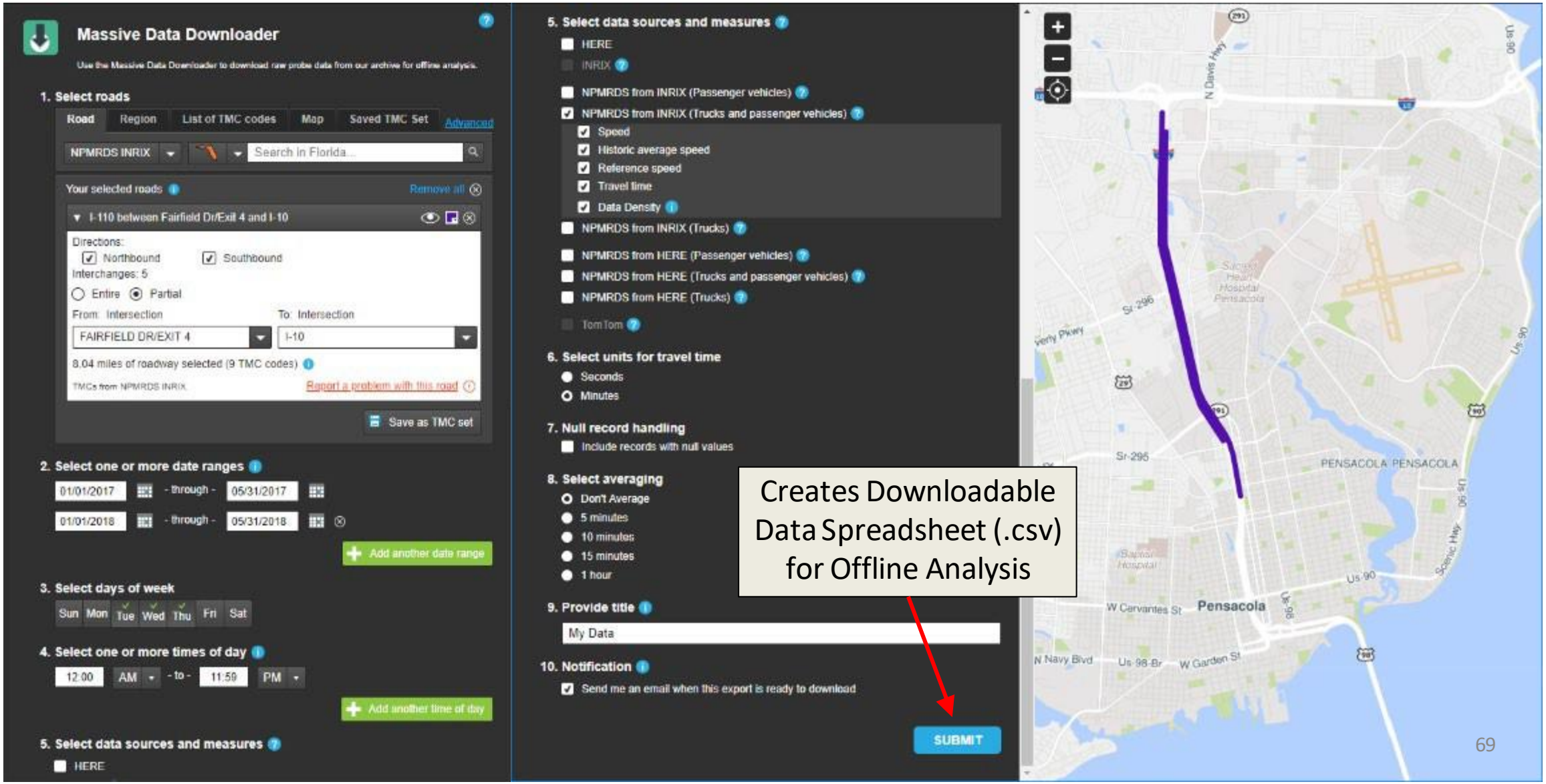
Contents

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…

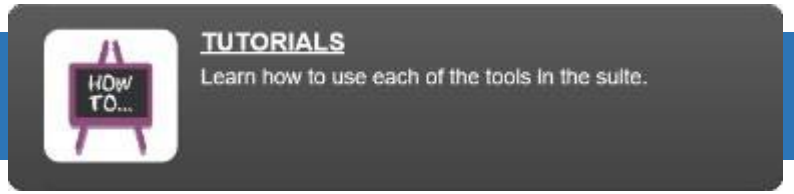


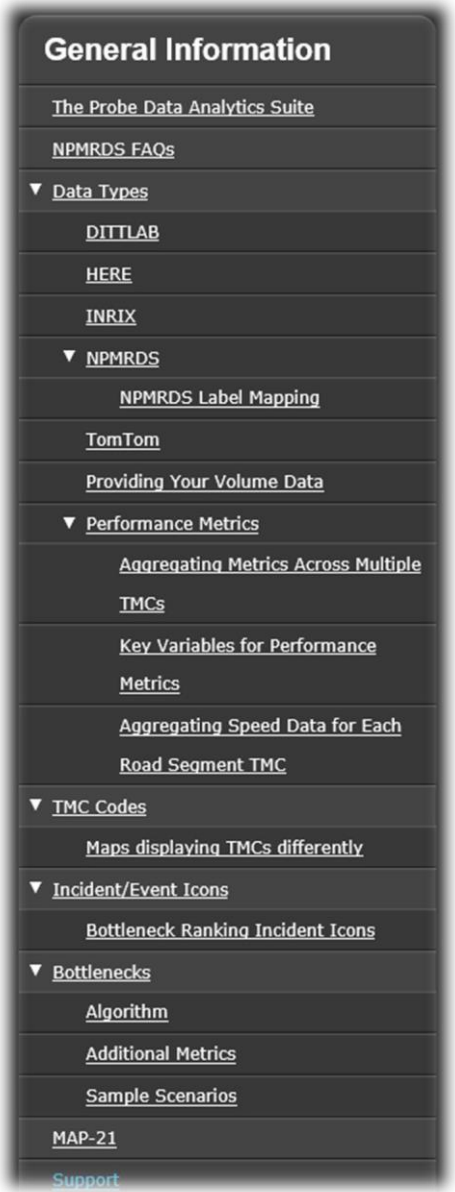
Contents

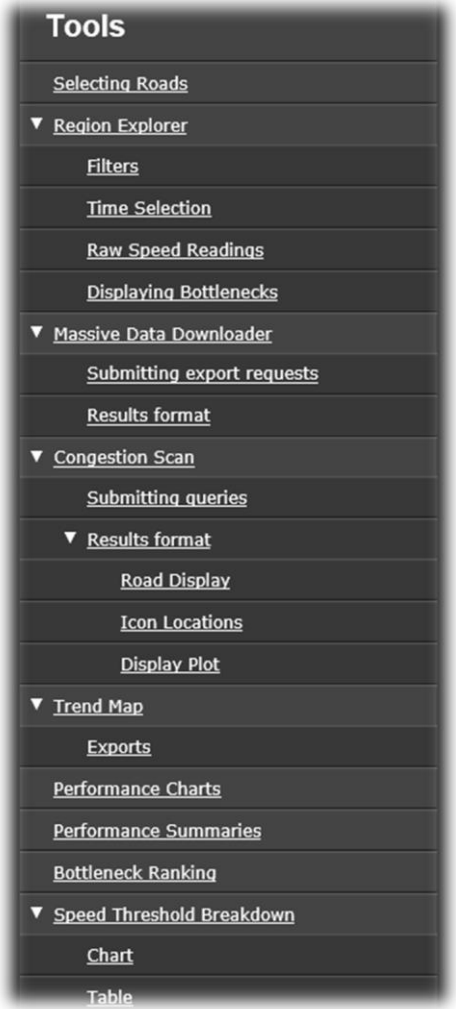
Help & Tutorials

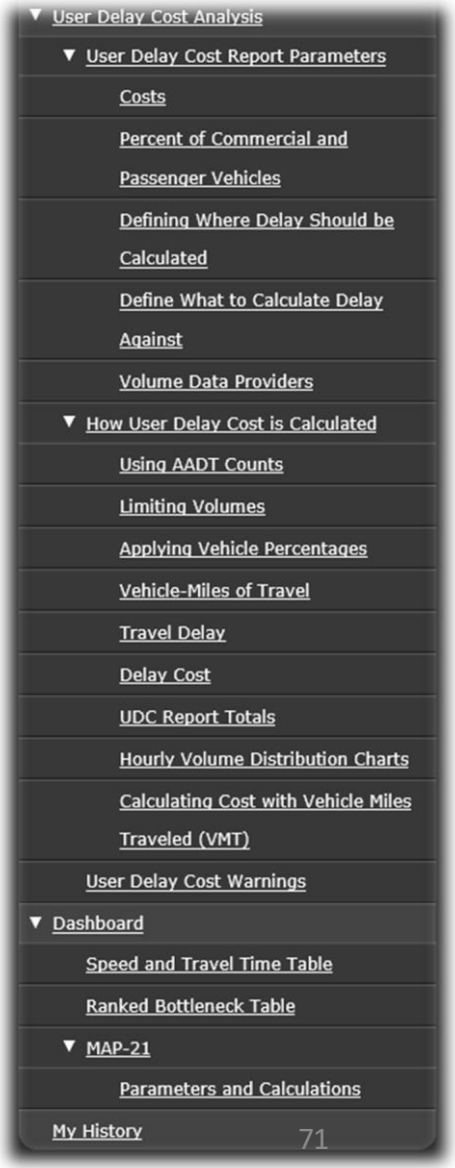
Help and Tutorials

- 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.









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)

Contents

Contacts for further Support

Probe Data / NPMRDS Analytics

(revised by FHWA Division for Florida)

FLORIDA
FEDERAL HIGHWAY ADMINISTRATION

Questions?

FDOT

MPOAC

Texas Transportation Institute

CATT LABORATORY

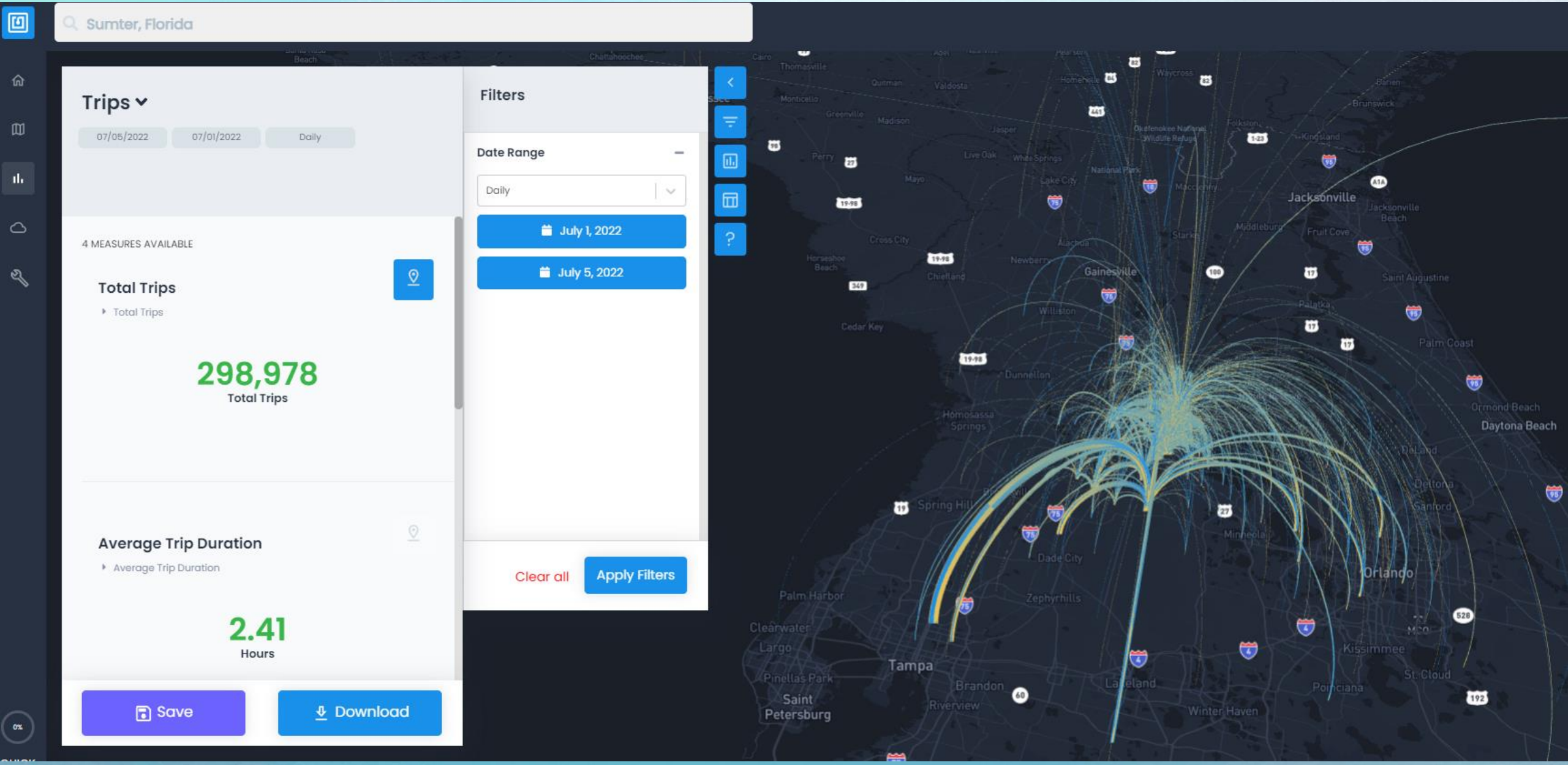
THE CENTER FOR ADVANCED TRANSPORTATION TECHNOLOGY UNIVERSITY OF MARYLAND

INRIX

UrbanSDK

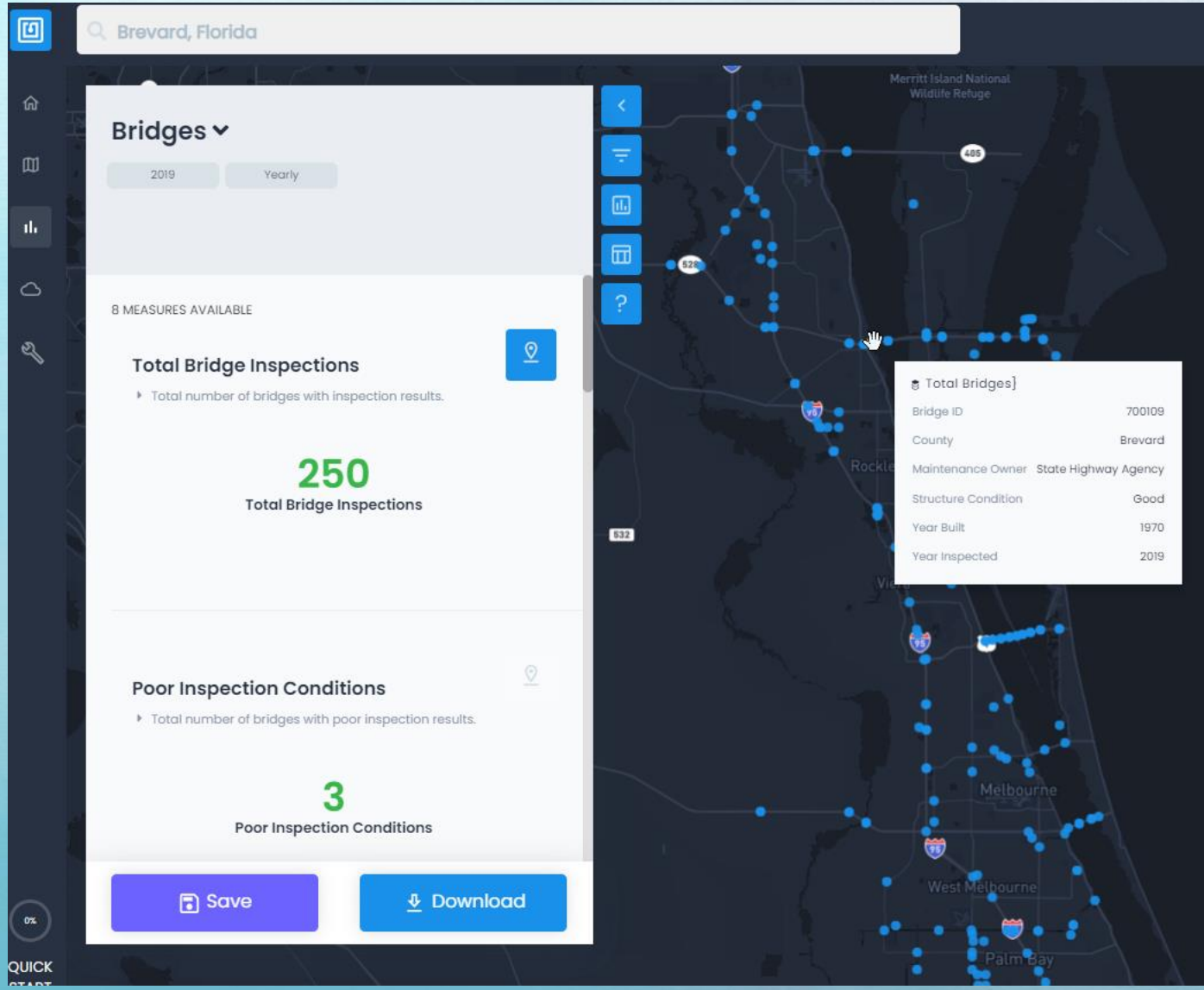
- Data visualization platform
  - Studio – GIS platform where you can upload your own spatial data or other available datasets (e.g., Census data) to conduct analyses
  - Insights – custom information related to transportation planning, management, and safety
  - Data Hub – publicly available datasets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

UrbanSDK – Insights

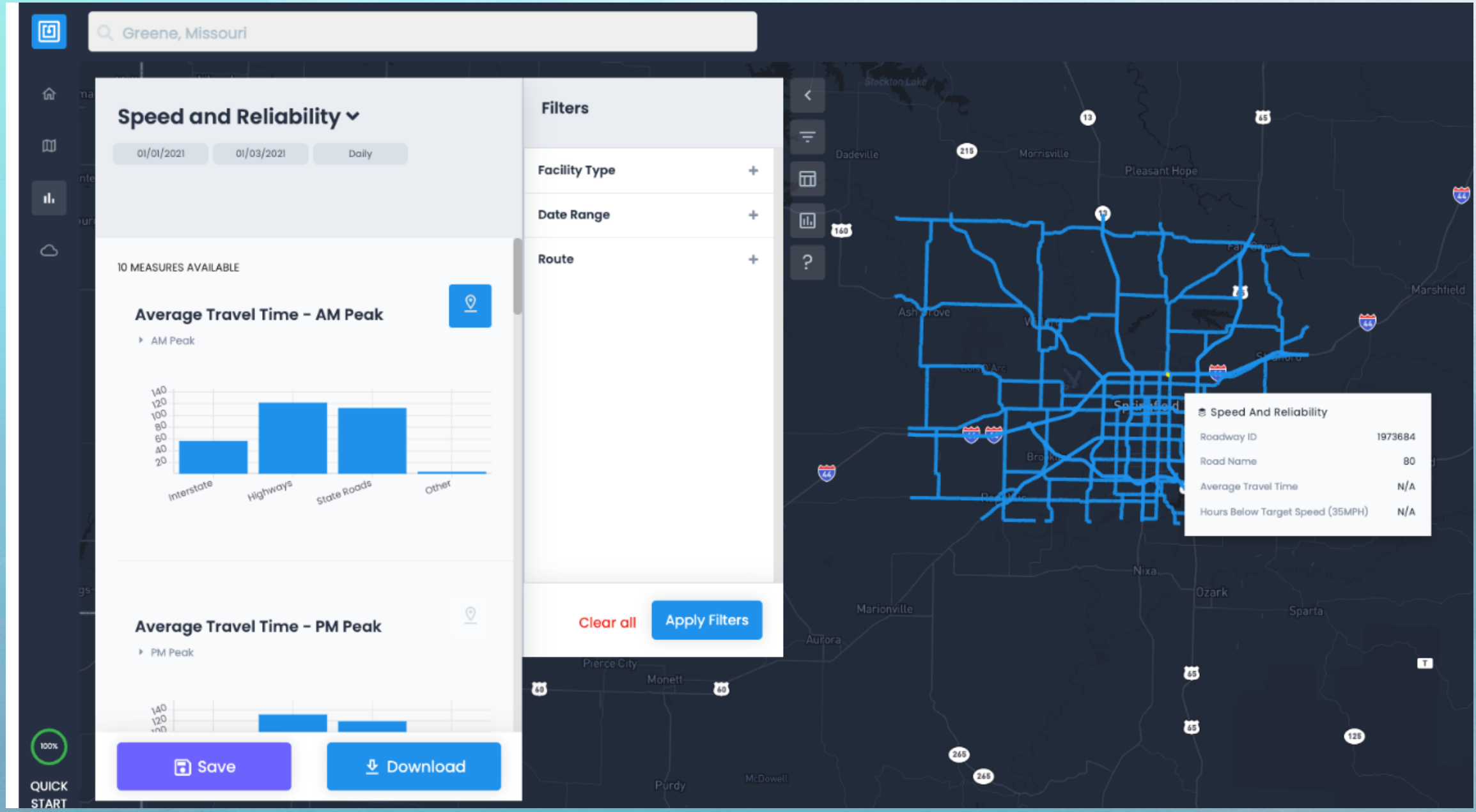


UrbanSDK – Insights

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

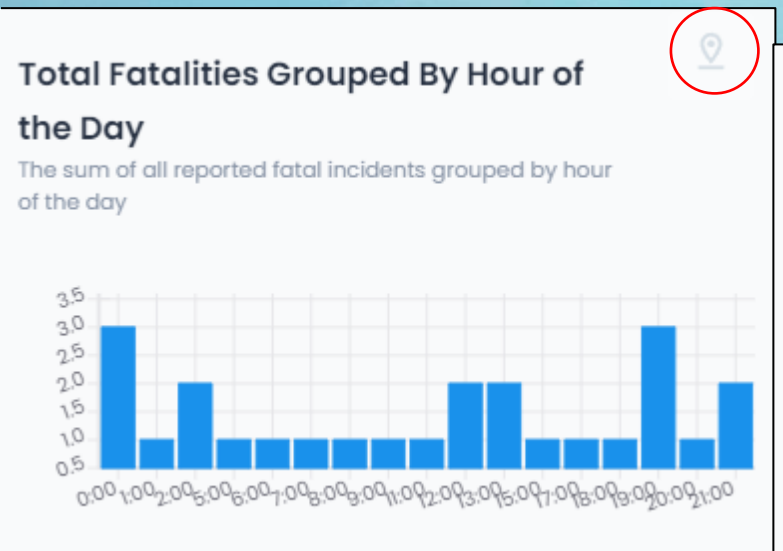


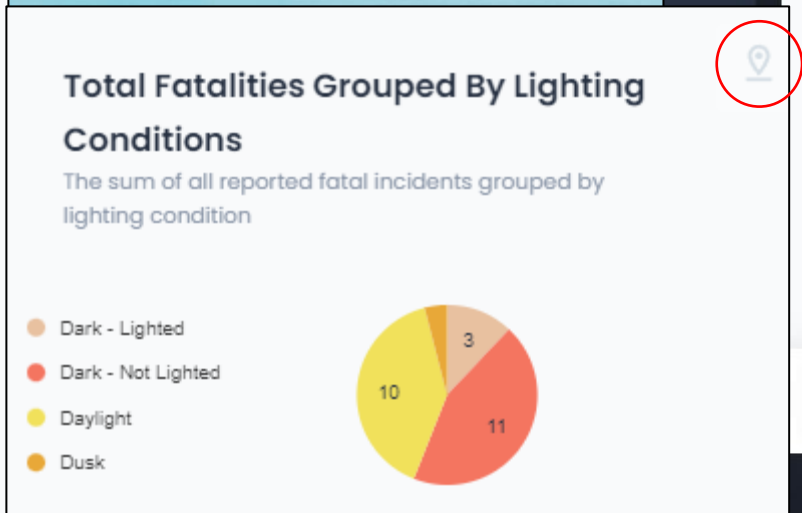
UrbanSDK – Insights

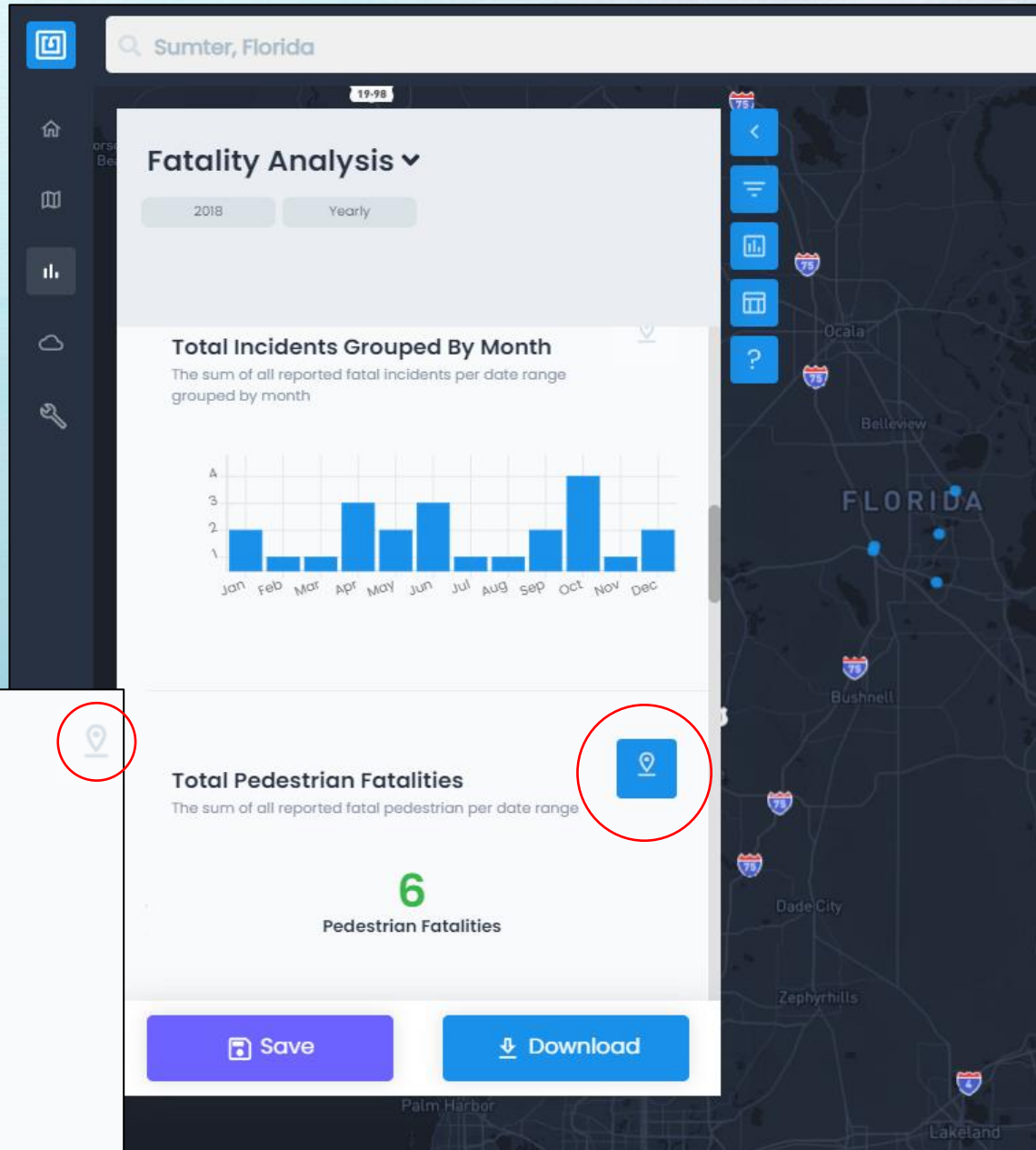


UrbanSDK – Insights

- 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.)

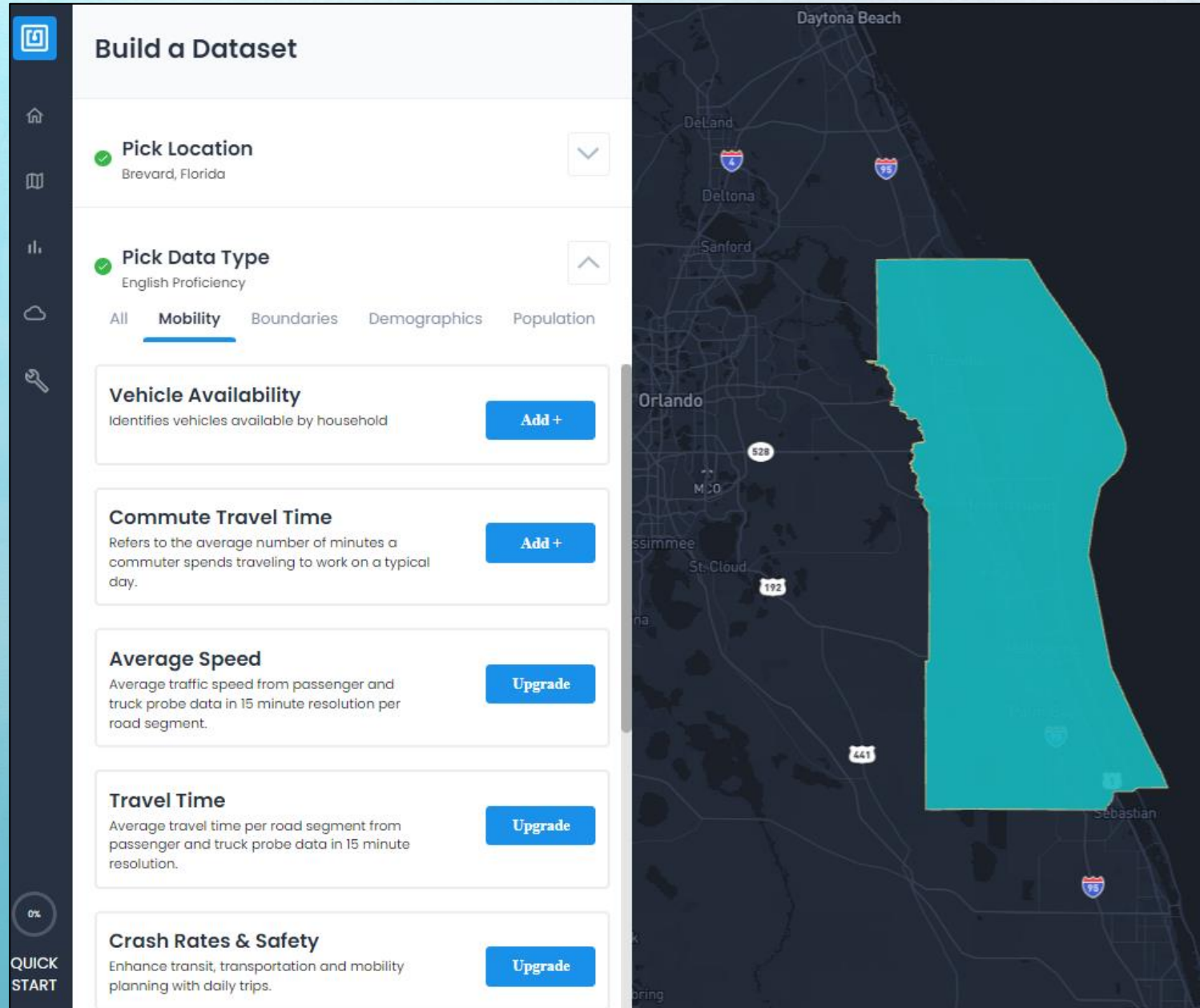




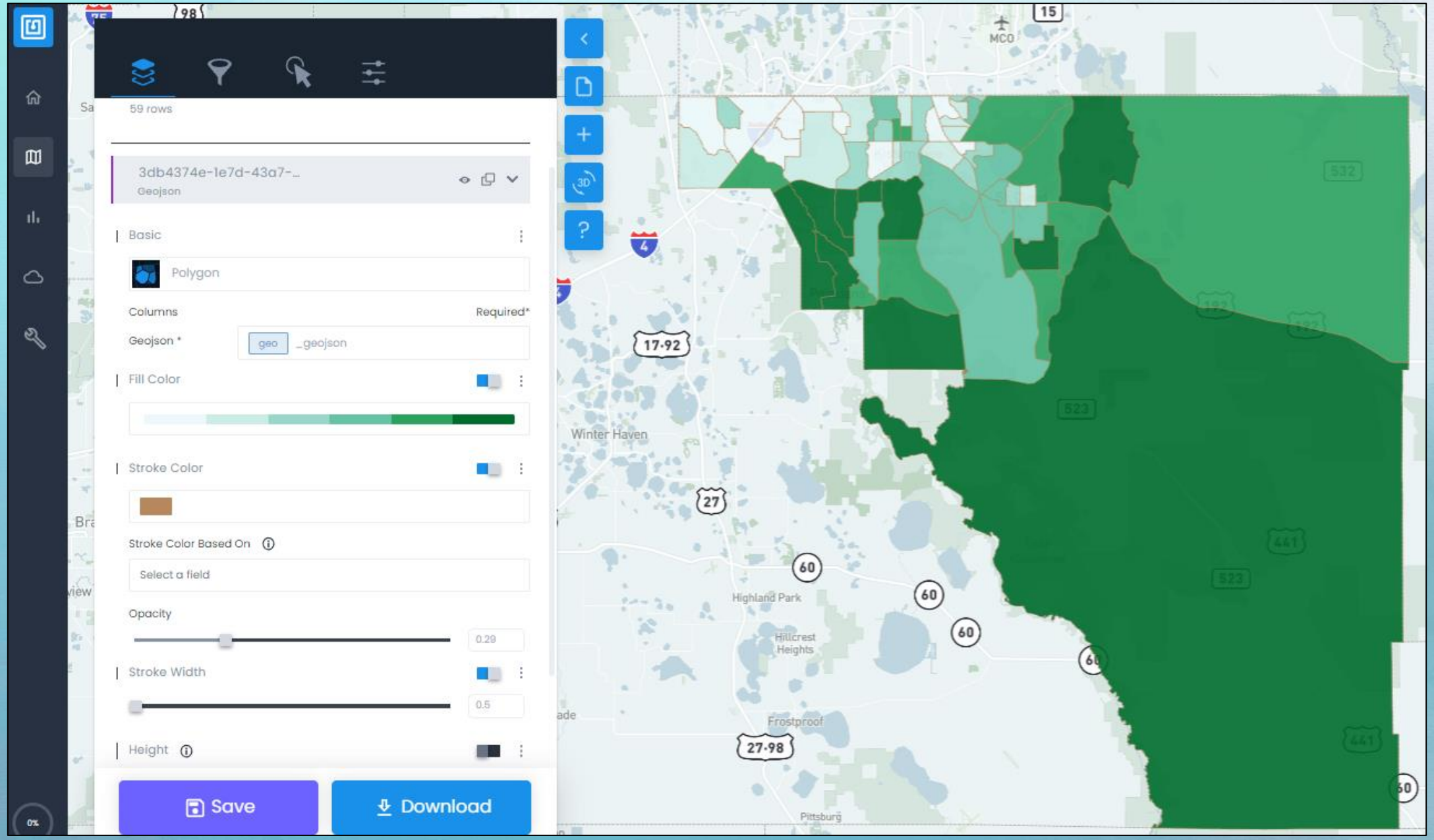


UrbanSDK – Data Hub

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



UrbanSDK – Data Hub

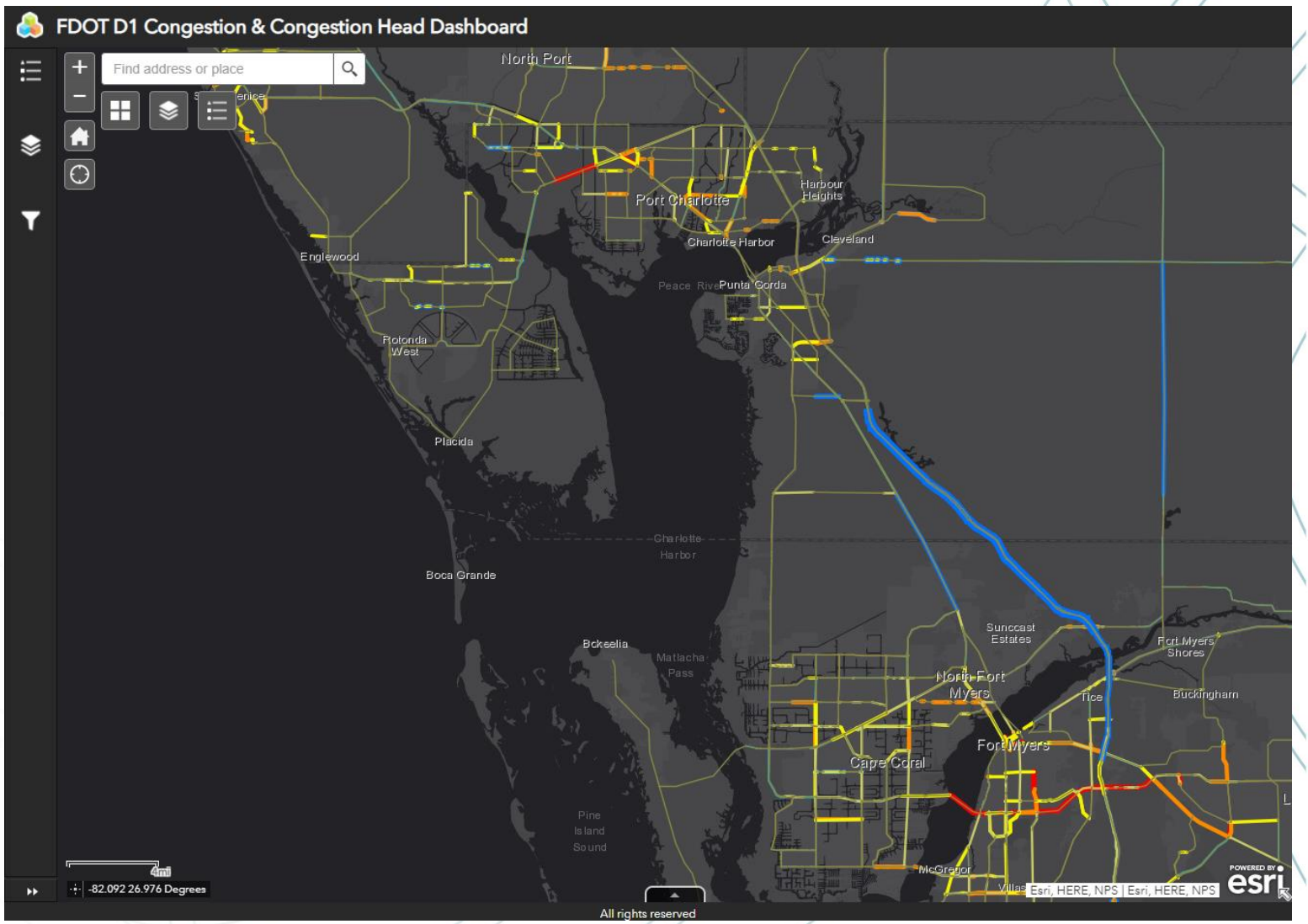


Performance Reporting Using Probe based Speed Data

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



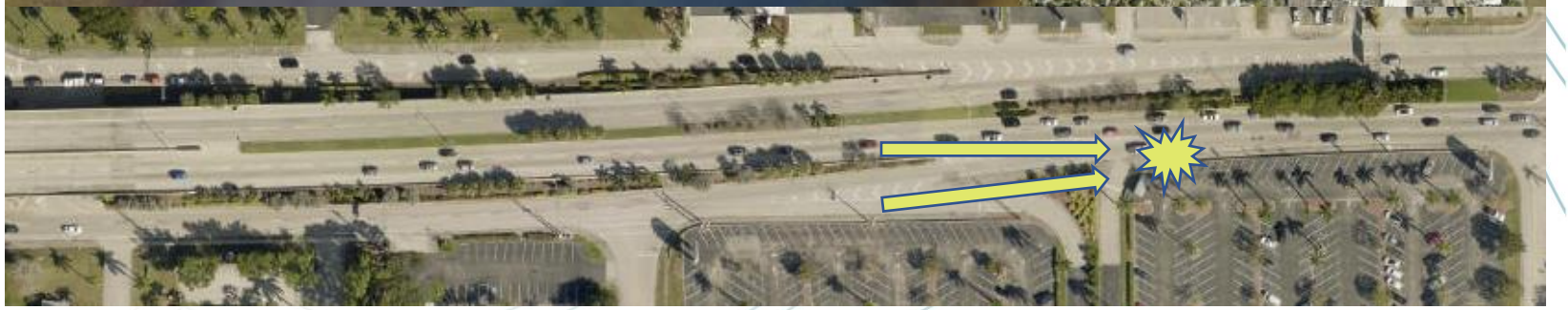
Head of Congestion

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

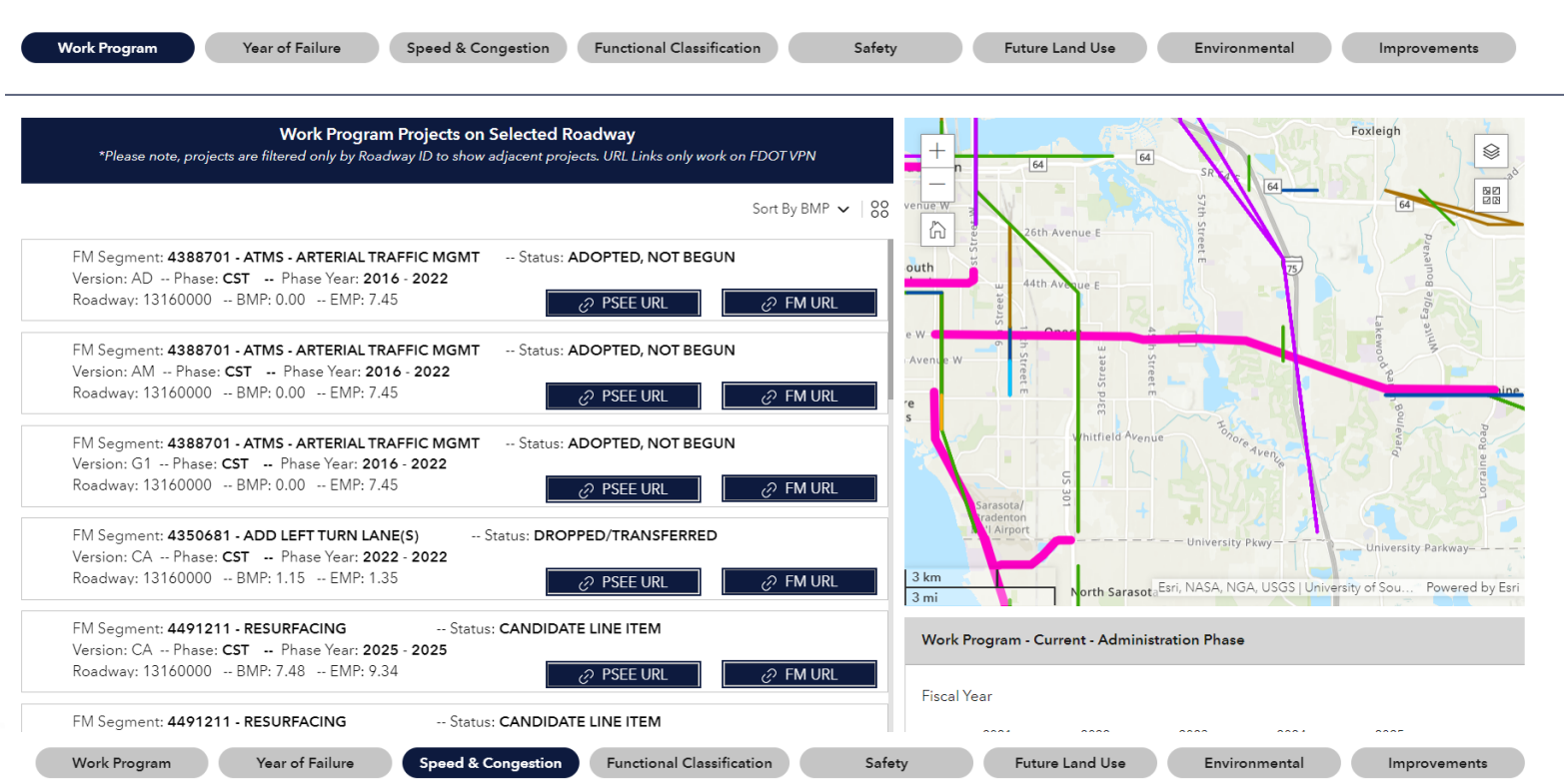
- Viewing the congestion with congestion heads starts to tell a complete story
- For example, location shows experiencing congestion 96% of time
- However, the Congestion Head is just beyond the overpass
- This shows that while the bridge is experiencing the congestion, the start is the merge lanes beyond

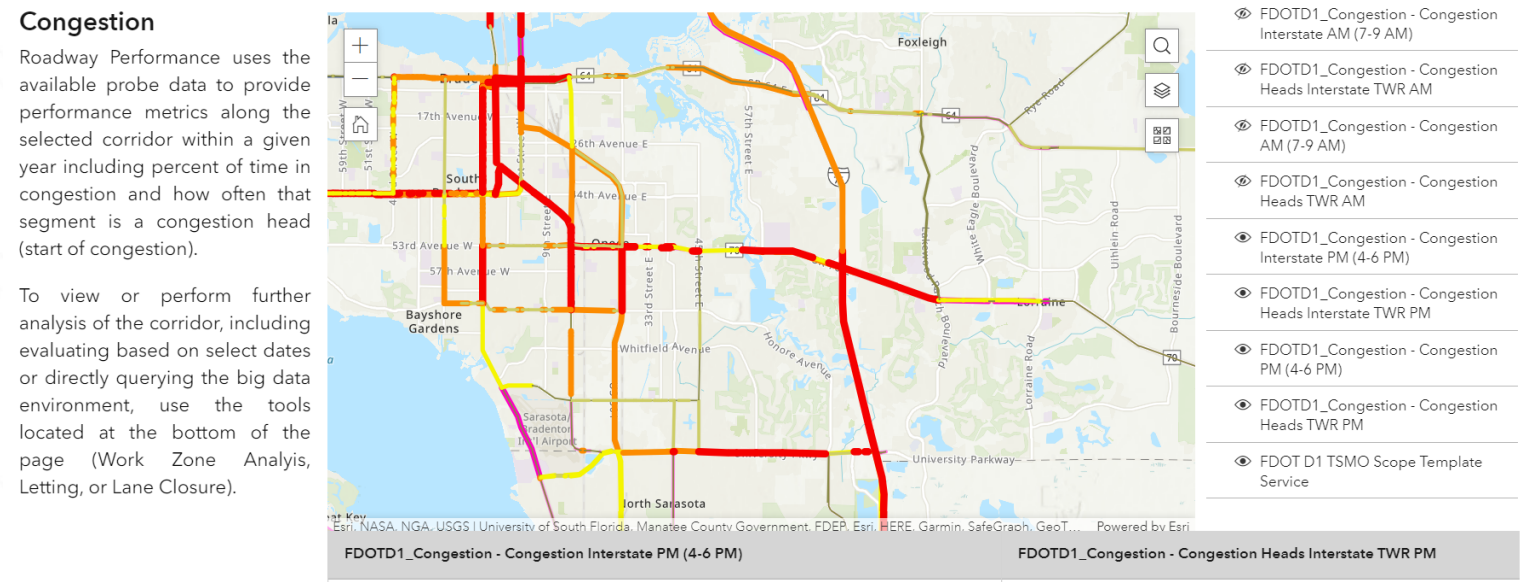


Prioritization with Congestion

- 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





D5 ICM PERFORMANCE MANAGEMENT

Sheryl Bradley, I-75 ICM Project Manager

SYSTEMS & OPERATIONS

Real-Time and Historical

ICM STAT

Login / Logout

CCTV Usage

Device Uptime

Device Type

Camera

Start Date

07/01/2022

End Date

07/28/2022

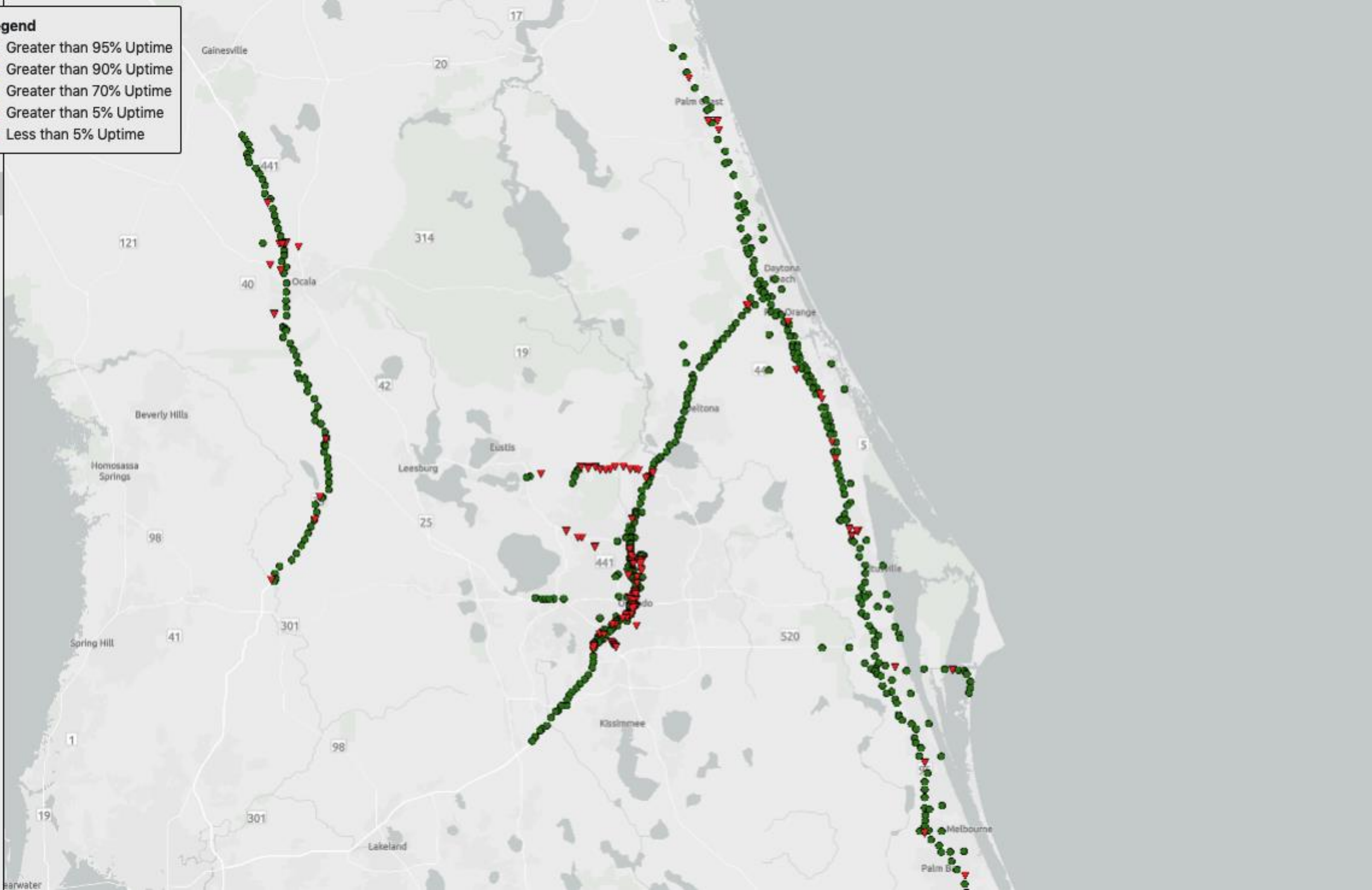
Travel Time

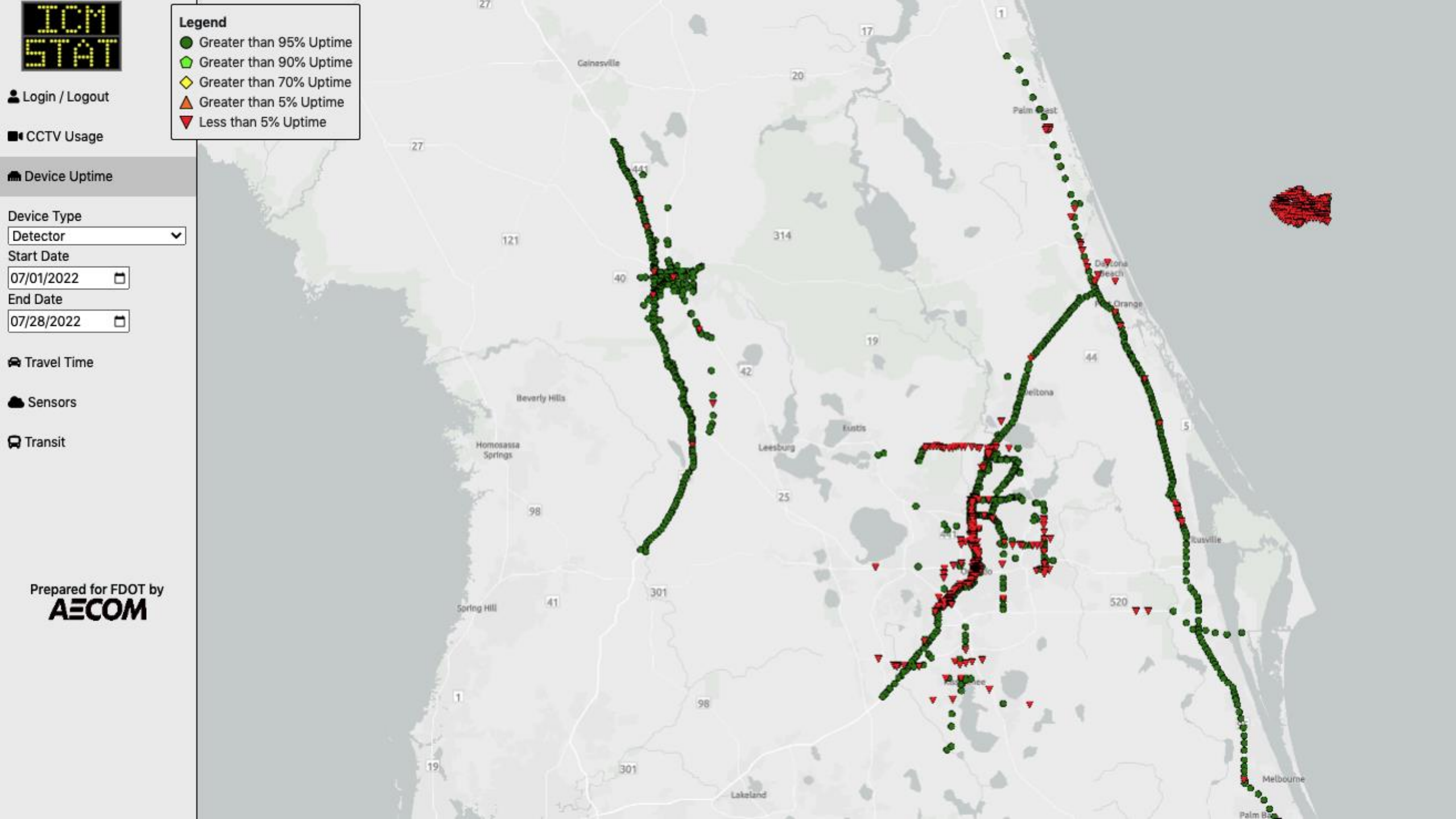
Sensors

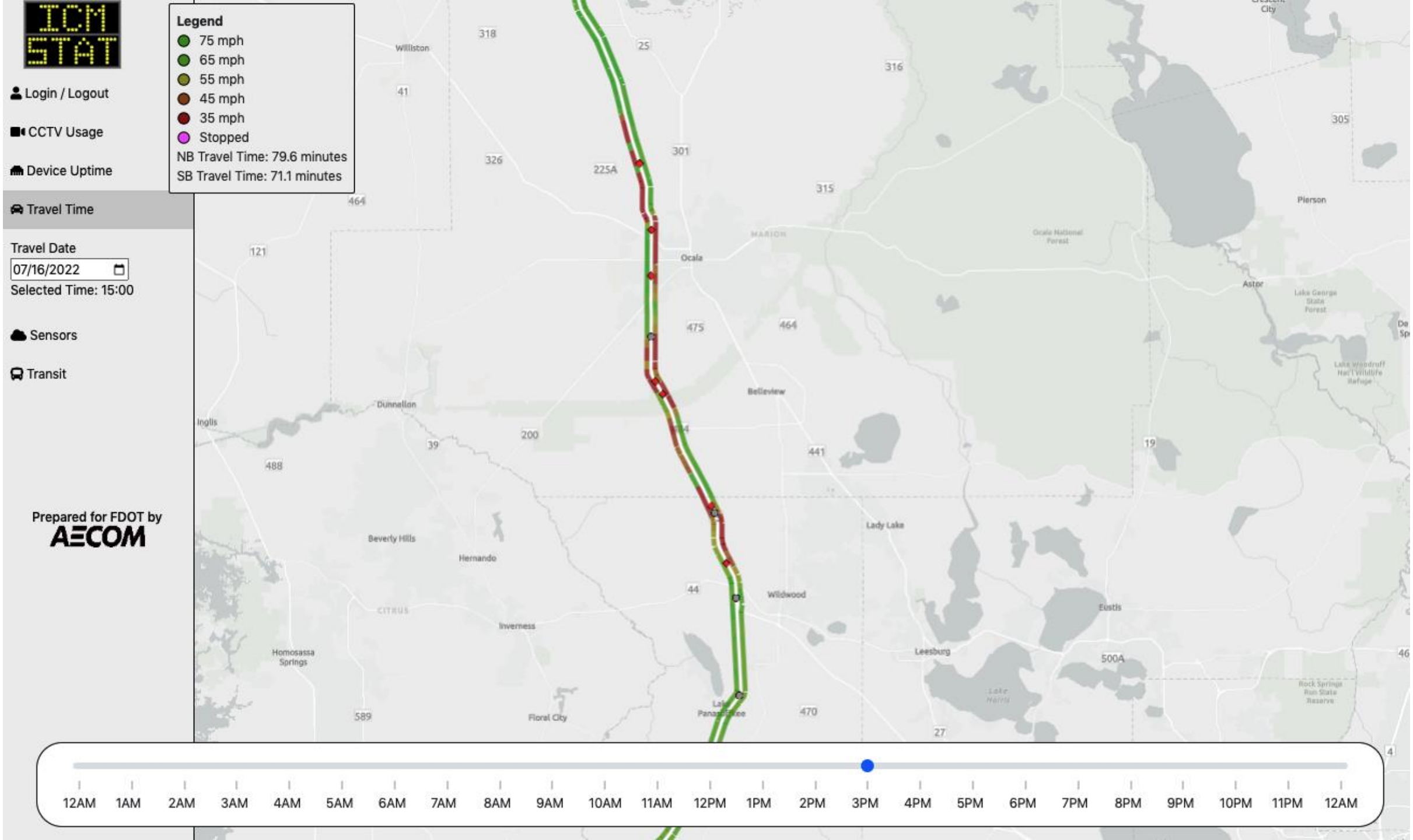
Transit

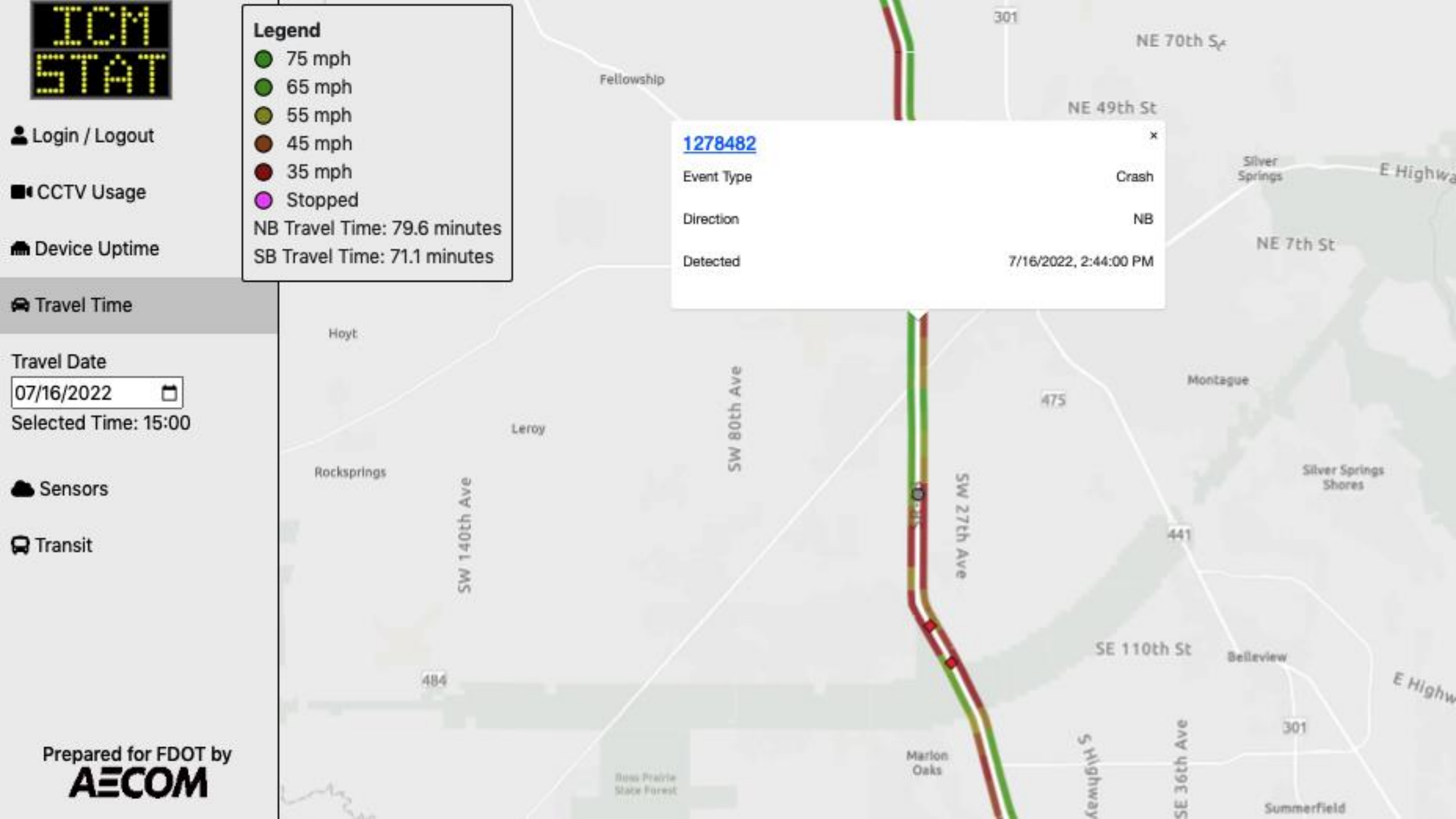
Prepared for FDOT by

AECOM




ICM STAT
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
Prepared for FDOT by
AECOM
Gainesville
Palm Coast
Daytona Beach
Orange
Deltona
Beverly Hills
Homosassa Springs
Eustis
Leesburg
Sanford
Titusville
Spring Hill
Lakeland
Melbourne
Palm Bay


ICM STAT
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
12AM 1AM 2AM 3AM 4AM 5AM 6AM 7AM 8AM 9AM 10AM 11AM 12PM 1PM 2PM 3PM 4PM 5PM 6PM 7PM 8PM 9PM 10PM 11PM 12AM
Williston
Ocala
Dunnellon
Inglis
Beverly Hills
Hernando
Inverness
Homosassa Springs
Floral City
Belleview
Lady Lake
Wildwood
Leesburg
Eustis
Pierson
Aster
Crescent City
MARION
CITRUS


ICM STAT
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
1278482
Event Type
Crash
Direction
NB
Detected
7/16/2022, 2:44:00 PM
Fellowship
NE 70th St
NE 49th St
Silver Springs
NE 7th St
Hoyt
Leroy
Rocksprings
SW 80th Ave
SW 140th Ave
SW 27th Ave
Montague
Silver Springs Shores
SE 110th St
Belleview
Marion Oaks
SE 36th Ave
Summerfield
301
475
441
484

ICM STAT

User

Username

KRAECBS

Logout

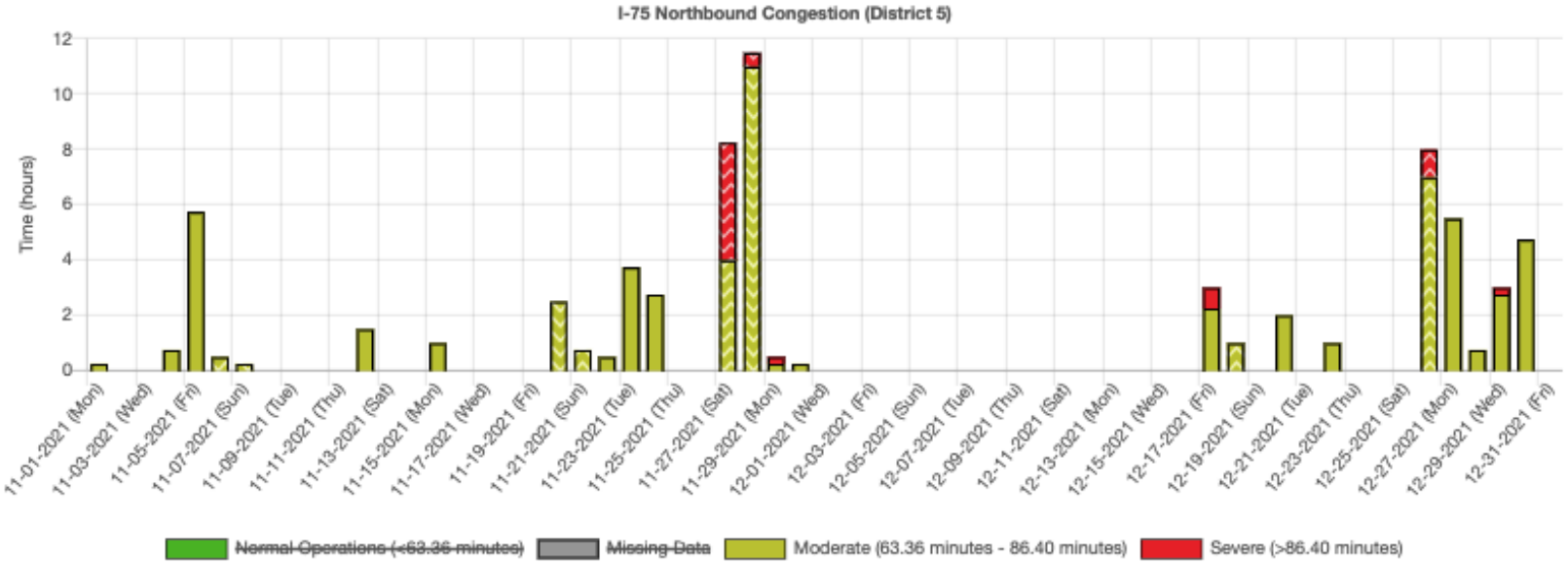
- Event Debriefs
- Travel Time Reliability
- Operations QC
- Clearance
- Road Ranger
- IDS Detail
- IDS Summary
- Device Uptime
- DMS Report
- Shift Reports
- Damage Notification
- TPAS Logs
- ICMSTAT Logs

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

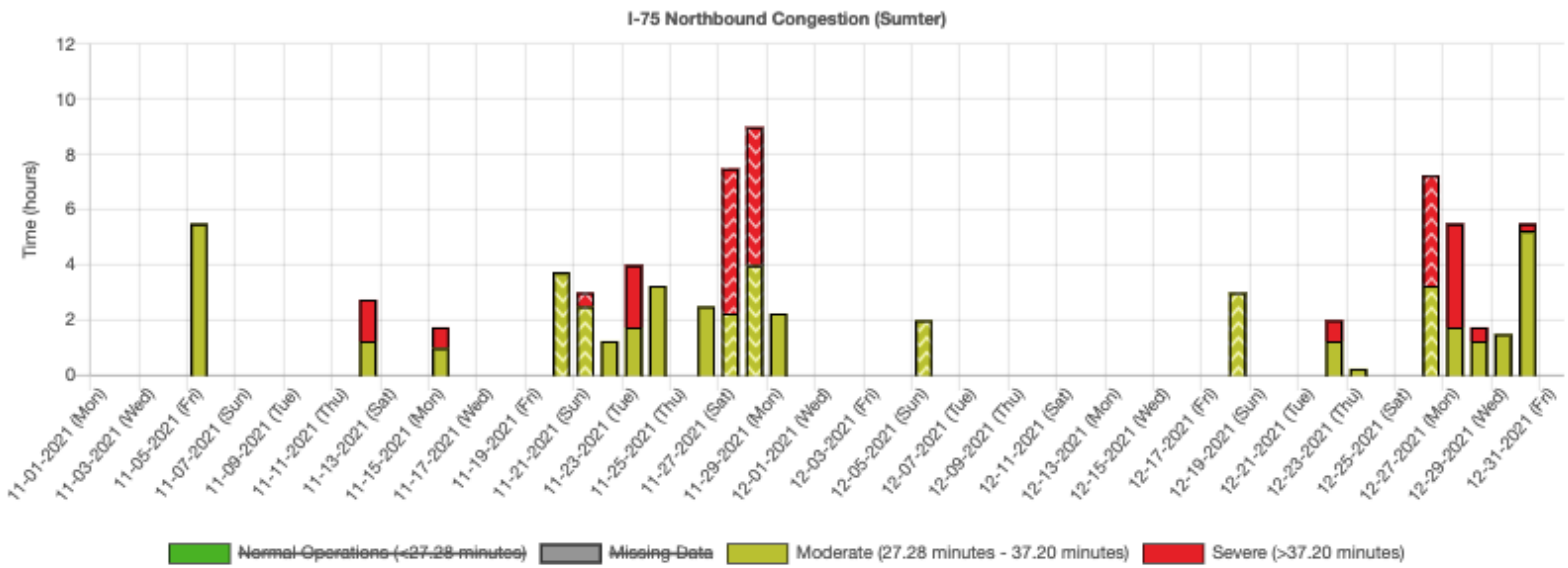
Moderate congestion was experienced:	25 of 61 days
Average moderate congestion time:	1.0 hours
Total moderate congestion time:	62.75 hours
Average speed during moderate congestion:	55.9 mph
Severe congestion was experienced:	6 of 61 days
Average severe congestion time:	0.1 hours
Total severe congestion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



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



Prepared for the Florida Department of Transportation by AECOM

ICM STAT

User

Username

KRAECBS

Logout

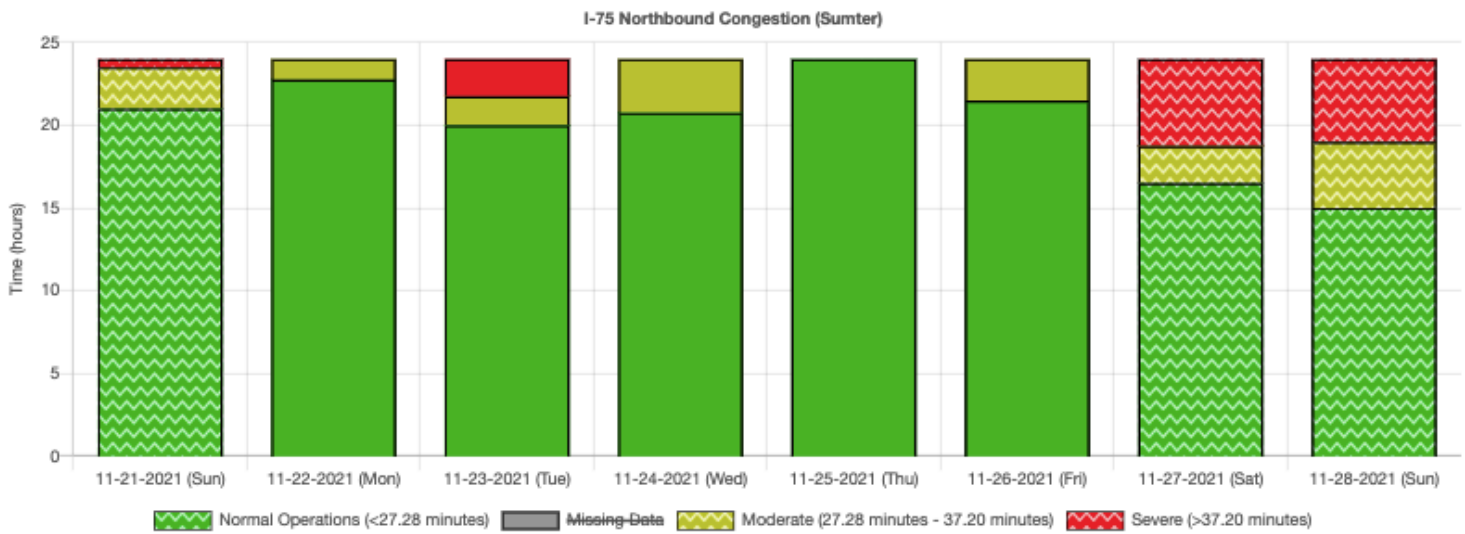
- Event Debriefs
- Travel Time Reliability
- Operations QC
- Clearance
- Road Ranger
- IDS Detail
- IDS Summary
- Device Uptime
- DMS Report
- Shift Reports
- Damage Notification
- TPAS Logs
- ICMSTAT Logs

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



Prepared for the Florida Department of Transportation by AECOM

ICM STAT

User

Username

KRAECBS

Logout

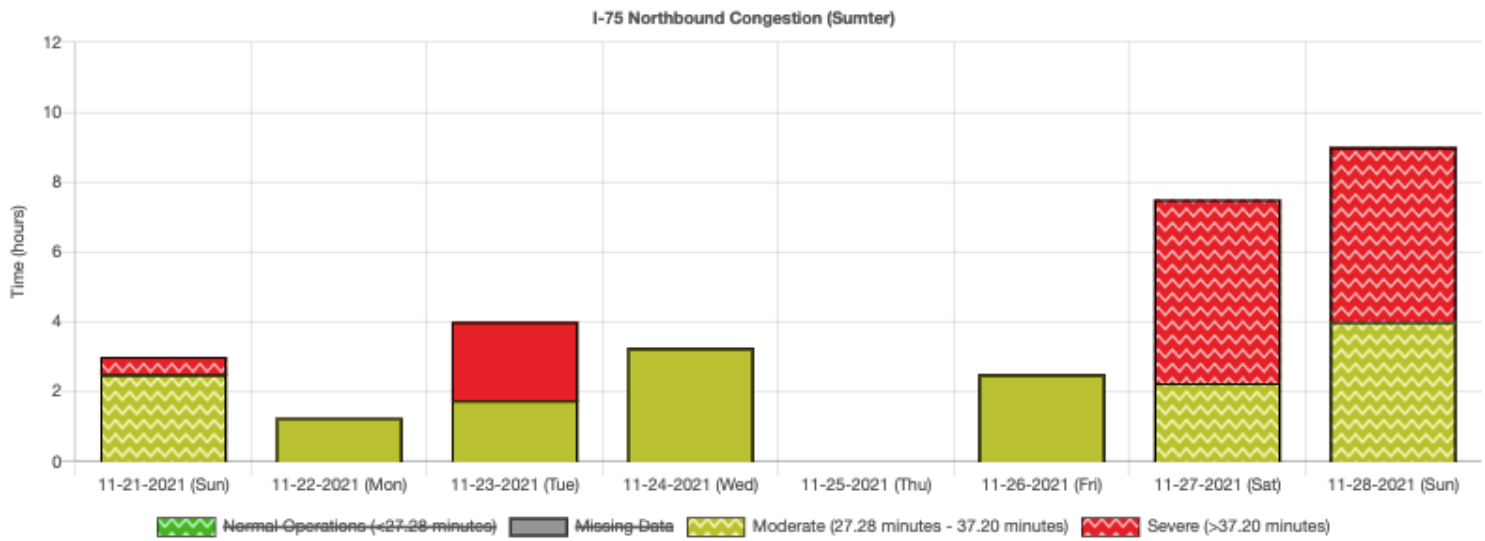
- Event Debriefs
- Travel Time Reliability
- Operations QC
- Clearance
- Road Ranger
- IDS Detail
- IDS Summary
- Device Uptime
- DMS Report
- Shift Reports
- Damage Notification
- TPAS Logs
- ICMSTAT Logs

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



Prepared for the Florida Department of Transportation by AECOM

Login / Logout

CCTV Usage

Device Uptime

Travel Time

Sensors

Transit

Prepared for FDOT by AECOM

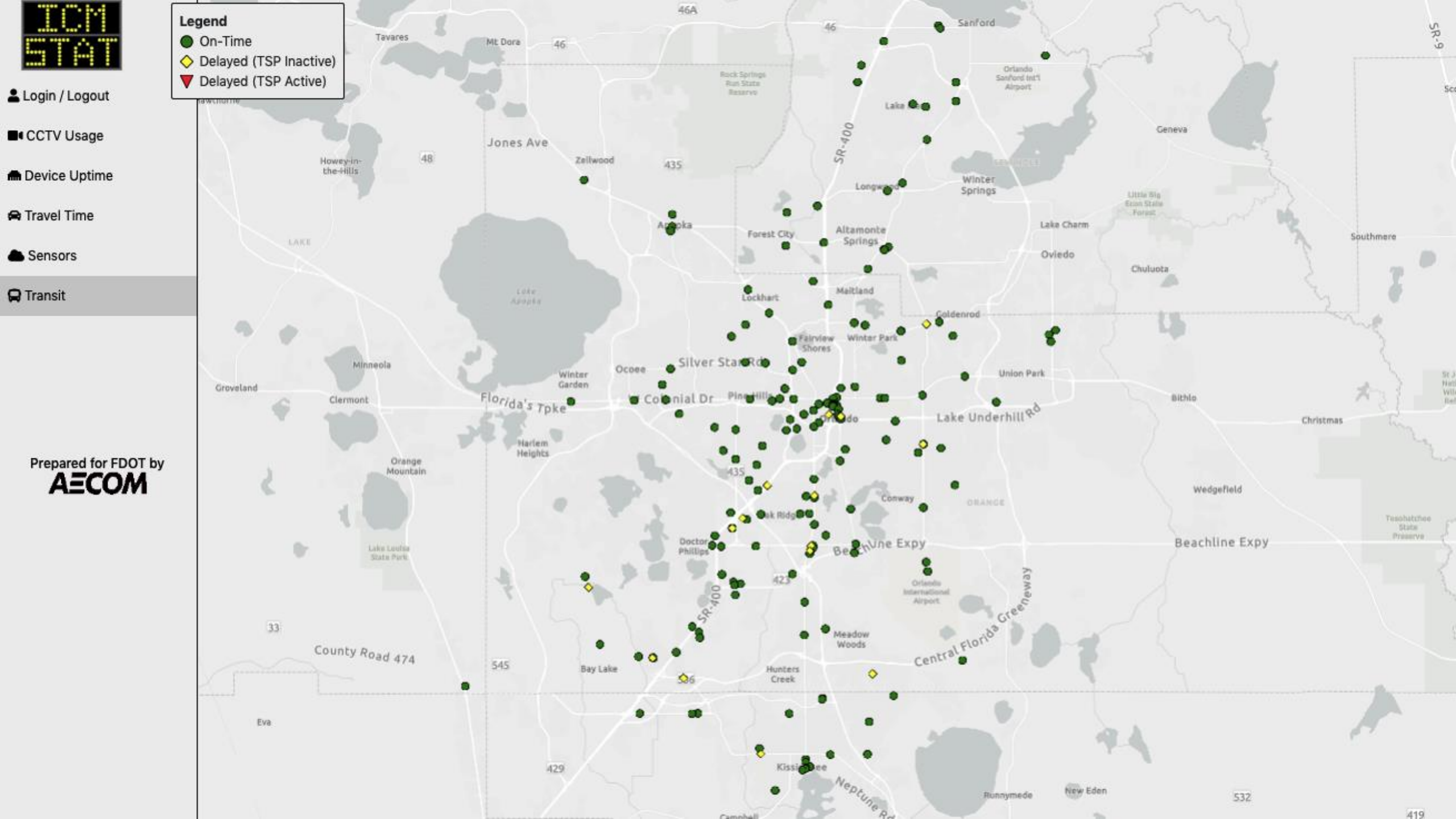
Wind

Road

Water

D5 SR-520 OVER BANANA RIVER

Water Level


ICM STAT
Legend
On-Time
Delayed (TSP Inactive)
Delayed (TSP Active)
Login / Logout
CCTV Usage
Device Uptime
Travel Time
Sensors
Transit
Prepared for FDOT by
AECOM
Tavares
Mt Dora
46A
46
Sanford
Orlando Sanford Int'l Airport
Rock Springs Run State Reserve
Lake Mary
Geneva
Jones Ave
Howey-in-the-Hills
48
Zellwood
435
SR-400
Longwood
Winter Springs
Little Big Econ State Forest
Apopka
Forest City
Altamonte Springs
Lake Charm
Oviedo
Southmere
Chuluota
Lake Apopka
Lockhart
Maitland
Goldenrod
Fairview Shores
Winter Park
Minneola
Ocoee
Silver Star Rd
Union Park
Groveland
Winter Garden
Clermont
Florida's Tpke
Colonial Dr
Pine Hills
Orlando
Lake Underhill Rd
Bithlo
Christmas
Harlem Heights
Orange Mountain
Conway
Wedgefield
Oak Ridge
Doctor Phillips
Beachline Expy
Lake Louisa State Park
423
Orlando International Airport
Tosohatchee State Preserve
33
County Road 474
545
Bay Lake
Meadow Woods
Hunters Creek
Central Florida Greeneway
Eva
429
Kissimmee
Runnymede
New Eden
532
419

ICM STAT

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, 11:34:20 AM	Disabled Vehicle	Marion on I-75 Northbound, At MM 339	N/A	N/A	i

Event Debrief (ID 1266222)

Narrative

Event Number	Event Type	County
1266222	Crash	Marion

Event Location

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

Severity

Minor

Notifier	Notifier ID	Opened
FHP	FHP	6/1/2022, 11:22:35 AM

Duration	Lane Blocked	Event Location Changed
1h 19m 38s	No	No

Event Type Changed	Involved Vehicles	Asset Damage
No	N/A	N/A

Injuries	Operators	IDS Acknowledgement
N/A	Camille Silvi, Wayne Singleton	54s

Event Confirmation	Road Ranger Dispatch	Road Ranger Arrival
N/A	1m 52s	N/A

Response Plan Activation	Publish to 511	Notify Maintenance
N/A	N/A	N/A

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

Prepared for the Florida Department of Transportation by AECOM

Performance Reporting

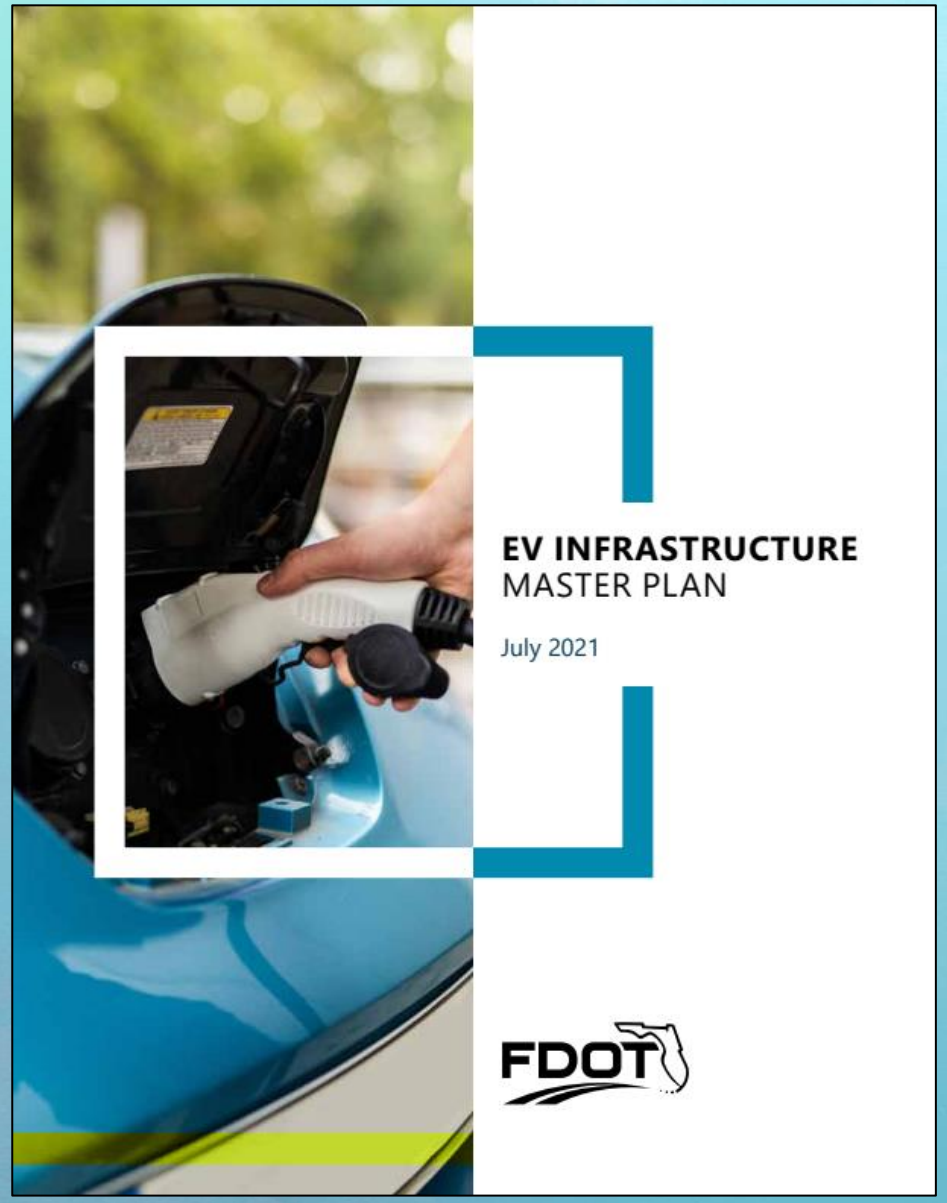
- Do any of these dashboards and reporting platforms meet your agency's needs?
- Where are the gaps?

Questions

Florida's Electric Vehicle Infrastructure Deployment Plan (draft)

David Williams, VHB

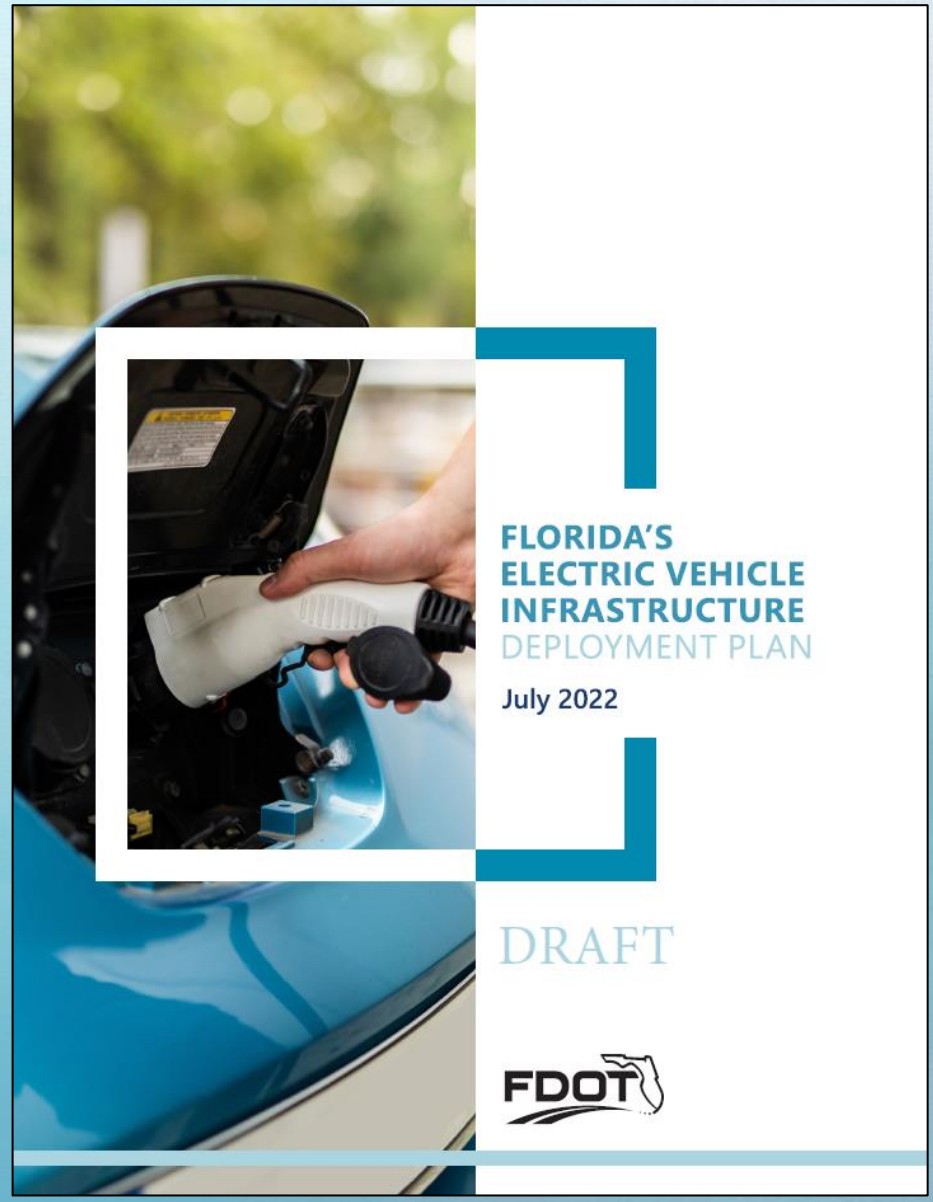
EV Infrastructure Master Plan (EVMP)



- 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

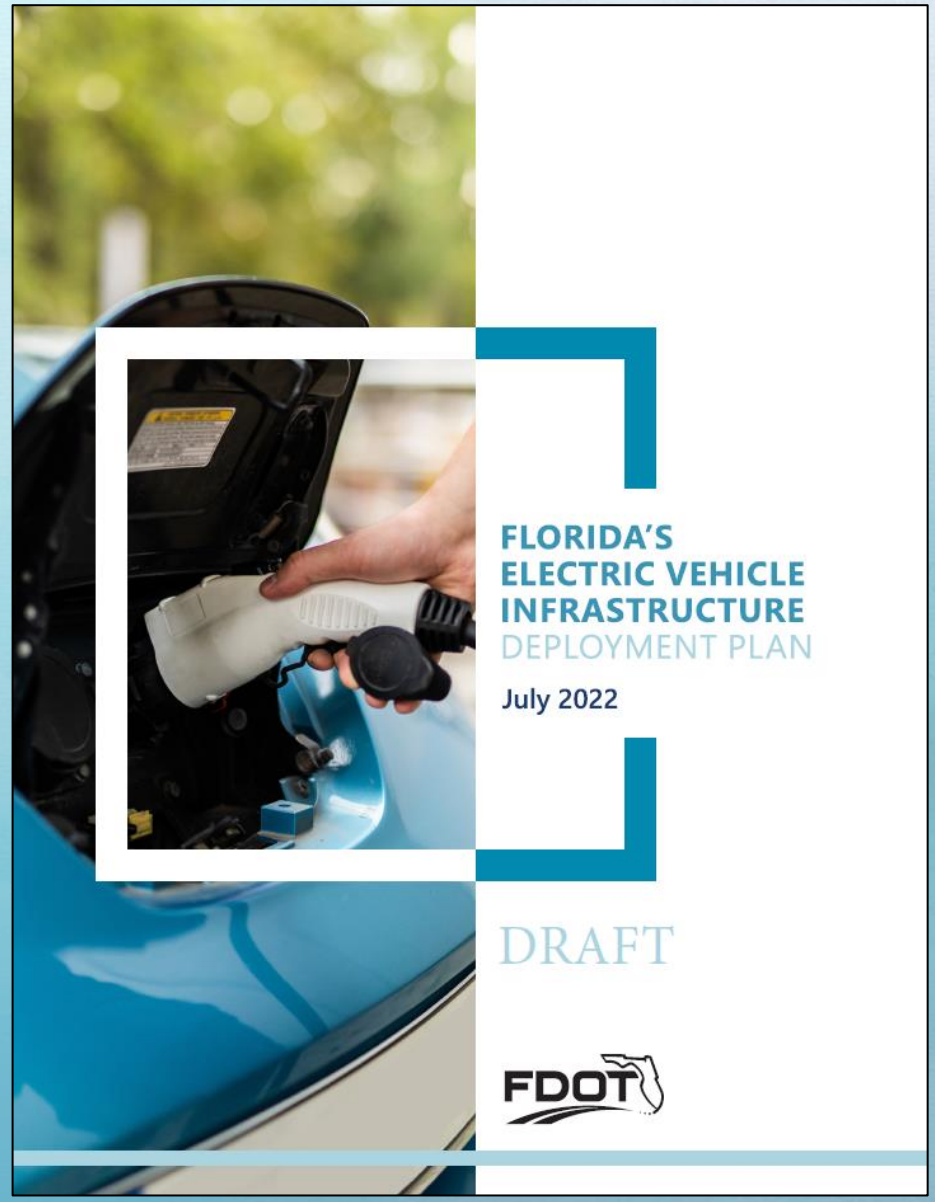
Florida's EV Infrastructure Deployment Plan

- 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

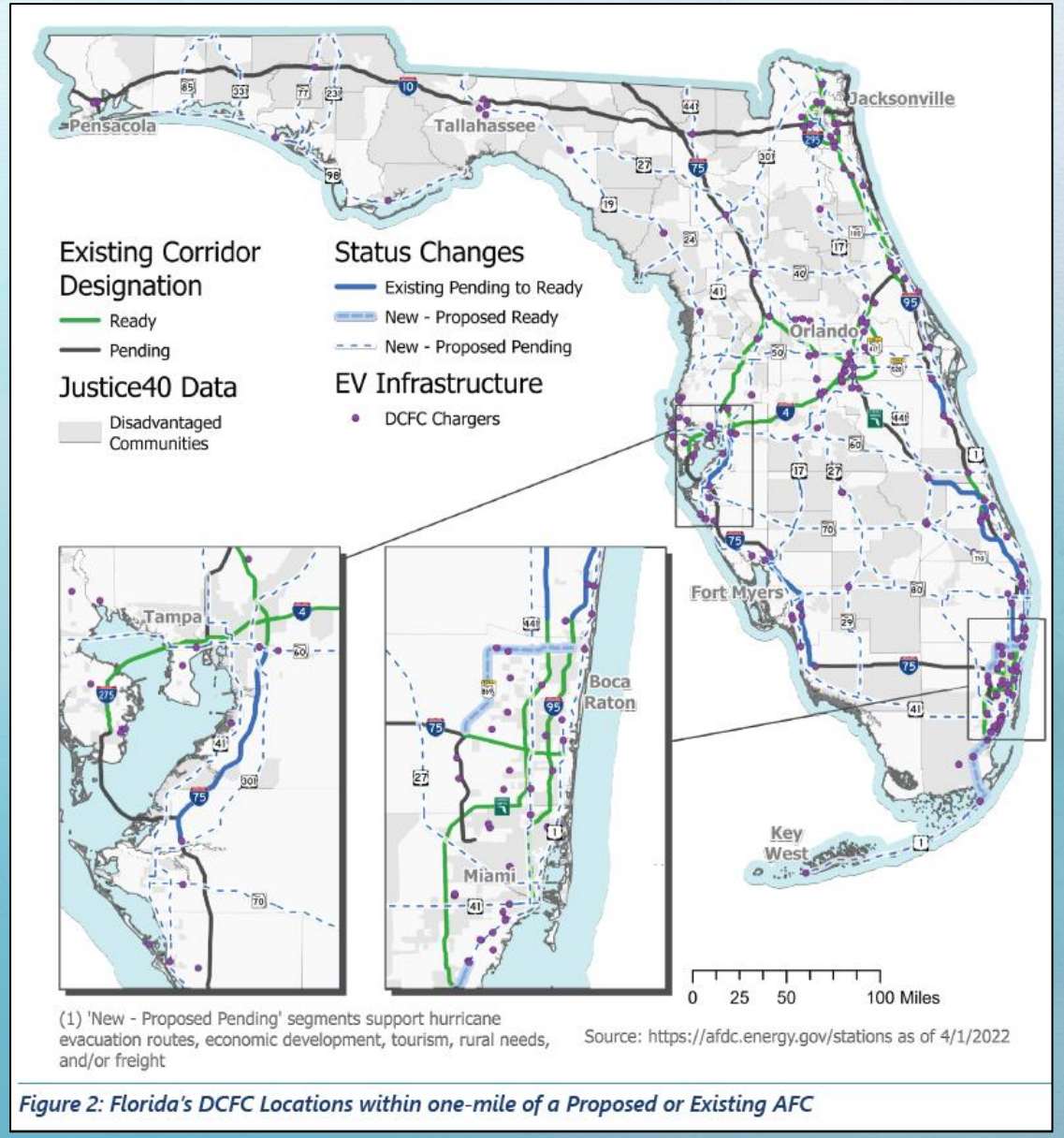
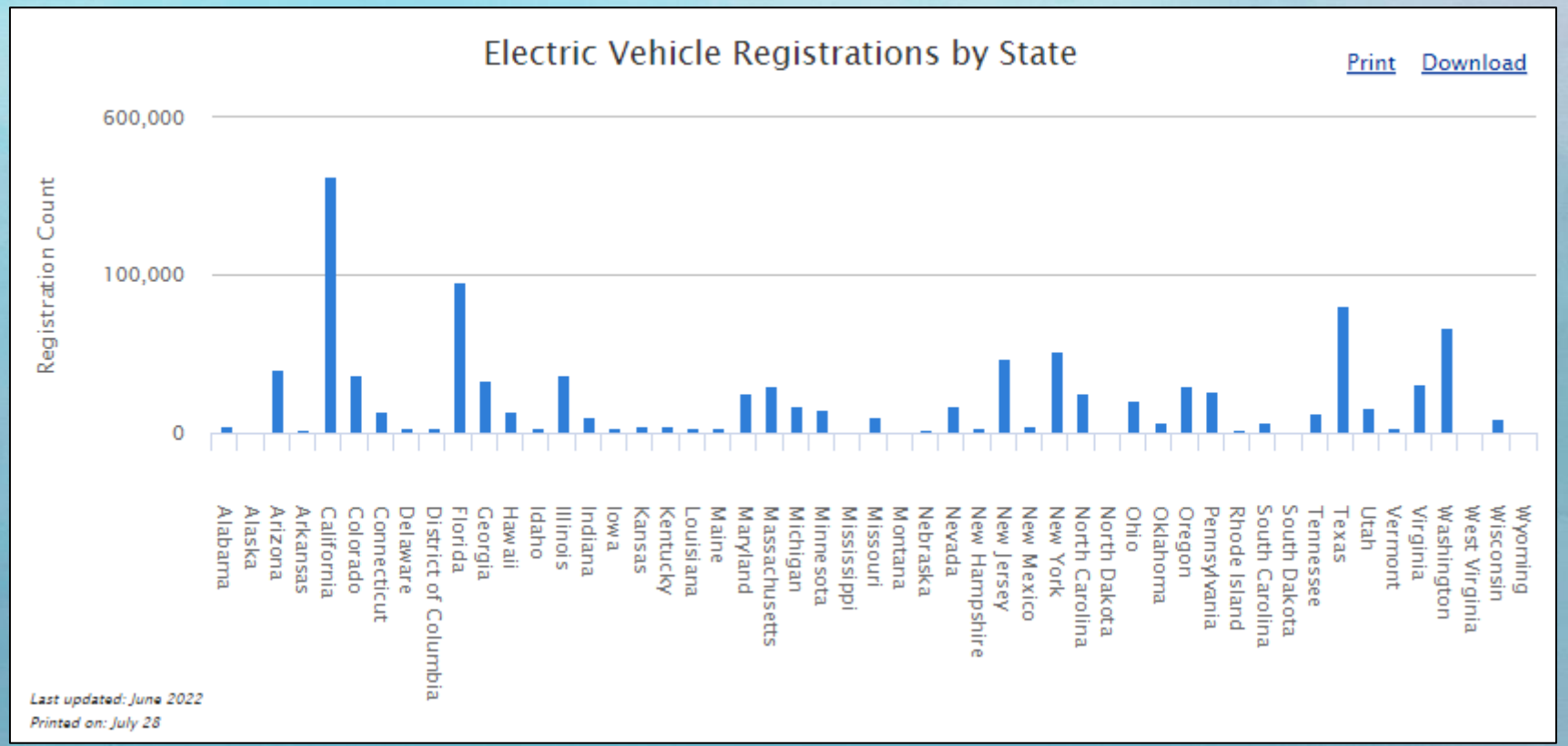


Figure 2: Florida's DCFC Locations within one-mile of a Proposed or Existing AFC

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.

Position Florida as a national leader in EV infrastructure implementation.

Support emergency evacuation.

Expand energy sources for transportation fuels.

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

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

Florida's EV Infrastructure Deployment Plan

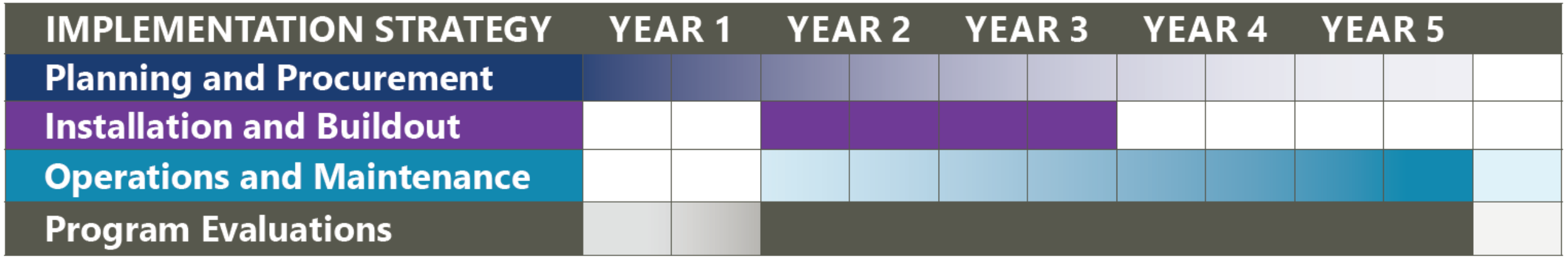
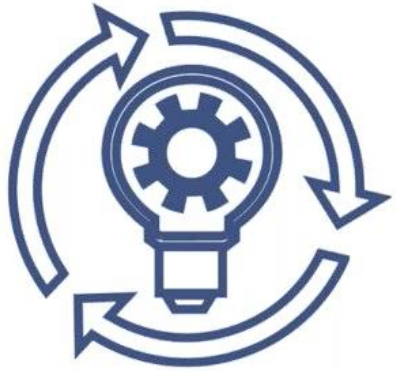


Figure 3: Funds Deployment Timeline

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 Resiliencey

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

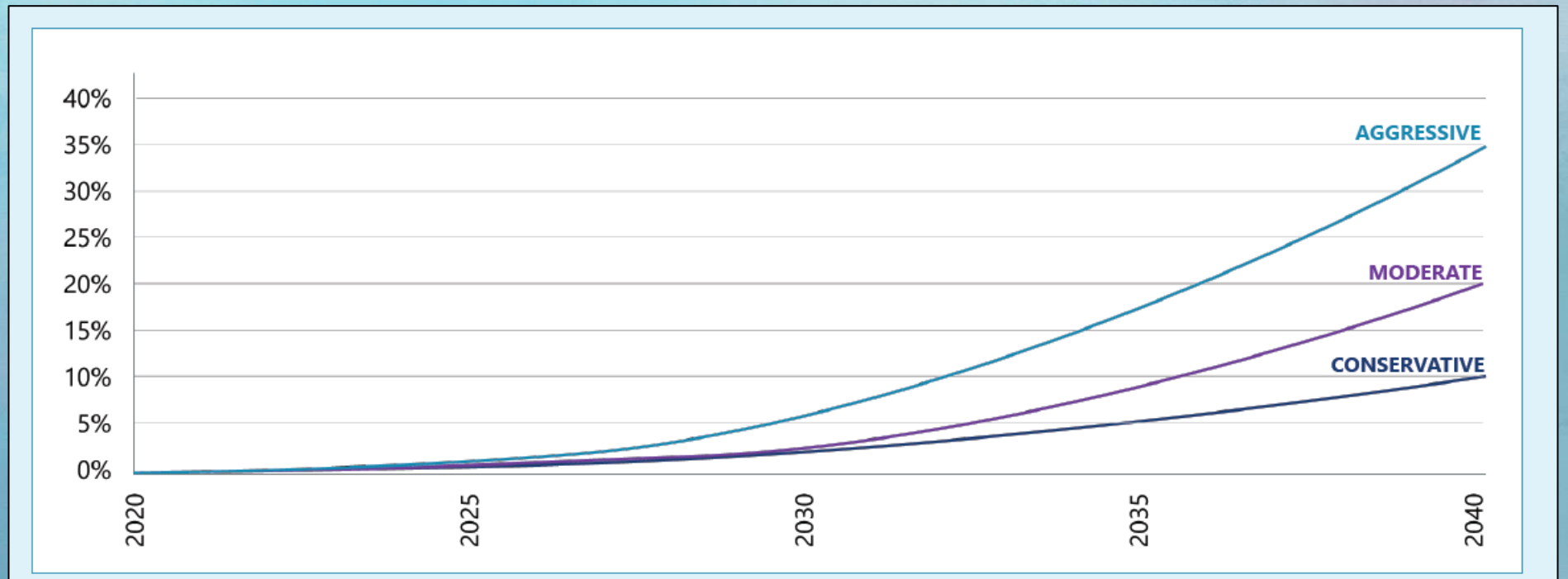


Figure 8: Projected EV Adoption in Florida

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

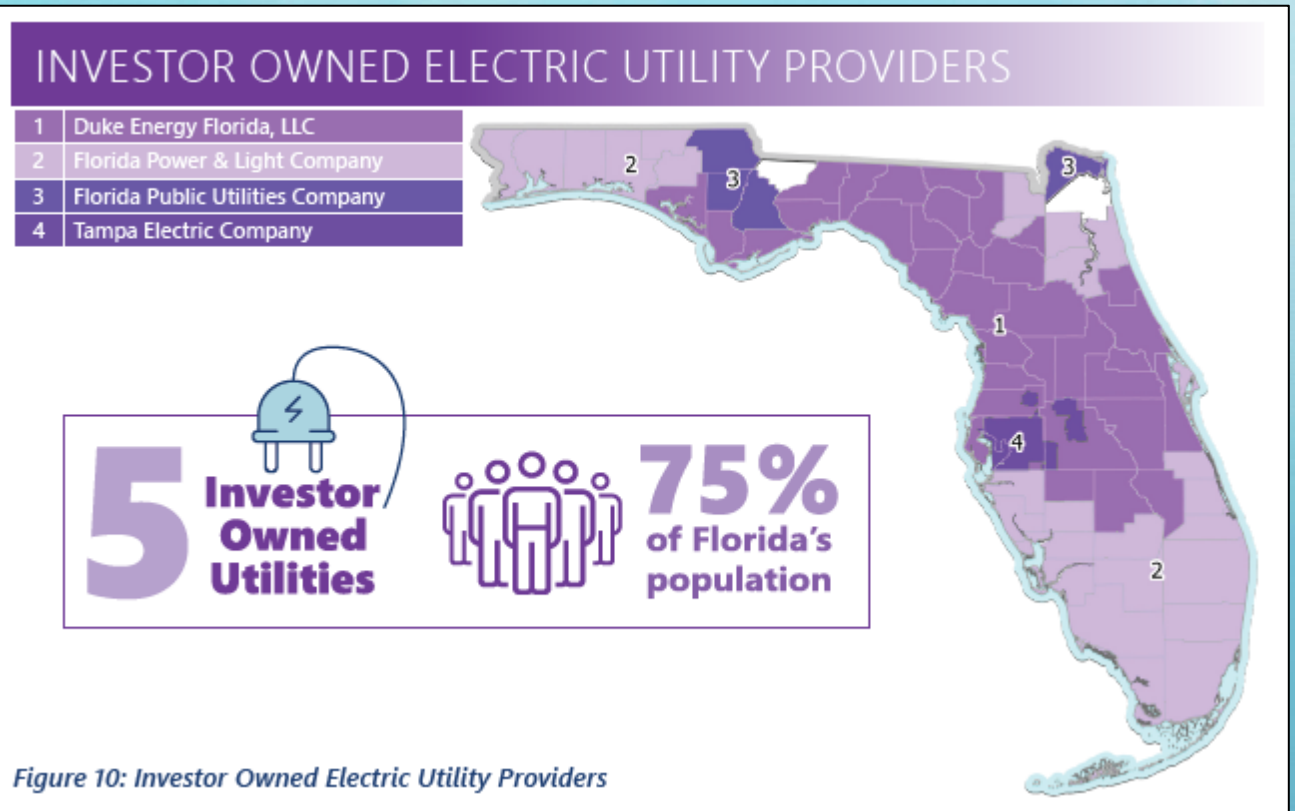


Figure 10: Investor Owned Electric Utility Providers

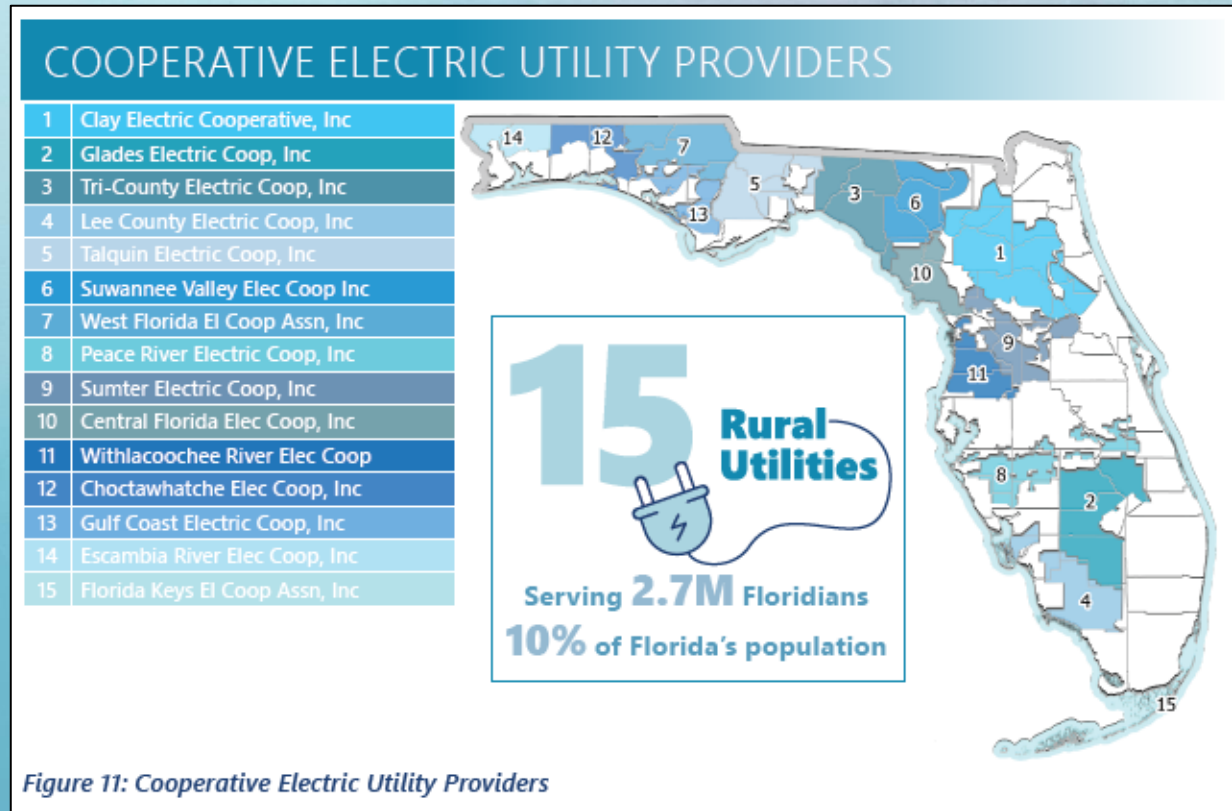


Figure 11: Cooperative Electric Utility Providers

E nt

- Upgrading fro
- Increasing Cap
- State, Regiona

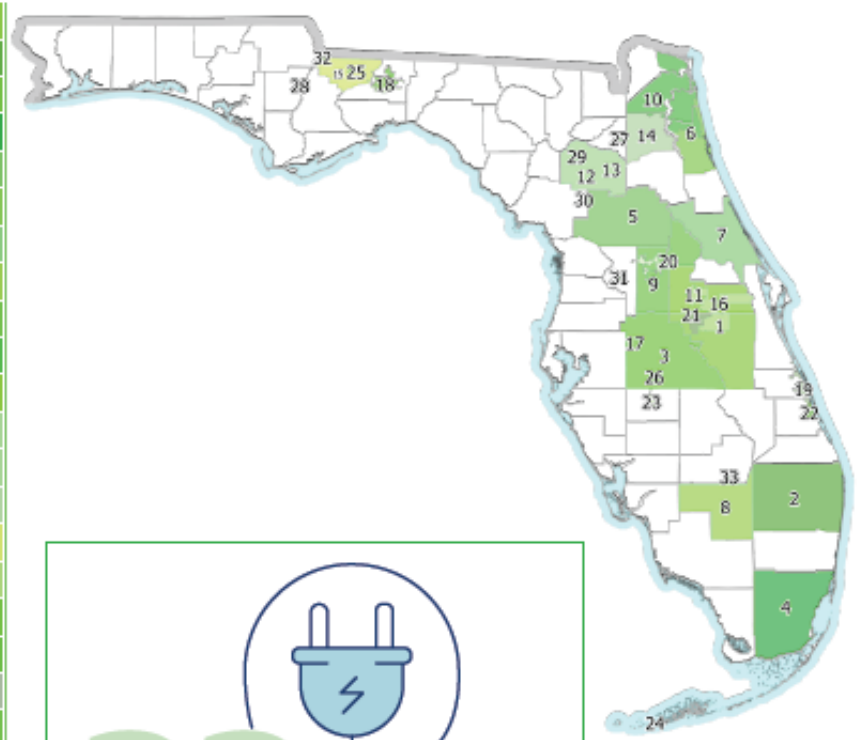
INVESTOR OWNED ELECTRI

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

Figure 10: Investor Owned Electric Utility Providers

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



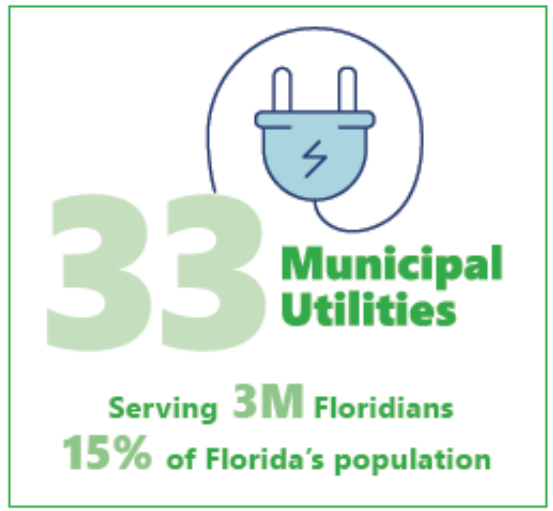


Figure 12: Municipal Electric Utility Providers

Y PROVIDERS

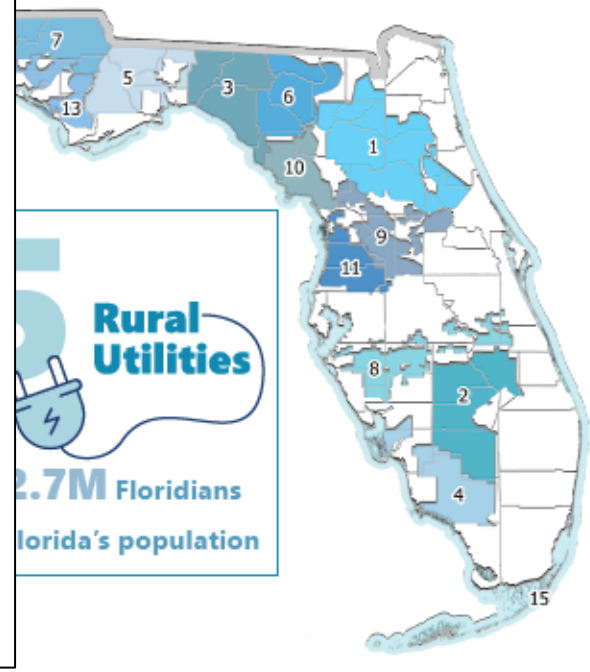


Figure 11: Cooperative Electric Utility Providers

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.

FDOT TSM&O
Transportation Systems Management & Operation

CENTRAL FLORIDA TSM&O CONSORTIUM

Questions

Taking Time to FLEX – What's new in Training

David Williams, VHB

Transportation Systems Management & Operations

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)

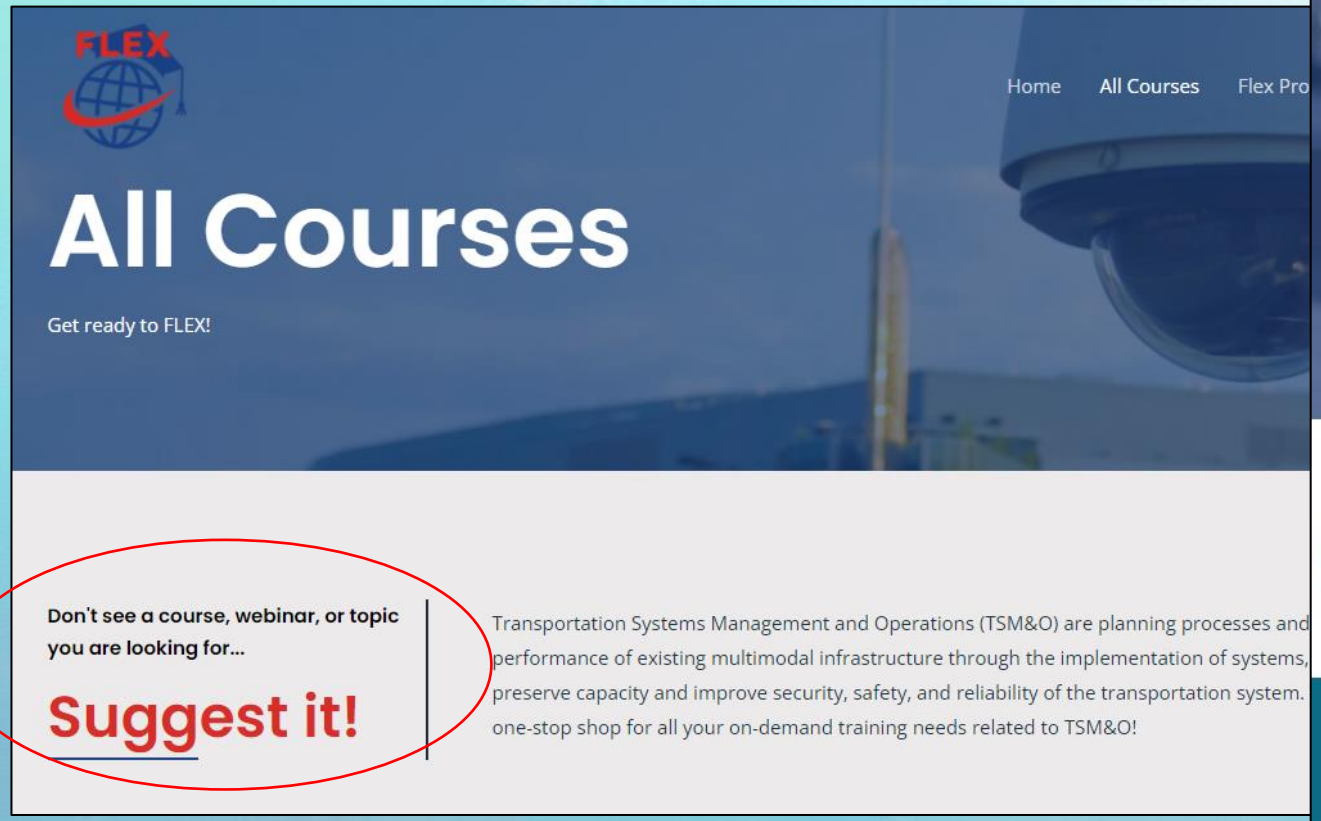
- Active Users – 348
- Courses Completed – 290
- Most Popular Course – *Traffic Signal Training (A)*

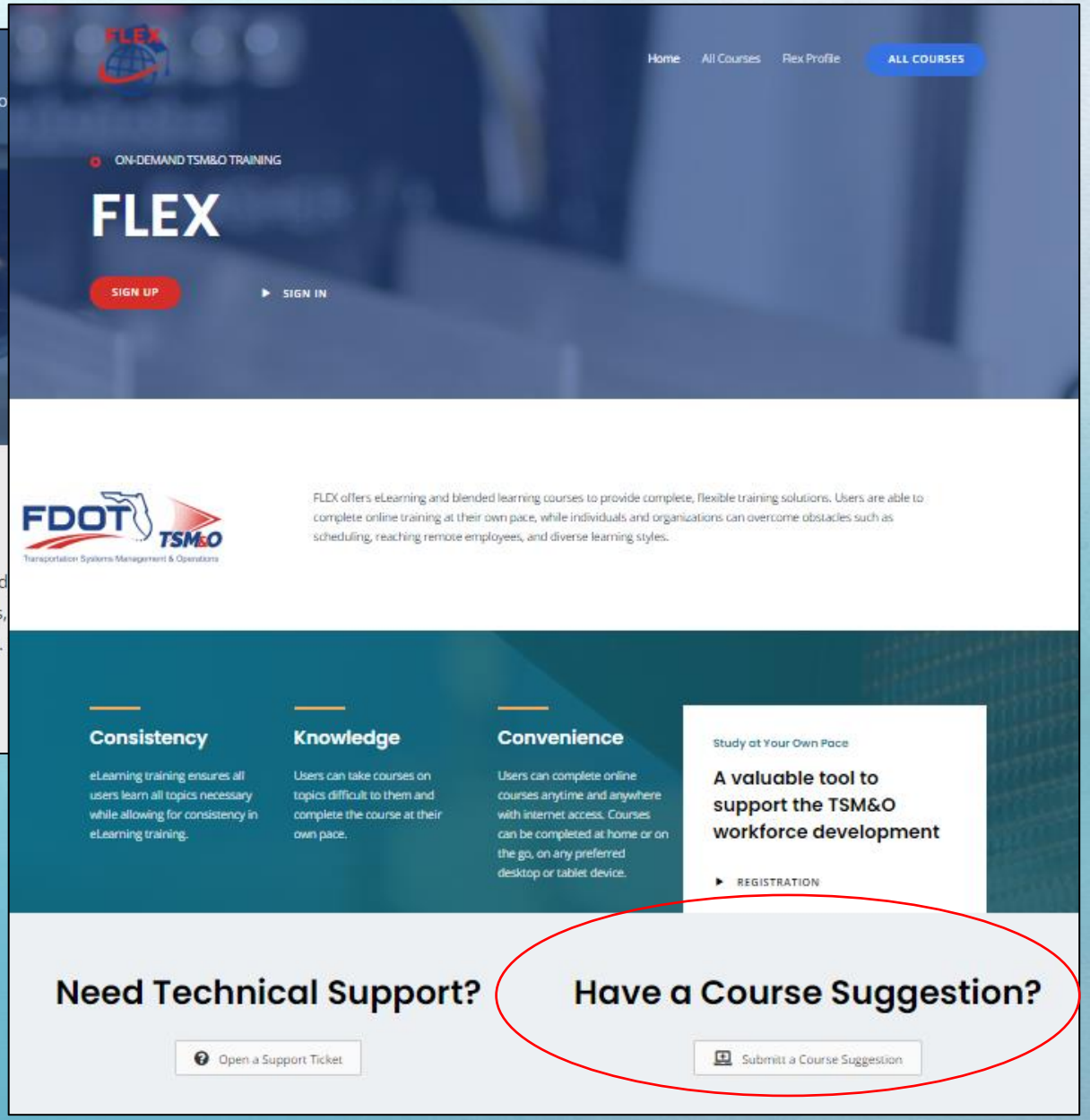
- Troubleshooting – *Request Support* button
- For more information, visit: https://elearning.cflsmartroads.com/
  - Google: “FDOT FLEX Portal”

Courses Coming Soon to FLEX Portal

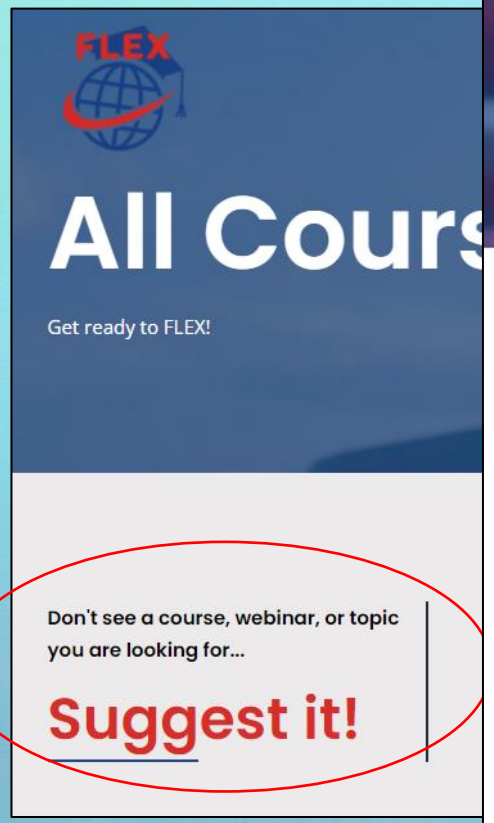
- Adaptive Signal Control Technology (ASCT) Training
- ITS CEI Dynamic Message Signs
- ITS CEI Road Weather Information System CBT
- Manual on Uniform Traffic Studies (MUTS)

Have a Suggested Training?

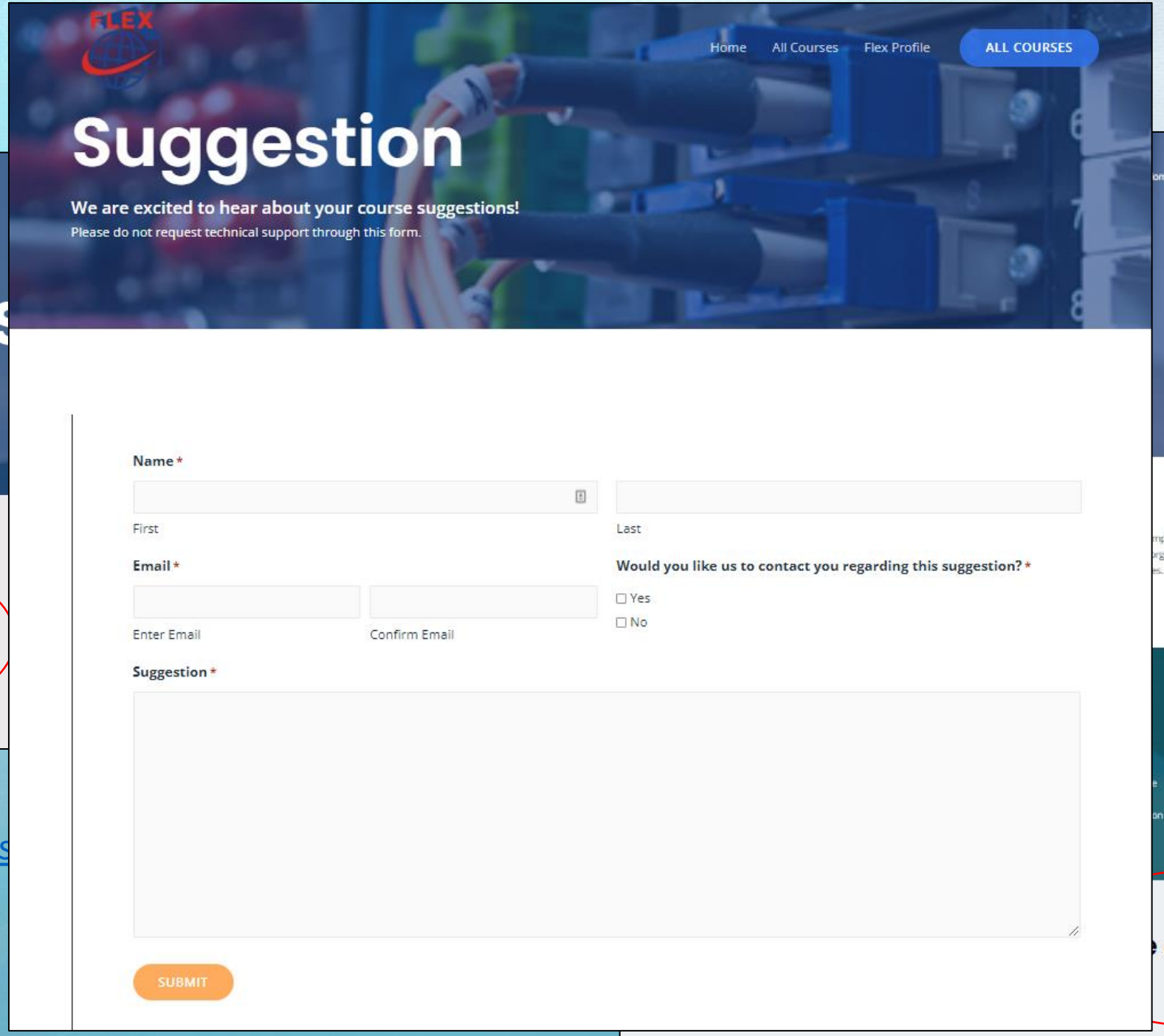


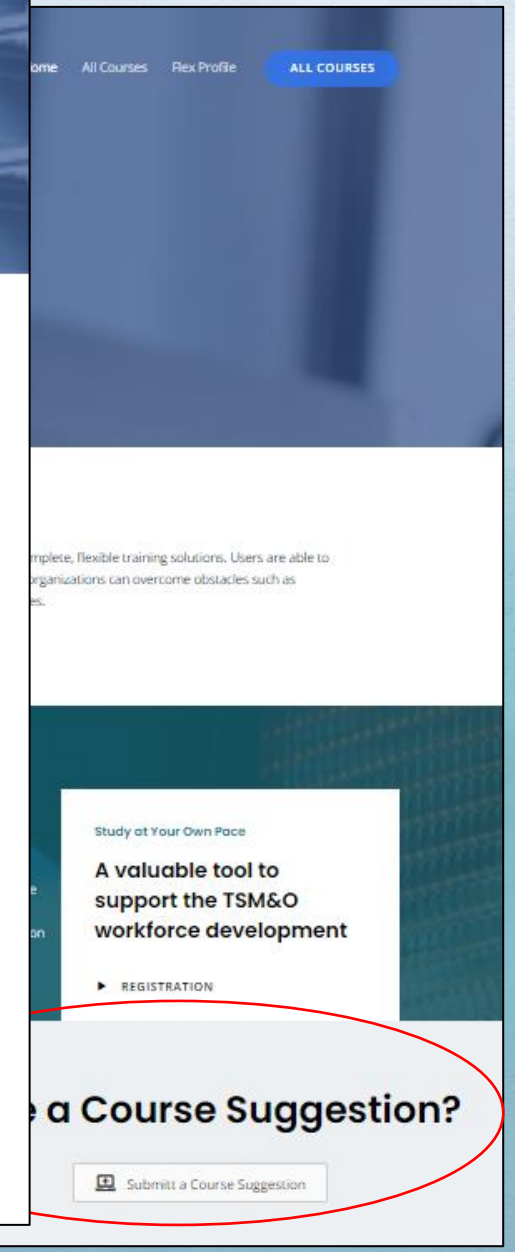


https://elearning.cflsmartroads.com/flex-suggestions/



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) TRANSPO 2022 TAKEAWAYS (OPEN DISCUSSION)
6) CURRENT INITIATIVES