

For help with the data analytics tool: <a href="mailto:support@ritis.org">support@ritis.org</a>

For information on NPMRDS: <u>https://ops.fhwa.dot.gov/perf\_measurement/index.htm</u> For help with Data Sharing Agreement: <u>npmrds@ritis.org</u> (for NPMRDS data set) For Non-FDOT user-access help: <u>christine.shafik@dot.state.fl.us</u> (for other PDA data sets)

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

FDOT TPM PM3 Implementation points of contact: <u>Jessica.VanDenBogaert@dot.state.fl.us</u>, <u>Mark.Reichert@dot.state.fl.us</u> (FDOT Central Office) <u>Frank.Corrado@dot.gov</u> (FHWA Florida Division)

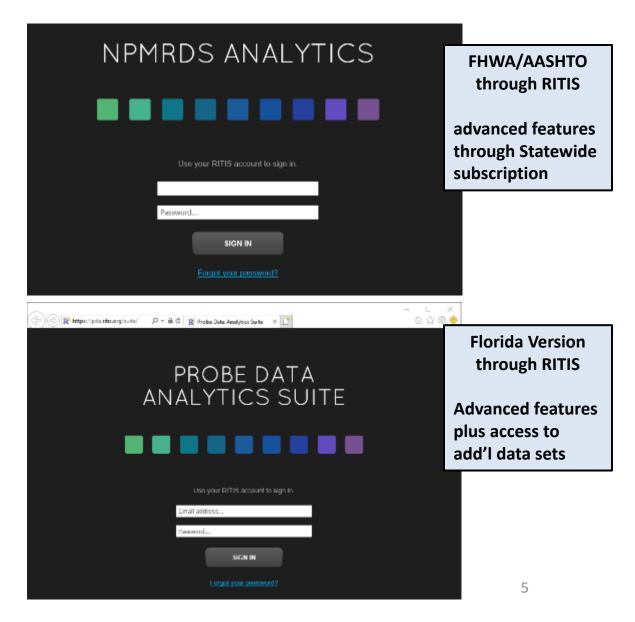
## Contents

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

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# **Overview of 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

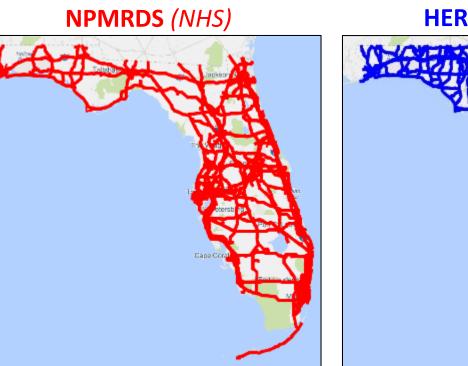


# Main Screen of Probe Data Analytics Suite



# **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



Entire NPMRDS TMC network beyond NPS is available through RITIS

### HERE Probe Data



## Contents

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# How to Gain Access

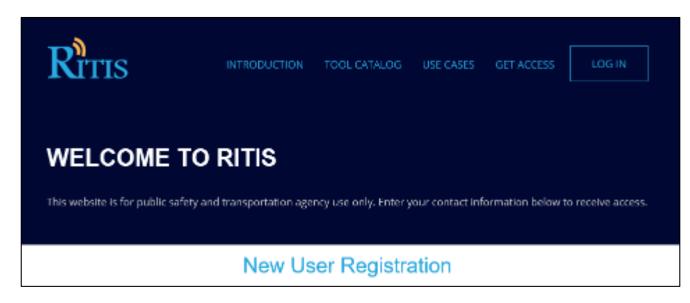
- Data Downloader
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# How to Gain Access to the Tool

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 <u>RITIS</u>)



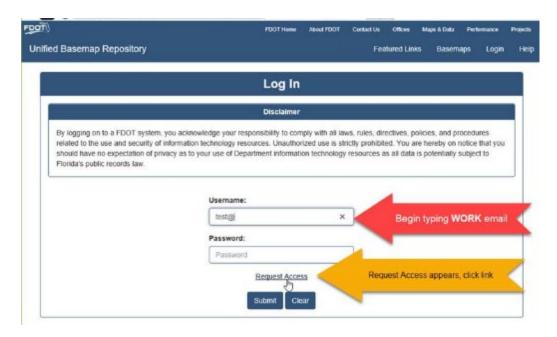
For help here, contact <a href="mailto:support@ritis.org">support@ritis.org</a>

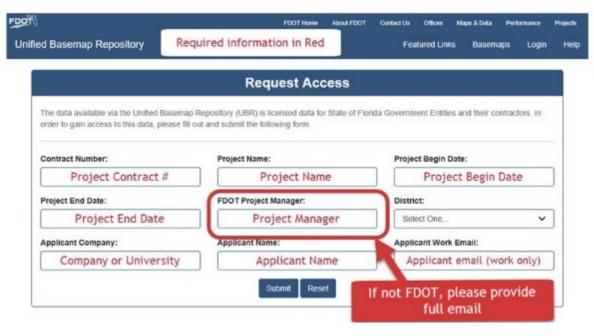
# How to Gain Access to the Tool

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

(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.





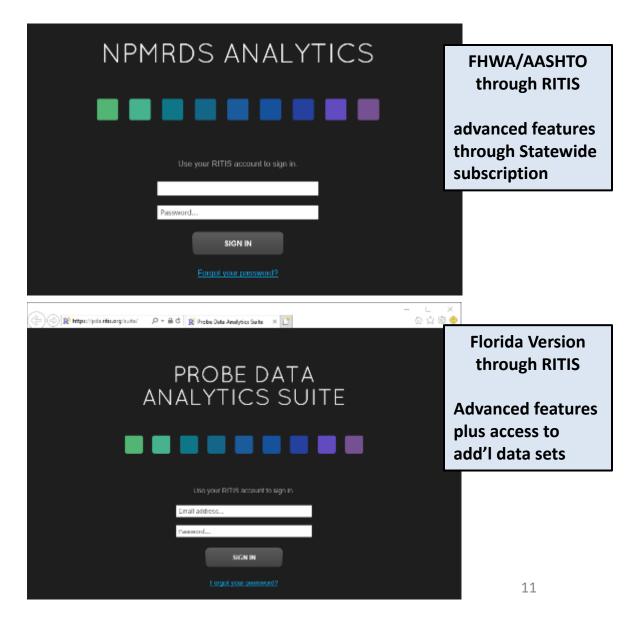
For help here, contact <a href="mailto:christine.shafik@dot.state.fl.us">christine.shafik@dot.state.fl.us</a>

# How to Gain Access to the Tool

3. Activate and Access your Account NPMRDS Data Analytics Suite: <u>https://npmrds.ritis.org</u> Probe Data Analytics (PDA) Suite: <u>https://pda.ritis.org</u>

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.



- Overview of Data Analytics Tool
- How to Gain Access to the Tool
- Features for Florida Users

# Features for Florida Users

- Data Downloader
- Help & Tutorials
- Contacts for further Support

# **Features for Florida Users**

# • Dashboard

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





# Dashboard

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Using HERE data

📰 My Dashboard 1

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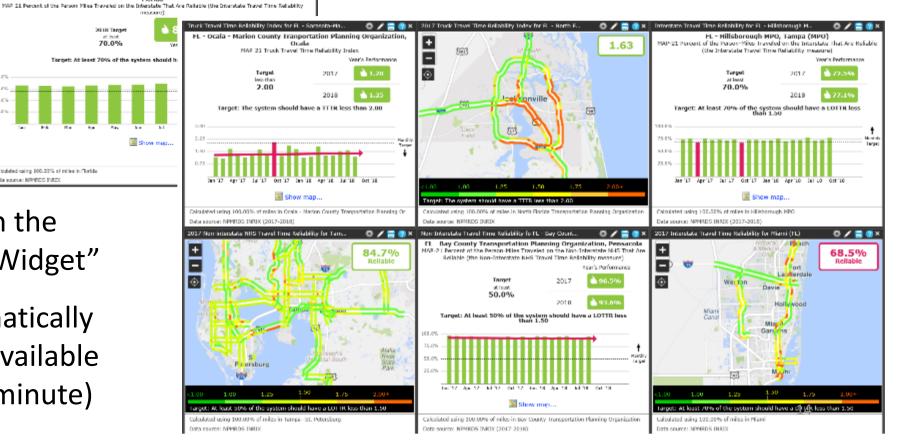
-



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

## Create multiple personalized Dashboards to monitor performance in areas of interest

DASHBOARD



Each Window within the Dashboard is called a "Widget"

\* 1

56 mph

as mpl

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85.5%

Data Source: MPMADA INF

irzwel Time Durrent

16 mil

24 mb

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listoric:

10 mi

10 m

Select a dashboard

Florida

FL 610/HILLSBORD BLVD/EXTE 42

95 S & EL 934/NW 7TH AVE/79TH ST/EXT 7

1-95 S & 2ND ST/NB EXTL28/SB EXTL18

\* 1-95 5 @ FL-934/NW /TH AVE/ /9TH 51/EXT

9 1-95 S (# 69TH ST/NW 6TH AVE/EXTL68

10 I 95 S & 69TH ST/NW 6TH AVE/EXTERN

4 1-95 5 (# 1-95 EXP

6 1-95 S @ US-1

Using HORE data

FLORIDAS TPKE S @ 1-95

7 1-95 S @ FL-924/119TH ST/EXTE 9

2015 Interstate Travel Time Reliability for Florida

Calculated using 100,00% of miles in Florida

Data acurca: NPHEOS INEO

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6,40

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3,05

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2.45

1.24

1.02

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10 min

20 mir

22 mir

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1 hr 52 mi

Widgets refresh automatically as new data becomes available (monthly or up to the minute)

# **Dashboard – Add Widget**

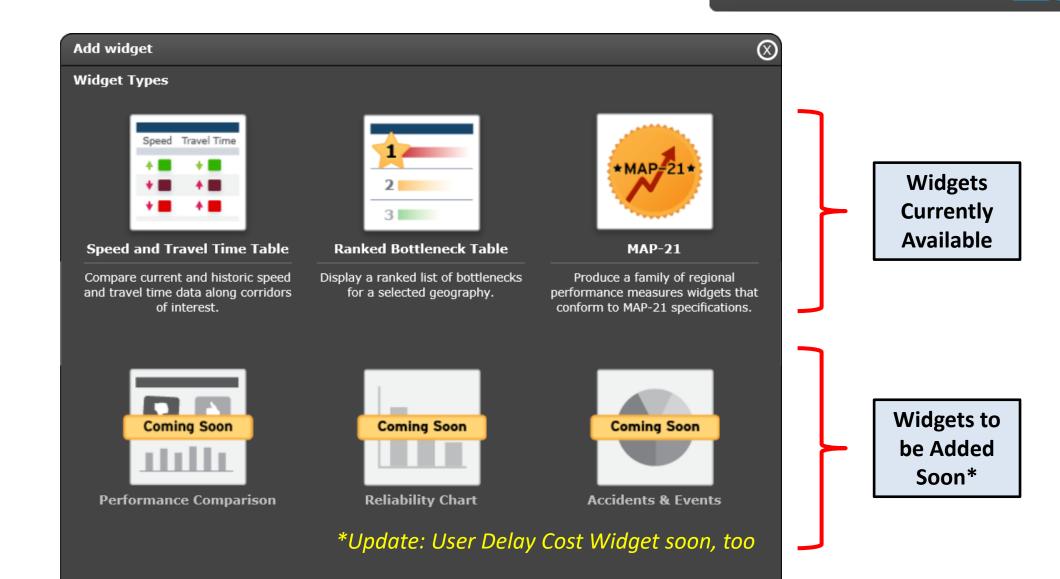
+ Add widget

<u>DASHBOARD</u>

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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





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

DASHBOARD



### TPM PM3 2018-2021 Performance Measures for Florida Geographic Locations

# Here are each Metropolitan Area's Baseline Conditions and 2021 Targets for PM3 Measures as reported to FDOT

Every MPO decided to support FDOT's statewide target for the next 4 years.

Metuovolitev Disuving Avec (MDA)	Main City	%Interstate Reliable		%NHS Non-Int Reliable		Truck Travel Time Index	
Metropolitan Planning Area (MPA)	Main City	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.

	Main City	PHED per Capita^	% Segments without	Completeness	
Urbanized Area (UZA)	Main City	(Hours)	Speed Limit Info.^^	(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...

Contact

Eederal Highway Administration

About Programs Resources Briefing Room Contact Search FHWA

Search Florida

### Florida Division

### Go to FHWA Florida Division TPM Page

The documents below have been developed for FHWA Florida Division's partners to assist them with the implementation Staff Directory transportation performance measures and other strategies for transforming their planning processes into a performance Expertise Directory process. Transportation Districts FHWA's Overall TPM Website (includes links to Federal Register notices) Florida Stewardship and Timing of TPM Requirement Implementation for Florida MPO Long Range Transportation Plans (LRTP), Oversight Agreement Statewide/Transportation Improvement Programs (S/TIP), and related Amendments UpdatedI Listing of All Performance Measures – Includes FDOT and MPO Due Dates for Setting Targets Transportation Management Area (TMA) Certification FTA Performance Based Planning Requirements Reviews FDOT Specific Transportation Performance Management (TPM) Summary of Planning Regulation Changes as they apply to FDOT Emergency Relief · Summary of the Safety Performance Measure Requirements (PM 1) as they apply to FDOT New! **Highlight Projects**  Summary of the Pavement Performance Measure Requirements (PM 2) as they apply to EDOT New! Summary of the Bridge Performance Measure Requirements (PM 3) as they apply to FDOT New! Resources Summary of the System Performance (Includes Freight/CMAQ) Performance Measure Requirements (PM3) as th FAQ to FDOT Summary of Asset Management Requirements as they apply to FDOT Updated Requests for Information MPO Specific Traffic & Road Closure Information Summary of Planning Regulation Changes as they apply to MPOs Florida Department of Summary of the Safety Performance Measure Requirements (PM 1) as they apply to MPOs. Transportation Summary of the Pavement Performance Measure Requirements (PM 2) as they apply to MPOs Summary of the Bridge Performance Measure Requirements (PM 3) as they apply to MPOs Summary of the System Performance (Includes Freight/CMAQ) Performance Measure Requirements (PM3) as this to MPOs FAQs from MPO One on One Sessions, Fall 2017 New! \* Click Here for Presentations made by FHWA FL Division Page last modified on November 2, 2018

Performance Management (TPM)

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

Transportation Performance Management National Highway Performance Program (NHPP) National Highway Freight Program (NFPP) "PM3" Measuring System Performance

> January, 2018 FHWA Florida Division



# Dashboard – MAP-21



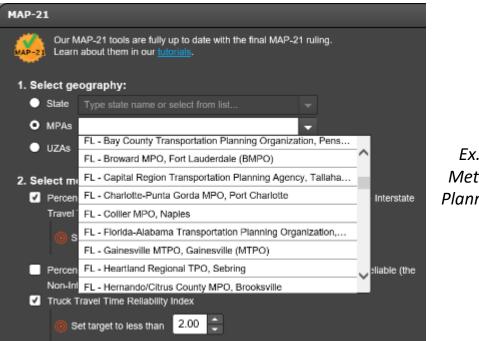
DASHBOARD Create your own personal dashboards to monitor corridor performance in regions of interest.

Tutorial Help

MAP-21
Our MAP-21 tools are fully up to date with the final MAP-21 ruling. MAP-21 Learn about them in our <u>tutorials</u> .
1. Select geography:
State Florida
MPAs FL - Lee County MPO, Fort Myers
O UZAs TampaSt. Petersburg (FL)
2. Select measures:
Percent of the Person-Miles Traveled on the Interstate That Are Reliable (the Interstate
Travel Time Reliability measure)
Set target to at least 70%
Percent of the Person-Miles Traveled on the Non-Interstate NHS That Are Reliable (the Non-Interstate NHS Travel Time Reliability measure)
Set target to at least 50% =
Truck Travel Time Reliability Index
Set target to less than
Annual Hours of Peak Hour Excessive Delay Per Capita
Set target to less than
State DOTs and MPOs may choose from two different evening peak periods.
Please choose one.
• 3pm - 7pm
4pm - 8pm  Provide and use your own volume data here
3. Select one or more years:
2018  Add time period
4. Show data as:
✓ Graph

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

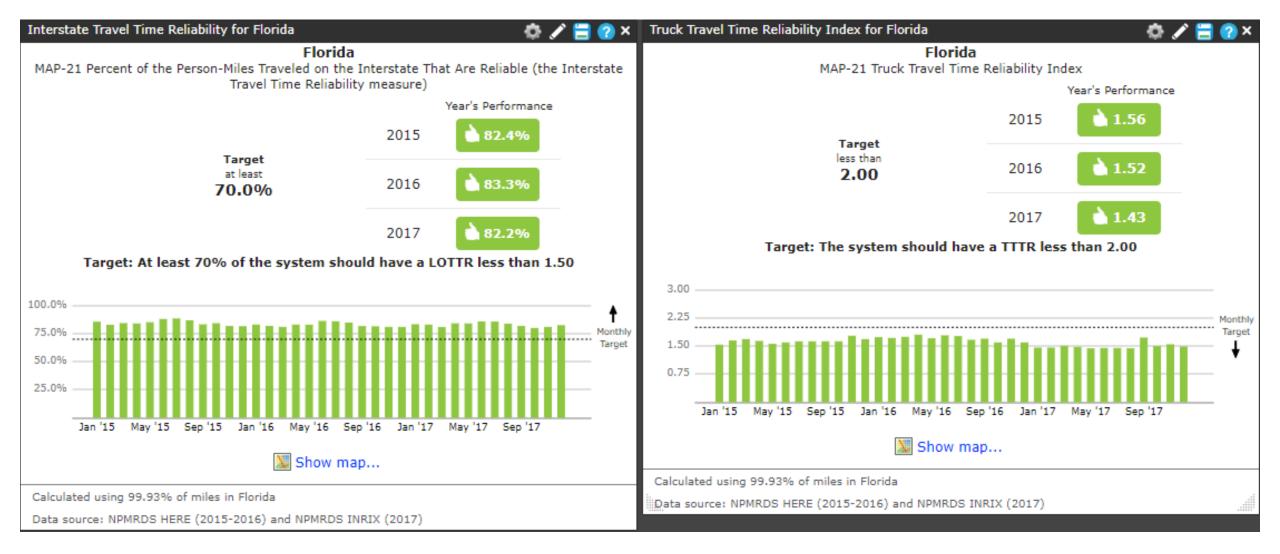
# (Examples)



DASHBOARD

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

Tutorial Help



# Dashboard – MAP-21 (Examples)

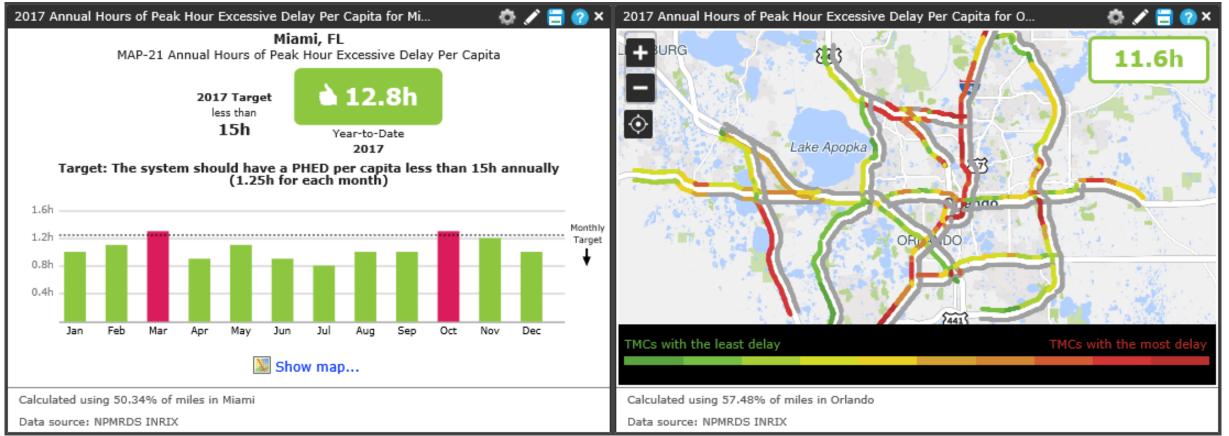


DASHBOARD

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 (Exan

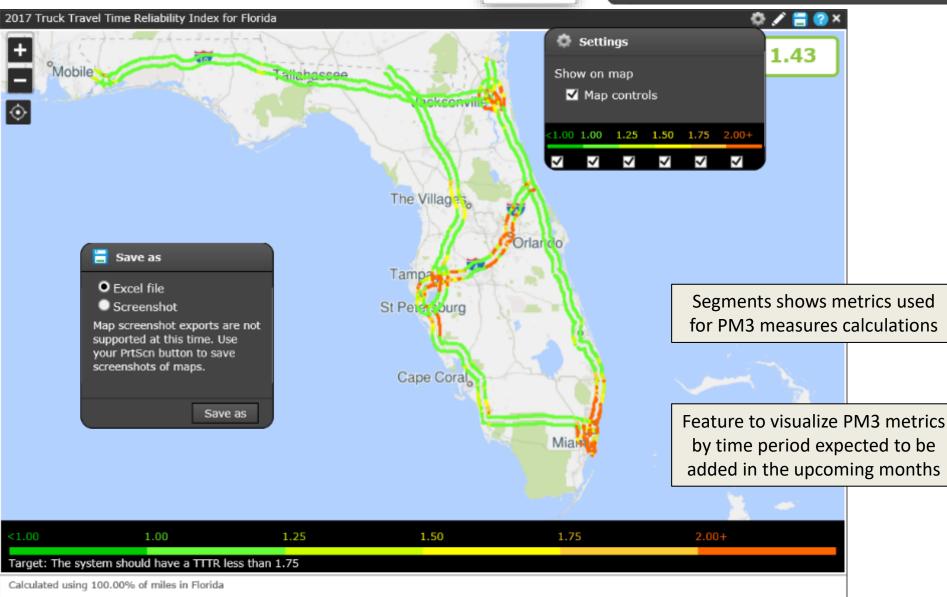
Data source: NPMRDS INRIX

# (Examples)



DASHBOARD

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



22

# Dashboard – MAP-21 (E

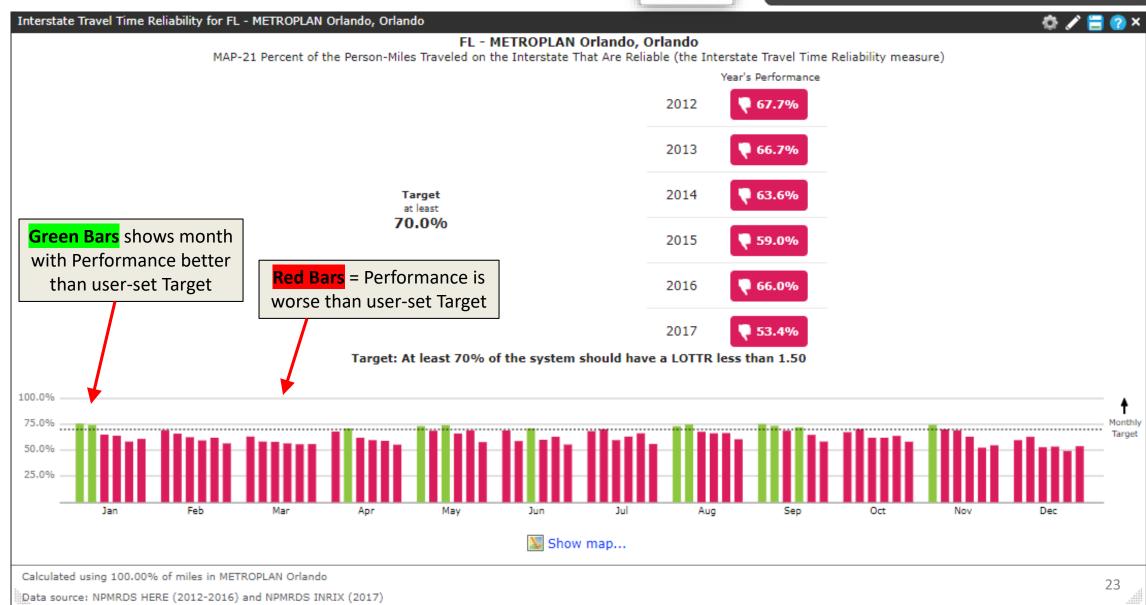
# (Examples)



<u>DASHBOARD</u>

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

Tutorial Help



# Dashboard – MAP-21 (Examples)



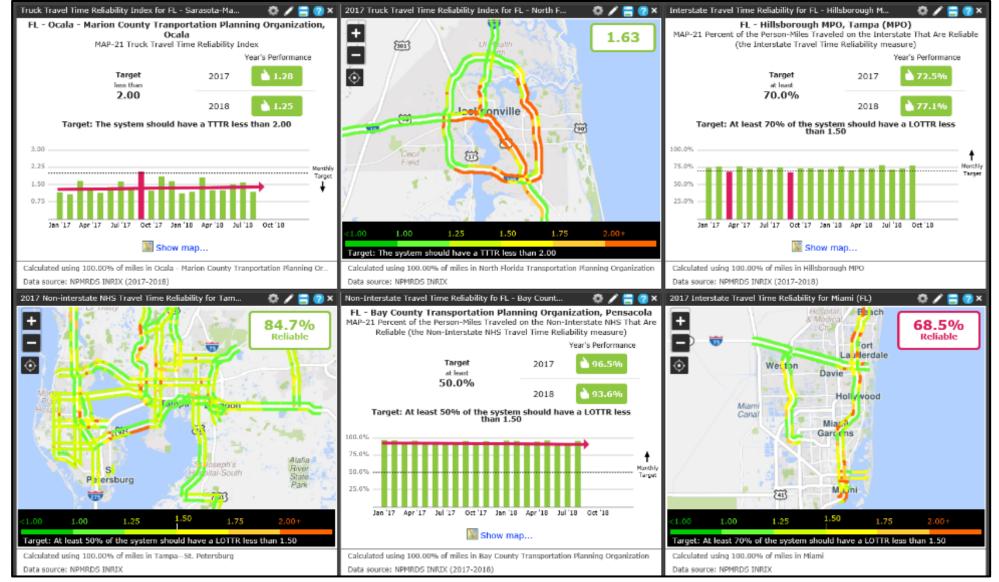
DASHBOARD

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

Tutorial Help

24

## Widgets can be arranged and resized to user preference



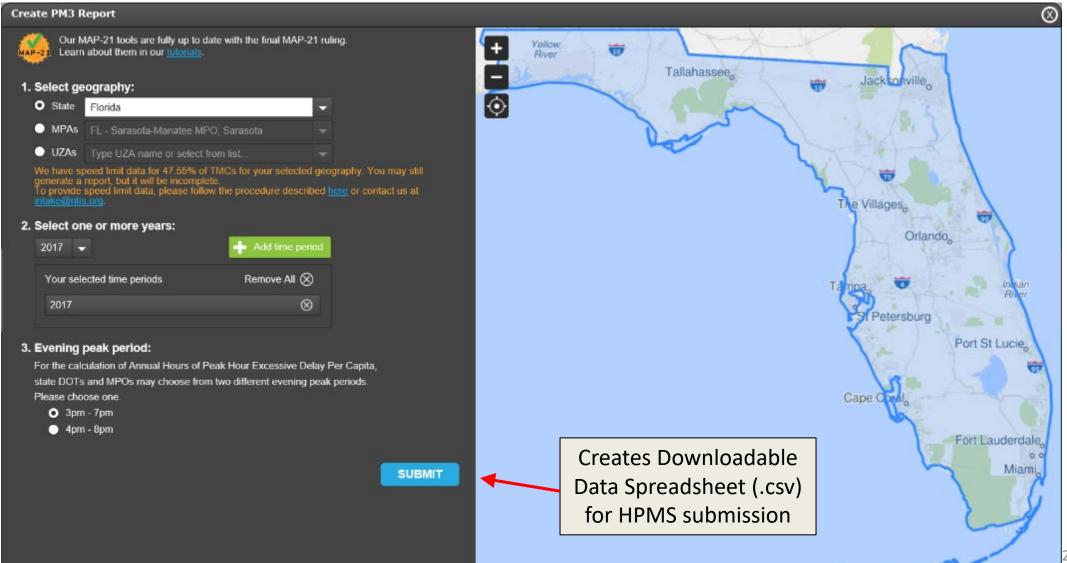
# **Dashboard – PM3 Report**

#### DASHBOARD Create your own

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

#### Tutorial Help

## PM3 Metrics for HPMS Reporting and Documentation





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



- 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**

Road.

HERE

Your selected roads

1.95 Northbound

I-95 Southbound

✓ Average Speed

Ourrent

 Historic Differential

3. Select data source:

O HERE

INRIX TomTom

**Interface for Creating this Widget:** 



DASHBOARD

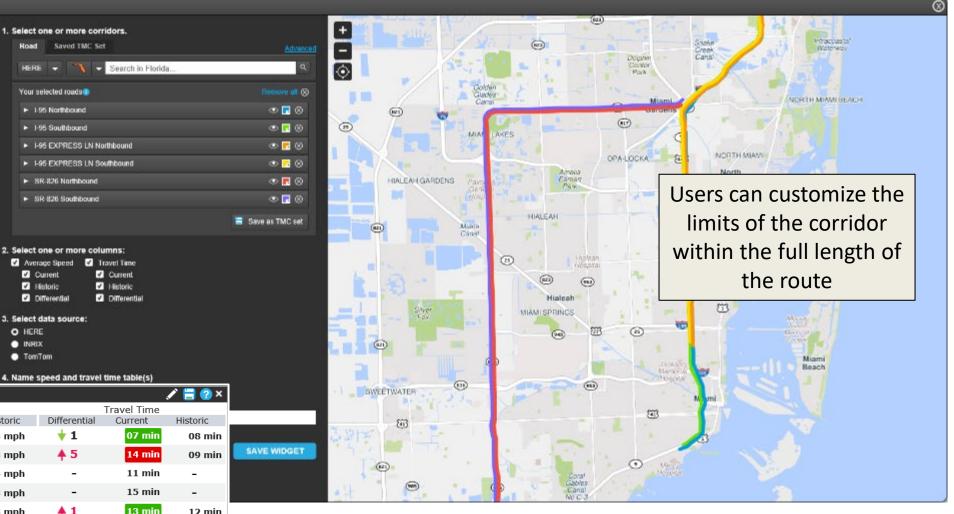
Create your own personal dashboards to monitor corridor performance in regions of interest.

Travel Time Speed

### **Speed and Travel Time Table**

### Widget:

Speed and Travel Time Table						🖍 🔚 🕜 ×
	A	verage Spee	d		Travel Time	
Corridor	Differential	Current	Historic	Differential	Current	Historic
I-95 NB	<b>4</b> 5	58 mph	53 mph	<b>† 1</b>	07 min	08 min
I-95 SB	<b>†</b> 19	<mark>34</mark> mph	53 mph	<b>∳</b> 5	14 min	09 min
I-95 EXPRESS LN NB	<b>†</b> 7	61 mph	54 mph	-	11 min	-
I-95 EXPRESS LN SB	<b>†</b> 9	44 mph	53 mph	-	15 min	-
SR-826 NB	<b>†</b> 2	51 mph	53 mph	<b>↓1</b>	13 min	12 min
SR-826 SB	🔶 13	40 mph	53 mph	<b>≜</b> 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**

1. Select roads:

Road

7 14

2. Add columns:

3. Select data source:

State

O HERE

INRIX

TomTom

Directions:

TMC segments from HERE -

.

Your selected roads

✓ Eastbound

Entire 
 Partial

Length

Interchanges: 75

Segments from HERE

Search in Florida.



#### DASHBOARD

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



### **Ranked Bottleneck Table**

### Widget:

	4.0	icolay the 2 Anathi	ast bottlenecks	
Rank	ed 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	ich
4	I-4 W @ COUNTY LINE RD/EXIT 15	2.76	1 hr 10 min	1
5	I-4 W @ I-275	2.54	37 min	SAVE WI
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	<u>4</u> 1.57	16 min	
8	I-4 E @ CONROY RD	1.09	15 min	
Usin	g HERE data	Updated Nov	5, 2018 7:31 AM (5s ago)	

### **Interface for Creating this Widget:**

Saved

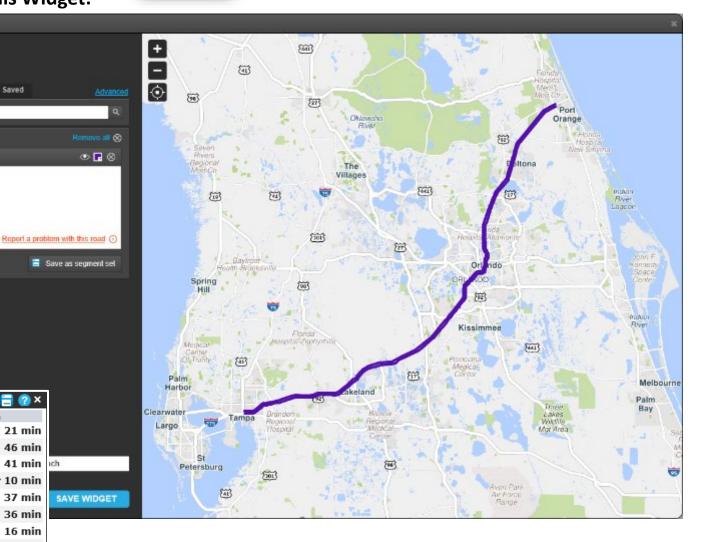
Map

Segment codes

✓ Westbound

Duration

264 miles of roadway selected (296 TMC codes) ()



# **Features for Florida Users**

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





# **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:**

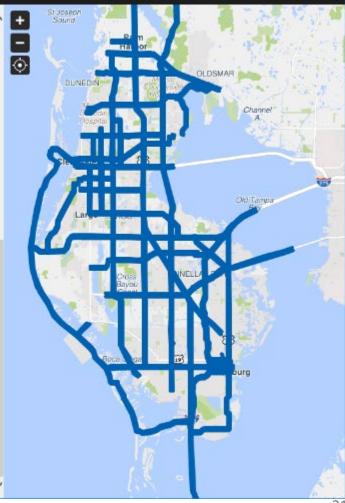
Trend Map   The Trend Map allows you to evolve oriented of maps showing changes in congestion over the source of time at vancus granularities. The maps can be exported to animated GEFs and KP4s. Select roads   TMC segments from   HERE   Road   Region   Segment codes   Map   Saved   States and countries   Pinelias, Florida   Directions:   All   Zip codes   Example:   20 codes   20 cocober   3 months   <	e Data Analytics		2 🚰 🎚 #1 🙀
ditime at various granularities. The maps can be exported to animisted GEs and MP4s. Select roads TMC segments from HERE ●   Road Region Segment codes Map Saved   States and counties Pinelias, Florida ●   Directione: Al ●   Zip codes Example: 20742,20904   Road Classes   Interstate and 5 others   ● Add region   Your selected roads   ● Roannee all ©   Select one or more time periods to analyze   Day(s) Month(s)   Year   Select a range of one or more months   2018 August   • - 10 - 2018   • October   Sinceths Create a single time period for this range Limit to specific days of weak	Trend Ma	p	
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States and counties Pinelias, Florida Directions Al Zip codes Example: 20742,20904 Road Classes Interstate and 5 others Add region Your selected roads Your selected roads Your selected roads Your selected roads Nemmer all & Interstates, US routes, state roules, parkways, lumpikes, and ex Select one or more time periods to analyze Day(s) Month(s) Year Select a range of one or more months 2018 August - 10 - 2018 October 3 months Create a single time period for this range Create a time period for each morth within this range Limit to specific days of weak	TMC segments from	HERE 👻	
Directions: All Zip codes Example: 20742,20904 Road Classes Interstate and 5 others Add region Your selected roads Your selected roads Your selected roads Networks, state routes, parkways, lumpikes, and ex Select one or more time periods to analyze Day(s) Month(s) Year Select a range of one or more months 2018 • August • - to - 2018 • October 3 months • Create a single time period for this range • Create a time period for each month within this range Limit to specific days of weak	Road Regio	n Segment codes Map	Saved
Zip codes Example: 20742,20904 Road Classes Interstate and 5 others Add region Your selected roads Remove all & Interstates, US routes, state routes, parkways, lumpikes, and ex © ? & Save as segment set Select one or more time periods to analyze Day(s) Month(s) Year Select a range of one or more months 2018 August - 10 - 2018 October 3 months Create a single time period for this range Create a time period for each month within this range Limit to specific days of weak	States and counti	es Pinellas, Florida	-
Road Classes Interstate and 5 others   Your selected roads Add region     Your selected roads Remove all &     Interstates, US routes, state routes, parkways, tumpikes, and ex     Interstates, US routes, state routes, parkways, tumpikes, and ex     Select one or more time periods to analyze     Day(s)   Month(s)   Year   Select a range of one or more months   2018   August   - to -   3 months   Create a single time period for this range   Create a time period for each month within this range   Limit to specific days of week	Directio	ns All	
Add region     Your selected roads     Nources, state routes, parkways, lumpikes, and ex     Remove all ⊗     Interstates, US routes, state routes, parkways, lumpikes, and ex     Select one or more time periods to analyze     Day(s) Month(s) Year  Select a range of one or more months     Day(s) Months     August - 10 - 2018 - October     3 months     Create a single time period for this range     Create a time period for this range     Limit to specific days of wesk	Zip cod	es Example: 20742,20904	
Your selected roads	Road Class	es Interstate and 5 others	-
Your selected roads			
Interstates, US routes, state routes, parkways, tumpikes, and ex			- Fride region
Select one or more time periods to analyze Day(s) Month(s) Year Select a range of one or more months 2018  August  - 10 - 2018  October  3 months Create a single time period for this range Create a time period for this range Limit to specific days of wesk	Your selected roa	ds 🕕	Remove all ⊗
Select one or more time periods to analyze     Day(s) Month(s) Year     Select a range of one or more months     2018   August   - 10 - 2018   October        3 months     Create a single time period for this range     Create a time period for this range     Limit to specific days of wesk	Interstates, US r	outes, state routes, parkways, tumpił	kes, and ex 💿 🖪 🛞
Day(s)     Month(s)     Year       Select a range of one or more months       2018     August     - to -       2018     August     - to -       3 months       • Create a single time period for this range       • Create a time period for each month within this range       Limit to specific days of week			📑 Save as segment set
Day(s)     Month(s)     Year       Select a range of one or more months       2018     August     - to -       2018     August     - to -       3 months       • Create a single time period for this range       • Create a time period for each month within this range       Limit to specific days of week			
Select a range of one or more months         2018       August       - to -       2018       October       •         3 months       •			
2018       August       - to -       2018       October       •         3 months       •       Create a single time period for this range       • <td></td> <td></td> <td></td>			
3 months  Create a single time period for this range  Create a time period for each month within this range Limit to specific days of week			10 - October -
<ul> <li>Create a single time period for this range</li> <li>Create a time period for each month within this range</li> <li>Limit to specific days of week</li> </ul>	2018 👻	August 🗢 - 10 - 201	
Create a time period for each month within this range Limit to specific days of week	3 months		
Limit to specific days of week			
			98

O Create a time period for each month within this range Limit to specific days of week Sun Mion Tue Wed Thu Fri Set	+ Add line periods	↑ <b>+</b> Stute <b>-</b> ()
Your selected time periods	Remove All 🛞	li li
August 2018	8	
Every weekday		
September 2018 Every weekday	8	9
October 2018 Every weekday		
HERE INRIX <sup>1</sup> 2 NPMRDS from INRIX (Passenger vehicles) <sup>2</sup> NPMRDS from INRIX (Trucks and passenger vehicles) <sup>2</sup> NPMRDS from INRIX (Trucks) <sup>2</sup> NPMRDS from HERE (Passenger vehicles) <sup>2</sup> NPMRDS from HERE (Trucks and passenger vehicles) <sup>2</sup> NPMRDS from HERE (Trucks) <sup>2</sup> TomTom <sup>2</sup>		
elect granularity		
1 minute 💮		
5 minutes		
10 minutes		
15 minutes		
1 hour		

3. S

4. 5

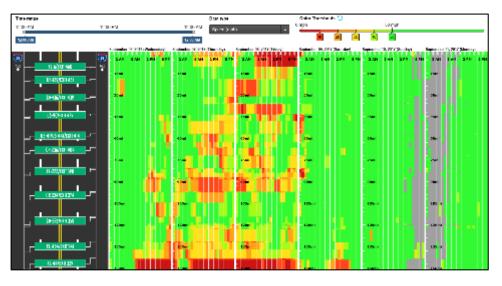
My History | Help | Tutorials | Logout

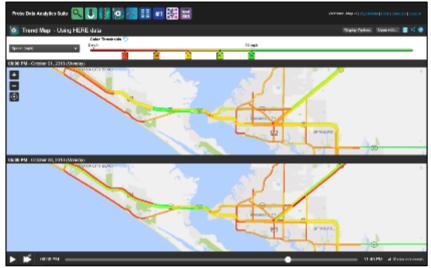


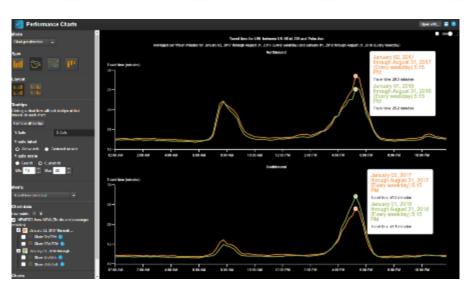
Welcome

# **Deep Dive Data Analytics**

### **Analysis Output Examples:**









# **Deep Dive – Congestion Scan**

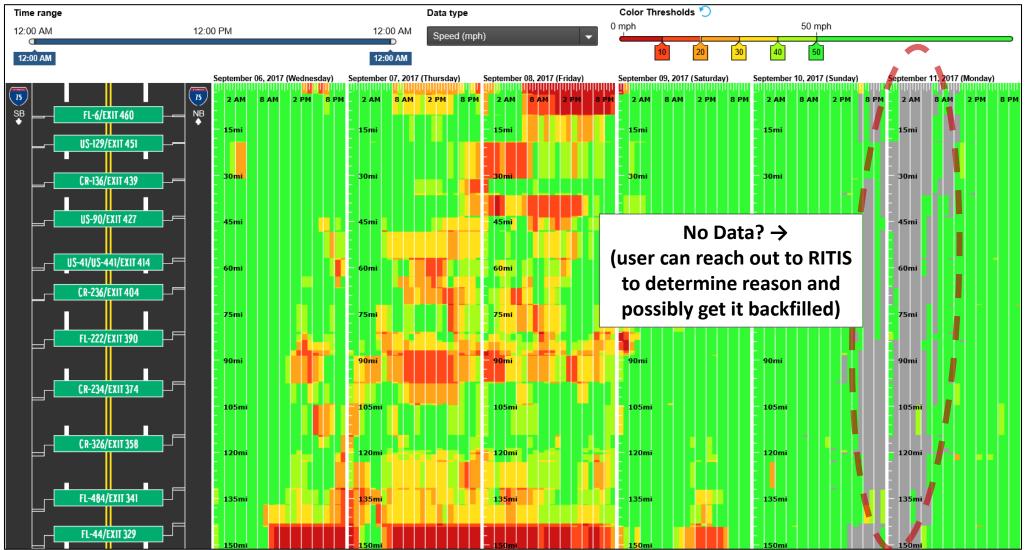


Analyze the rise and fail of congested conditions on a stretch of road.

**CONGESTION SCAN** 

Tutorial Help History

## I-75 Hurricane Irma Evacuation (Sept. 2017)

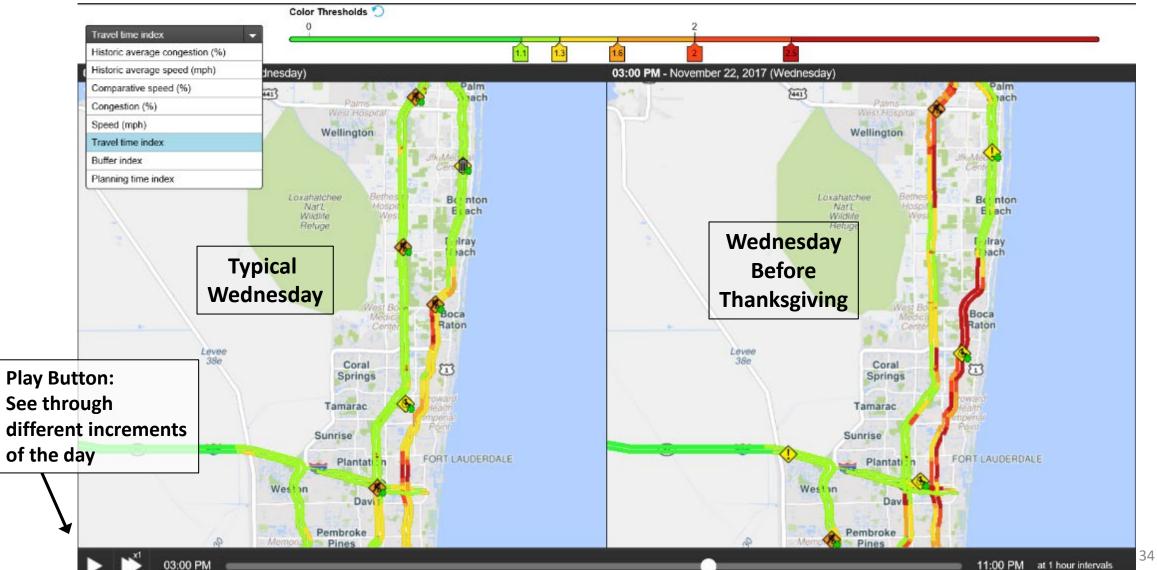


# **Deep Dive – Trend Map**

TREND MAP Create animated maps of roadway conditions.

Tutorial Help History

### Holiday Rush: Thanksgiving Day



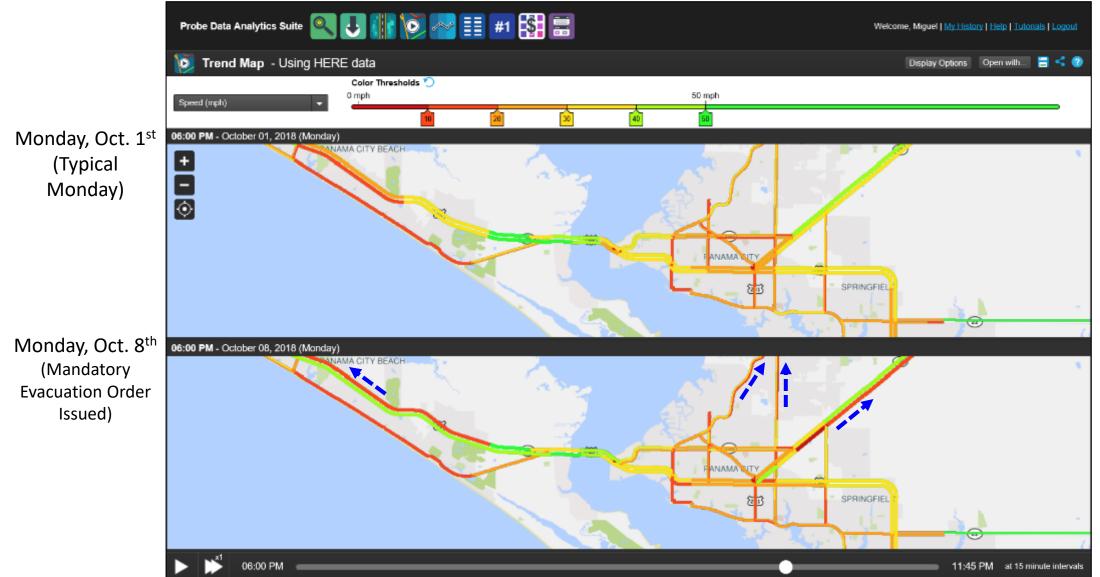
# **Deep Dive – Trend Map**



TREND MAP Create animated maps of roadway conditions.

Tutorial Help History

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



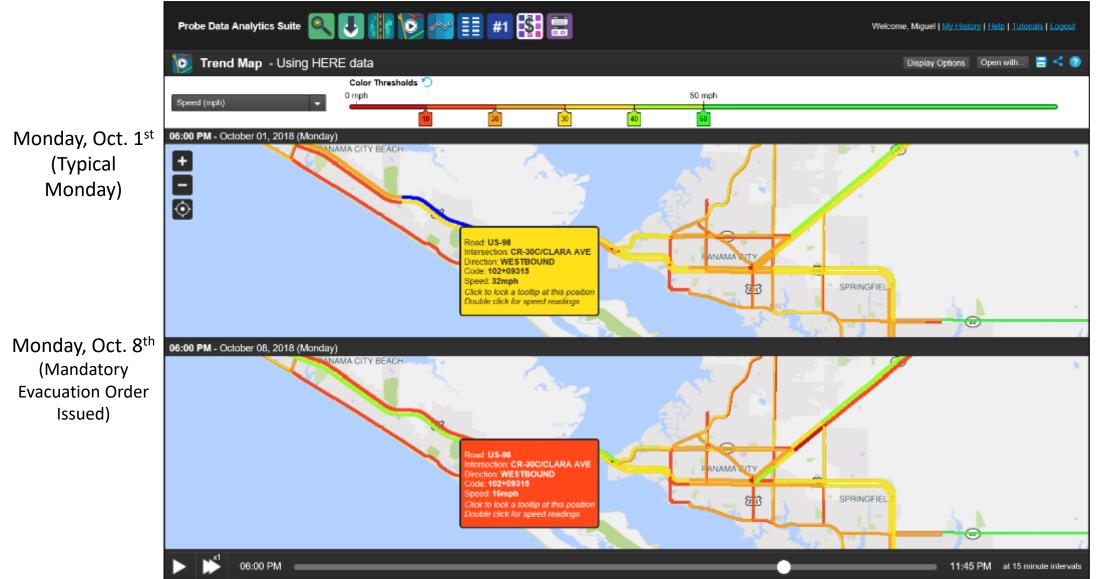
# **Deep Dive – Trend Map**



TREND MAP Create animated maps of roadway conditions.

Tutorial Help History

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



36

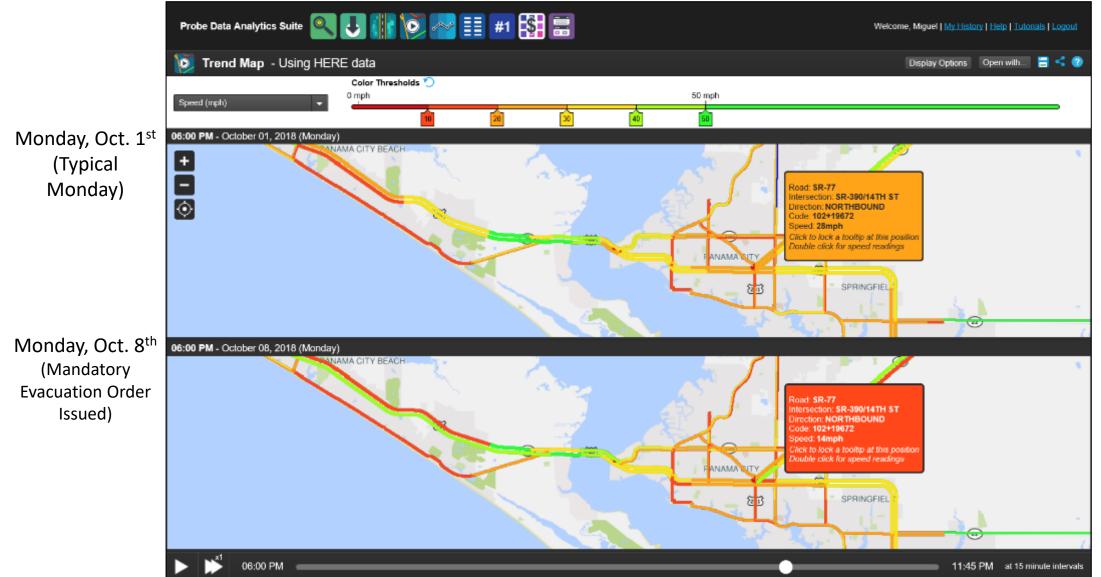
# **Deep Dive – Trend Map**



TREND MAP Create animated maps of roadway conditions.

Tutorial Help History

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



37

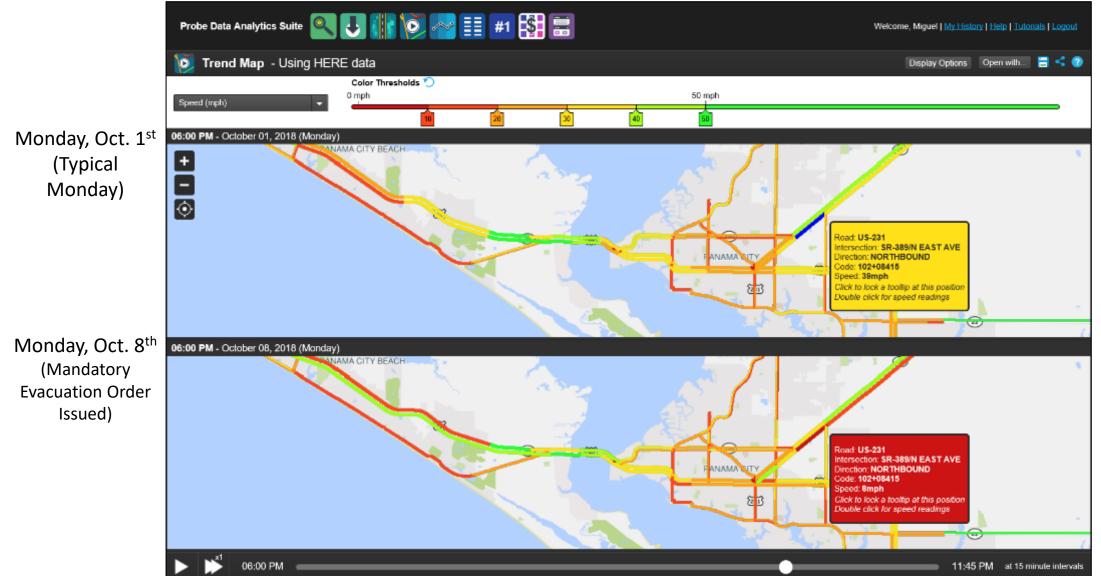
# **Deep Dive – Trend Map**



TREND MAP Create animated maps of roadway conditions.

Tutorial Help History

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



38

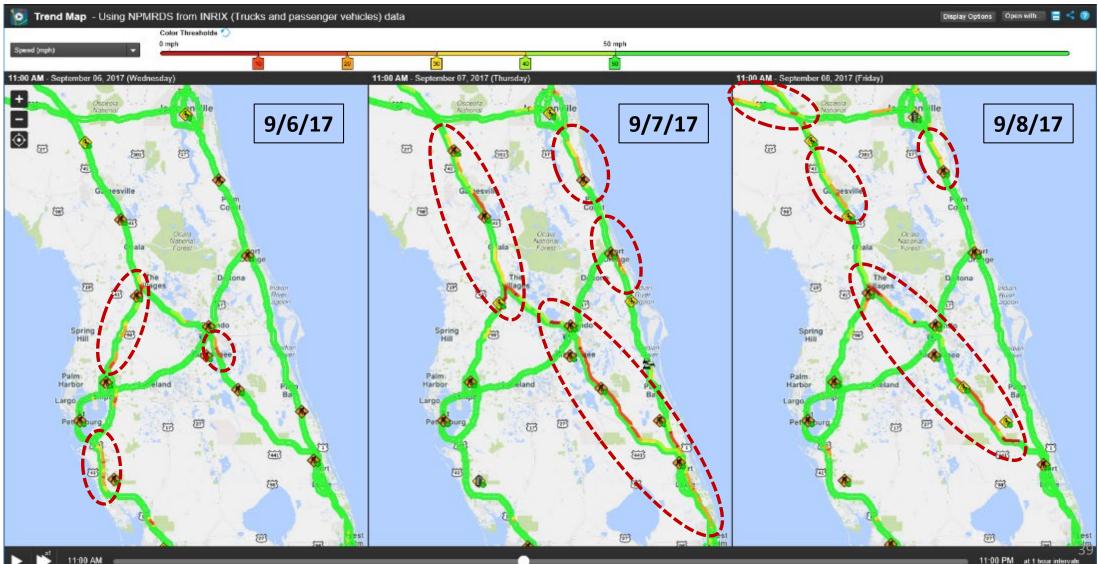
# **Deep Dive – Trend Map**



TREND MAP Create animated maps of roadway conditions.

Tutorial Help History

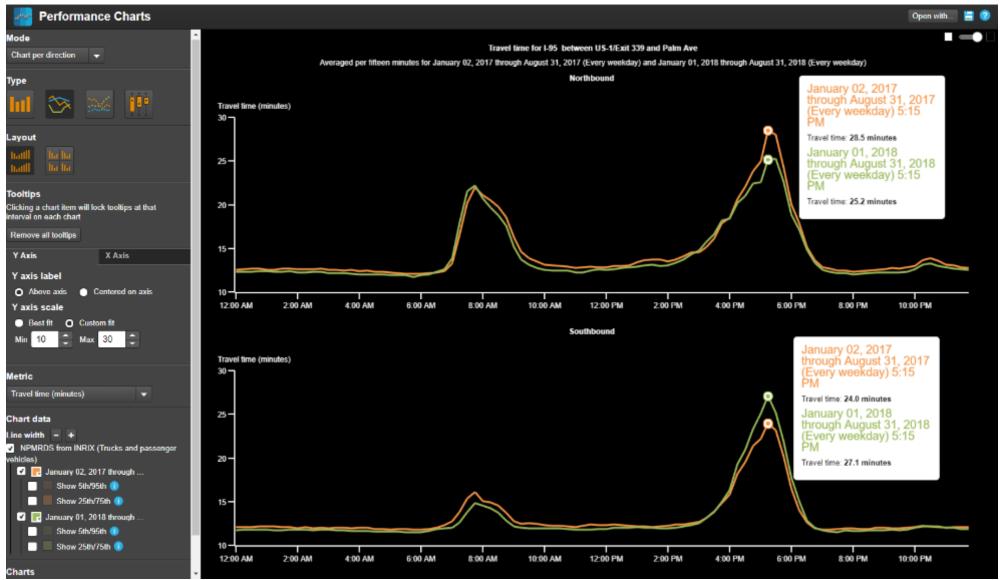
#### Hurricane Irma Evacuation (Sept. 6-8, 2017 @ 11:00 AM), Interstates & FL Turnpike



# **Deep Dive – Performance Charts**

Chart performance metrics over time.

#### Comparing year-to-year change



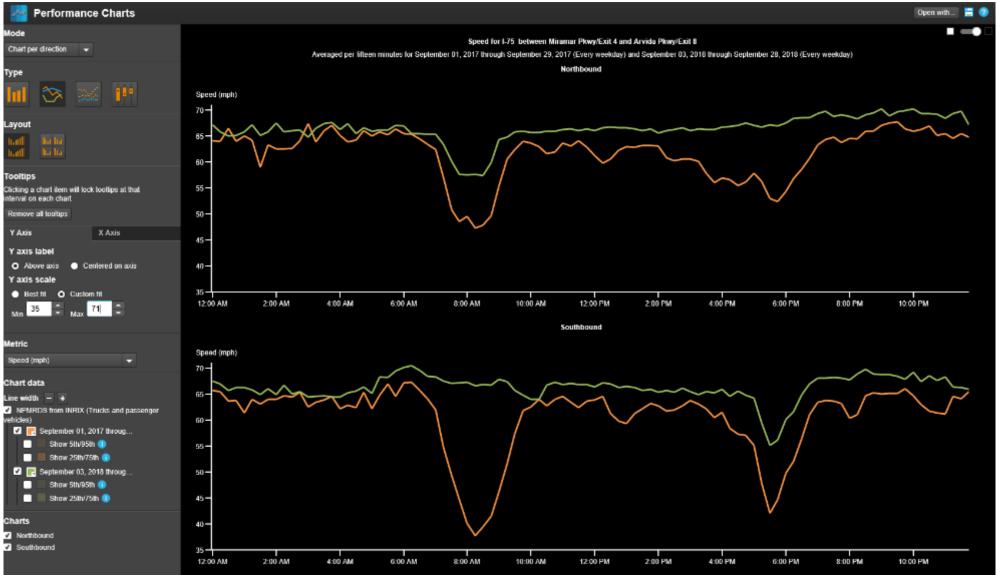
# **Deep Dive – Performance Charts**



Tutorial Help History

41

#### 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

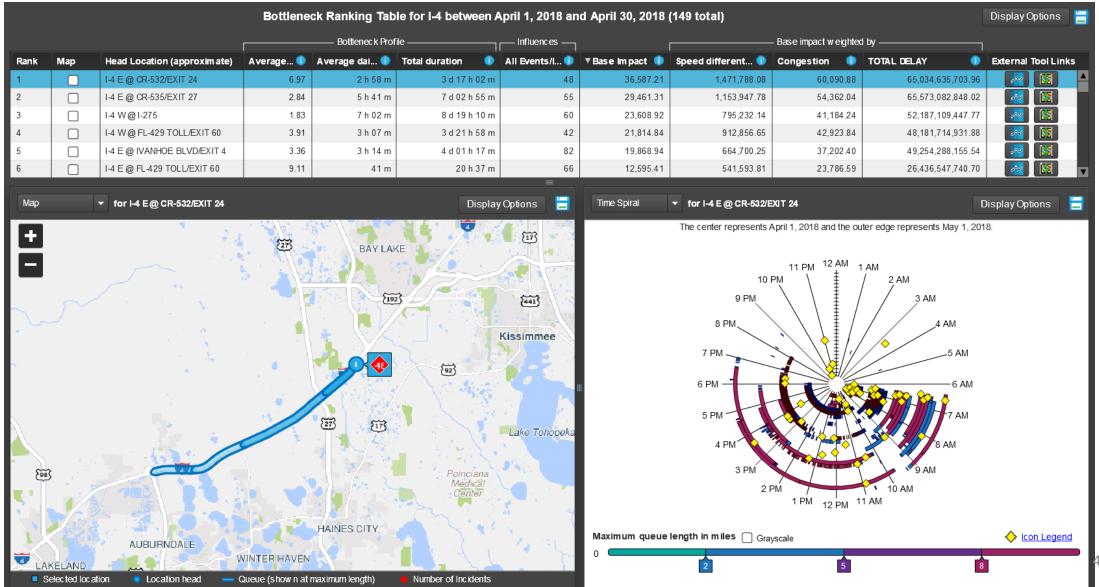
	Performan	nce Summa	iries						Open with 📙
April 20	18 Northboun	d April 2018	Southbound						
			I-95 between I-95 EXP a	nd 151St St/Exit	11 Southbound using NPMR	DS from INRIX (Trucks a	nd passenger vehicles) d	ata	
					April 2018				
		Speed (mph)	Buffer time (minutes)	Buffer index	Planning time (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 – Bottleneck Ranking**



Rank bottlenecks and discover which ones have the greatest impact.

#### At a region or corridor, for a specified timeframe



# **Deep Dive – Region Explorer**

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



Explore the relationships between bottlenecks and traffic events in real-time and in the past.

Data Source

HERE Data

Bottlenecks

Traffic events

35%

Speed Data

speed

Congestion

< 25%

< 25%

< 25%

O Raw speed

The raw measured speed

Comparative speed

Historic average congestion

Show

🔆 💽 🐧 Display options

✓ Weather ← Doppler Radar

Measured speed as a percent of the free flow

25%-55% 55%-75%

< 15 mph 15 - 25 mph 25 - 50 mph > 50 mph

average speed for this time of day and day of week

25%-55% 55%-75%

The ratio of the historic average speed for this time

25%-55% 55%-75%

of day and day of week to the free flow speed

Measured speed as a percentage of the historic

> 75%

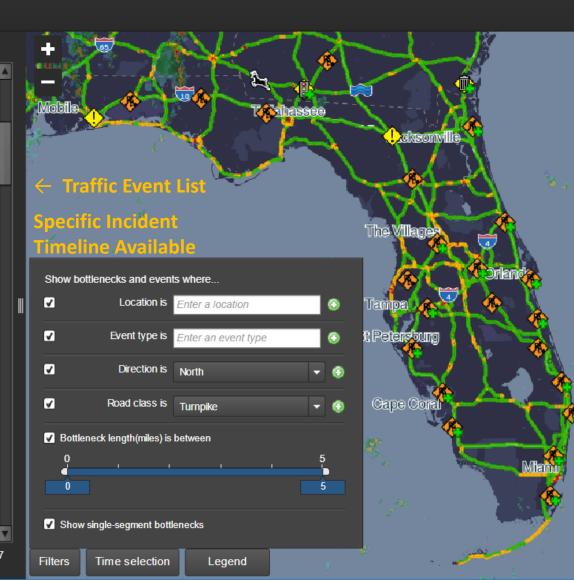
> 75%

> 75%

Opacity

#### Region Explorer

Bottleneck and events table Display options Southbound on US301 at 63rd Avenue East with All lanes t Northbound on I-75 before Exit 138 - MLK Jr. Blvd. (SR 82) Southbound on I-75 rampTo Exit 161 - North Jones Loop Re Eastbound on SR-80 / Palm Beach Blvd beyond Ortiz Ave v Southbound on I-75 before Exit 164 - US-17 (Duncan Rd) v Southbound on I-75 at Mile Marker 121 with Right shoulder Southbound on I-75 rampTo Exit 101 - Collier Blvd. (CR 95' Southbound on I-75 before Exit 101 - Collier Blvd. (CR 951) Southbound on I-75 rampTo Exit 138 - MLK Jr. Blvd. (SR 82 Northbound on I-75 beyond Exit 220 - SR 64 with Right sho Southbound on I-295 E at North End of Dames Point Bridge Southbound on I-95 at I-295 with Left lane blocked Northbound on I-75 at MM 392 with Right lane blocked Northbound on I-75 rampFrom I-10 WB Eastbound on I-10 at MM 115 with Right shoulder blocked Eastbound on I-10 at MM 177 with Right shoulder blocked Westbound on I-10 rampTo Exit 12 / I-110 RAMP F2 Eastbound on I-10 at MM 49 with Left lane blocked Southbound on I-95 at Exit 96: Bridge Rd Southbound on I-95 at Exit 64: 10th Ave N with Right should Southbound on I-75 beyond Exit 13A: Griffin Rd E Southbound on I-95 rampTo Exit 74: CR-702/ 45th St Southbound on LQ5 ramnErom Evit &78. SD 706/ Indiantou Loading real-time bottlenecks and traffic events... There are 157 events.

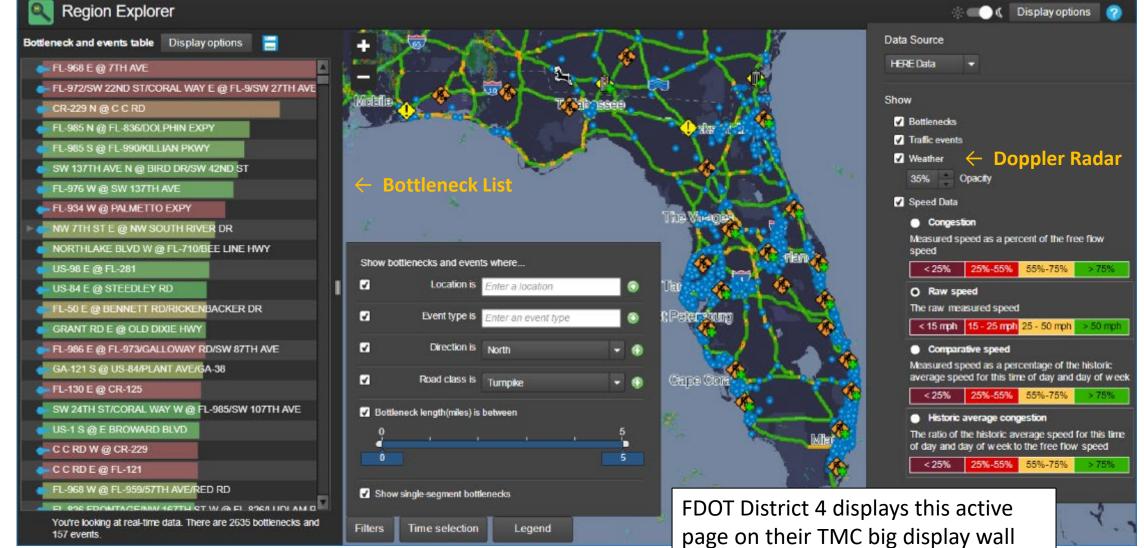


# **Deep Dive – Region Explorer**



Explore the relationships between bottlenecks and traffic events in real-time and in the past.

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



# **Deep Dive – Region Explorer - Event Timeline**

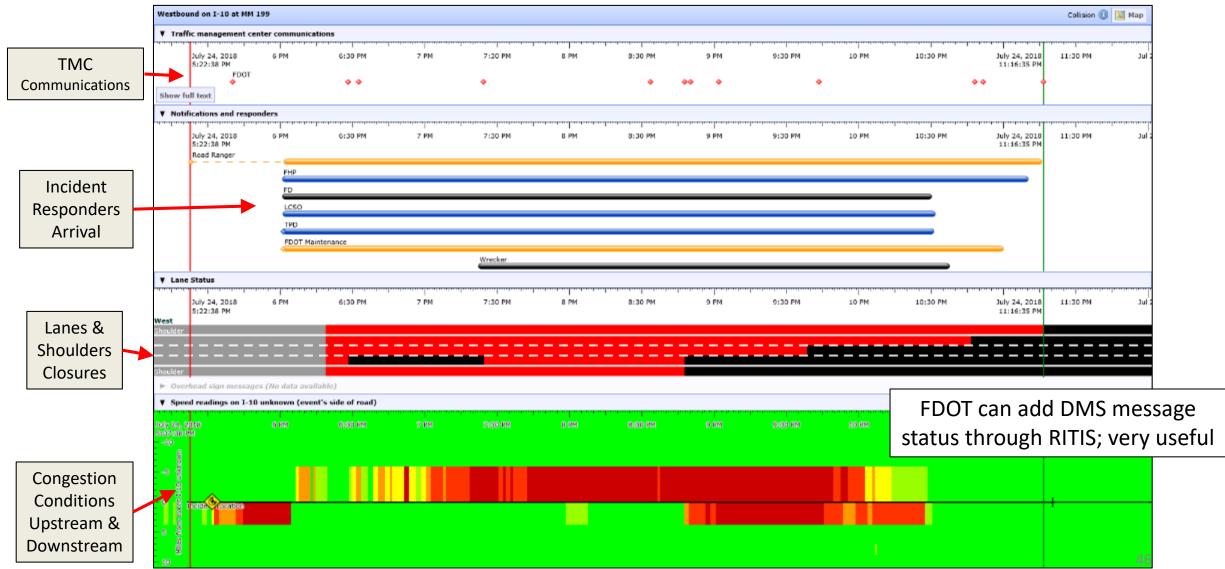


Explore the relationships between bottlenecks and traffic events in real-time and in the past.

**REGION EXPLORER** 

#### utorial Help

#### Information on incident events, from reporting to clearance



# **Deep Dive – User Delay Cost**



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

Tutorial Help History

#### Impact of Delay on Users

nday, J icle Type	D	), 2018 isplay Total cost			une 30 Leg	end V	Neekdays	Highe	est	Lowest	Wee	ekends	Highest	N	o data				De	Defi elay	ne y Thre	our ( shol	ues o own ds ar Costs	nd	
I		Cost per V Person-ho		av									l Cost												
6/10/18	TZ AM	/ehicle-ho			4 AM \$0.9K	5 AM \$0.5K	6 AM \$0.7K	7 AM \$6.4K	8 AM \$0.8K	9 AM \$1.3K	10 AM \$1.9K	11 AM \$1.9K	12 PM \$2.3K	1 PM \$1.7K	2 PM \$0.7K	3 PM \$1.2K	4 PM \$4.2K	5 PM \$4.7K	6 PM \$0.3K	7 PM \$1.9K	8 PM \$2.5K	9 PM \$1.6K	10 PM \$2.6K	11 PM \$0.7K	Daily Totals \$42.1K
6/11/18	φ1.JK	/ehicle mi				\$1.7K	\$0.7K	\$30.4K	\$0.6K	\$11.9K	\$1.5K	\$1.5K	\$2.3K	\$1.7K	\$0.7K	\$12.7K	\$4.2K	\$48.8K	\$19.3K	\$1.5K	\$2.5K	\$0.9K	\$2.0K	\$2.3K	\$42.1K \$219.3K
/12/18		Delay per		(	\$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
/13/18		Coverage			\$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
/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
/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
/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
/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
/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.:	unc	hine		/way E
/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					
/20/18		\$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	\$1	.ane	Clo	sure	. Impa
/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.			<b>25 0</b> %	
/22/18 /23/18	\$0.4K \$1.3K	\$0.6K \$0.4K	\$2.9K \$0.7K	\$0.3K \$0.7K	\$1.1K \$0.6K	\$0.6K \$1K	\$2.4K \$1.5K	\$9.5K \$0.6K	\$8.7K \$0.4K	\$10.5K \$0.9K	\$11.5K \$1.2K	\$6.2K \$1.6K	\$7.1K \$6.4K	\$7K \$20.3K	\$10.7K \$34.3K	\$33.1K \$31.8K	\$105.4K \$23.8K	\$103.2K \$11.1K	\$53.9K \$7.4K	Delay		<u>June 22,</u>	2018 6:0	<u>0 PM</u>	5404.3K 5194.1K
/24/18	\$1.4K	\$0.7K	\$0.7K	\$0.4K	\$0.4K	\$0.4K	\$0.4K	\$0.6K	\$3.4K	\$1.1K	\$1.2K	\$11.5K	\$18.5K	\$12K	\$11.9K	\$15.4K	\$15.7K	\$28.1K	\$28.9K		al: \$53,86 VMT: \$0.2				\$188K
/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	e Per	of delay: son-hours	: 2,185h			5222.1K
/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	Vehicl	icle-hours e miles tr	aveled (			\$247K
/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	Pas	al: 238,38 senger: 2	14,546 mi			\$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	Delay	nmercial: per VMT:	0.449 mi			\$401.8K
/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	Click th	alidity: 9 ne table ce	9.37% Il to see l	inks to cor	gestion so	cans 281.1K
/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
urly 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

#### Contents

- Overview of Data Analytics Tool
- How to Gain Access to the Tool
- Features for Florida Users

# Data Downloader

- Data Downloader
- Help & Tutorials
- Contacts for further Support

#### **Massive Data Downloader**

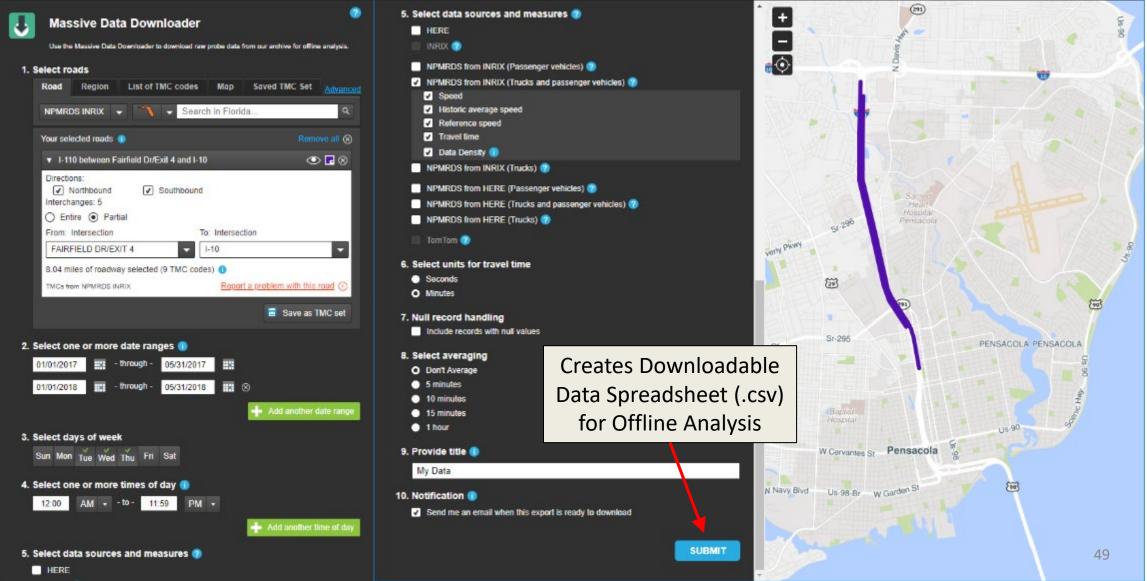


MASSIVE DATA DOWNLOADER

Download raw probe data from our archive for offline analysis.

Tutorial Help History

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



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# Help & Tutorials

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# **Help and Tutorials**





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

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

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

ools
electing Roads
tegion Explorer
<u>Filters</u>
Time Selection
Raw Speed Readings
Displaying Bottlenecks
lassive Data Downloader
Submitting export requests
Results format
Congestion Scan
Submitting queries
▼ <u>Results format</u>
<u>Road Display</u>
Icon Locations
<u>Display Plot</u>
rend Map
<u>Exports</u>
erformance Charts
erformance Summaries
ottleneck Ranking
speed Threshold Breakdown
<u>Chart</u>
Table

#### User Delay Cost Analysis

User Delay Cost Report Parameters

#### <u>Costs</u>

Percent of Commercial and

Passenger Vehicles

Defining Where Delay Should be

Calculated

Define What to Calculate Delay

<u>Against</u>

Volume Data Providers

How User Delay Cost is Calculated

Using AADT Counts

<u>Limiting Volumes</u>

Applying Vehicle Percentages

Vehicle-Miles of Travel

Travel Delay

<u>Delay Cost</u>

UDC Report Totals

Hourly Volume Distribution Charts

Calculating Cost with Vehicle Miles

Traveled (VMT)

User Delay Cost Warnings

▼ <u>Dashboard</u>

Speed and Travel Time Table

<u>Ranked Bottleneck Table</u>

▼ <u>MAP-21</u>

Parameters and Calculations

<u>My History</u>

For help with the data analytics tool: <a href="mailto:support@ritis.org">support@ritis.org</a>

For information on NPMRDS: <u>https://ops.fhwa.dot.gov/perf\_measurement/index.htm</u> For help with Data Sharing Agreement: <u>npmrds@ritis.org</u> (for NPMRDS data set) For Non-FDOT user-access help: <u>christine.shafik@dot.state.fl.us</u> (for other PDA data sets)

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

FDOT TPM PM3 Implementation points of contact: <u>Jessica.VanDenBogaert@dot.state.fl.us</u>, <u>Mark.Reichert@dot.state.fl.us</u> (FDOT Central Office) <u>Frank.Corrado@dot.gov</u> (FHWA Florida Division)

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

# **Probe Data / NPMRDS Analytics**



(revised by FHWA Division for Florida)

# FDOT



**Questions?** 



INRIX

Maryland

Show map.

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