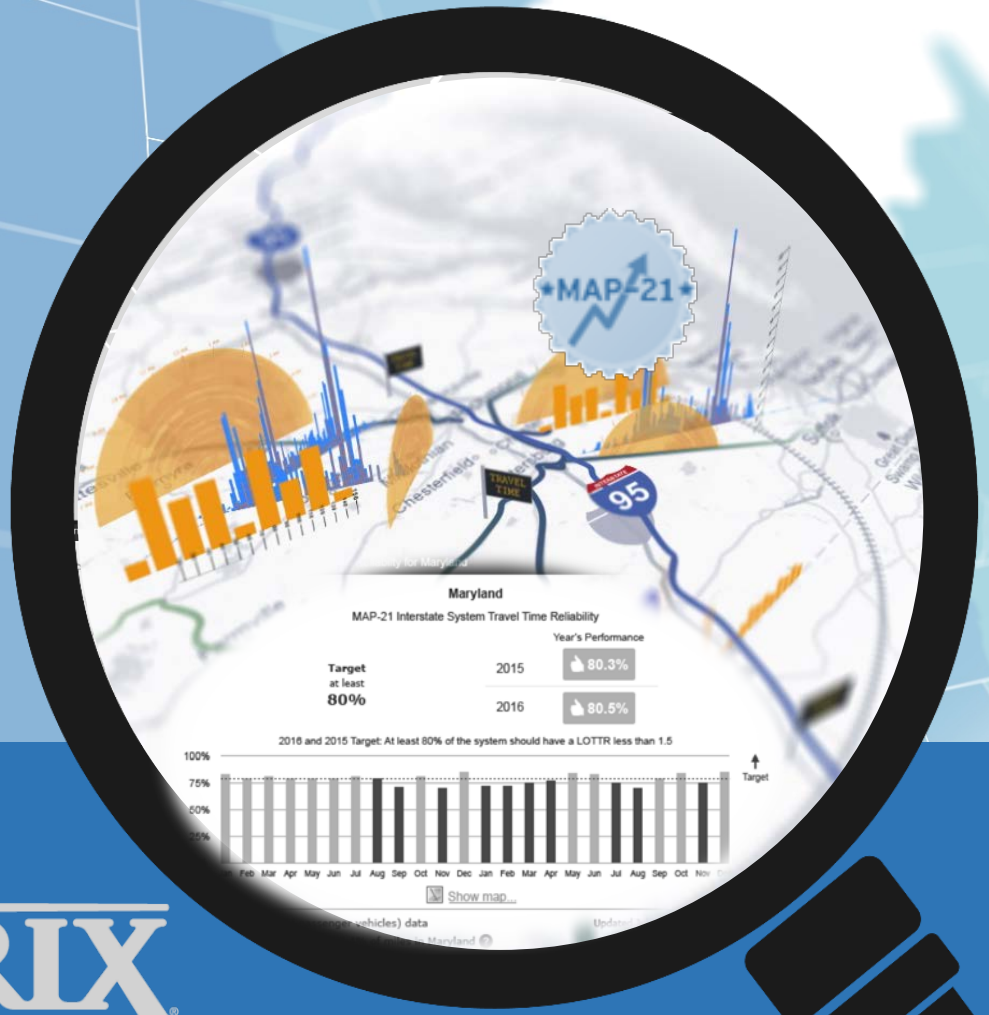
MAP-21 PM3 Reporting & Analysis

AASHTO TPM Pooled Fund Study

Tools & Data Overview



Texas Transportation Institute

CATT LABORATORY

THE CENTER FOR ADVANCED TRANSPORTATION TECHNOLOGY UNIVERSITY OF MARYLAND

INRIX

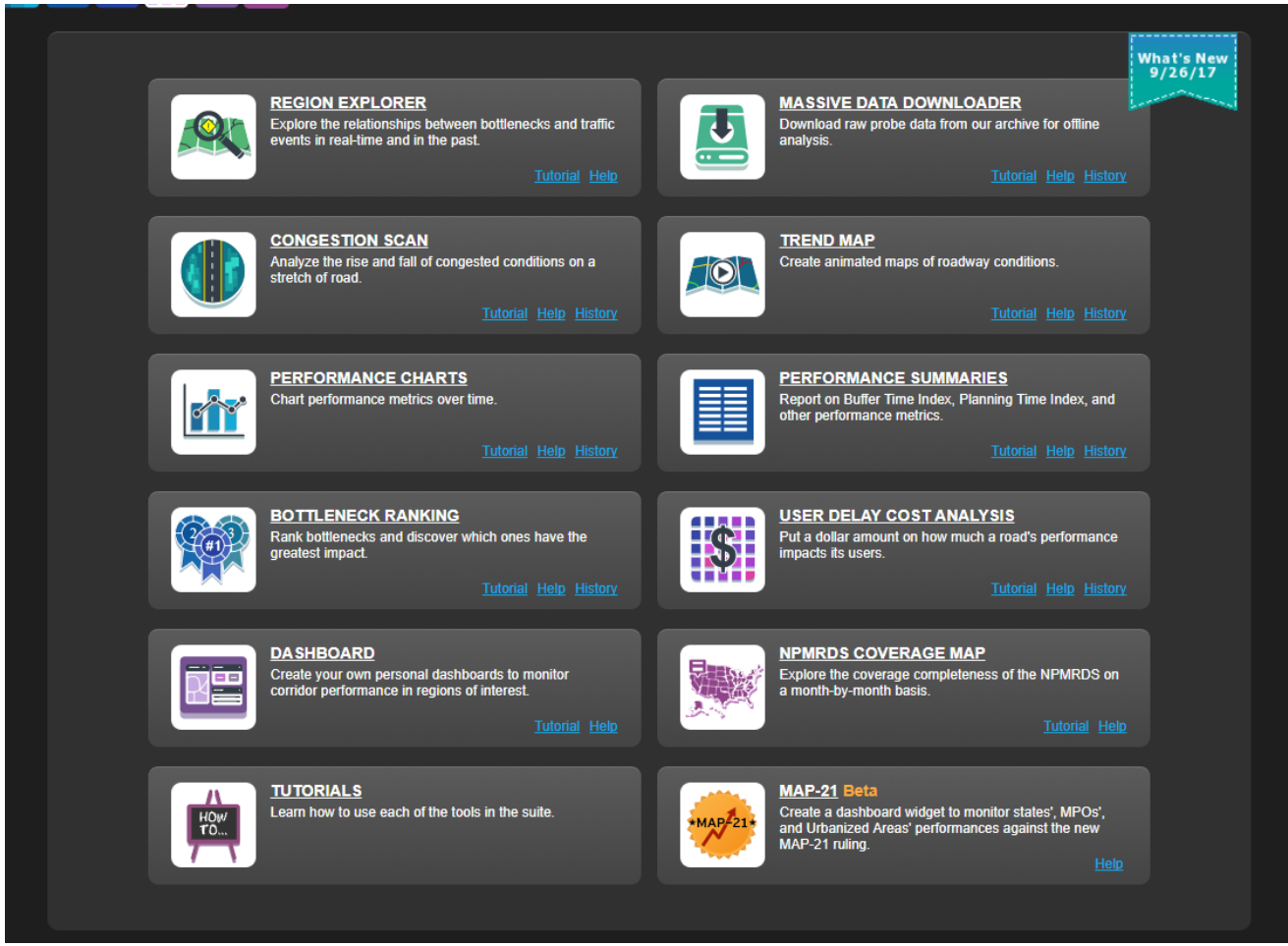
Our Team

- Current NPMRDS provider
- AASHTO MAP-21 Analysis
- FHWA Early MAP-21 Analysis

Competitive Procurement with AASHTO

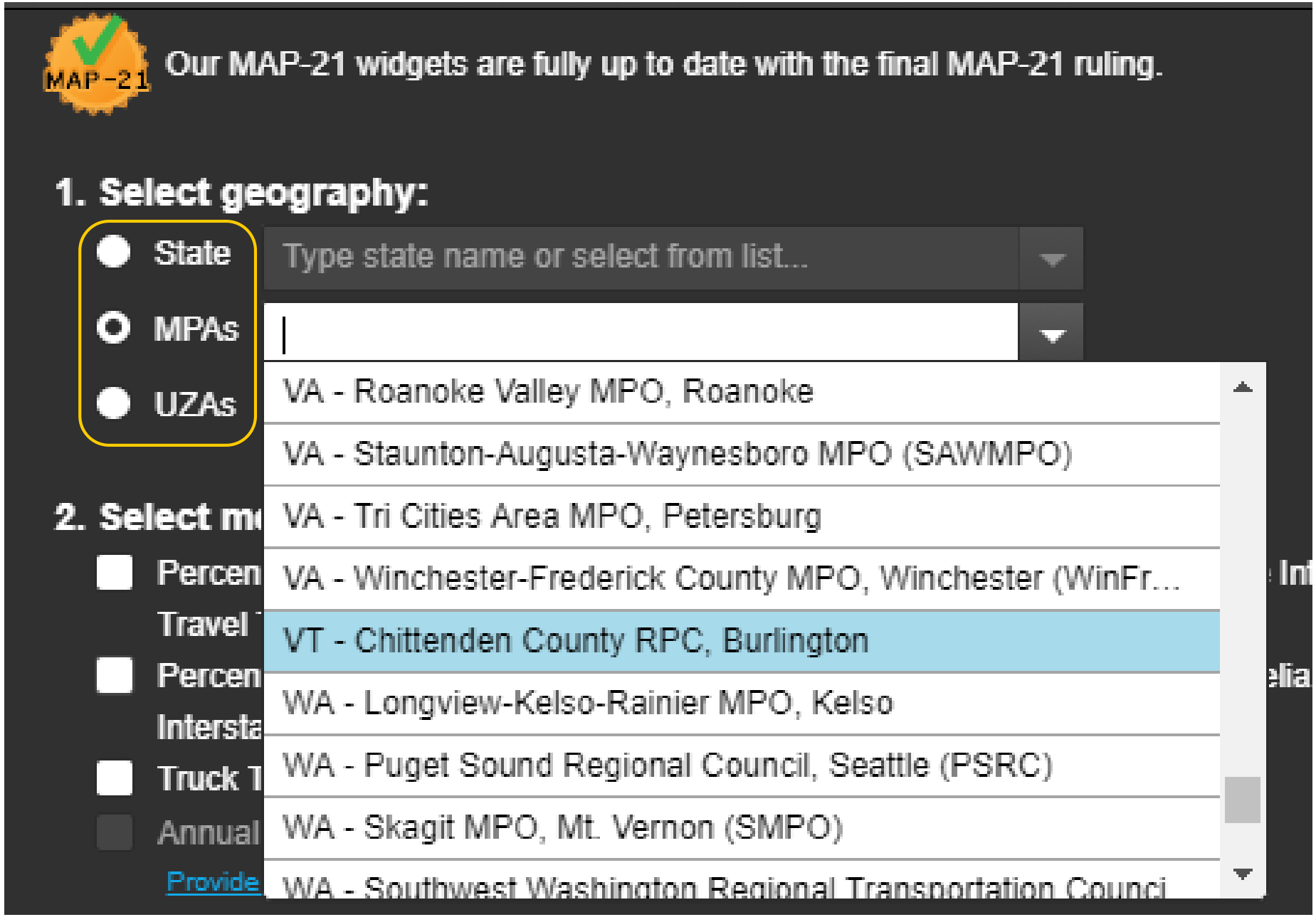
- Tools & Tech Support
  - MAP-21 reporting tools including:
  - Additional Tools for deep-dive analytics

- Additional INRIX NPMRDS v2.0 Data
  - Jan 2016 – Jan. 2017
  - Beyond the NHS (all TMCs) data set



Tools (Part 1)

- **MAP-21 PM3 Analytics** that includes:
  - Immediate access to PM3 MAP-21 tools--including the capabilities to compute, visualize, and download all of the MAP-21 PM3 Metrics and sub-metric data as required to be reported by FHWA
  - Agency speed-limit data integration
  - Trend-line capabilities in the tools to help agencies more easily address target-setting requirements
  - An "easy button" functionality that will allow agencies to immediately create all of the necessary files and deliverables to FHWA (pending the final format release)
  - Full technical support, including training webinars, web-based FAQ with "how-to" videos, and one-on-one agency-specific technical help
  - No restrictions on the number of users from each agency (or partner MPOs, Universities, etc.)


MAP-21
Our MAP-21 widgets are fully up to date with the final MAP-21 ruling.
1. Select geography:
State
MPAs
UZAs
Type state name or select from list...
VA - Roanoke Valley MPO, Roanoke
VA - Staunton-Augusta-Waynesboro MPO (SAWMPO)
VA - Tri Cities Area MPO, Petersburg
VA - Winchester-Frederick County MPO, Winchester (WinFr...
VT - Chittenden County RPC, Burlington
WA - Longview-Kelso-Rainier MPO, Kelso
WA - Puget Sound Regional Council, Seattle (PSRC)
WA - Skagit MPO, Mt. Vernon (SMPO)
WA - Southwest Washington Regional Transportation Counci
2. Select me
Percen
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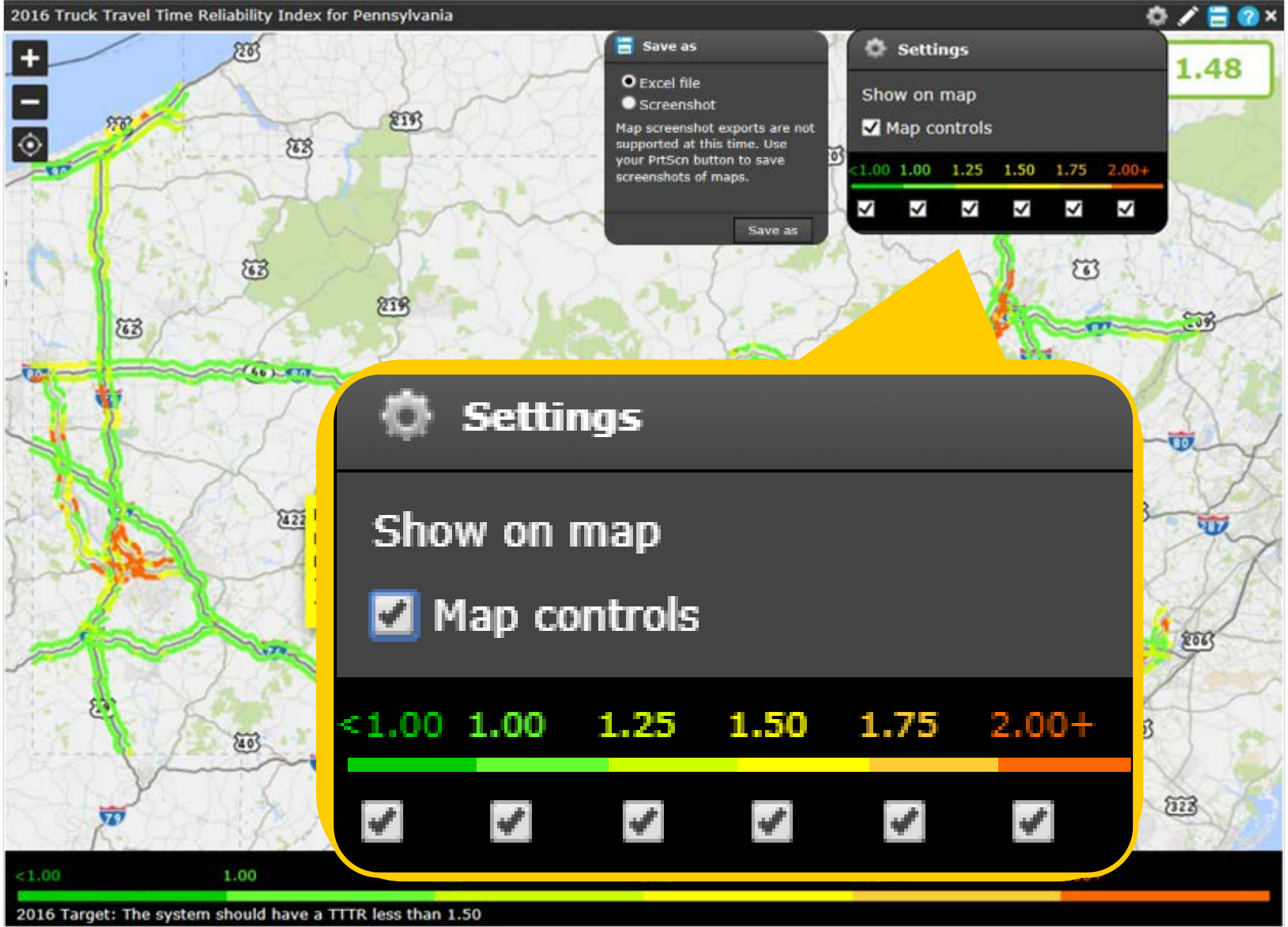
Truck T
Annual
Provide


2016 Truck Travel Time Reliability Index for Pennsylvania
Save as
Excel file
Screenshot
Map screenshot exports are not supported at this time. Use your PrtScn button to save screenshots of maps.
Save as
Settings
Show on map
Map controls
<1.00 1.00 1.25 1.50 1.75 2.00+
1.48
Settings
Show on map
Map controls
<1.00 1.00 1.25 1.50 1.75 2.00+
<1.00
1.00
2016 Target: The system should have a TTTR less than 1.50

MAP-21 Interstate System Travel Time Reliabilty for Maryland

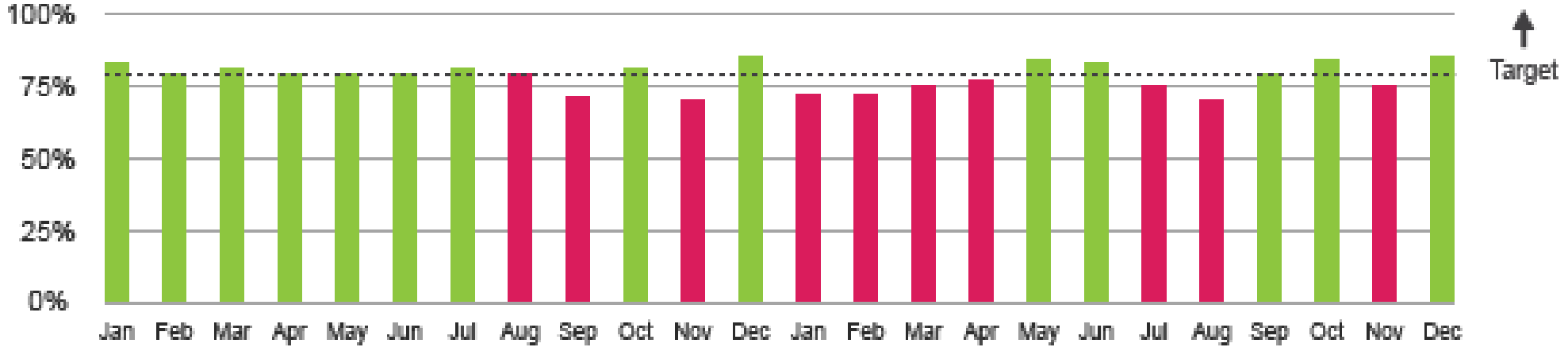
Maryland

MAP-21 Interstate System Travel Time Reliability

Target
at least
80%

	Year's Performance
2015	80.3%
2016	80.5%

2016 and 2015 Target: At least 80% of the system should have a LOTTR less than 1.5



Show map...

Using NPMRDS (Truck and passenger vehicles) data

Updated Jul 1, 2017 10:42 AM (9m ago)

Yearly reliability calculated using 97.4% of miles in Maryland

Interstate Travel Time Reliability for Baltimore (MD)

Baltimore, MD

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

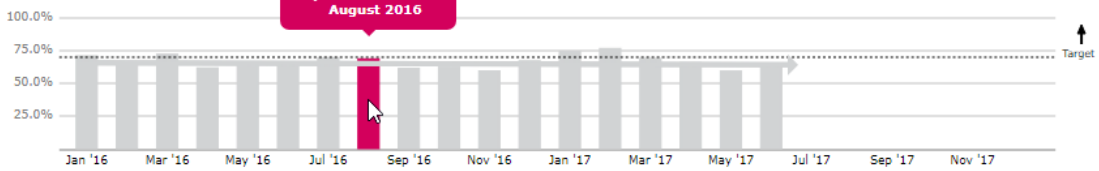
Target at least **70.0%**

Year's Performance

2016	64.8%
2017	66.6%

68.7% August 2016

Target: the system should have a LOTTR less than 1.50



Show map...

Using NPMRDS (Trucks and passenger vehicles) data

Updated Dec 7, 2017 2:36 PM (5m ago)

Yearly reliability calculated using 99.55% of miles in Baltimore

2017 Interstate Travel Time Reliability for Alabama

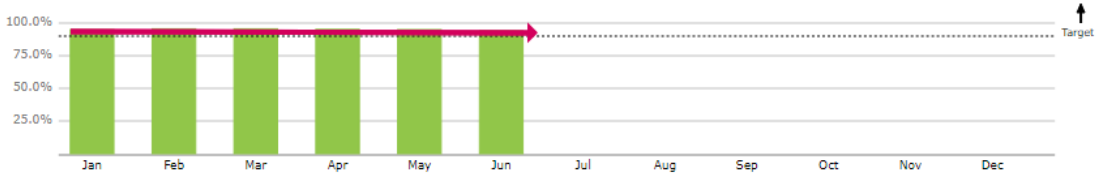
Alabama

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

2017 Target at least **90.0%**

95.6% Year-to-Date 2017

Target: At least 90% of the system should have a LOTTR less than 1.50



Show map...

Using NPMRDS (Trucks and passenger vehicles) data

Updated Dec 7, 2017 2:36 PM (5m ago)

Yearly reliability calculated using 100% of miles in Alabama

Interstate Travel Time Reliability for Alaska

Alaska

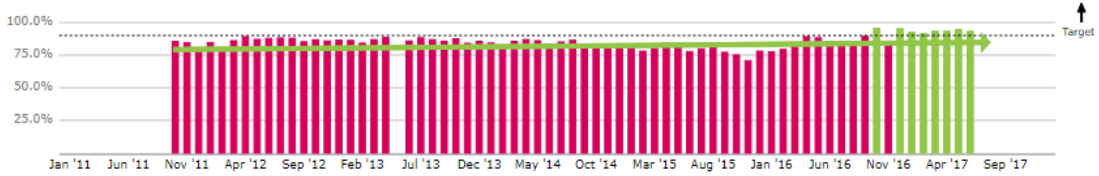
MAP-21 Percent of the Person-Miles Traveled on the Interstate That Are Reliable (the Interstate Travel Time Reliability measure)

Target at least **90.0%**

Year's Performance

2011	86.8%
2012	91.4%
2013	89.3%
2014	88.4%
2015	81.0%
2016	87.8%
2017	93.9%

Target: At least 90% of the system should have a LOTTR less than 1.50



Show map...

Using NPMRDS (Trucks and passenger vehicles) data

Updated Dec 7, 2017 2:36 PM (5m ago)

Yearly reliability calculated using 99.57142857142857% of miles in Alaska

2017 Truck Travel Time Reliability Index for AK - Fairbanks Metropolitan Area Transportation System, Fai...

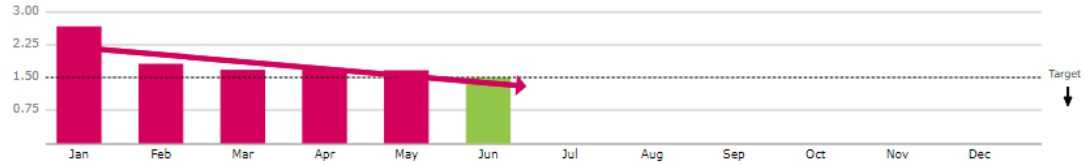
AK - Fairbanks Metropolitan Area Transportation System, Fairbanks (FMATS)

MAP-21 Truck Travel Time Reliability Index

2017 Target less than **1.50**

1.57 Year-to-Date 2017

Target: The system should have a TTTR less than 1.50



Show map...

Using NPMRDS (Trucks) data

Updated Dec 7, 2017 2:36 PM (5m ago)

Yearly reliability calculated using 99.9% of miles in Fairbanks Metropolitan Area Transportation System

Interstate Travel Time Reliability for Alaska

Alaska

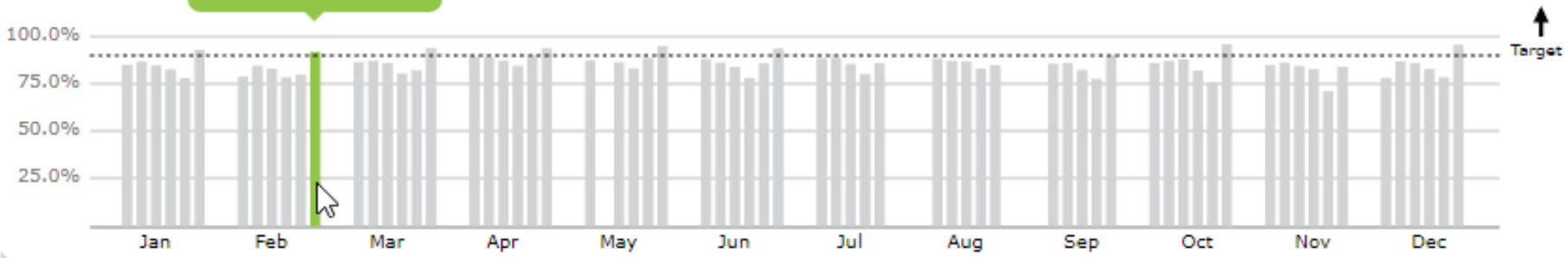
MAP-21 Percent of the Person-Miles Traveled on the Interstate That Are Reliable (the Interstate Travel Time Reliability measure)

Target
at least
90.0%

Year	Year's Performance
2011	86.8%
2012	91.4%
2013	89.3%
2014	88.4%
2015	81.0%
2016	87.8%
2017	93.9%

91.3%
February 2017

t: At least 90% of the system should have a LOTTR less than 1.50

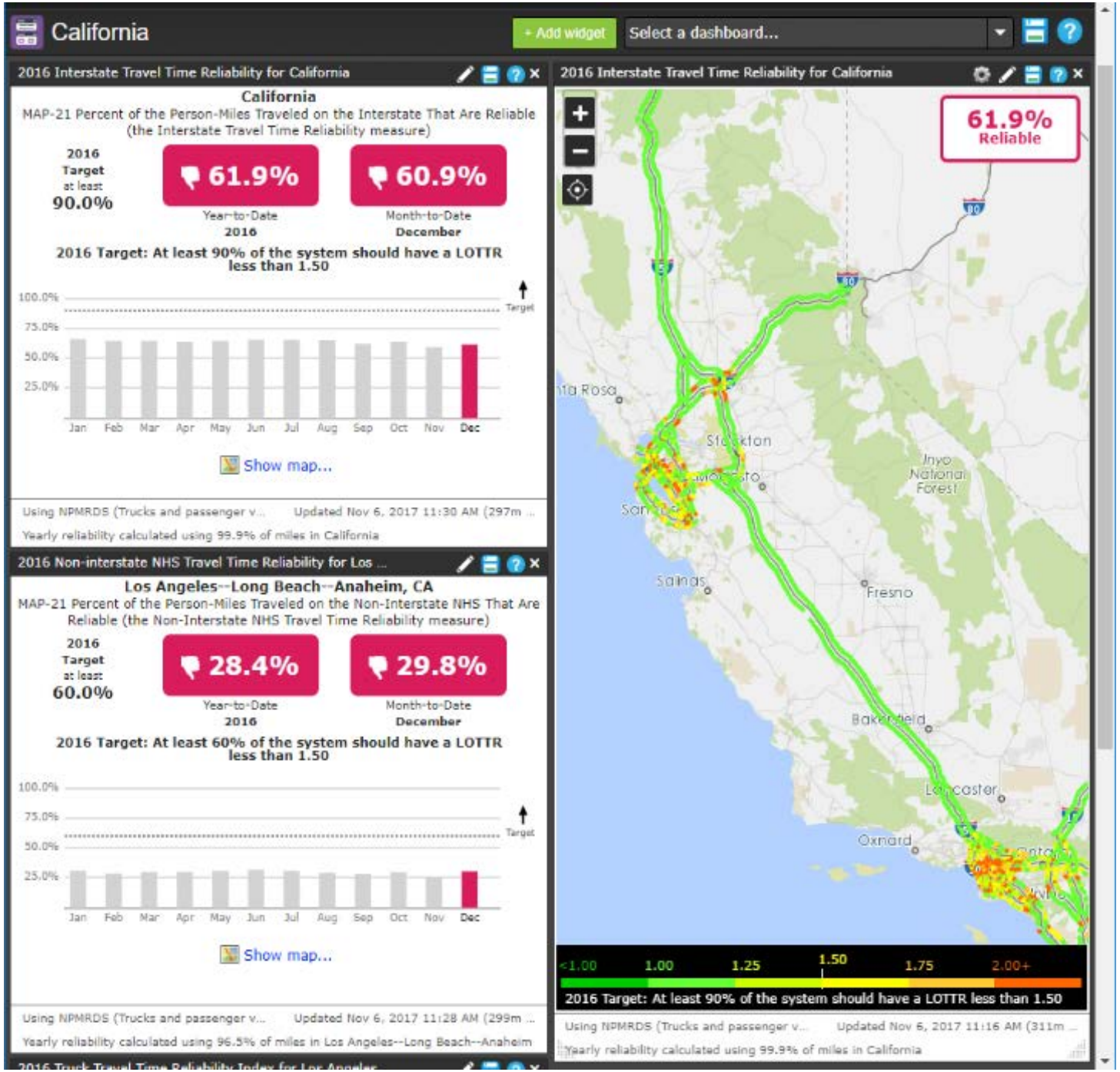


Show map...

Using NPMRDS (Trucks and passenger vehicles) data

Updated Dec 7, 2017 12:53 PM (109m ago)

Yearly reliability calculated using 99.57142857142857% of miles in Alaska


California
+ Add widget
Select a dashboard...
2016 Interstate Travel Time Reliability for California
California
MAP-21 Percent of the Person-Miles Traveled on the Interstate That Are Reliable (the Interstate Travel Time Reliability measure)
2016 Target at least 90.0%
61.9%
Year-to-Date 2016
60.9%
Month-to-Date December
2016 Target: At least 90% of the system should have a LOTTR less than 1.50
100.0%
75.0%
50.0%
25.0%
Target
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Show map...
Using NPMRDS (Trucks and passenger v...
Updated Nov 6, 2017 11:30 AM (297m ...
Yearly reliability calculated using 99.9% of miles in California
2016 Non-interstate NHS Travel Time Reliability for Los ...
Los Angeles--Long Beach--Anaheim, CA
MAP-21 Percent of the Person-Miles Traveled on the Non-Interstate NHS That Are Reliable (the Non-Interstate NHS Travel Time Reliability measure)
2016 Target at least 60.0%
28.4%
Year-to-Date 2016
29.8%
Month-to-Date December
2016 Target: At least 60% of the system should have a LOTTR less than 1.50
100.0%
75.0%
50.0%
25.0%
Target
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Show map...
Using NPMRDS (Trucks and passenger v...
Updated Nov 6, 2017 11:28 AM (299m ...
Yearly reliability calculated using 96.5% of miles in Los Angeles--Long Beach--Anaheim
2016 Interstate Travel Time Reliability for California
61.9%
Reliable
Stockton
Inyo National Forest
Salinas
Fresno
Oxnard
<1.00
1.00
1.25
1.50
1.75
2.00+
2016 Target: At least 90% of the system should have a LOTTR less than 1.50
Using NPMRDS (Trucks and passenger v...
Updated Nov 6, 2017 11:16 AM (311m ...
Yearly reliability calculated using 99.9% of miles in California

An "easy button" functionality that will allow agencies to immediately create all of the necessary files and deliverables to FHWA (pending the final format release)

State Cost

Note: when a state purchases the tools, all MPOs in the state also get access

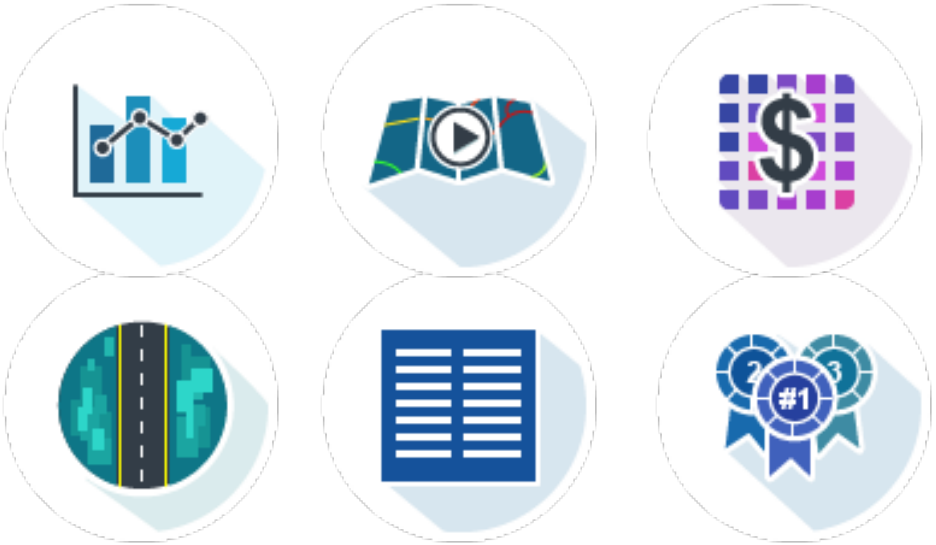
Statewide NHS Mileage (centerline miles)	State	Access to MAP-21 Tools for 5 years for the entire state and all MPOs with no usage or user limits	
<2,500	AK, CT, DE, DC, HI, ME, MD, NH, PR, RI, VT, WV	$115,000/5 years	$23k/year
2,500 to 5,000	AL, AZ, AR, CO, ID, IN,KS,KY, LA, MA, MS, MN, NE, NV, NJ, NM, ND, OK, OR, SC, SD, TN, UT, VA, WA, WY	$135,000/5 years	$27k/year
>5,000	GA, IL, IA, MI, MN, MO, NY, NC, OH, PA, WI	$155,000/5 years	$31k/year
XL States	CA, TX FL	$180,000/5 years	$36k/year

MPA Cost

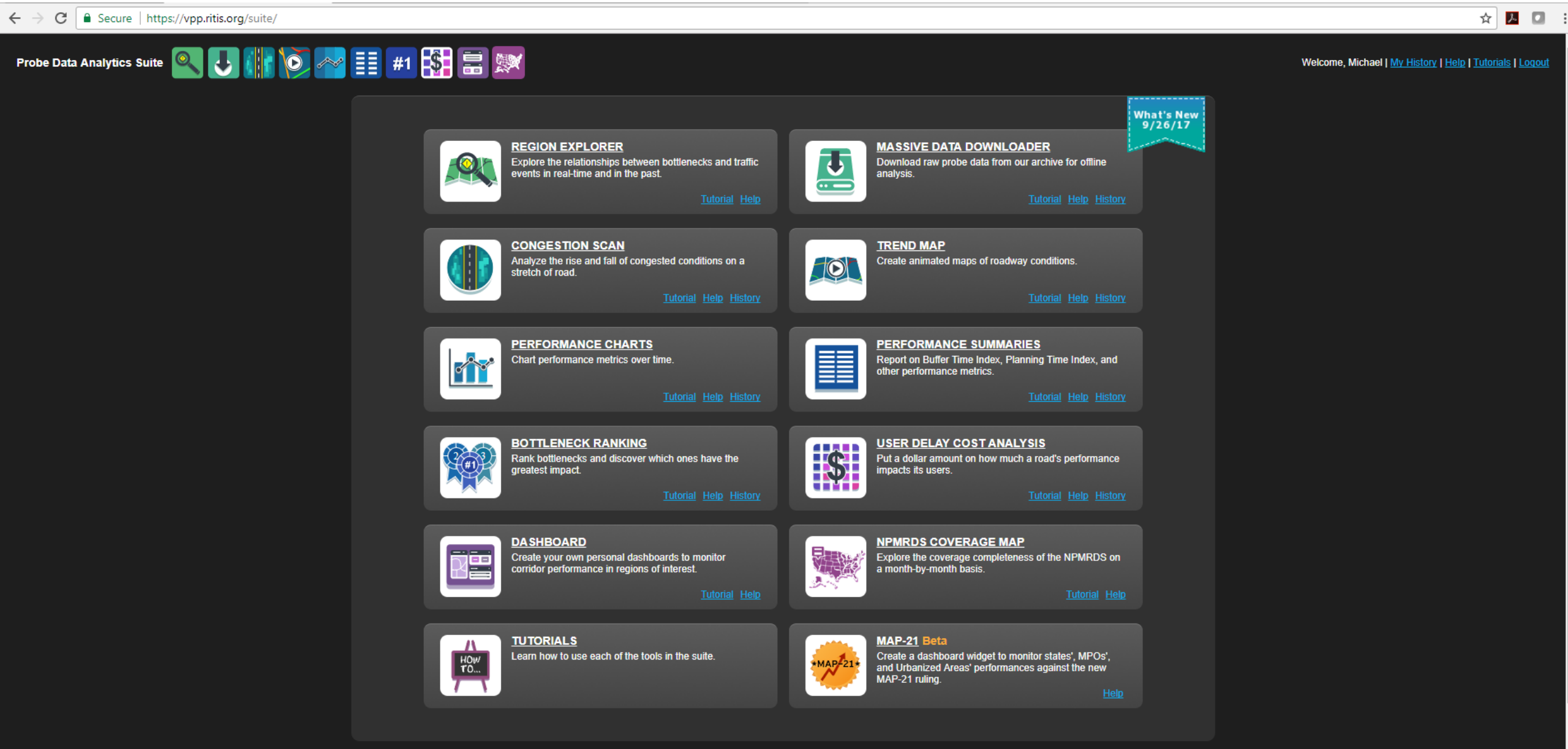
MPA Population	Representative MPOs	Access to MAP-21 Tools for 5 years for the MPO only with no usage or user limits
< 600,000	Mobile, Des Moines, Erie	$45,000/5 years
< 1,000,000	Akron, El Paso, Wilmington (DE)	$50,000/5 years
< 2.5 million	Milwaukee, Hampton Roads, Sacramento	$60,000/5 years
<8 million	Phoenix, Dallas-Ft. Worth, Philadelphia	$70,000/5 years
> 8 million	Chicago, New York, Los Angeles	$90,000/5 years

Tools (Part 2)

- **Deep-Dive NPMRDS Analytics**
  - Advanced NPMRDS Analytics that provide agencies the ability to conduct deep-dive analytics into their systems performance. These tools enable after action incident reviews, system performance reporting, problem identification, project prioritization, before and after studies, work zone management, rapid response to public and legislative inquiries, press releases preparation, and more. Example tools include:
    - Congestion Scans
    - Animated Trend Maps
    - Performance Summary Statistical Reports
    - Interactive Performance Charts and Graphs
    - User Delay Cost Calculations
    - Bottleneck Ranking



NPMRDS Deep-dive Analytics



Probe Data Analytics Suite

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#1 Bottleneck Ranking - Using INRIX data

Bottleneck Ranking Table for Interstates in Maryland (1185 TMCs) between November 1, 2017 and December 12, 2017 (628 total)

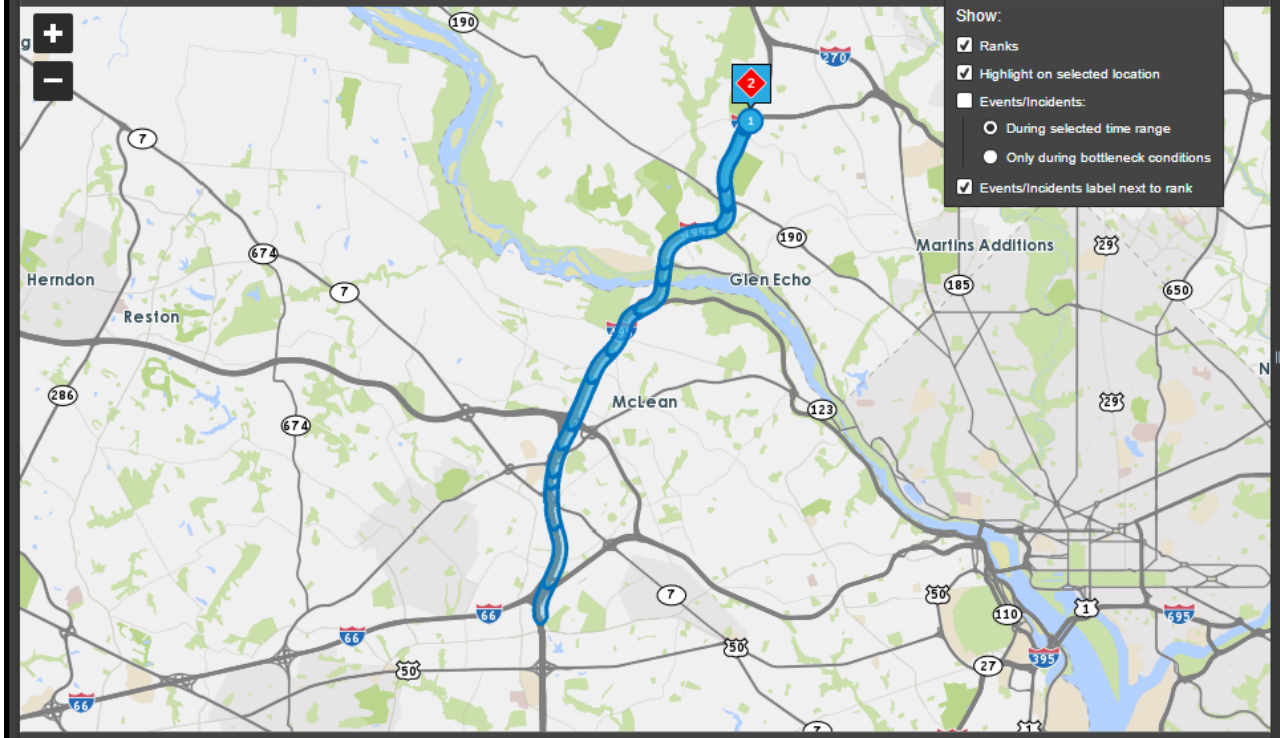
Display Options

			Bottleneck Profile			Influences		Base impact weighted by			
Rank	Map	Head Location (approximate)	Average max length ...	Average daily duration	Total duration	All Events/Incidents	▼Base Impact	Speed differential	Congestion	TOTAL DELAY	External Tool Links
1	☐	I-495 CW @ I-270 SPUR	4.65	2 h 41 m	4 d 17 h 22 m	2	42,730.04	1,971,326.33	148,637.11	197,331,736,864.53	
2	☐	I-495 CCW @ MD-97/GEORGIA AVE/EXIT 31	2.60	4 h 24 m	7 d 17 h 07 m	0	39,885.47	1,547,078.62	87,575.11	168,452,108,245.91	
3	☐	I-695 CW @ I-83/MD-25/EXIT 23	3.30	3 h 45 m	6 d 14 h 20 m	0	29,784.53	1,066,525.66	47,837.01	101,371,130,913.91	
4	☐	I-495 CCW @ GREENBELT METRO DR/EXIT 24	1.34	3 h 43 m	6 d 12 h 16 m	0	28,037.66	1,075,474.19	52,359.22	115,441,399,666.34	
5	☐	I-695 CCW @ US-40/EXIT 15	3.87	2 h 38 m	4 d 15 h 03 m	0	24,727.21	846,643.38	39,411.75	74,867,827,645.80	
6	☐	I-695 CCW @ EDMONDSON AVE/EXIT 14	5.06	1 h 53 m	3 d 07 h 29 m	0	24,659.16	905,239.96	44,359.56	80,135,461,780.23	

Map for I-495 CW @ I-270 SPUR

Display Options

Show:
- ☑ Ranks
- ☑ Highlight on selected location
- ☐ Events/Incidents:
  - ○ During selected time range
  - ● Only during bottleneck conditions
- ☑ Events/Incidents label next to rank

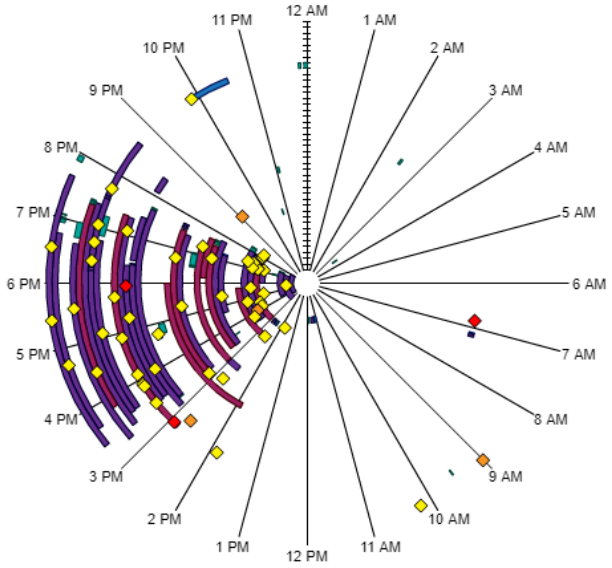


Selected location | Location head | Queue (shown at maximum length) | Number of Incidents

Time Spiral for I-495 CW @ I-270 SPUR

Display Options

The center represents November 1, 2017 and the outer edge represents December 13, 2017.



Maximum queue length in miles ☐ Grayscale

Icon Legend

0 — 2 — 5 — 8

User Delay on I-70 and nearby arterials

- Normal Saturday = $6k - $7k
- Oct. 29th Saturday = ~$77k (worse than Friday, the day before)

	12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 A						7 PM	8 PM	9 PM	10 PM	11 PM	Daily Totals
10/22/16	$0.1K	$0.1K	$0.1K	$0K	$0K	$0.2K	$0.3K	$0.2K	$0.2K	$0.2				.3K	$0.3K	$0.7K	$0.5K	$0.2K	$0.1K	$0.1K	$6.2K
10/23/16	$0.2K	$0.1K	$0.2K	$0K	$0K	$0.4K	$0.3K	$0.4K	$0.4K	$0.2K	$0.2K	$0.2K	$0.2K	$0.4K	$0.1K	$0.2K	$0.2K	$0.3K	$0.1K	$0.1K	$6.2K
10/24/16	$0.1K	$0.1K	$0K	$0K	$0K	$0.1K	$2.2K	$11.9K	$5K	$1.1K	$0.2K	$0.3K	$0.5K	$0.6K	$1K	$0.2K	$0.2K	$0.3K	$0.1K	$0K	$34.2K
10/25/16	$0.1K	$0.1K	$0K	$0K	$0K	$0.2K	$8.1K	$22.4K	$7.5K	$2K	$0.4K	$0.3K	$0.3K	$0.5K	$0.3K	$1K	$0.2K	$0.2K	$0.2K	$0.1K	$66.3K
10/26/16	$0.1K	$0K	$0K	$0.1K	$0.2K	$0.1K	$3.2K	$25.7K	$12.5K	$2.1K	$0.2K	$0.3K	$0.2K	$0.3K	$0.4K	$1.1K	$0.2K	$0.4K	$0.1K	$0.1K	$61.9K
10/27/16	$0K	$0.1K	$0K	$0K	$0K	$0.2K	$2.6K	$6K	$2.5K	$0.5K	$0.4K	$0.2K	$0.3K	$0.2K	$3.9K	$0.8K	$0.2K	$0.1K	$0.1K	$0.1K	$44.6K
10/28/16	$0K	$0K	$0.1K	$0K	$0K	$0.1K	$1.8K	$4.2K	$6.8K	$0.9K	$0.2K	$0.2K	$0.2K	$0.3K	$0.6K	$0.3K	$0.4K	$0.3K	$0.1K	$0K	$72.1K
10/29/16	$0.1K	$0.4K	$0.1K	$0K	$0.1K	$0.3K	$1.5K	$2.4K	$3.6K	$9.3K	$13.8K	$14.7K	$9.4K	$8.9K	$7.8K	$0.4K	$0.3K	$0.3K	$0.1K	$0.1K	$76.7K
10/30/16	$0.1K	$0.1K	$0.1K	$0.1K	$0.3K	$0.1K	$0.3K	$0.5K	$0.4K	$0.3K	$0.2K	$0.3K	$0.2K	$0.1K	$0.2K	$0.3K	$0.3K	$0.2K	$0.1K	$0.2K	$7.2K

Normal Saturday

Oct. 29 Saturday

Daily Totals
$6.2K
$6.2K
$34.2K
$66.3K
$61.9K
$44.6K
$72.1K
$76.7K
$7.2K

User Delay Cost at this Location: $50.8M

	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
7/01/15	$0K	$0.1K	$0.1K	$0K	$0K	$0K	$10.5K	$19.5K	$65.7K	$37.1K	$13.5K	$0.2K	$0K	$0K	$0.9K	$6.6K	$2.9K	$1.3K	$0.3K	$0K	$0K	$0K	$0K	$0K	$158.6K
7/02/15	$0K	$0K	$0K	$0K	$0K	$0K	$5.4K	$19.1K	$56K	$46K	$20.1K	$5.8K	$0.2K	$1K	$16.9K	$34.2K	$20K	$0.5K	$20.7K	$29.7K	$1.7K	$0K	$0.2K	$0K	$277.6K
7/03/15	$0K	$0K	$0K	$0K	$0K	$0K	$0K	$0K	$0K	$0K	$0K	$0K	$0K	$0K	$0K	$0K	$0.1K	$0K	$0K	$0.2K	$0K	$0.1K	$0.3K	$0.1K	$1K
7/04/15	$0.1K	$0.1K	$0.1K	$0K	$0K	$0K	$0K	$0K	$0K	$0.3K	$0.9K	$0K	$0K	$0K	$0K	$0.2K	$1.5K	$0.6K	$0.2K	$1.3K	$0.1K	$0K	$0.1K	$0.1K	$5.7K
7/05/15	$0.1K	$0K	$0K	$0K	$0K	$0K	$0K	$0K	$0K	$0K	$0K	$0K	$0K	$0K	$0.1K	$1.3K	$0.1K	$0K	$0K	$0K	$0K	$0.1K	$0K	$0K	$1.7K
7/06/15	$0K	$0K	$0K	$0K	$0K	$0K	$4.2K	$1.9K	$10.8K	$3.2K	$0K	$0K	$0.1K	$0.1K	$1.9K	$6.4K	$3.1K	$10.7K	$2.9K	$2.4K	$0.6K	$0.2K	$0K	$0K	$48.5K
7/07/15	$0K	$0K	$0K	$0K	$0K	$0K	$10.6K	$16.7K	$58.9K	$34.8K	$5.2K	$1.9K	$27.7K	$3.9K	$0.2K	$3.4K	$1.3K	$2.4K	$5.7K	$2.2K	$0K	$0K	$0K	$0K	$175K
7/08/15	$0K	$0K	$0K	$0K	$0K	$0K	$8.3K	$1.8K	$36.3K	$22.4K	$2.8K	$0K	$0.2K	$0.9K	$0K	$2.7K	$0K	$1.1K	$1.5K	$0.8K	$0K	$0.1K	$0K	$0K	$78.9K
7/09/15	$0K	$0K	$0K	$0K	$0K	$0K	$9.8K	$13.5K	$47.5K	$24.5K	$3.1K	$0K	$0.1K	$0K	$0.2K	$8.5K	$2.8K	$1.6K	$1.4K	$0.3K	$0K	$0.1K	$0K	$0.1K	$113.5K
7/10/15	$0K	$0K	$0K	$0K	$0K	$0K	$4.4K	$7.3K	$36.3K	$13.2K	$0.8K	$0K	$1.2K	$0.6K	$1.5K	$11.1K	$4.6K	$1.1K	$1.4K	$0K	$0K	$0.1K	$0.1K	$0.1K	$83.9K
7/11/15	$0K	$0.1K	$0K	$0K	$0K	$0K	$0K	$0.1K	$0K	$0K	$0K	$0.6K	$6K	$2.4K	$0.7K	$4K	$7K	$5.7K	$4.3K	$0K	$0K	$0.3K	$0.3K	$0.1K	$31.8K
7/12/15	$0.1K	$0.1K	$0.1K	$0K	$0K	$0K	$0.1K	$0K	$0K	$0K	$0K	$0K	$0K	$1.4K	$9.2K	$4.7K	$26K	$4.4K	$0.1K	$0K	$0K	$0.2K	$3.1K	$0.1K	$49.7K
7/13/15	$0K	$0.1K	$0K	$0K	$0K	$0K	$10.5K	$41.6K	$60.6K	$45.9K	$6.2K	$0K	$0.1K	$0K	$0.1K	$2.2K	$4.1K	$36.9K	$5.3K	$0.5K	$0K	$0K	$0K	$0K	$214.3K
7/14/15	$0K	$0K	$0K	$0K	$0K	$0K	$12.3K	$17.7K	$54K	$12.3K	$1.1K	$0K	$0K	$0.1K	$47.5K	$74.9K	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$0.1K	$0K	$0K	$338.4K
7/15/15	$0K	$0.1K	$0K	$0K	$0K	$0K	$10.7K	$33.2K	$59.5K	$54.8K	$17.8K	$0.3K	$0.1K	$0K	$0.3K	$6.9K	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$0.1K	$0.1K	$0K	$204.7K
7/16/15	$0K	$0K	$0K	$0K	$0K	$0K	$11.9K	$34.5K	$56.7K	$23.9K	$6.5K	$0.1K	$0.6K	$8.8K	$18.6K	$7.5K	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$0.1K	$0.1K	$0K	$217.8K
7/17/15	$0.1K	$0K	$0K	$0K	$0K	$0K	$3.6K	$3.4K	$18K	$2.6K	$0K	$0K	$0K	$0K	$10K	$31.9K	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$0K	$0.1K	$0K	$71.3K
7/18/15	$0K	$0K	$0K	$0K	$0K	$0K	$0K	$0K	$0.3K	$0.4K	$1.3K	$3.8K	$5.7K	$0.8K	$4K	$11.6K	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$0.4K	$0.3K	$0.1K	$89.6K
7/19/15	$0K	$0.1K	$0K	$0K	$0K	$0K	$0K	$0K	$0K	$0K	$0K	$0K	$0.1K	$0.2K	$7.7K	$7.6K	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$0.3K	$0.1K	$0K	$31.6K
7/20/15	$0K	$0K	$0K	$0K	$0K	$0K	$10.9K	$18.6K	$69K	$47K	$11.8K	$1K	$0.1K	$0K	$0.5K	$1.3K	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$0K	$0K	$0.1K	$167.8K
7/21/15	$0K	$0K	$0K	$0K	$0K	$0K	$10.1K	$7.9K	$48K	$22K	$7.9K	$1.9K	$0.1K	$0K	$1K	$4.7K	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$0.1K	$0K	$0K	$108.7K
7/22/15	$0K	$0K	$0.1K	$0K	$0K	$0K	$9.9K	$34.5K	$63.2K	$40.5K	$9.9K	$0.5K	$0K	$0.1K	$2K	$3.8K	$2.1K	$6.9K	$12.6K	$1.8K	$0K	$0.1K	$0.1K	$0K	$188.1K
7/23/15	$0K	$0K	$0K	$0K	$0K	$0K	$43.6K	$41.8K	$64.7K	$37.8K	$32.4K	$17.7K	$1.7K	$0K	$1.4K	$13.1K	$16.5K	$4.1K	$2.5K	$1.6K	$0.1K	$0.2K	$0.1K	$0.1K	$279.3K
7/24/15	$0K	$0K	$0K	$0K	$0K	$0K	$7.7K	$11.3K	$38.3K	$21.7K	$3.1K	$0.1K	$0.2K	$8.5K	$14.5K	$18.6K	$0K	$1.1K	$9.8K	$3.6K	$0K	$0.1K	$0.1K	$0K	$138.6K
7/25/15	$0K	$0.1K	$0K	$0K	$0K	$0K	$0K	$0K	$0K	$1.2K	$0.2K	$0K	$0.1K	$0.1K	$4.4K	$11.6K	$4.1K	$0K	$0.2K	$1.2K	$0K	$0.4K	$0.3K	$0.1K	$24.1K
7/26/15	$0.1K	$0K	$0K	$0K	$0K	$0K	$0K	$0K	$0K	$0K	$0K	$0K	$0.1K	$0.4K	$4.8K	$6K	$6.3K	$5K	$3.8K	$1.1K	$0.4K	$0.2K	$0K	$0K	$28.2K
7/27/15	$0K	$0K	$0K	$0K	$0K	$0.4K	$18.8K	$17.5K	$42.5K	$13.7K	$0K	$0K	$0K	$0K	$7.3K	$16.5K	$25.2K	$18.6K	$3.9K	$0.1K	$0K	$0.2K	$0.1K	$0K	$165.1K
7/28/15	$0K	$0K	$0K	$0K	$0K	$0K	$13.7K	$22.5K	$55.5K	$30.4K	$5.8K	$0.1K	$0.2K	$0K	$1K	$6.8K	$8.1K	$8.5K	$3.7K	$0.1K	$0K	$0.1K	N/A	N/A	$156.7K
7/29/15	N/A	N/A	N/A	$0K	$0K	$0K	$17K	$28.8K	$54.8K	$29.6K	$6.3K	$1K	N/A	$0K	$0K	$4.2K	$8.8K	$5.6K	$0.9K	$0K	$0K	$0.1K	$0.1K	$0K	$157.1K
7/30/15	$0K	$0K	$0K	$0K	$0K	$0K	$15.5K	$11.8K	$27.3K	$23.6K	$3.7K	$0K	$0K	$0.6K	$23.9K	$24.4K	$12.1K	$4.7K	$1.1K	$0K	$0K	$0.1K	$0.1K	$0.1K	$149.1K

Tuesday, July 14, 2015 3:00 PM

Delay cost:
Total: $74,852.1
Per VMT: $1.32

Hours of delay:
Person-hours: 3325h 53m 6s
Vehicle-hours: 2715h 29s

Vehicle miles traveled (VMT):
Total: 49,012 miles
Passenger: 44,111 miles
Commercial: 4,901 miles

Delay per VMT: 3.3237 mins / mile
Data validity: 100%
Click the table cell to see links to congestion scans

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Performance Charts

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

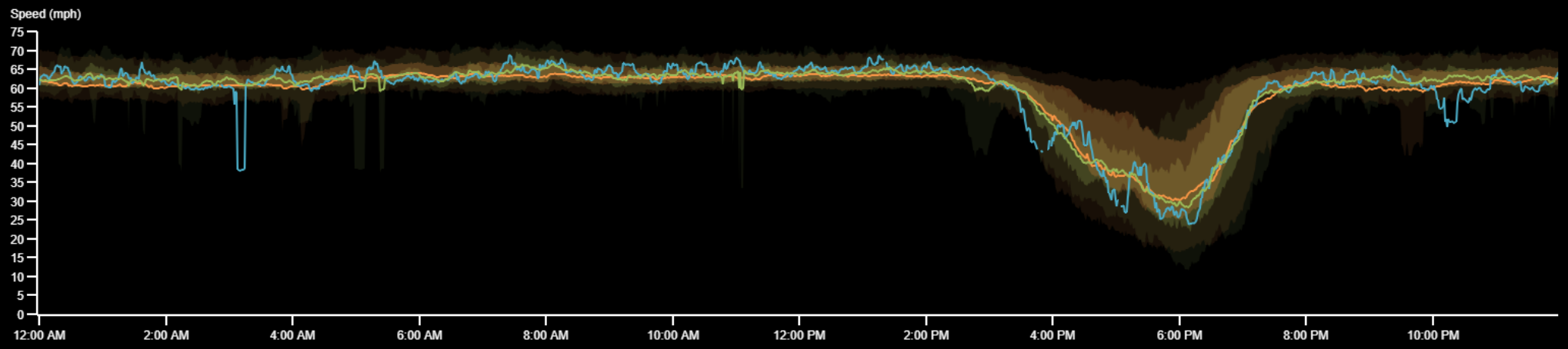
Line width − +

- INRIX
  - 2016 (Every Tuesday, Wed...
    - Show 5th/95th
    - Show 25th/75th
  - September 2017 (Every Tu...
    - Show 5th/95th
    - Show 25th/75th
  - October 18, 2017
    - Show 5th/95th
    - Show 25th/75th

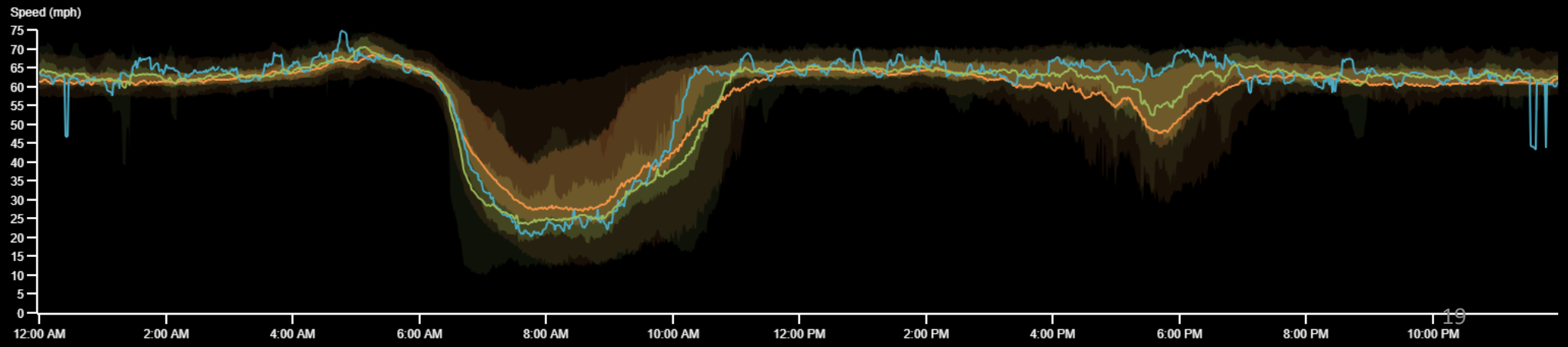
Speed for I-270 between I-495/MD-355 and I-370/Sam Eig Hwy/Exit 9

Averaged per minute for 2016 (Every Tuesday, Wednesday, and Thursday), September 2017 (Every Tuesday, Wednesday, and Thursday), and October 18, 2017

Northbound



Southbound



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Performance Charts

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Type

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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)

- Buffer time (minutes)
- Buffer index
- Planning time (minutes)
- Planning time index
- Travel time (minutes)
- Travel time index

Show 25th/75th

September 2017 (Every Tu...

Show 5th/95th

Show 25th/75th

October 18, 2017

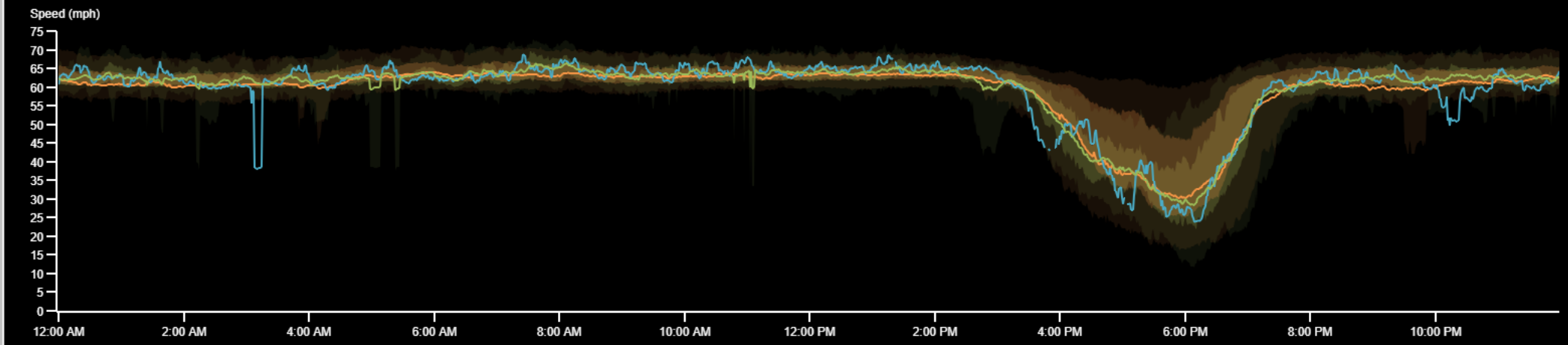
Show 5th/95th

Show 25th/75th

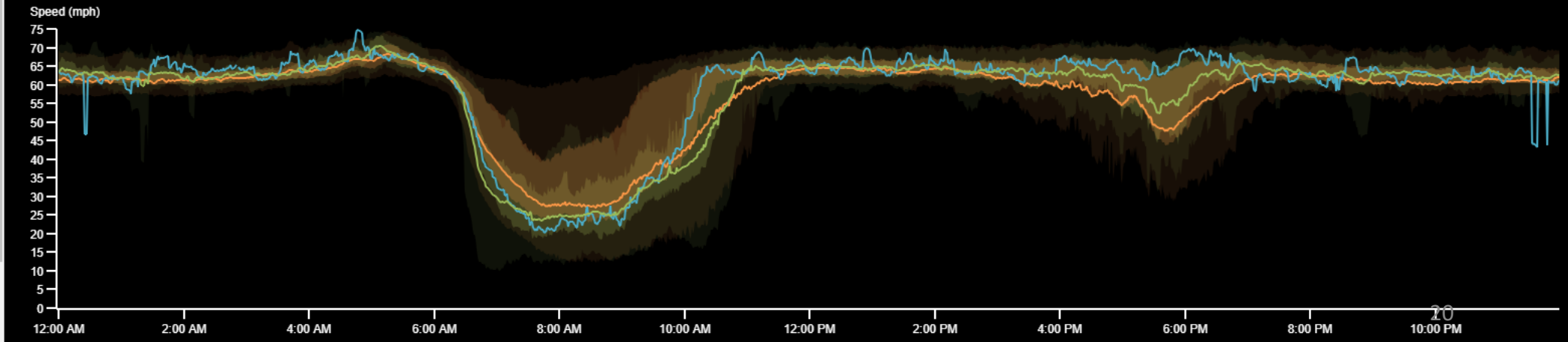
Speed for I-270 between I-495/MD-355 and I-370/Sam Eig Hwy/Exit 9

Averaged per minute for 2016 (Every Tuesday, Wednesday, and Thursday), September 2017 (Every Tuesday, Wednesday, and Thursday), and October 18, 2017

Northbound



Southbound



I-95 Northbound using INRIX data

August 01, 2017 through August 31, 2017

	Speed (mph)	Buffer time (minutes)	Buffer index	Planning time (minutes)	Planning time index	Travel time (minutes)	Travel time index	
	12 AM - to - 12 AM	12 AM - to - 12 AM	12 AM - to - 12 AM	12 AM - to - 12 AM	12 AM - to - 12 AM	12 AM - to - 12 AM	12 AM - to - 12 AM	
Mon	64.21	33.21	0.20	197.78	1.24	159.99	1.00	Mon
Tue	60.95	73.04	0.45	236.53	1.48	168.54	1.05	Tue
Wed	63.84	33.83	0.21	198.11	1.24	160.92	1.01	Wed
Thu	64.07	26.71	0.16	191.38	1.20	160.33	1.00	Thu
Fri	62.33	47.37	0.29	211.34	1.32	164.81	1.03	Fri
Weekdays	63.04	36.45	0.22	200.64	1.26	162.96	1.02	Weekdays
Sat	60.16	82.47	0.50	246.37	1.54	170.74	1.07	Sat
Sun	60.37	68.85	0.42	233.09	1.46	170.16	1.06	Sun
Weekends	60.27	83.16	0.51	247.23	1.55	170.45	1.07	Weekends
AllDays	62.30	57.25	0.35	221.41	1.38	164.88	1.03	AllDays

***Figure 8**: I-95 Northbound - seven performance metric comparison for the period August 1st through 31st, 2017.*

Trend Map - Using INRIX data

Switch to...

New search

Data Type

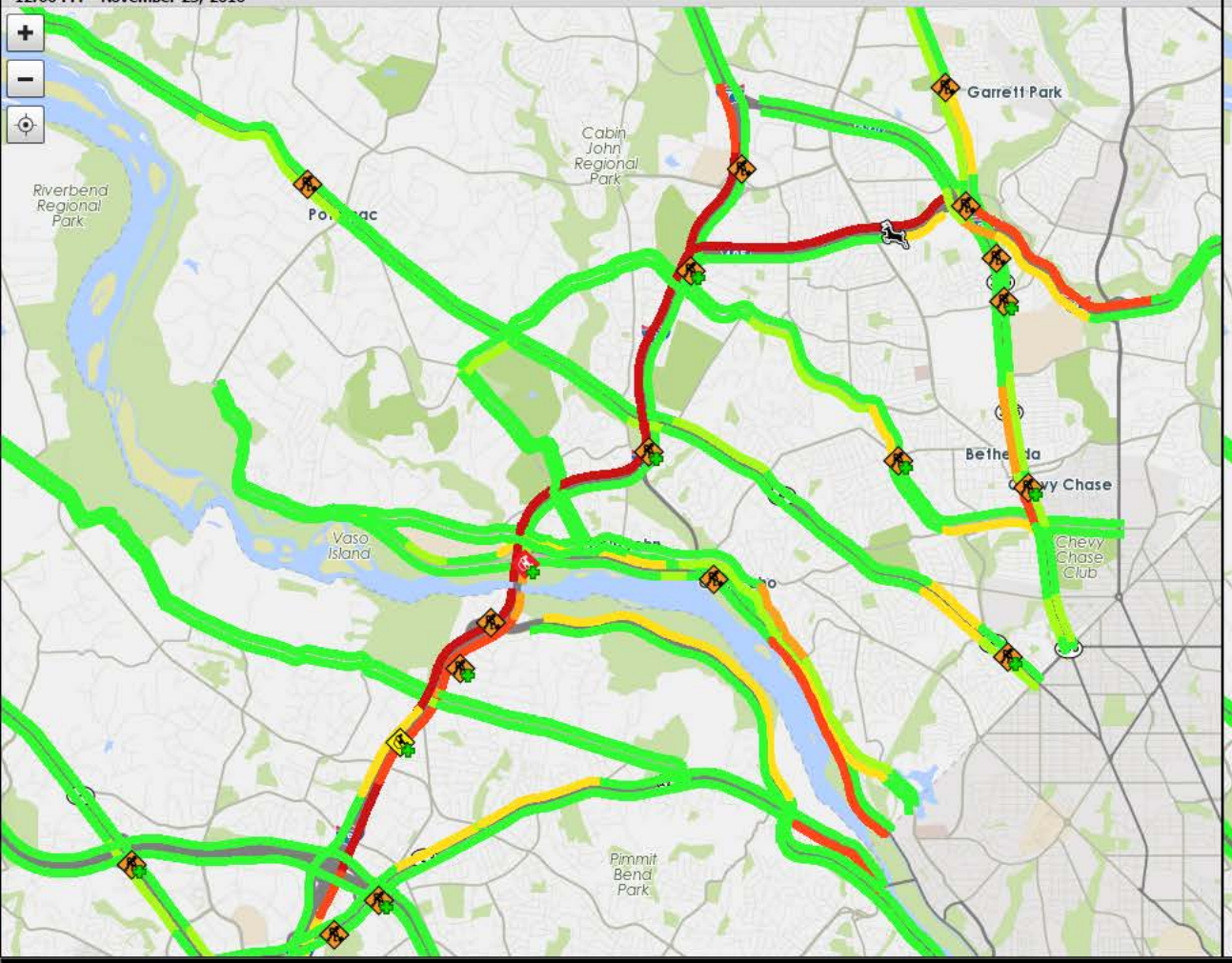
Congestion

Color Thresholds

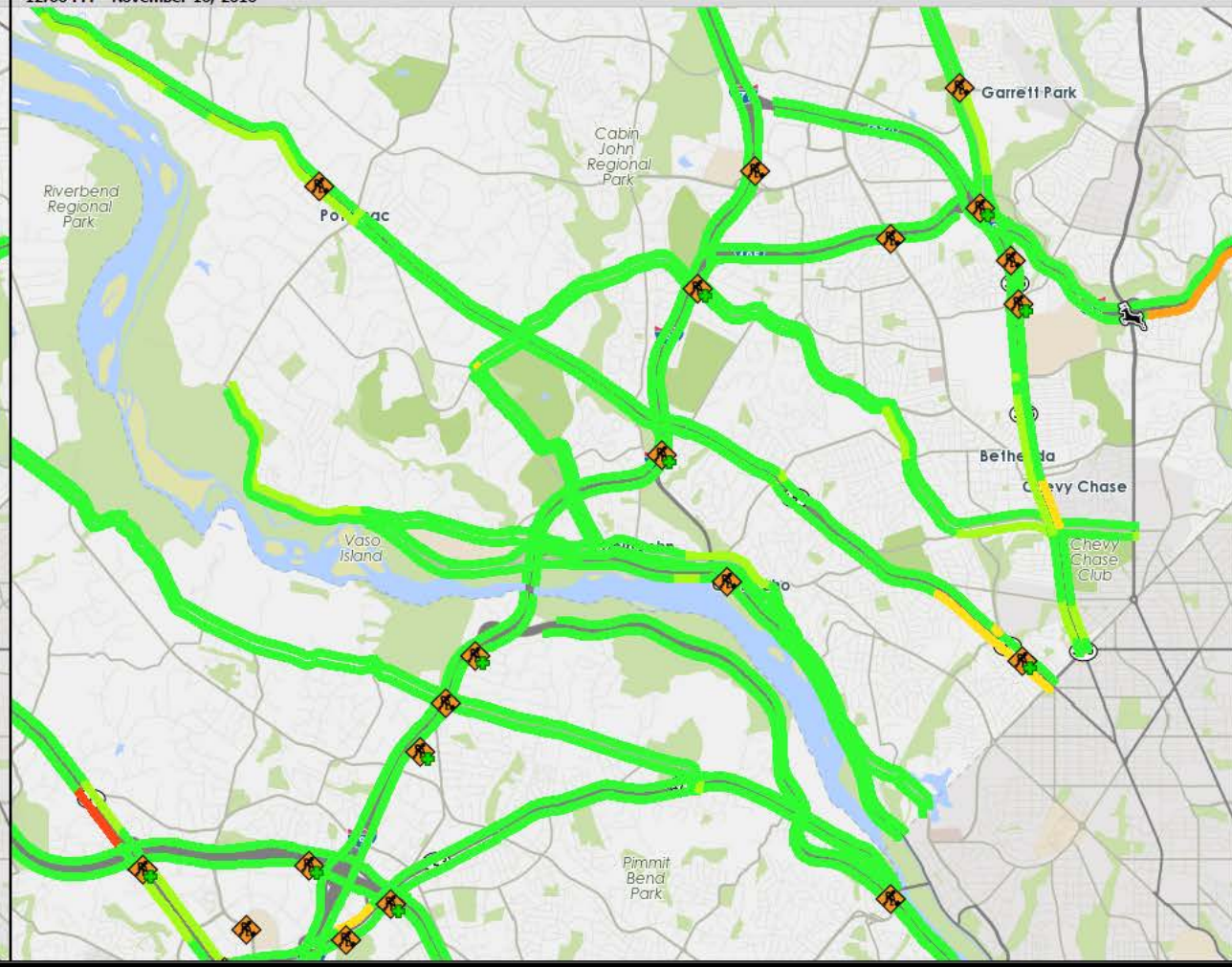
0 | 15% | 33% | 50% | 66% | 85%

Display options

12:00 PM - November 23, 2016



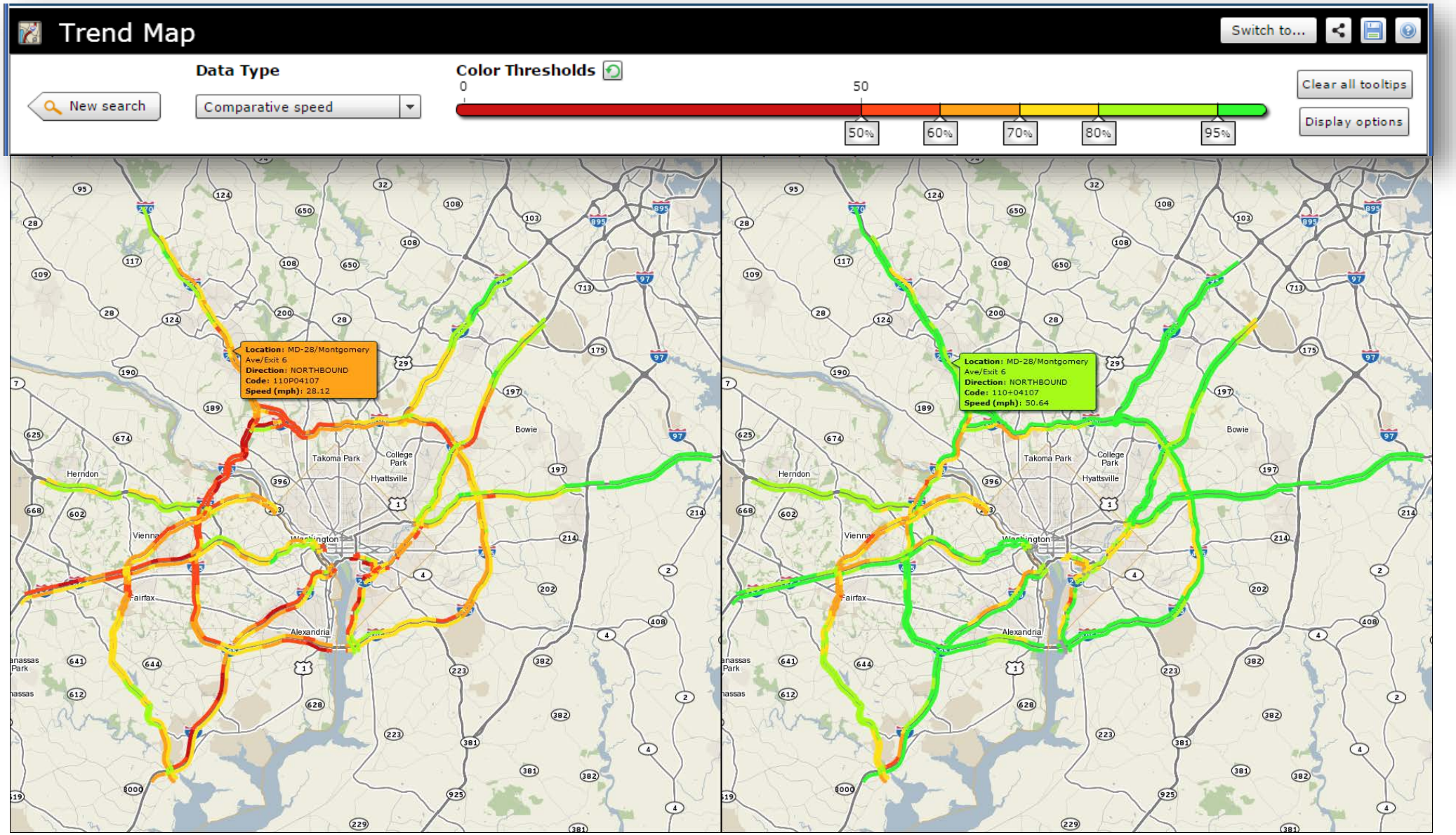
12:00 PM - November 16, 2016



12:00 PM

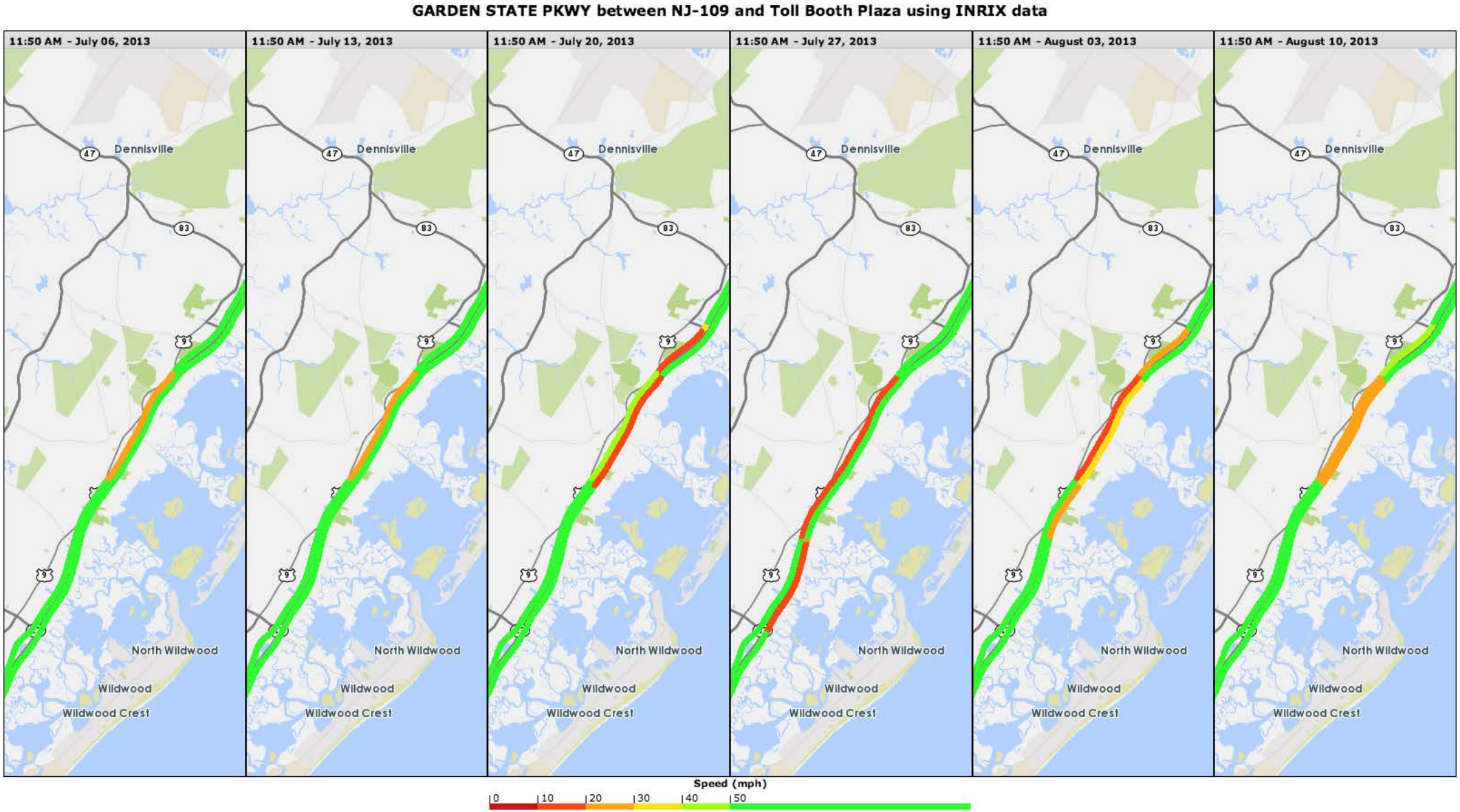
11:45 PM at 15 minute intervals

Animated Maps: Pre-Thanksgiving traffic vs. normal

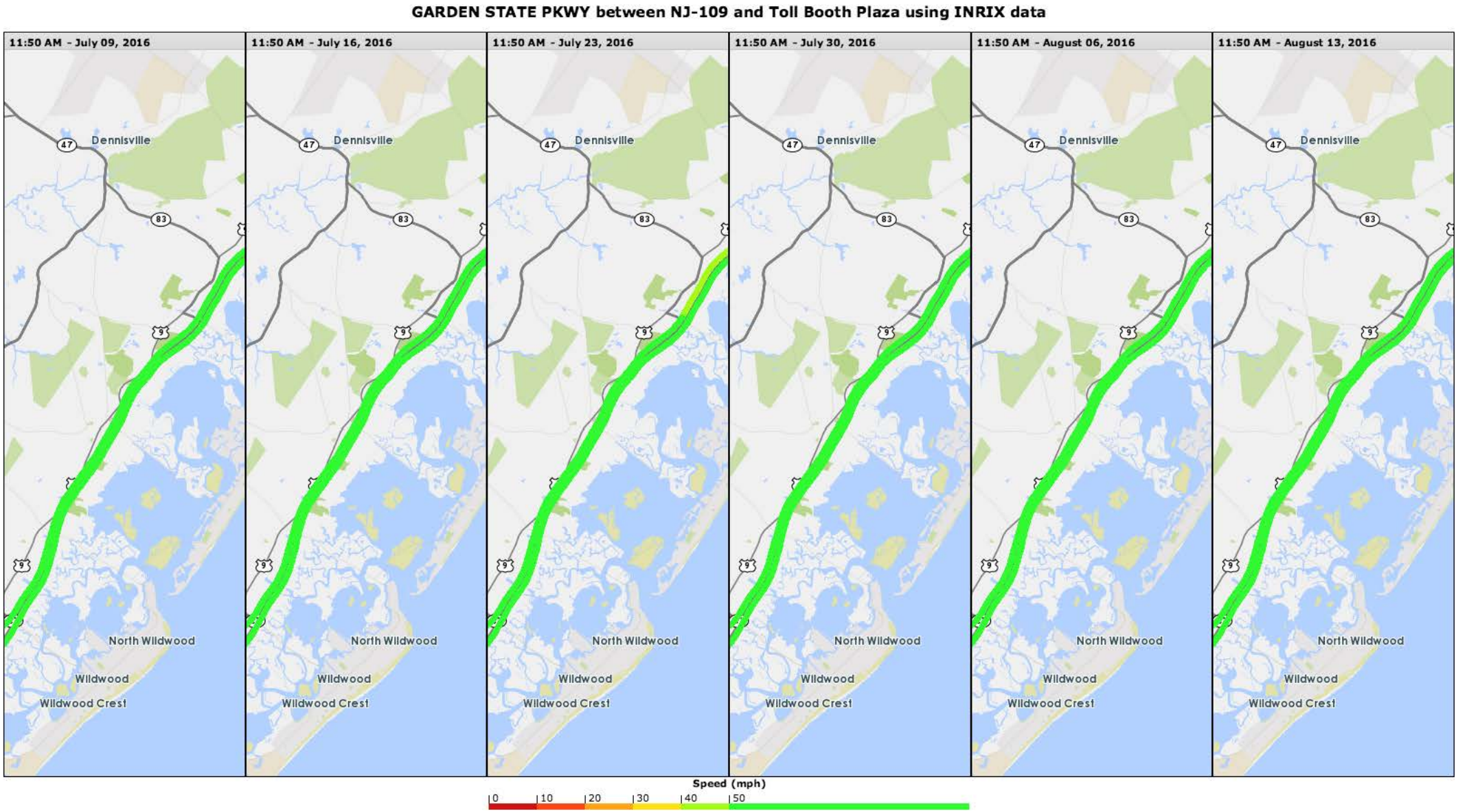


2PM Wed. Before Thanksgiving

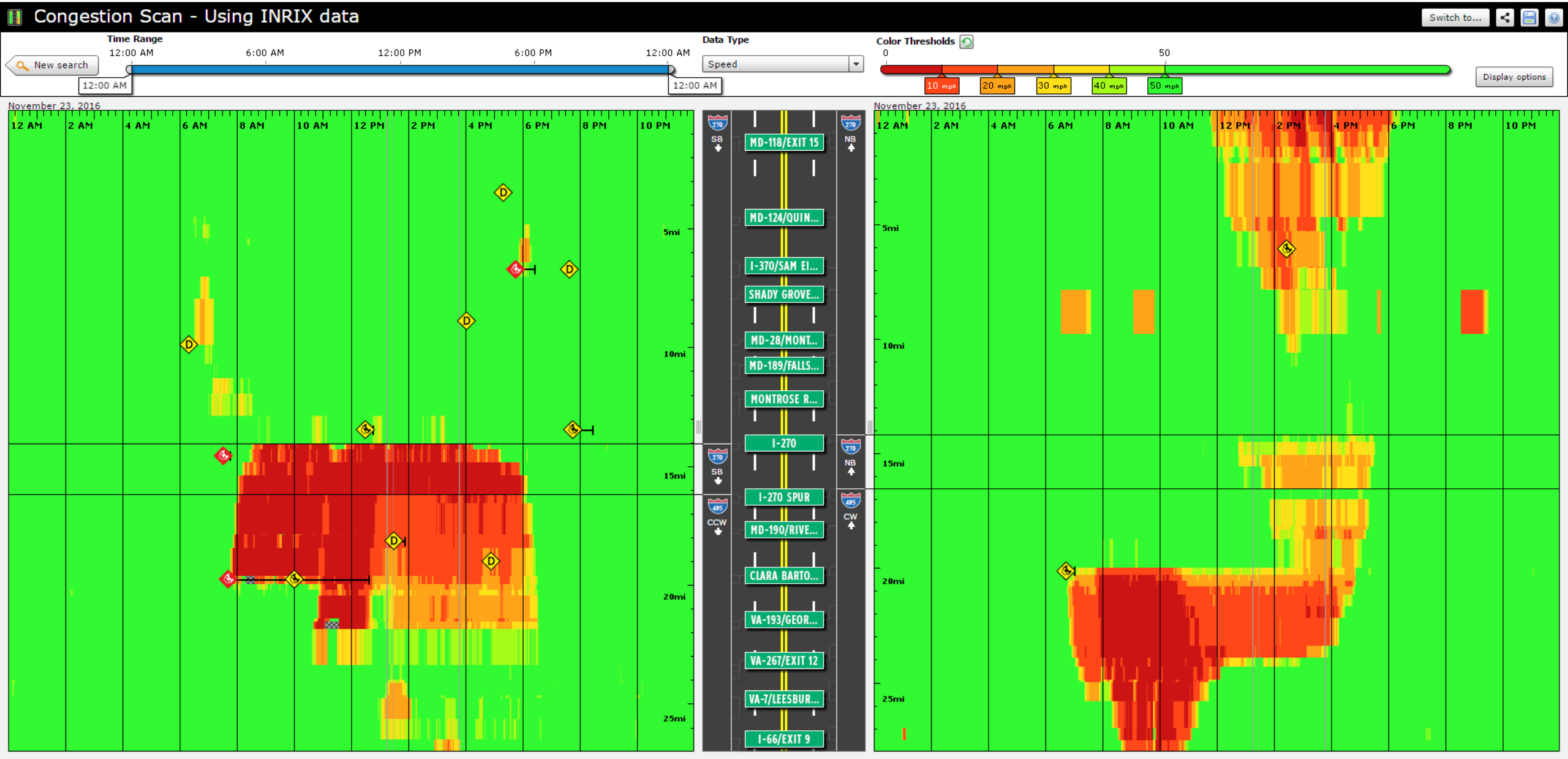
2PM Normal Wednesdays in November



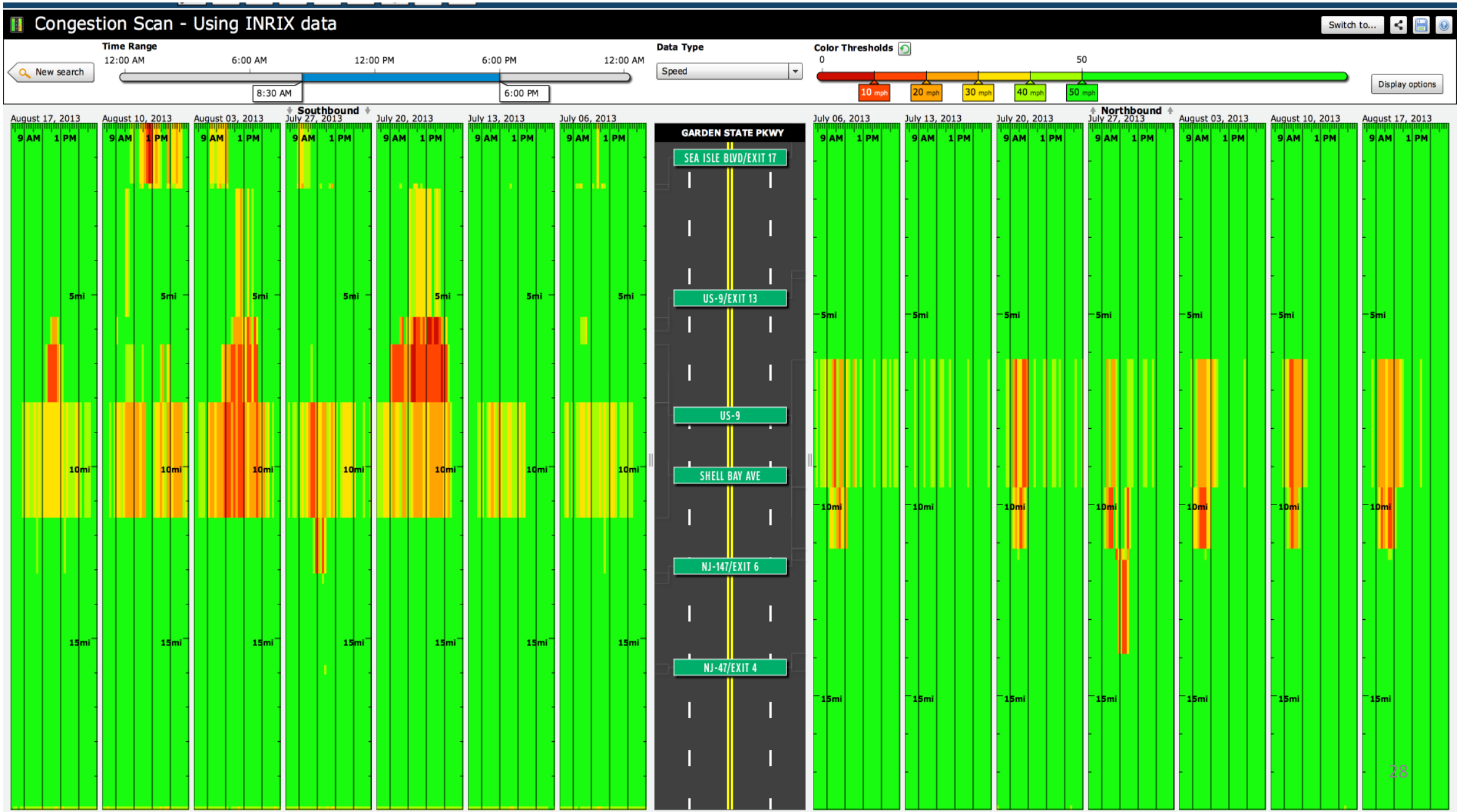
https://vpp.ritis.org/suite/trend-map/#/uuid=b727cfdf-8ca3-4fb9-b7d5-dad1afe303cd



https://vpp.ritis.org/suite/trend-map/#/uuid=d3aef4d9-240c-48ef-a47a-594c82041529

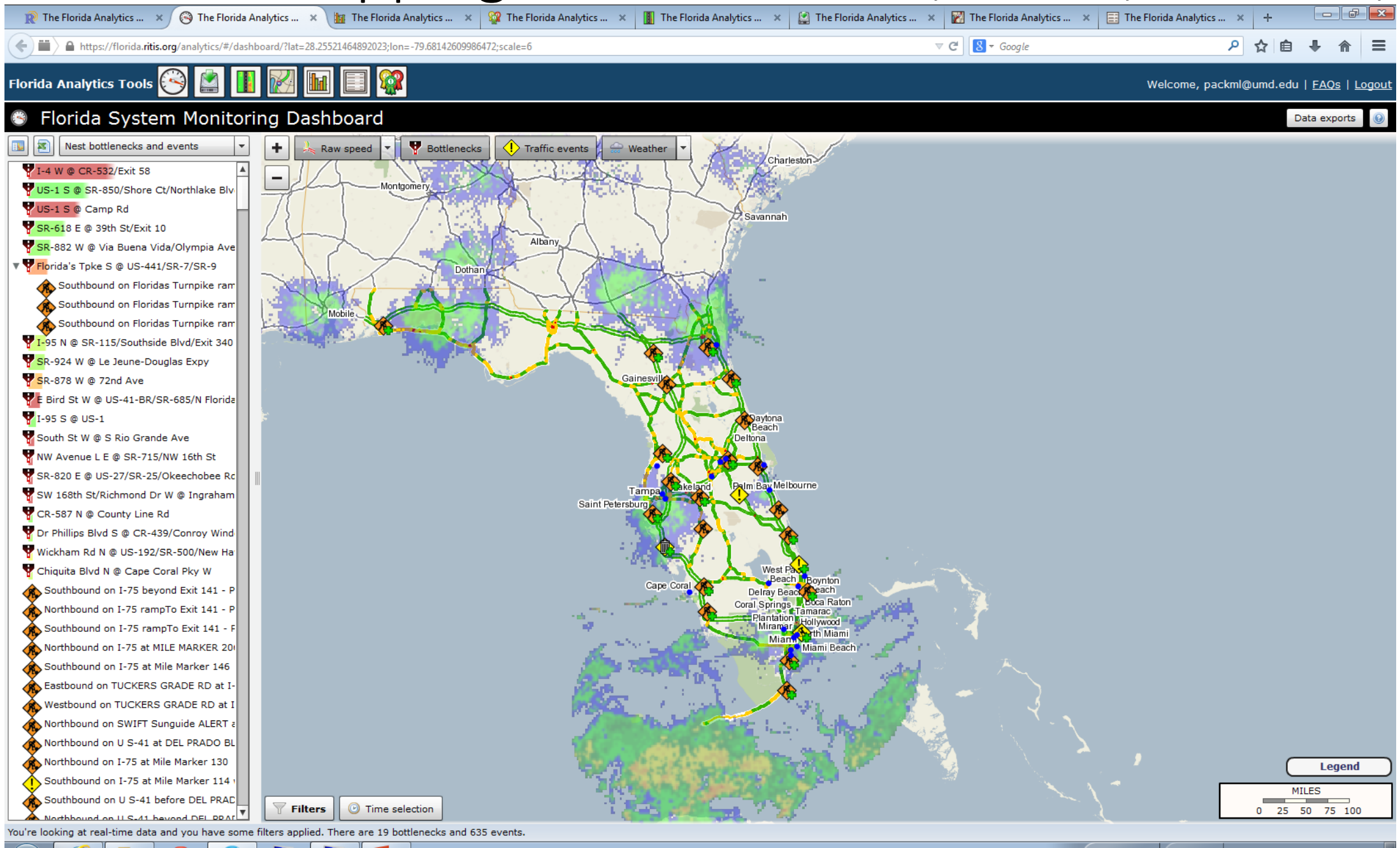

Congestion Scan - Using INRIX data
Switch to...
Time Range
New search
12:00 AM
6:00 AM
12:00 PM
6:00 PM
12:00 AM
12:00 AM
12:00 AM
Data Type
Speed
Color Thresholds
0
50
10 mph
20 mph
30 mph
40 mph
50 mph
Display options
November 23, 2016
12 AM
2 AM
4 AM
6 AM
8 AM
10 AM
12 PM
2 PM
4 PM
6 PM
8 PM
10 PM
5mi
10mi
15mi
20mi
25mi
270 SB
270 NB
495 CCW
495 CW
MD-118/EXIT 15
MD-124/QUIN...
I-370/SAM EI...
SHADY GROVE...
MD-28/MONT...
MD-189/FALLS...
MONTROSE R...
I-270
I-270 SPUR
MD-190/RIVE...
CLARA BARTO...
VA-193/GEOR...
VA-267/EXIT 12
VA-7/LEESBUR...
I-66/EXIT 9

7 Saturdays in 2013 (before work to remove 3 signals)



7 Saturdays in 2016 (after removal of signals)

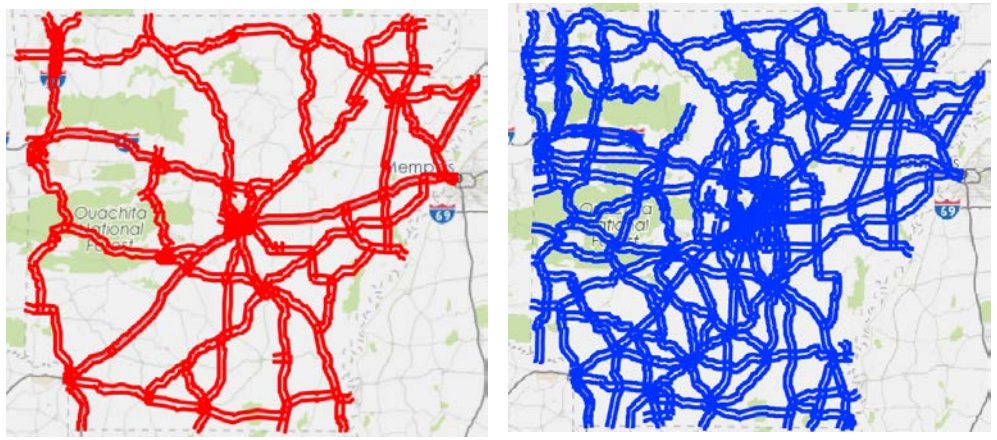
Look-back mapping for bottlenecks, traffic, weather, etc.



NPMRDS Dataset Expansion Options (there are two)

1. **NPMRDS Data Backfill Option**
   - Processing and coverage differences between NPMRDS v1 and NPMRDS v2 (INRIX/UMD supplied) make target-setting difficult
   - Adds to the basic MAP-21 PM3 computation and visualization tools
   - Extends NPMRDS dataset in same formats/road segments back to January 1, 2016 (adds data from 1/1/16 through 1/31/17)
   - Means 24 months of consistent data available for us in target-setting of LOTTR, TTTR and (where applicable) PHED
2. **NPMRDS Data Expansion Option**
   - Option to add to the full NPMRDS Analytics tools option
   - Includes data backfill option
   - Expands dataset to all TMCs in the US, from January 2016 forward
   - Uploads new data weekly (or more frequent) vs. monthly for standard users
   - Enables statewide/region-wide analysis using NPMRDS-formatted data archive

Arkansas NPMRDS vs. Full TMC Coverage



State Cost (all options)

Statewide NHS Mileage (centerline miles)	State	Access to MAP-21 Tools for 5 years for the entire state and all MPOs with no usage or user limits	**Additional INRIX NPMRDS data (NHS only) from Jan. 2016 to support target setting and trend analysis**	NPMRDS deep-dive analytics and advanced visualizations for NHS (Congestion Scans, Animated Maps, Performance Charts & Summaries, and more)	**Additional NPMRDS-formatted data for ALL TMC segments--not just those that are part of the NHS. (with backfill to Jan 1, 2016)**
<2,500	AK, CT, DE, DC, HI, ME, MD, NH, PR, RI, VT, WV	$115,000/5 years	$35,000 (one time)	$90,000/year	$50k backfill setup + $25k/year
2,500 to 5,000	AL, AZ, AR, CO, ID, IN,KS,KY, LA, MA, MS, MN, NE, NV, NJ, NM, ND, OK, OR, SC, SD, TN, UT, VA, WA, WY	$135,000/5 years	$55,000 (one time)	$120,000/year	$70k backfill setup + $35k/year
>5,000	GA, IL, IA, MI, MN, MO, NY, NC, OH, PA, WI	$155,000/5 years	$75,000 (one time)	$160,000/year	$90k backfill setup + $45k/year
XL States	CA, TX FL	$180,000/5 years	$95,000 (one time)	$180,000/year	$125k backfill setup + $65k/year

MPO Costs

MPA Population	Representative MPOs	Access to MAP-21 Tools for 5 years for the MPO only with no usage or user limits	**Additional INRIX NPMRDS data (NHS only) from Jan. 2016 to support target setting and trend analysis**	NPMRDS deep-dive analytics and advanced visualizations (Congestion Scans, Animated Maps, Performance Charts & Summaries, and more)	**Additional NPMRDS-formatted data for ALL TMC segments--not just those that are part of the NHS. (with backfill to Jan 1, 2016)**
< 600,000	Mobile, Des Moines, Erie	$45,000/5 years	$12,500 (one time)	$15,000/year	$18k backfill setup + $7k/year
< 1,000,000	Akron, El Paso, Wilmington (DE)	$50,000/5 years	$17,500 (one time)	$22,400/year	$25k backfill setup + $14k/year
< 2.5 million	Milwaukee, Hampton Roads, Sacramento	$60,000/5 years	$25,000 (one time)	$33,600/year	$35k backfill setup + $19k/year
<8 million	Phoenix, Dallas-Ft. Worth, Philadelphia	$70,000/5 years	$35,000 (one time)	$46,400/year	$50k backfill setup + $28k/year
> 8 million	Chicago, New York, Los Angeles	$90,000/5 years	$46,000 (one time)	$60,000/year	$70k backfill setup + $39k/year

For more information, contact the CATT Lab

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