CATT LABORATORY

RITIS User Group

Web Meeting | May 5, 2022

In collaboration with THE EASTERN TRANSPORTATION COALITION

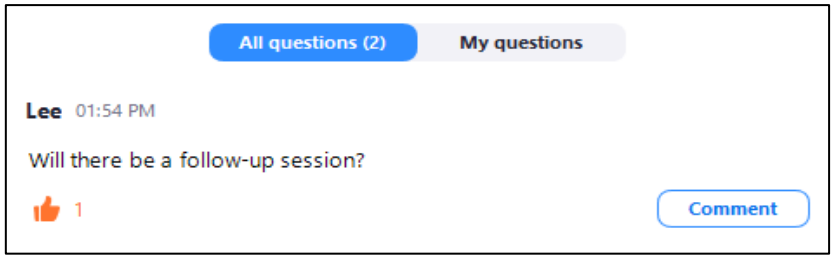
Welcome!

- We are using Zoom **Webinar**
- **AUDIO (Computer):** Use your computer speakers and microphone by clicking the "Join Audio" button at the bottom left of the screen. You will be muted.
- **Alternate Audio (Phone):** Call into the meeting by dialing the phone number based on your location (provided in the confirmation email) and enter the Meeting ID at the prompt. You will be muted.
- **This web meeting is being recorded.**
- **Questions** with the audio or web? Please contact Esther directly via email (ekleit@kmjinc.com)
- The **Chatbox** is not available to participants. Please use the **Q&A box** for questions to the presenters

Asking Questions in the Q&A Box

- Click on the Q&A icon at the bottom of your screen

- The questions in the Q&A box will be monitored and answered either between presentations or at the end of the meeting
- You can keep track of your questions in the “My Questions” tab in the Q&A box

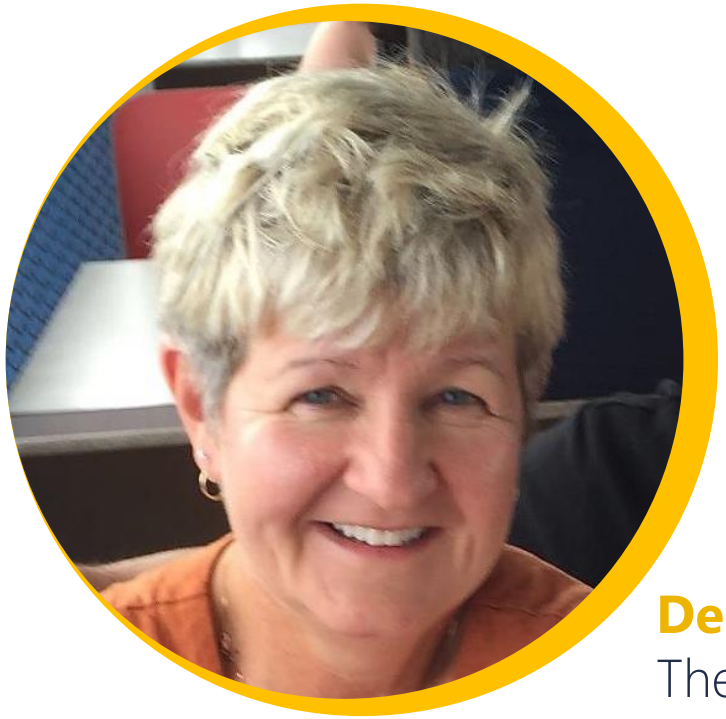


Asking Questions Verbally

- Please raise your hand *(click on the hand icon at the bottom of the screen)* and a host will unmute you.

- Please give your name and agency before asking your question
- **Please mute yourself when you are finished speaking**

Coalition Update



THE EASTERN TRANSPORTATION COALITION

Denise Markow
The Eastern Transportation Coalition
TSMO Program Director

Agenda

Topic	Speaker
Housekeeping	Joanna Reagle, KMJ
Coalition Update	Denise Markow, TETC
Welcome and Introductions Polling	Jesse Buerk, DVRPC
Spotlight Presentation: Using RITIS Tools to Analyze Congestion Impacts on Las Vegas Boulevard	Ian Machen, Ludian
New RITIS Tools and Recent Enhancements Enhancement Demo	Michael Pack and Charles Lattimer, UMD CATT Lab
RITIS Workshops Update	Rick Ayers
PDA Suite Performance Measures Working Group Update	John Allen, UMD CATT Lab
RITIS Product Enhancement Working Group Update	Michael Pack, UMD CATT Lab
Agency Input Session	All
Wrap Up and Remaining Questions	Jesse Buerk

THE EASTERN
TRANSPORTATION
COALITION

CONNECTING FOR SOLUTIONS

Coalition DATA Update

RECENT

- ✓ **TIS Web Summit: Improving Safety - Implementing New Travel Info Services for Commercial Vehicles** - March 17, 2022
- ✓ **RITIS Workshop: Building a Corridor Performance Summary Report** - March 29, 2022
- ✓ **RITIS Product Enhancement Working Group Web Meeting** - April 6, 2022
- ✓ **New England HOGs** - Using RWIS in Winter Operations - April 7, 2022
- ✓ **RITIS Workshop: Understanding O-D Data** - April 8, 2022
- ✓ **TDM Validation Tech Advisory Committee Meeting** – April 12, 2022
- ✓ **Electric Vehicle Workshop** - April 12-13, 2022 (invite only)
- ✓ **Making Sense of CAV Data Webinar** - April 28, 2022

UPCOMING

- ➢ **3rd Party Mapping Meeting (with Google Maps)** - June 2, 2022 (invite only)
- ➢ **TDM State Contracting Bi-Annual Meeting** - June 21, 2022 (invite only)
- ➢ **Waze Bi-Annual Meeting** - June 28, 2022 (invite only)

Transportation Data Marketplace Update

- The RFP process is complete
- Many thanks to the numerous agency members that participated
- The new **Transportation Data Marketplace** contract starts July 1, 2022
  - 6 Data Sets
    - Travel Time & Speed
    - Volume
    - Conflation
    - Waypoint
    - Origin Destination
    - Freight

Welcome & Introductions

Jesse Buerk
Manager, Office of Capital Programs
DVRPC
RITIS User Group Co-chair

Today's Speakers

Michael Pack
UMD CATT Lab
Director

Ian Machen,
Ludian
CEO

Charles Lattimer
UMD CATT Lab
Outreach & Business Development

Rick Ayers
UMD CATT Lab
Public Sector Advocate

John Allen
UMD CATT Lab
Faculty Assistant, Outreach & Education

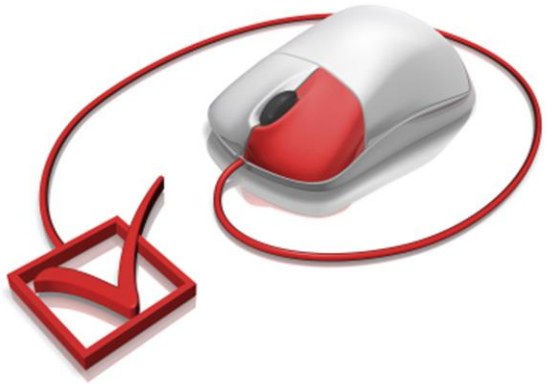
Meeting Participants

Agencies							
AASHTO	Chatham County - Savannah Metropolitan Planning Commission	City of Sandy Springs, GA	Florida's Turnpike Enterprise	Maricopa Association of Governments	MWVCOG	OMNIRIDE	Tennessee DOT
Alamo Area Metropolitan Planning Organization	Chattanooga TPO	City of West Memphis, AR	Georgia DOT	Maryland Department of Energy	Nebraska DOT	Oregon DOT	Texas AM Trans Inst. (TTI)
Arapahoe County	Chicago Metropolitan Agency for Planning	City of Winston Salem - DOT	Georgia Environmental Protection Division	Maryland DOT-SHA	New Jersey DOT	Pennsylvania DOT	The Mid-Ohio Regional Planning Commission
Arizona DOT	City of Alcoa, TN	Collier MPO	Illinois DOT	Maryland Transportation Authority	New Mexico DOT	PlanRVA	The University of Texas at San Antonio
Arkansas DOT	City of Alexandria, VA	Connecticut DOT	INRIX	Massachusetts DOT	New York City DOT	PVPC	Tri-County Regional Planning Commission
ATCS	City of Charlotte, NC	Corpus Christi MPO	Iowa DOT	Miami - Dade County	New York State DOT	Regional Transportation Commission of Southern Nevada	University of Maryland CATT Lab
Atlanta Regional Commission	City of Eugene, OR	District DOT	Kentuckiana RPDA	Miami Dade TPO	North Carolina DOT	Rhode Island DOT	Utah DOT
Baltimore Metropolitan Council	City of Franklin, TN	Durham-Chapel Hill-Carrboro MPO	Lehigh Valley Planning Commission	Michigan DOT	North Central Texas Council of Governments	SANDAG	Vermont AOT
Capital Area MPO (CAMPO-Raleigh)	City of Lexington, KY	DVRPC	Louisiana DOTD	Minnesota DOT	Northeast Ohio Areawide Coordinating Agency	Southern Georgia Regional Commission	Virginia DOT
Capital Region Planning Commission	City of Norwalk, CT	Federal Highway Administration	Ludian	M-NCPPC	Office of Intermodal Planning and Investment	Southwestern Pennsylvania Commission	
Charlotte DOT	City of Roswell	Florida DOT	Macomb Country Department of Roads	MWCOG	Ohio DOT	St. Lucie TPO	

Poll 1: How often do you attend RITIS User Group Web Meetings?

Answer Options:

1. 1-2 times per year
2. 3-4 times per year
3. This is my first meeting



Using RITIS Tools to Analyze Congestion Impacts on Las Vegas Boulevard

Ian Machen

CEO

Ludian

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Using RITIS Tools to Analyze Congestion Impacts on Las Vegas Boulevard

RITIS User Group Web Meeting • May 5, 2022

RTC

CLARK COUNTY NEVADA

RCMA

NEVADA RESORT ASSOCIATION

NEVADA DOT
SAFE AND CONNECTED

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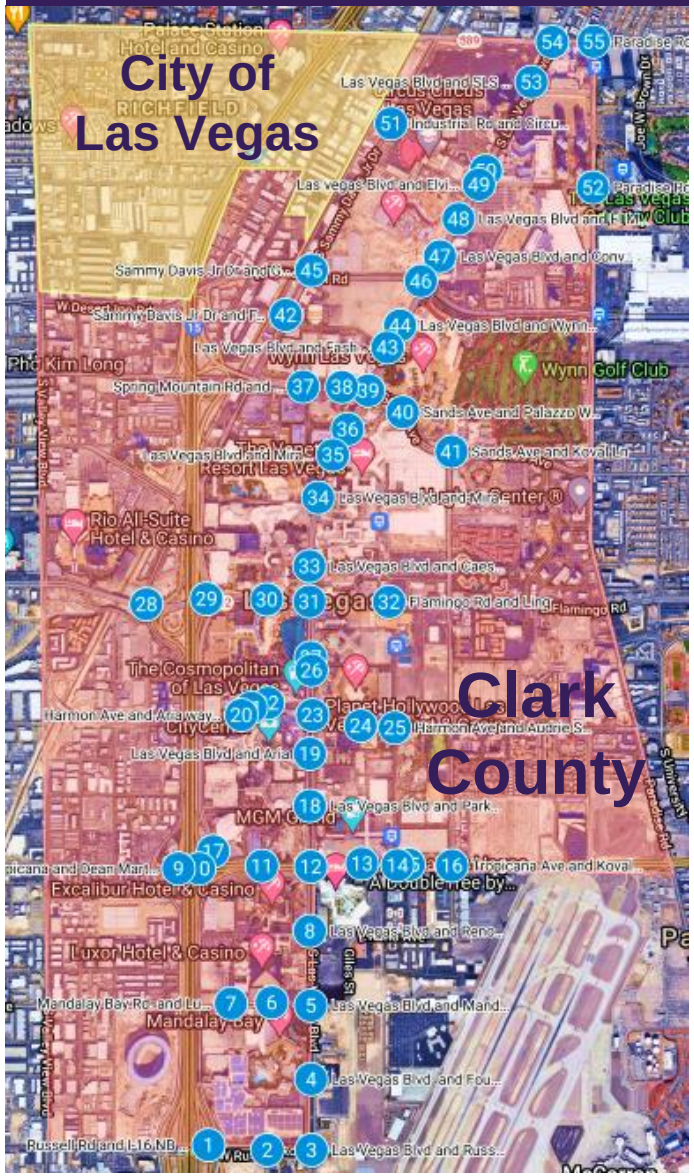
Project Brief

Study Area



Aim

- To explore the feasibility and potential for deployment of Adaptive Signal Controls (ASCT) in the Las Vegas Resort Corridor.

Study Area

- Bounded by Sahara Avenue, Paradise Road, Valley View Boulevard, and Russell Road and includes the commercial enterprises of major resorts and convention facilities in the area.

Total study area signalized intersections

- 55 signalized intersections

Project Stakeholders

- Regional Transportation Commission (RTC) of Southern Nevada
- Nevada Department of Transportation (NDOT)
- County of Las Vegas
- City of Las Vegas
- Las Vegas Resort Corridor Mobility Association (RCMA)
- Nevada Resort Association
- Las Vegas Convention and Visitors Authority (LVCVA)
- Parking and Transportation Group Las Vegas (PATGLV)
- MGM Resorts
- Caesars Entertainment
- Wynn/Encore Resorts
- The Venetian Resorts Las Vegas

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Background

Las Vegas Boulevard is one of the most famous streets in the world – attracting over **32 million visitors in 2021**

There are significant vehicle and pedestrian traffic flow conflicts…

- People are not stopping for vehicles
- Major safety concerns
- Inefficiencies in traffic

And multiple events happening at the same time…

- Allegiant Stadium & T-Mobile Arena Events
- Large concerts and Conventions
- Gambling events

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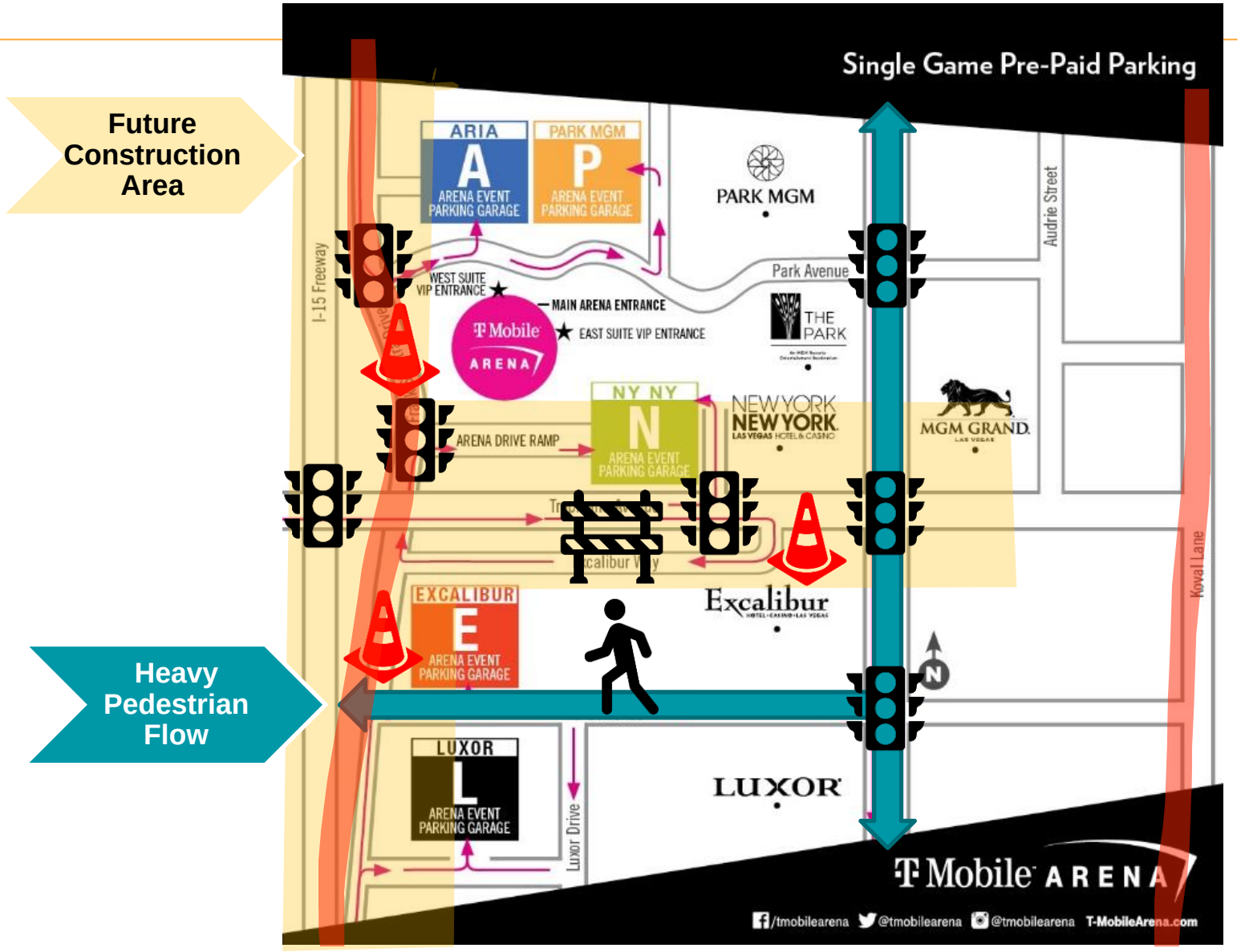
A Perfect Storm

- Future construction work
- Heavy pedestrian flow from large events
- Challenged traffic signals
- Congestion reroutes
- Limited space to increase capacity
- Increased residential
- Increased global and national travel population
- Limited count data available



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Summary of RITIS Tools Used

Bottleneck Ranking

Identify Top Bottleneck Locations

Trend Map

Determine Construction Impacts

Performance Charts

Determine Construction Impacts

Travel Time Delta Ranking

Determine Large Event Impacts

User Delay Cost Analysis

Calculate Annual Costs from Delay

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Bottleneck Ranking Tool

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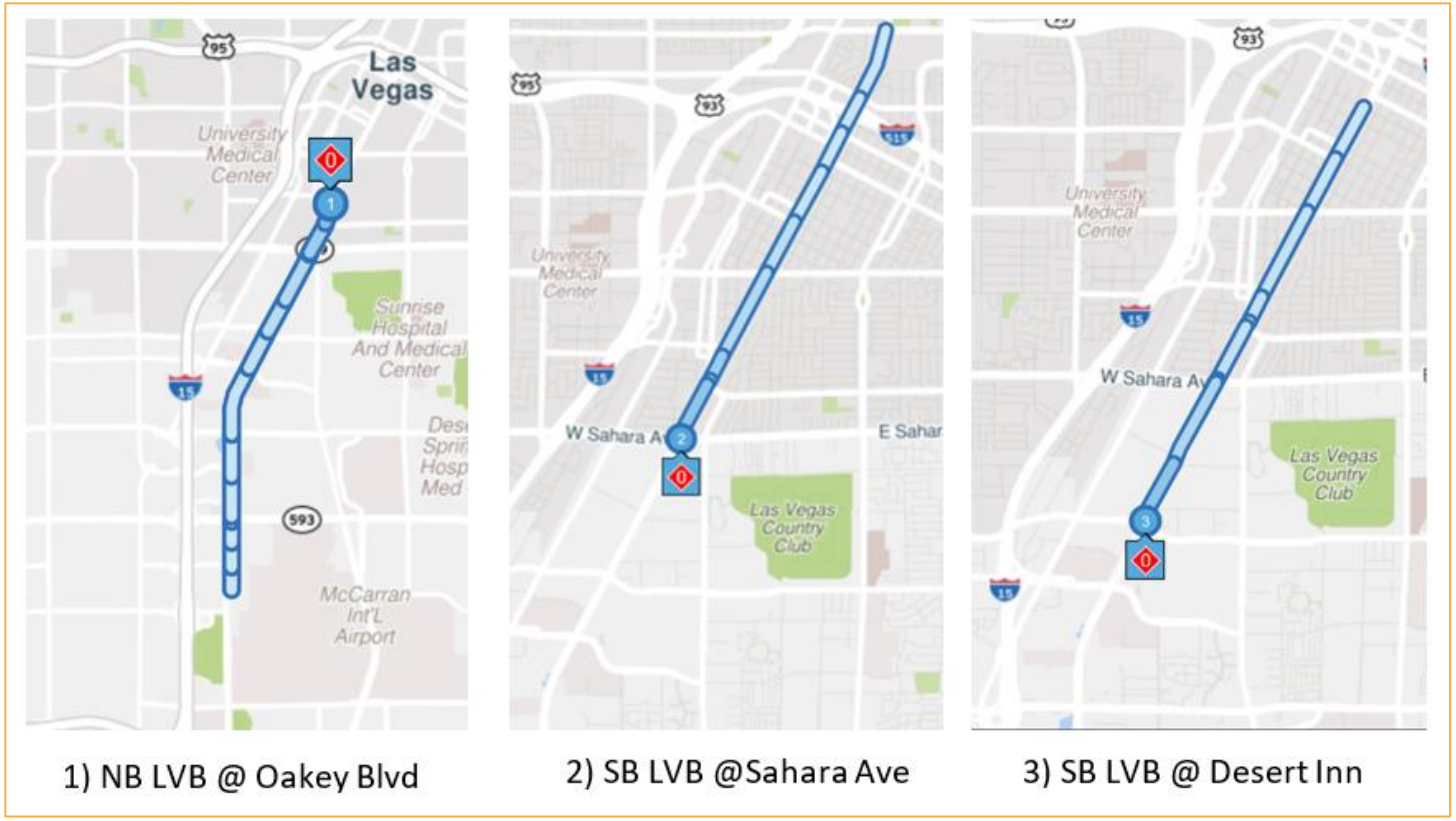
Top 3 Bottlenecks on LVB - 2021



1) NB LVB @ Oakey Blvd

2) SB LVB @Sahara Ave

3) SB LVB @ Desert Inn

Rank	Head Location	Average max length (miles)	Average daily duration (h - hours, m - minutes)	Total duration (d - days, h - hours, m - minutes)
1	NB LVB @ E OAKEY BLVD	0.68	3 h 5 m	47 d 1 h 29 m
2	SB LVB @ SAHARA AVE	0.82	1 h 50 m	28 d 0 h 52 m
3	SB LVB @ E DESERT INN RD	0.53	1 h 38 m	24 d 21 h 6 m

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Trend Map & Performance Charts Tools

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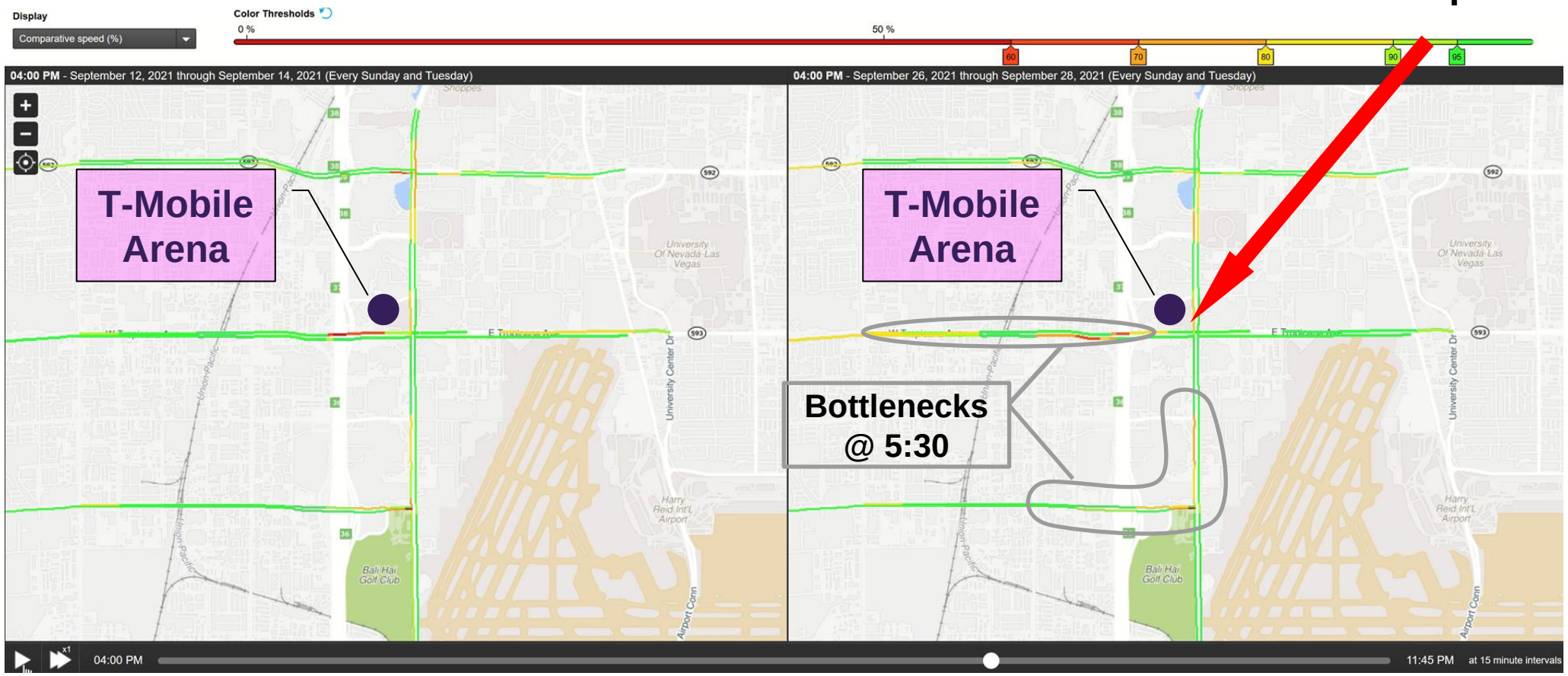
No-Game Event vs Game Event

Month: September 2021 **Time: 4:00pm- 7:00pm** **Event Starts: 7:00pm**

Congestion peaking @ 6:00pm



No-Game Event **Game Event**

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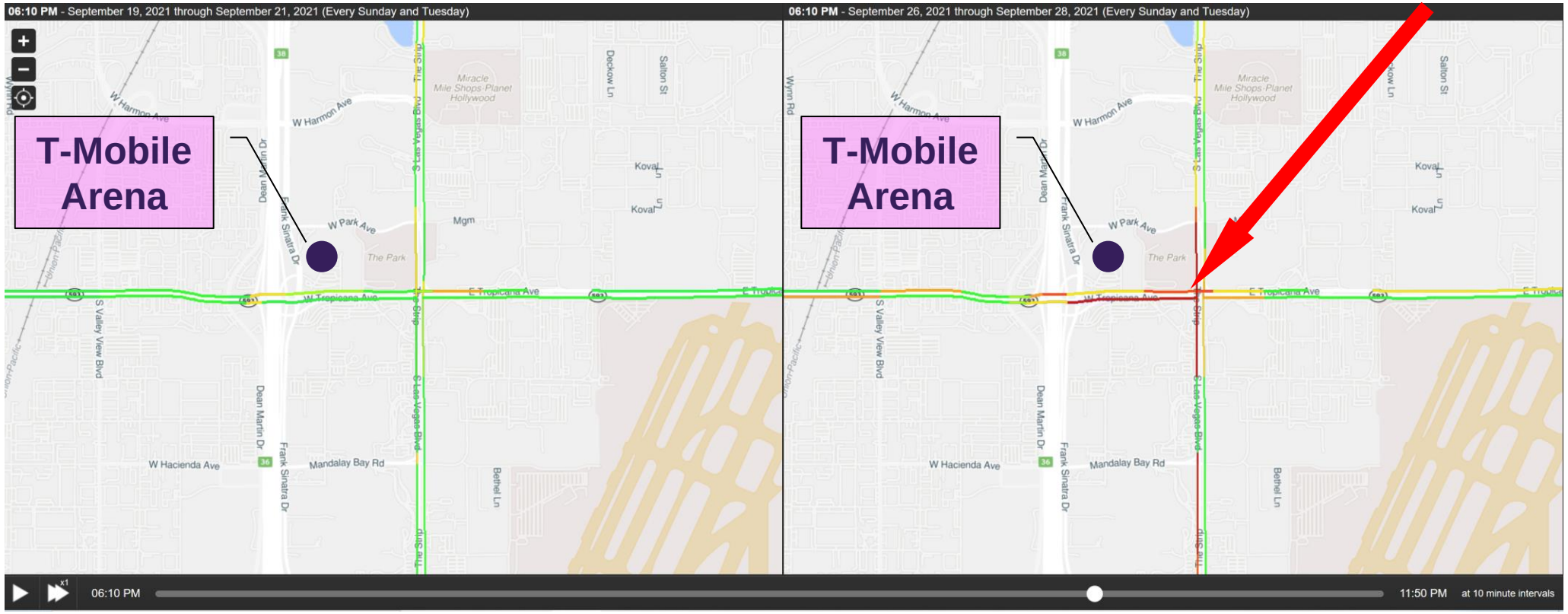
No-Game Event vs Game Event

Month: September 2021 **Time: 4:00pm- 7:00pm** **Event Starts: 7:00pm**

Congestion peaking @ 6:10pm



No-Game Event

Game Event

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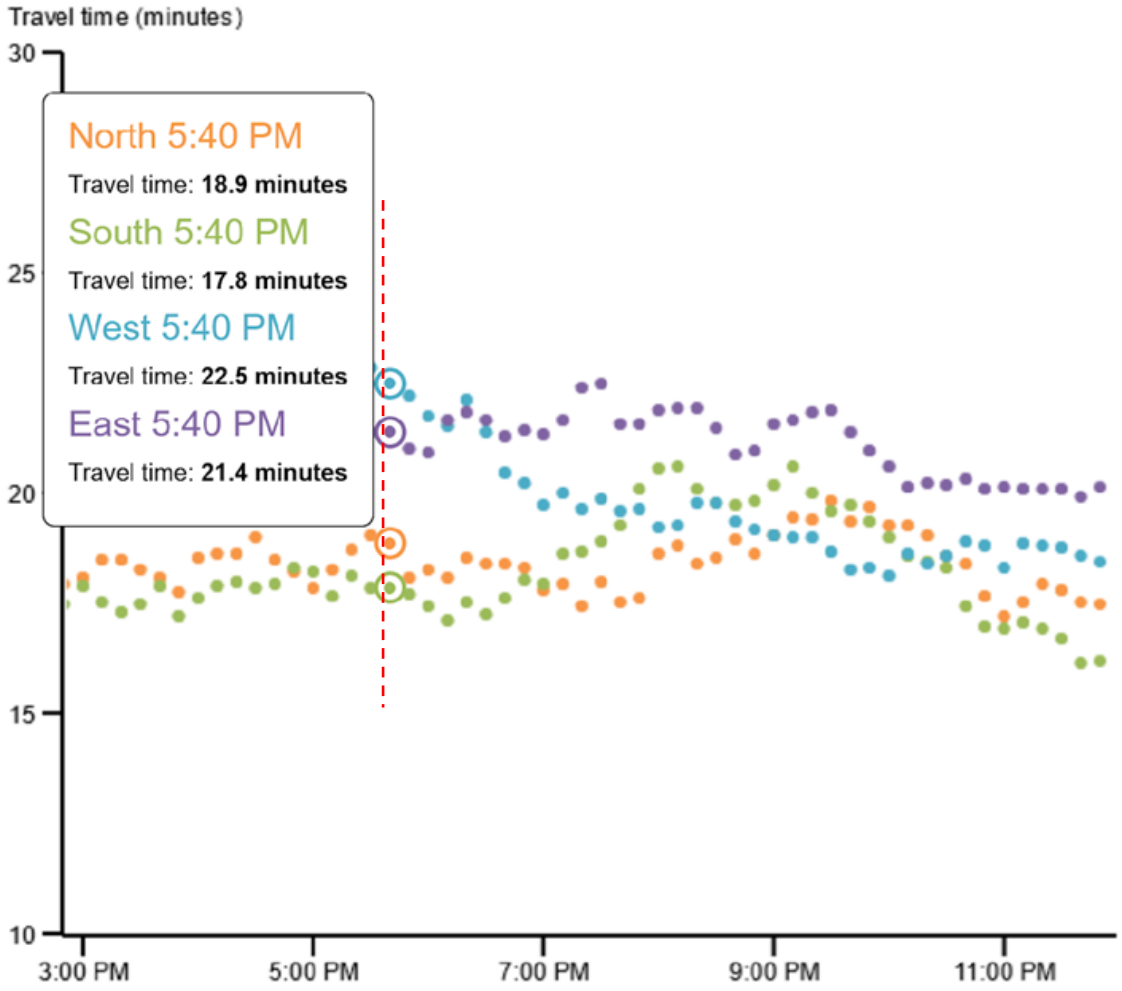
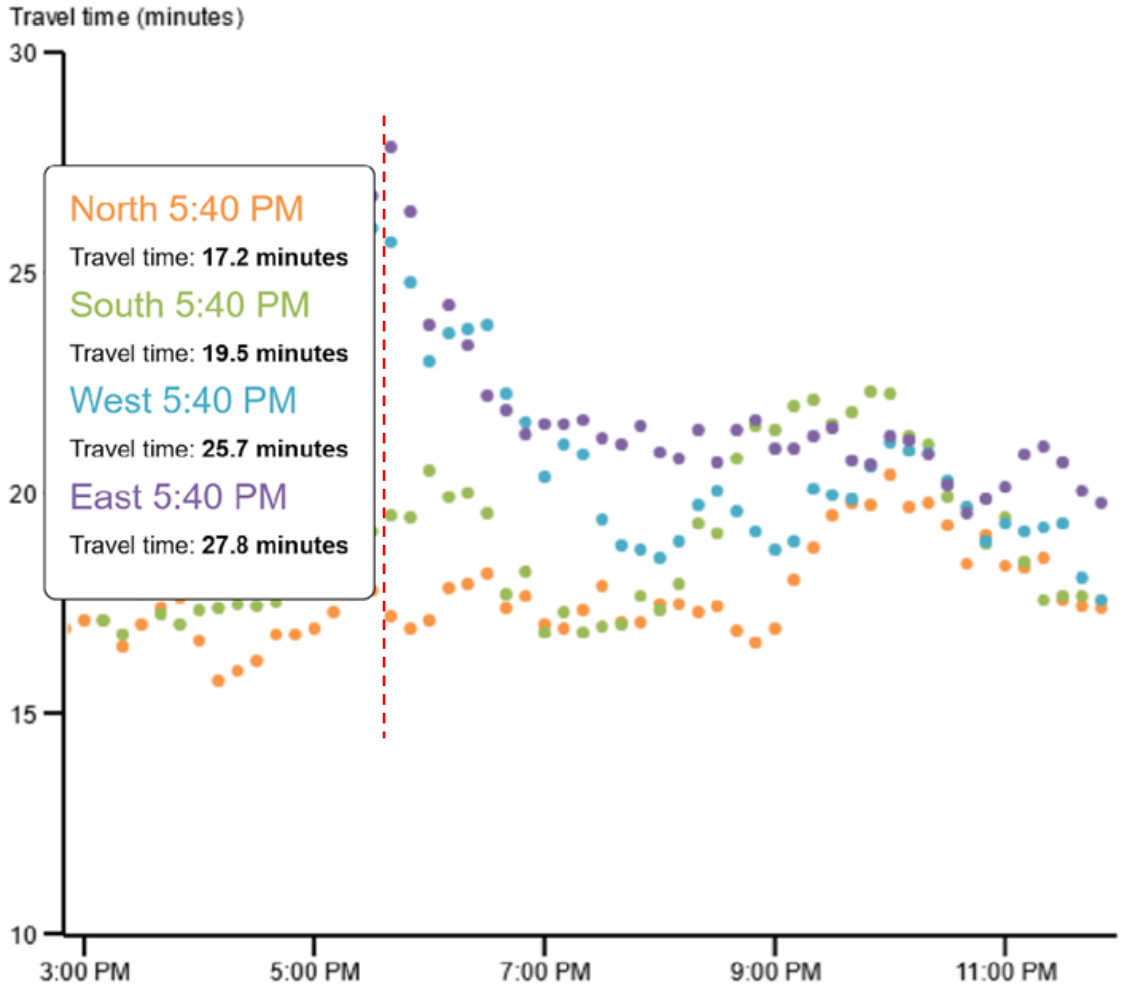
Travel Time Reliability on LVB

Non-Game Night



Game Night



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Travel Time Delta Ranking Tool

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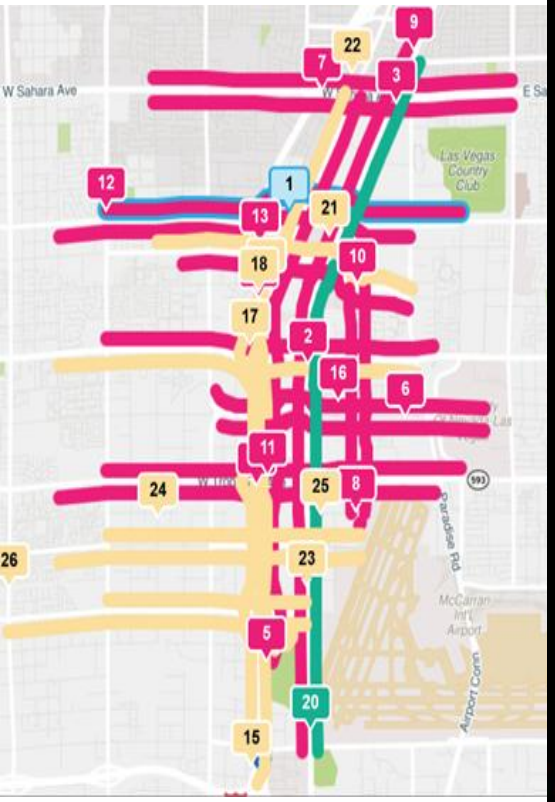
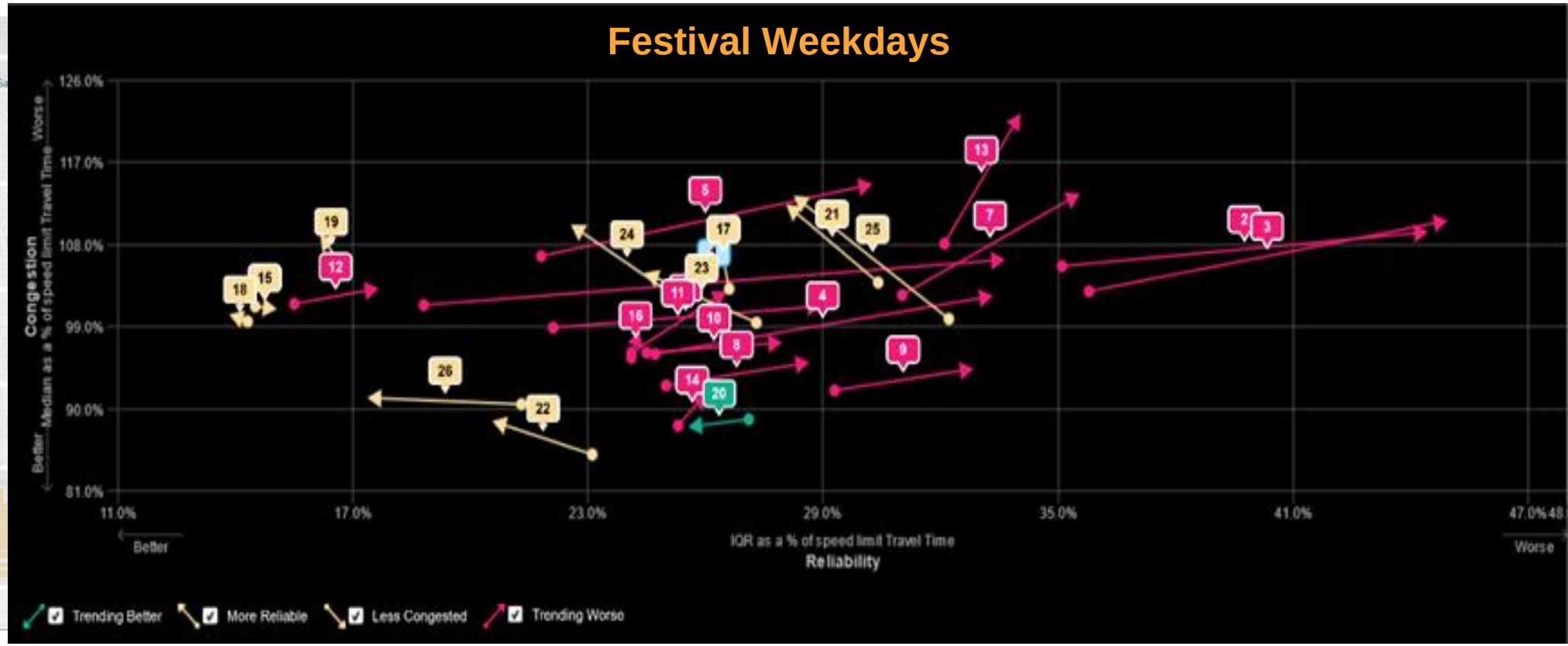
Travel Time Delta Ranking

Event: Electric Daisy Carnival (EDC) Festival • October 20th – 27th 2021 • Attendance: Approx. 500,000





= Trending Better = More Reliable = Less Congested = Trending Worse

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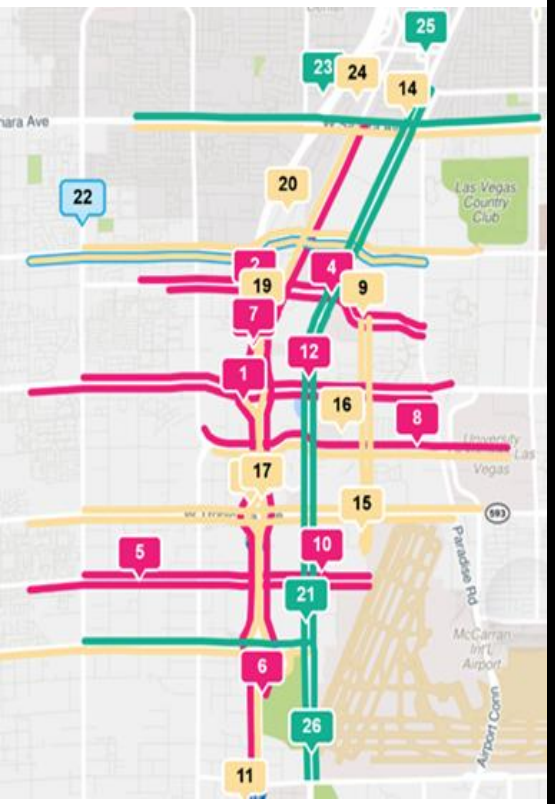
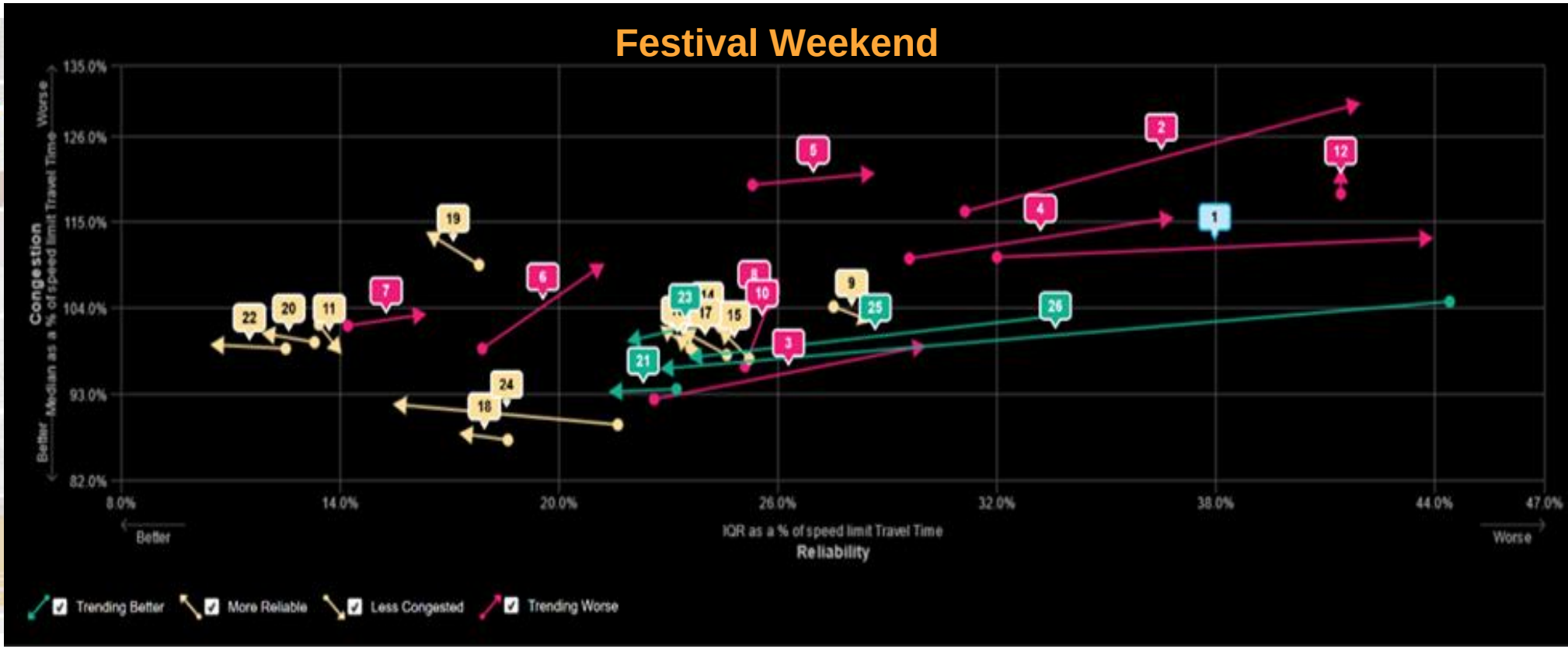
Travel Time Delta Ranking

Event: Electric Daisy Carnival (EDC) Festival • October 20th – 27th 2021 • Attendance: Approx. 500,000





= Trending Better = More Reliable = Less Congested = Trending Worse

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User Delay Cost Analysis Tool

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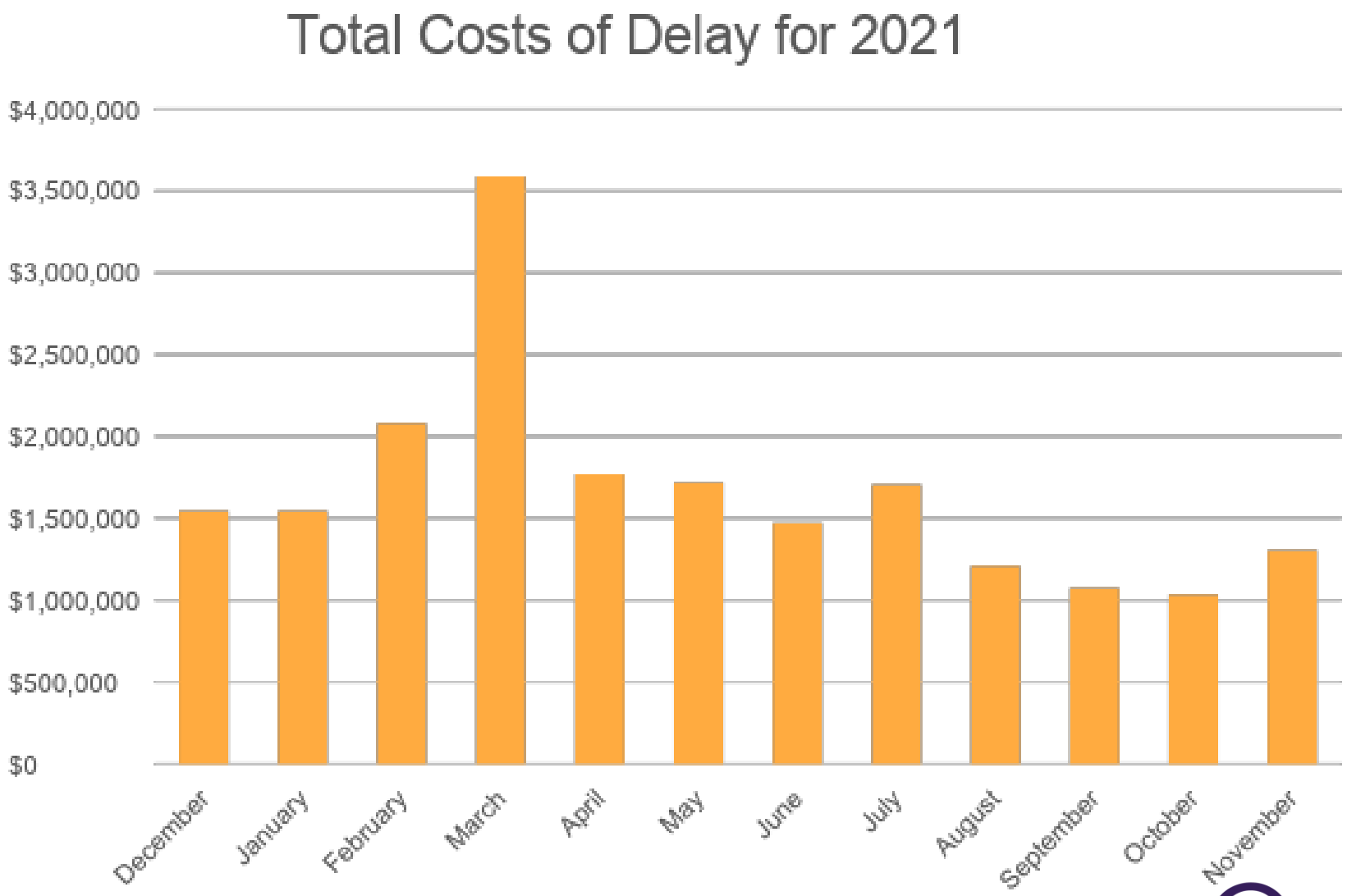
User Delay Cost Analysis

Total Vehicle Delay Cost for 2021

$20,053,450



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User Delay Cost Analysis – March 2021

12:00PM – 11:00PM

	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
3/01/21	$1K	$0.5K	$0.2K	$0.2K	$0.2K	$0.3K	$0.5K	$1.1K	$1.1K	$2.4K	$1.7K	$4.1K	$4.2K	$4.7K	$4.1K	$6.1K	$3.2K	$4.4K	$4K	$3K	$2.2K	$1.7K	$1K	$0.8K	$52.5K
3/02/21	$0.4K	$0.3K	$0.2K	$0.1K	$0.1K	$0.4K	$0.6K	$0.7K	$1.2K	$1.5K	$1.1K	$2.7K	$2.1K	$2.4K	$1.7K	$1.1K	$2K	$1.9K	$2.4K	$2.3K	$2.1K	$2.1K	$1.1K	$0.7K	$31.3K
3/03/21	$0.5K	$0.2K	$0.2K	$0.2K	$0.2K	$0.3K	$0.5K	$0.8K	$0.8K	$0.8K	$0.8K	$2.4K	$2.3K	$2.4K	$1.5K	$2.4K	$2.9K	$2.1K	$1.5K	$2K	$2.6K	$2.3K	$1.3K	$0.8K	$31.5K
3/04/21	$0.5K	$0.2K	$0.2K	$0.1K	$0.2K	$0.3K	$0.6K	$1.4K	$1.3K	$1K	$1K	$2.4K	$3.4K	$2.5K	$1.4K	$3.9K	$4.1K	$2.4K	$1.3K	$1.9K	$2.8K	$2.3K	$2.6K	$1.7K	$30.6K
3/05/21	$0.7K	$0.8K	$0.2K	$0.2K	$0.4K	$0.2K	$0.8K	$1.1K	$1.3K	$1.6K	$2.1K	$4.1K	$4.9K	$3.8K	$5.5K	$4.1K	$5K	$4.8K	$6.8K	$5.3K	$6.8K	$7.1K	$8.7K	$4.6K	$80.9K
3/06/21	$3K	$2.2K	$1K	$0.3K	$0.2K	$0.3K	$0.2K	$0.7K	$0.9K	$2.5K	$5.5K	$8.7K	$7.7K	$7.1K	$11.2K	$7.7K	$8.3K	$9.2K	$9.8K	$8.2K	$11.5K	$10.2K	$14K	$8.7K	$138.9K
3/07/21	$3.9K	$1.9K	$1.1K	$0.3K	$0.1K	$0.2K	$0.3K	$0.8K	$1.3K	$2.9K	$6.6K	$8.1K	$8.7K	$7.7K	$8.7K	$8K	$7.6K	$5.4K	$5.6K	$4.5K	$5.2K	$4.7K	$2K	$1.9K	$93.7K
3/08/21	$0.9K	$0.5K	$0.4K	$0.1K	$0.1K	$0.2K	$0.8K	$1K	$1K	$2.9K	$3.8K	$4.7K	$5.6K	$4.4K	$3K	$4.5K	$3.1K	$3.3K	$4.4K	$2.9K	$2.9K	$2.5K	$1.8K	$1.2K	$56.2K
3/09/21	$0.8K	$0.2K	$0.2K	$0.1K	$0.1K	$0.2K	$0.5K	$0.8K	$1.1K	$1.9K	$2.6K	$2.9K	$3.7K	$3.3K	$3.6K	$4.6K	$4.5K	$2.9K	$2.8K	$3.6K	$3.6K	$2.5K	$1.7K	$0.8K	$49.3K
3/10/21	$0.5K	$0.2K	$0.2K	$0.1K	$0.1K	$0.3K	$0.9K	$0.9K	$1.4K	$0.9K	$1.5K	$3.1K	$3.7K	$3K	$2.8K	$3K	$3.8K	$4.3K	$2.3K	$3.1K	$3.1K	$2.6K	$1.8K	$1.3K	$44.9K
3/11/21	$0.7K	$0.4K	$0.3K	$0.2K	$0.2K	$0.2K	$0.6K	$1.4K	$1.3K	$1.3K	$2.2K	$3.1K	$3.7K	$4.1K	$4.5K	$6.6K	$6.2K	$14.2K	$4.6K	$2.7K	$2.9K	$3.1K	$2.6K	$2.5K	$69.7K
3/12/21	$1.6K	$1.3K	$0.4K	$0.2K	$0.3K	$0.3K	$1.4K	$1.6K	$1.8K	$2.2K	$2.2K	$4.4K	$6.8K		$11K	$18.6K	$11.4K	$7.6K	$9.6K	$10.7K	$9.8K	$8.6K	$7.6K		$131.4K
3/13/21	$3.1K	$1.9K	$0.5K	$0.4K	$0.2K	$0.2K	$0.5K	$0.6K	$1.8K	$2.6K	$5.8K	$13	$13.9K	$13.9K	$20K	$19.1K	$18.1K	$18.9K	$13.2K	$16.6K	$20.8K	$21K	$19.8K	$12.8K	$238.5K
3/14/21	$6.3K	$2.4K	N/A	$0.4K	$0.2K	$0.3K	$0.6K	$1.1K	$1.2K	$2.7K	$7.2K	$11.9K	$13.3K	$10.2K	$10.7K									$2K	$139.7K
3/15/21	$1.1K	$1.1K	$0.5K	$0.2K	$0.3K	$0.5K	$0.7K	$1.3K	$1.4K	$1.6K	$4.5K	$11.8K	$11.2K	$12K	$13.4K	$17.1K	$10.1K	$5.6K	$4.5K	$5.3K	$4.2K	$2.9K	$2.2K	$1.8K	$115.4K
3/16/21	$1.3K	$0.7K	$0.3K	$0.2K	$0.2K	$0.2K	$0.9K	$1.3K	$1.7K	$2.4K	$3.7K	$3.8K	$4.8K	$4.5K	$4.7K	$8.6K	$7.7K	$6K	$4.4K	$5.5K	$5.7K	$4.3K	$2.9K	$2.2K	$78.2K
3/17/21	$1.5K	$0.6K	$0.2K	$0.1K	$0.3K	$0.5K	$0.8K	$1.6K	$2.5K	$2.1K	$3.4K	$4.8K	$5.8K	$6.6K	$6.1K	$11K	$7K	$6.6K	$3.4K	$5.6K	$5.7K	$4.2K	$4.3K	$2.4K	$80.9K
3/18/21	$1.2K	$1.1K	$0.3K	$0.2K	$0.2K	$0.5K	$0.6K	$1K	$1.9K	$1.3K	$1.5K	$3.4K	$5.9K	$5.7K	$10.5K	$14.4K	$9K	$5.1K	$5.7K	$6.2K	$6.1K	$5.9K	$6.3K	$3.5K	$97.7K
3/19/21	$3.7K	$1.7K	$0.7K	$0.4K	$0.4K	$0.4K	$0.7K	$1.5K	$1.8K	$2.6K	$2.9K	$5.4K	$7.9K							$14.3K	$14.7K				$169.2K
3/20/21	$6.8K	$2.7K	$1.5K	$0.6K	$0.3K	$0.3K	$0.5K	$0.9K	$1.5K	$4.1K	$6.5K	$11	$12.8K	$16.9K	$17.8K	$14.3K	$13.9K	$14.9K	$12.4K	$11.2K	$18.9K	$17.6K	$27.1K	$19.4K	$234.4K
3/21/21	$7.4K	$2.9K	$1.3K	$0.3K	$0.3K	$0.2K	$0.4K	$0.8K	$1.9K	$3K	$6.6K	$12.5K	$12.5K	$11.2K				$10K	$12.7K	$12.7K					$160.9K
3/22/21	$1.8K	$1.4K	$0.5K	$0.2K	$0.2K	$0.4K	$1.1K	$1.7K	$3.5K	$3.1K	$5.3K	$9.3K	$13.3K	$12K	$12.2K	$13.5K	$13.1K	$11.6K	$8.6K	$7.4K	$7.6K	$5.9K	$3.4K	$1.8K	$138.9K
3/23/21	$1.5K	$0.7K	$0.4K	$0.2K	$0.2K	$0.4K	$0.7K	$1.9K	$2.3K	$3.6K	$8.3K	$9.3K	$11.9K	$12.8K	$13.3K	$18.4K	$17.4K	$11.2K	$7.3K	$8.4K	$7.1K	$5.2K	$3.2K	$1.8K	$145.5K
3/24/21	$0.8K	$0.8K	$0.2K	$0.2K	$0.2K	$0.4K	$0.8K	$1.7K	$1.8K	$2.4K	$2.8K	$6K	$7.4K	$6.4K	$8.8K	$9K	$9.5K	$6.8K	$5.4K	$5.5K	$7K	$5.2K	$5.1K	$2.1K	$96.4K
3/25/21	$1K	$1K	$0.4K	$0.2K	$0.3K	$0.4K	$0.7K	$1.5K	$2.3K	$2.4K	$5.4K	$8.2K	$7.7K	$7.1K	$7.5K	$10K	$7K	$7.8K	$8.4K	$6.4K	$7.1K	$7.4K	$6.1K	$6.2K	$112.5K
3/26/21	$3.1K	$1.4K	$0.5K	$0.2K	$0.3K	$0.4K	$1.1K	$1.5K	$2.1K	$2.1K	$4.5K	$9.7K	$11K		$14.4K	$14K	$12.1K	$15.4K	$14K	$13.9K	$17.2K	$15.5K	$21.8K		$203.9K
3/27/21	$6.8K	$3.7K	$1.3K	$0.6K	$0.2K	$0.4K	$0.4K	$1K	$1.8K	$3.3K	$8.1K	$13.2	$17.5K	$19.1K	$20.2K	$19.2K	$19.9K	$20K	$21K	$17.4K	$23.4K	$18.2K	$32.8K	$24.3K	$293.5K
3/28/21	$11.6K	$5.4K	$1.3K	$0.5K	$0.4K	$0.3K	$0.4K	$0.9K	$2.1K	$3.2K	$7.7K	$15.7K	$16.1K	$14.8K	$15.8K									$4.5K	$222.4K
3/29/21	$1.9K	$1.2K	$0.5K	$0.3K	$0.2K	$0.4K	$1.2K	$2.3K	$3.1K	$4.4K	$6.3K	$10.5K	$13.8K	$12.7K	$15.8K	$13.9K	$15.3K	$17.9K	$9.3K	$8.1K	$7.7K	$6.1K	$4.9K	$2.2K	$160.1K
3/30/21	$1.6K	$0.8K	$0.2K	$0.1K	$0.3K	$0.2K	$1K	$1.6K	$2.3K	$2.9K	$5.4K	$2.7K	$4.4K	$4K	$5K	$5.3K	$1.4K	$4K	$2.7K	$3.1K	$3.1K	$2K	$0.8K	$0.3K	$58.1K
3/31/21	$0.2K	$0.1K	$0.1K	$0.1K	$0.1K	$0.1K	$0.3K	$1.3K	$1.2K	$0.8K	$1.4K	$3.6K	$5.1K	$7.5K	$9.5K	$9K	$2K	$4K	$4.9K	$3.3K	$4.7K	$4.2K	$3.5K	$1.6K	$68.7K

Saturday 3/13/2021 Daily Totals: $238,500

Saturday 3/20/2021 Daily Totals: $234,000

Saturday 3/27/2021 Daily Totals: $293,500

Ludian
Intelligence In Mobility

Project Takeaways

Through our analysis, the RTC of Southern Nevada determined that the ***implementation of ASCT on Las Vegas Boulevard is feasible.***

Our Recommendations

- Build a Concept of Operations Document for ASCT
- Re-time traffic signals on enable traffic counting on all project intersections
- Implement pedestrian-only phases
- Create an automated alert/exception reporting system on detection issues, phase failures, unused green time
- Deploy ASCT
- Deploy Bluetooth technology or use Big Data for deeper analysis

Importance of Data Visualization in Our Project Development Process

Data Visualizations can ***inform***, ***spur action***, and ***improve decision-making***…

Perceiving

What does it **show**?

Interpreting

What does it **mean**?

Comprehending

What does it **mean to me** and how does it **resonate with the public**?

Using RITIS tools allowed us to:

- Comprehensively evaluate a complex SAFETY & TRAFFIC FLOW situation in an important economic corridor
- Develop simple, effective and persuasive data visualizations to inform stakeholders
- Create a baseline to use for A future evaluation of implementing Adaptive Signal Control Technology

Ludian
Intelligence In Mobility

Thank you!

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RITIS | PROBE DATA ANALYTICS SUITE

New RITIS Tools and Recent Enhancements

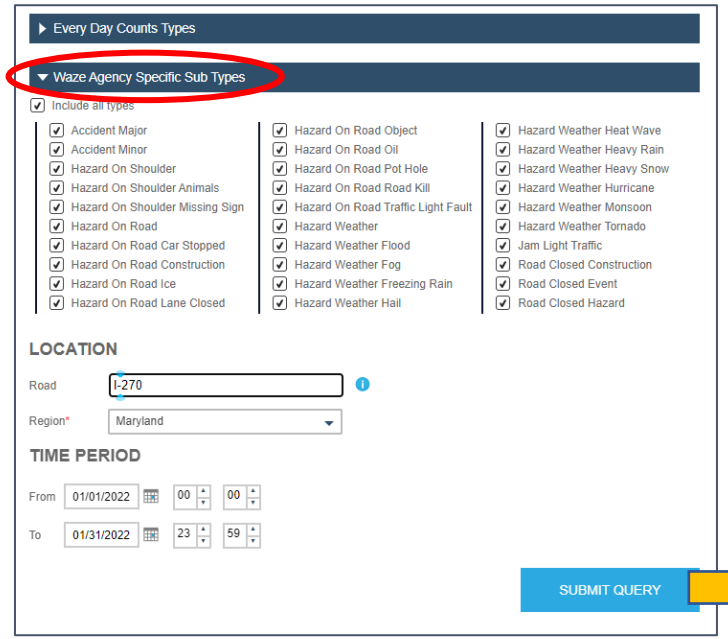
Michael Pack
UMD CATT Lab
Director

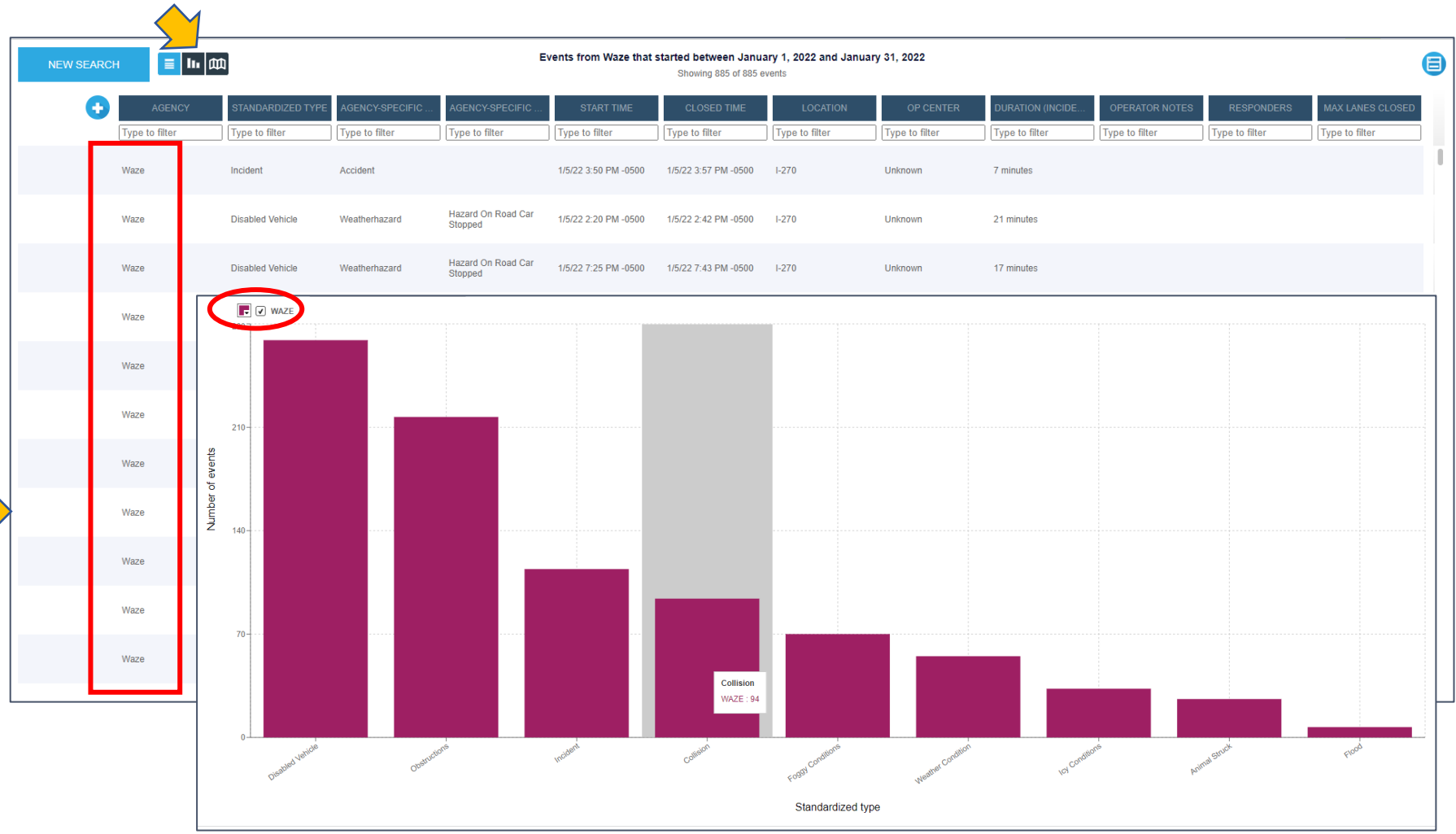
Charles Lattimer
UMD CATT Lab
Outreach & Business Development

RITIS

Event Query Tool **New Features**

We added functionality within **Event Query Tool** to support queries on historical Waze data

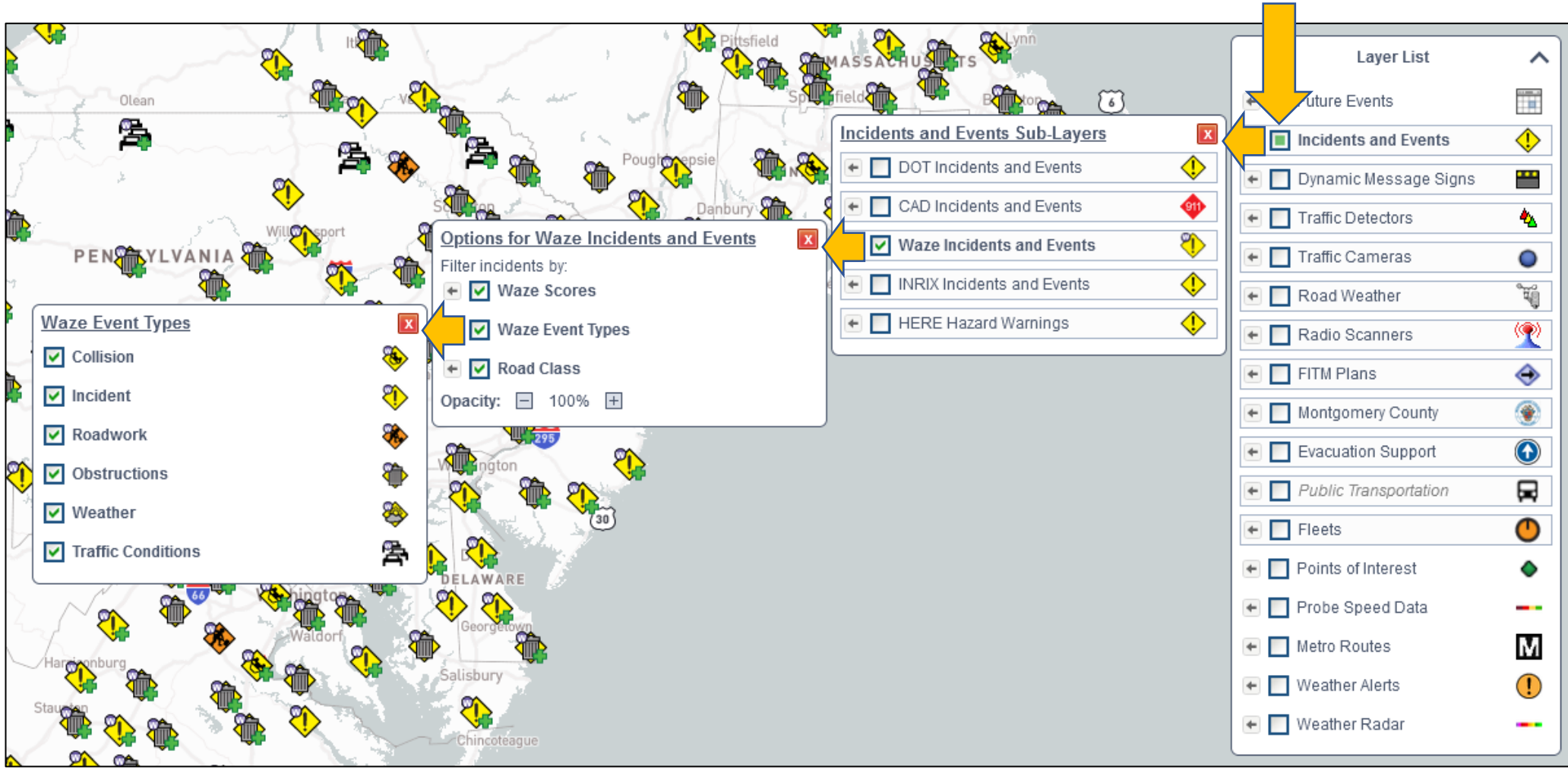




https://ritis.org/release_notes

Event Query Tool **New Features** (cont'd.)

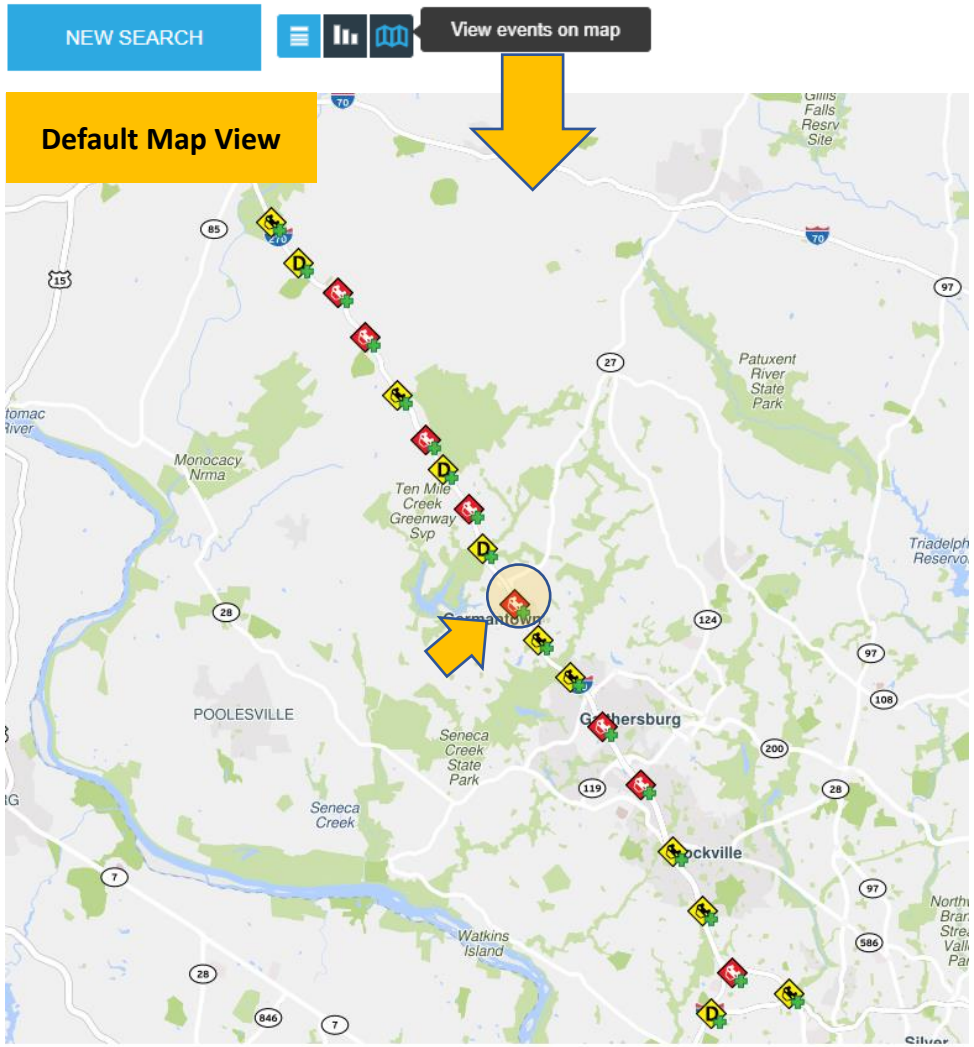
Enabled initial support for a more complete **Waze Incidents and Events** map layer, including Waze Scores, Waze Event Types, and Road Class.

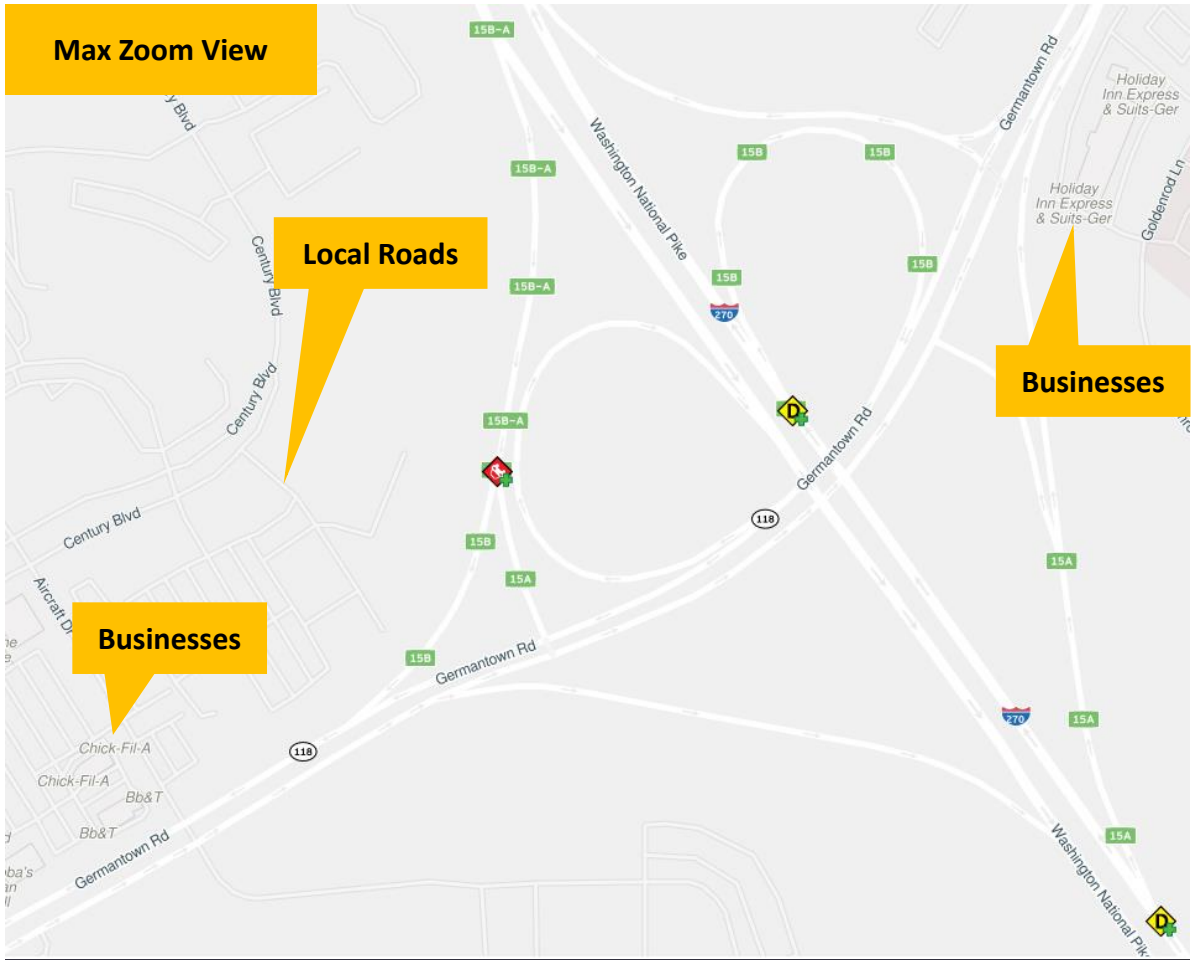


https://ritis.org/release_notes

Event Query Tool **Enhancements** (cont'd.)

We also adjusted the maximum zoom level, allowing the map to show greater detail





https://ritis.org/release_notes

Data Source **Updates**

Added fields in Event Query Tool and APIs to better support Waze events

Updated FDOT CCTV feeds to support new access protocols

Added support for the Capital Bikeshare data source via API

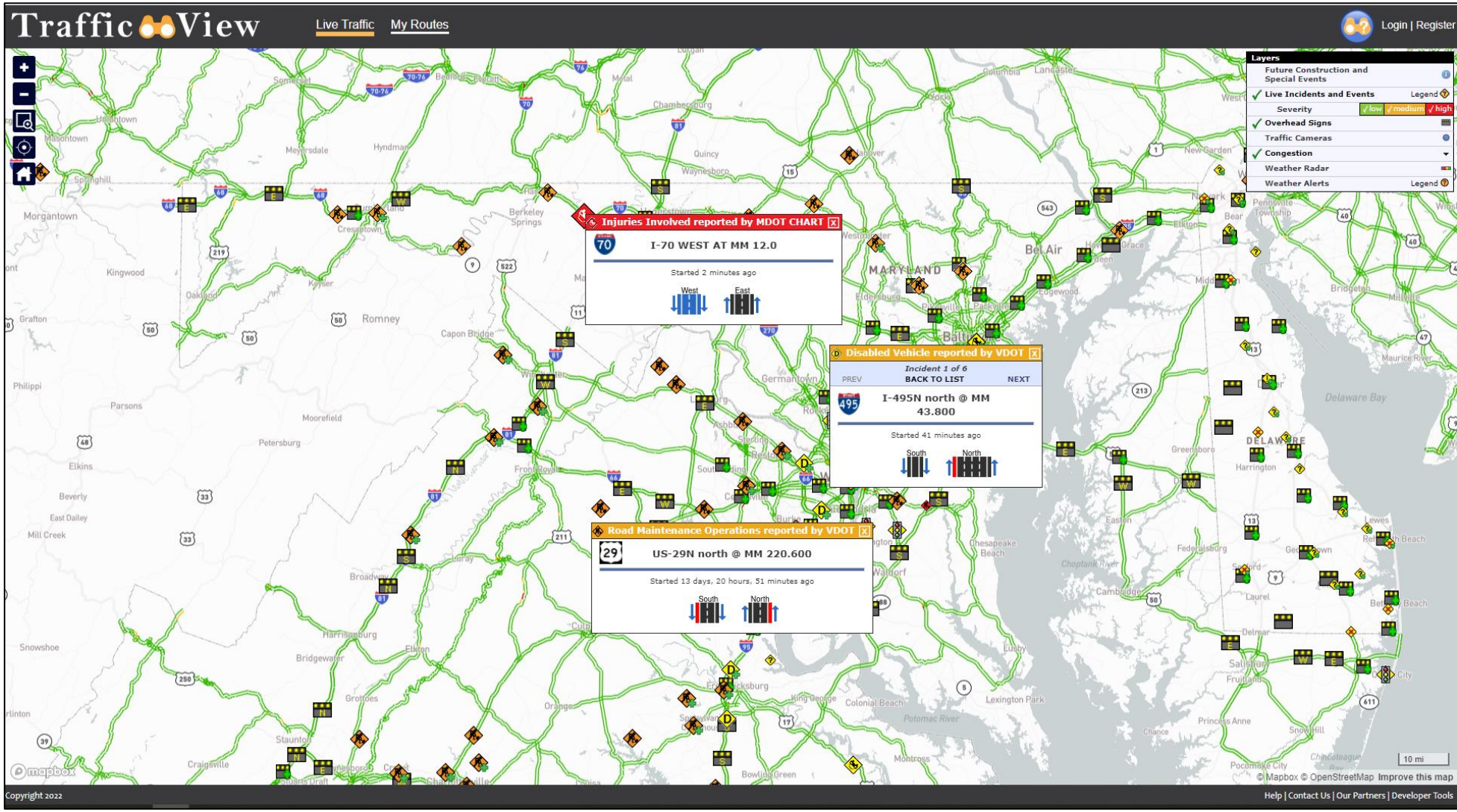
Updated Caltrans' data feed to support new CCTV functionality & improve handling of timestamps

Added VDOT Wavetronix radar TSS data

https://ritis.org/release_notes

TrafficView Improvements

Improved the layout of popups on the **TrafficView Live Incidents & Events** layer.



https://ritis.org/release_notes

Corrected Issues

- ✓ Corrected the time zone names on the **Traffic Map Weather Radar** layer, and fixed an issue that prevented the layer from loading when malformed data was present
- ✓ Fixed issues in **WZPMA** related to UDC and daylight-saving time
- ✓ Fixed a minor missing data error in the **VDOT short-term weather data feed**
- ✓ Fixed an issue that prevented loading static **CCTV streams** with special characters in their addresses
- ✓ Fixed an issue on the **Traffic Cameras** page that prevented popups from opening when a map icon was clicked immediately after the page had loaded

https://ritis.org/release_notes

Probe Data Analytics Suite

PDA Suite **Updates**

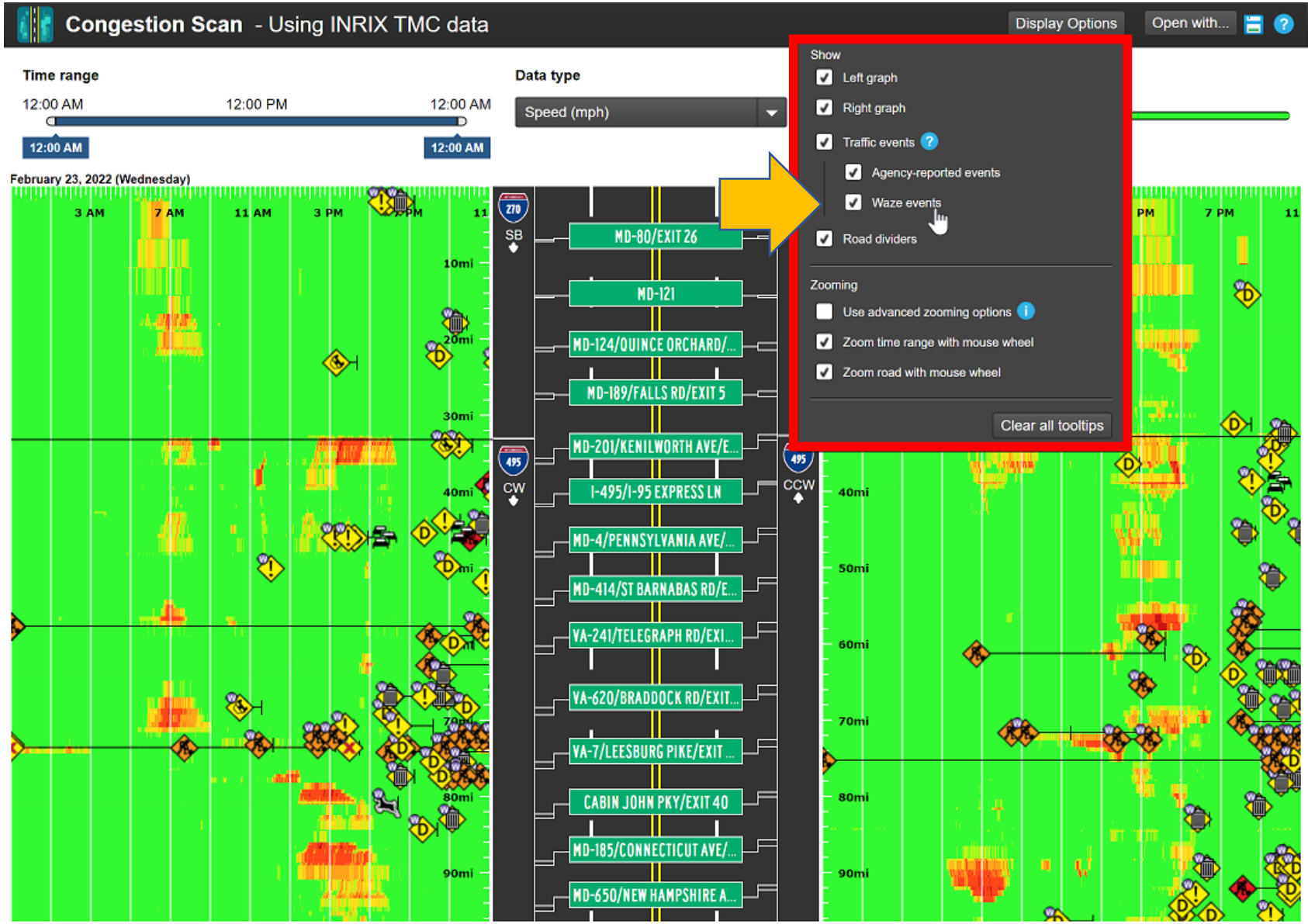
Today we are updating our first batch of tools to support Waze events data: Congestion Scan, Trend Map, and Region Explorer.

Waze events are indicated with a Ⓦ annotation on the icons.

The icons' visibility is optional on all tools and can be toggled in the Display Options.

Waze events have been added to Congestion Scan results alongside agency events.

Keep in mind that events are only included for scans that cover a single day.



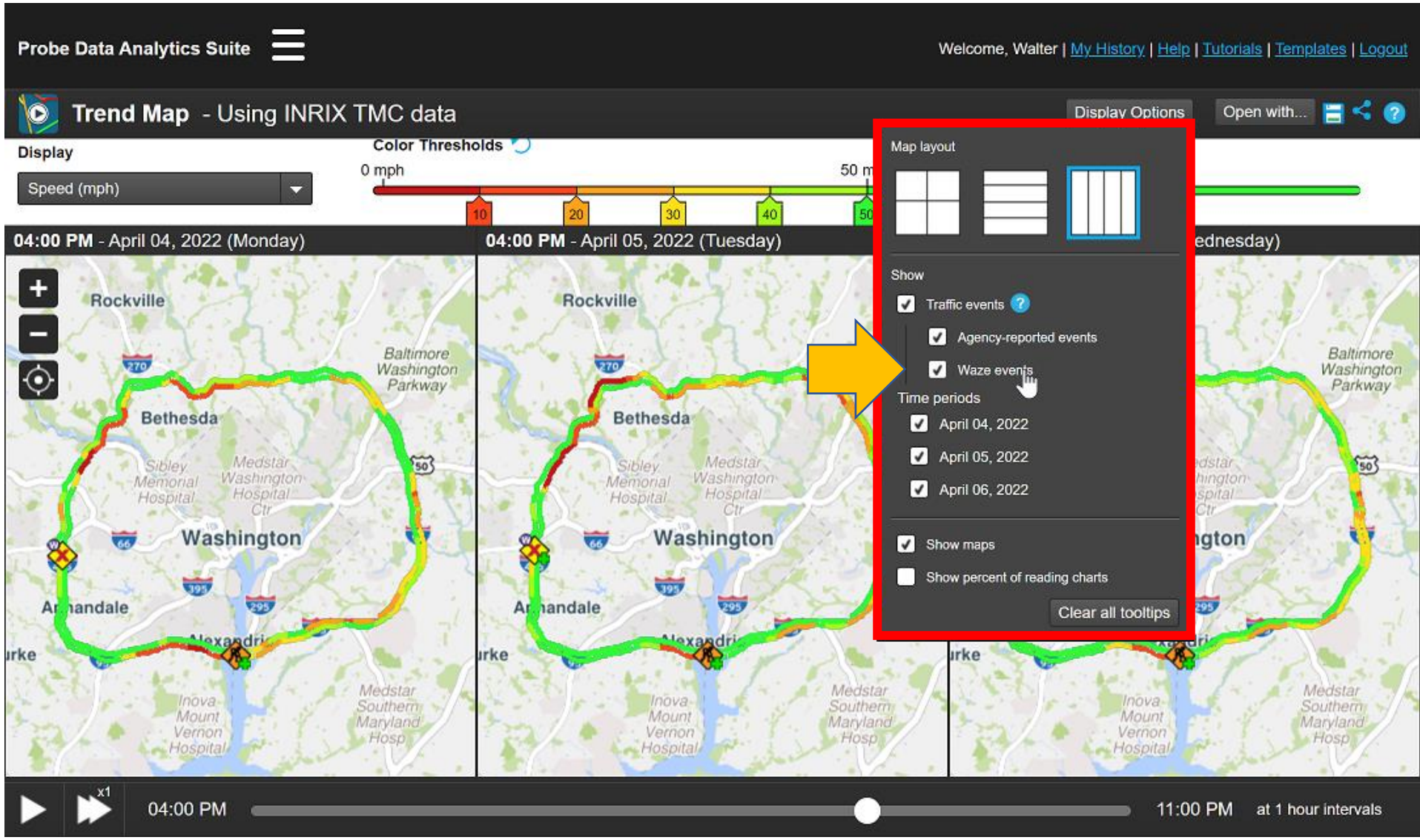
https://pda.ritis.org/suite/updates/

PDA Suite **Updates**

Waze events have also been added to Trend Map alongside agency events

Like Congestion Scan, events are only included in maps that cover a single day

Use the checkbox to show or hide the Waze events within the Display Options



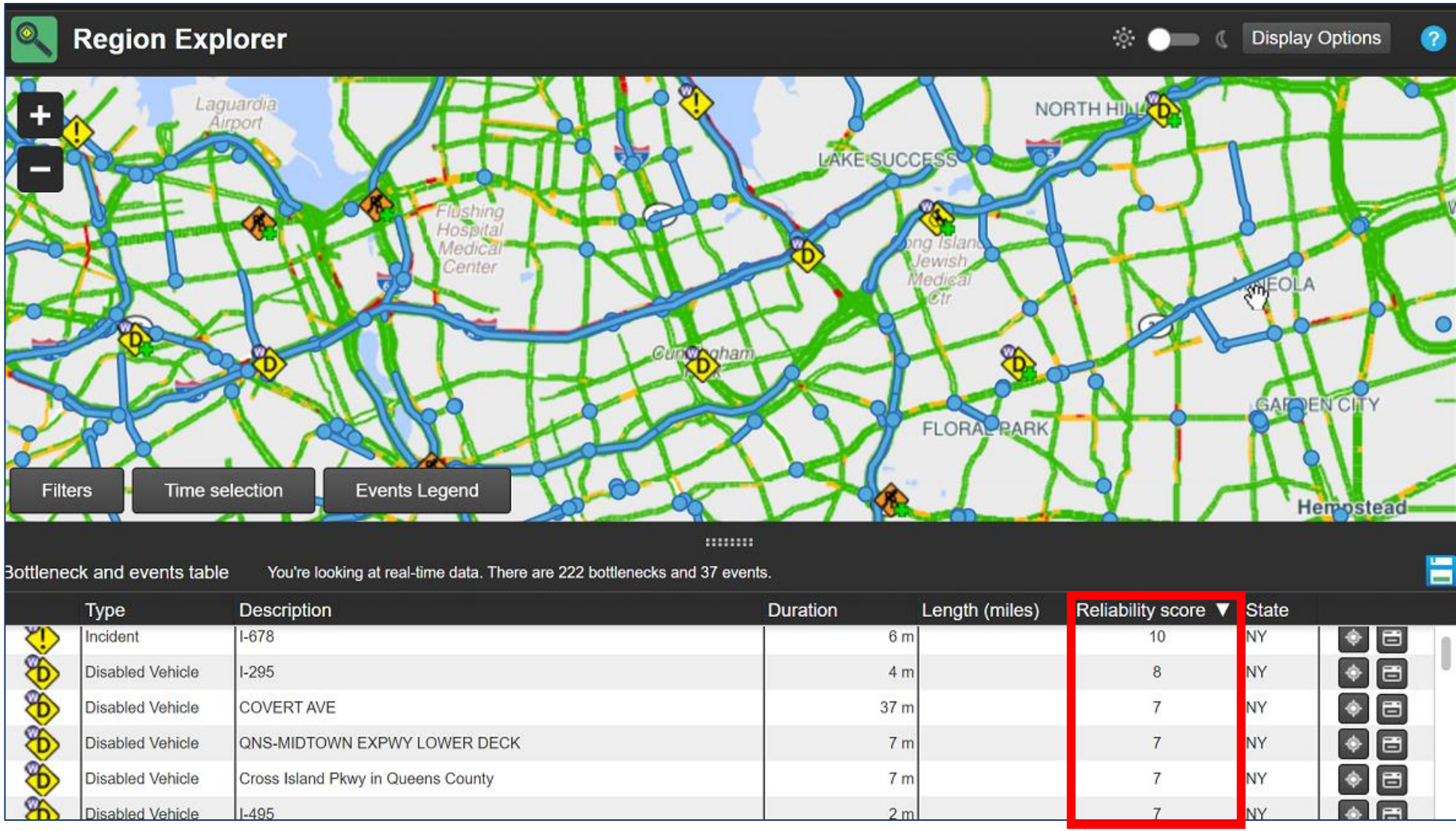
https://pda.ritis.org/suite/updates/

PDA Suite **Updates**

A **Reliability Score column** has been added to Region Explorer's table view

Scores range between 0 and 10 with a higher score indicating a more reliable report

Click on the column header to sort events based on their reliability score



https://pda.ritis.org/suite/updates/

PDA Suite Updates

Posted Speed Limits

For areas and segment types for which posted speed limit (PSL) values are available, we've added the following new metrics to Performance Charts:

- Congestion: Posted Speed Limit (%)
- Historic average congestion: Posted Speed Limit (%)
- Planning time index: Posted Speed Limit
- Travel time index: Posted Speed Limit

https://pda.ritis.org/suite/updates/

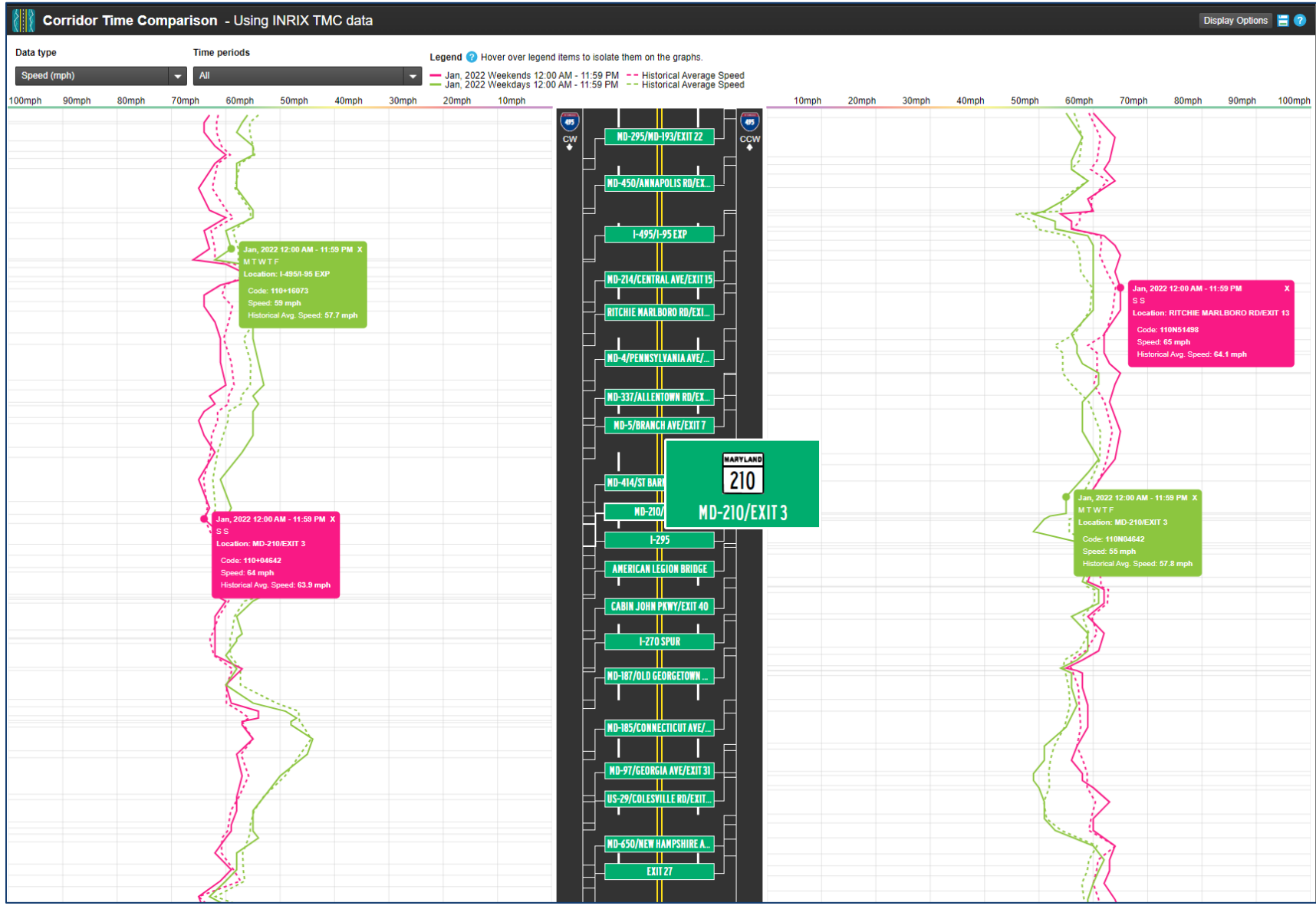
PDA Suite **New Tool!**

The **Corridor Time Comparison** tool offers a new way to visualize congestion along a particular roadway corridor

CTC displays bi-directional line charts associated with a roadway segment or corridor

You can select up to two date ranges and up to seven hourly ranges for analysis.

In total, the tool can display a maximum of 14 unique dates/hour of day combinations in each direction of travel.



To access CTC's quick reference guide, click here

Corridor Time Comparison Tool

Charles R. Lattimer, CATT Lab

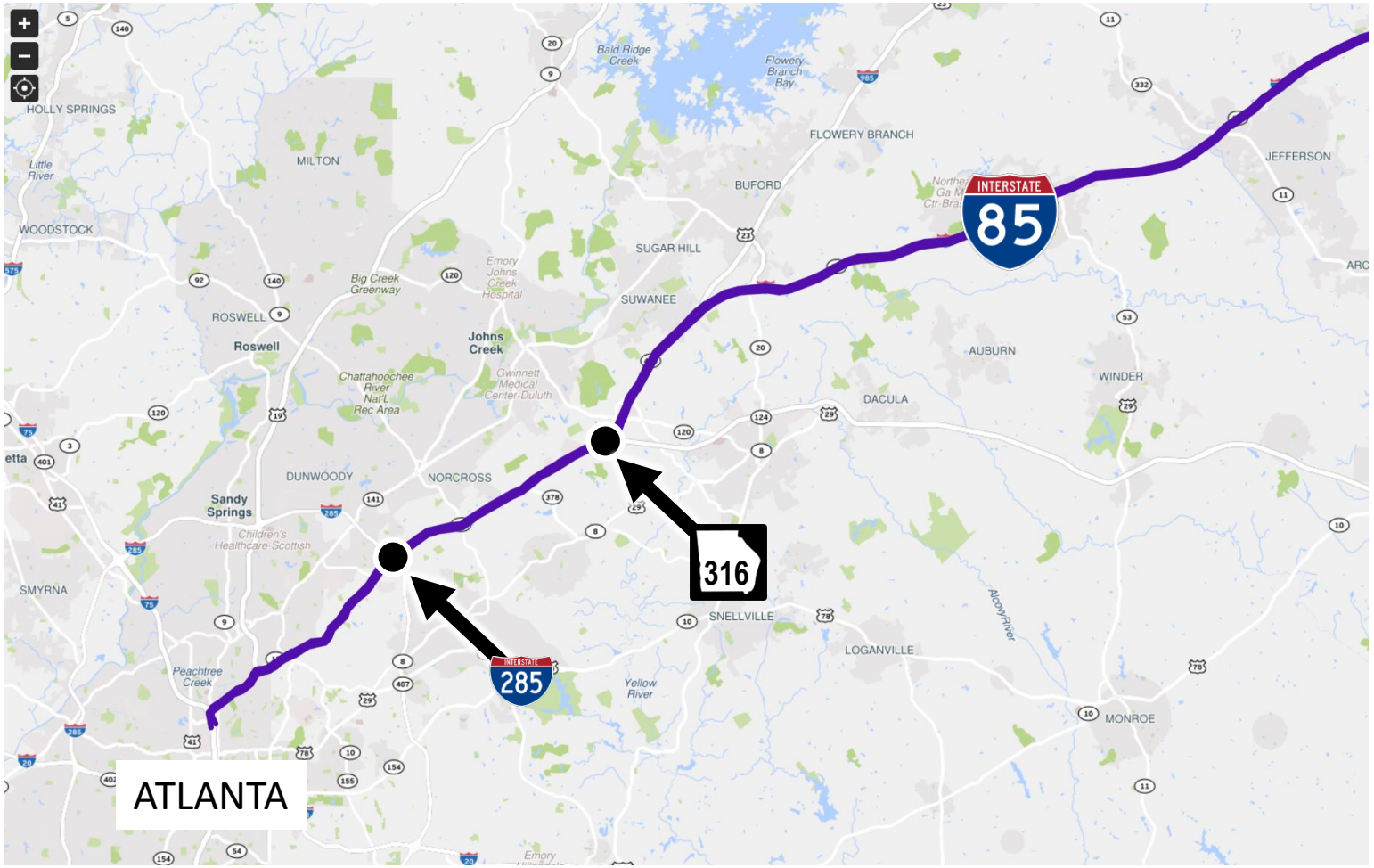
Corridor Time Comparison (CTC) Tool

- Released April 5, 2022
- View congestion metrics as a function of location on a road
- Users can compare
  - Up to two (2) date ranges
  - Up to seven (7) hourly ranges
- Available metrics: speed, congestion, travel time index, buffer index, and planning time index

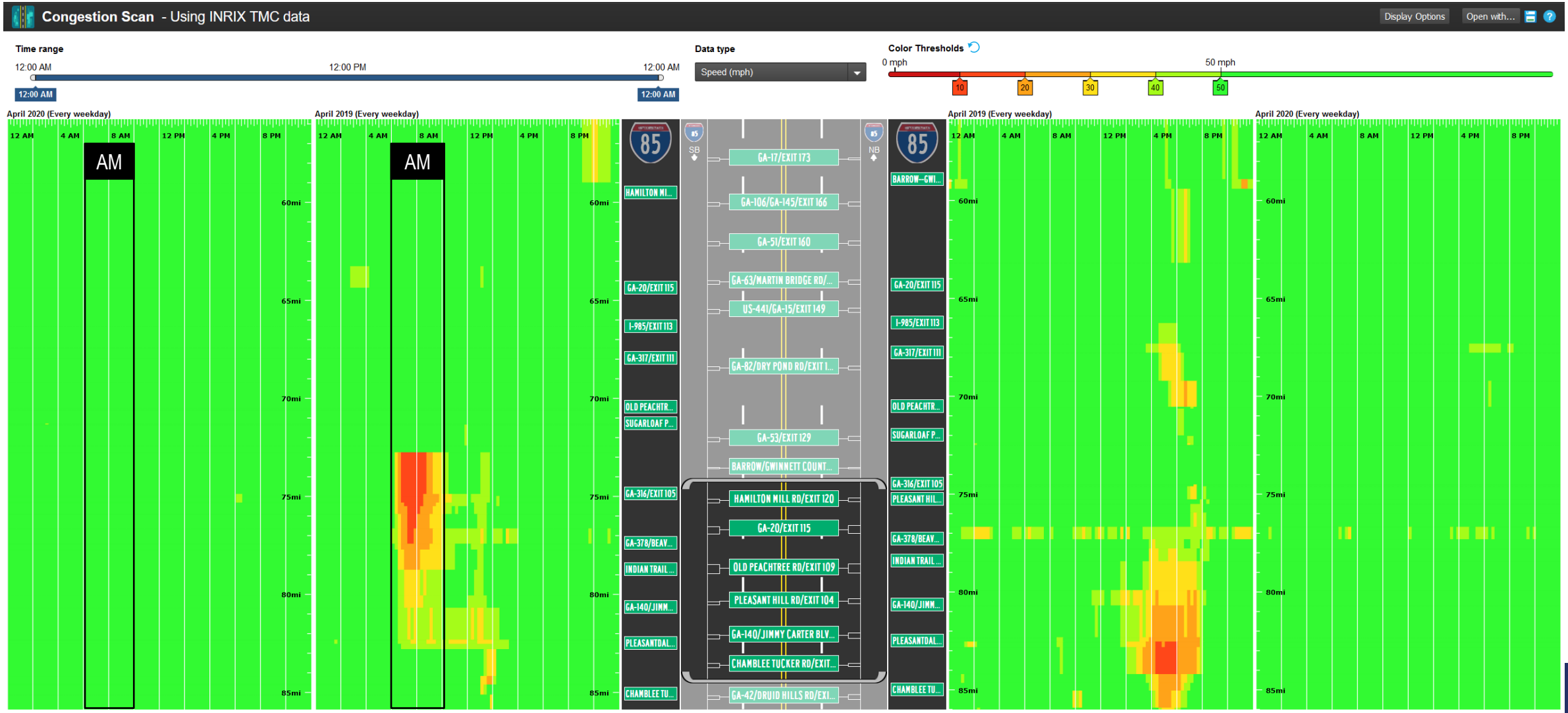
CORRIDOR TIME COMPARISON

Use Case: How has peak hour congestion changed over time?

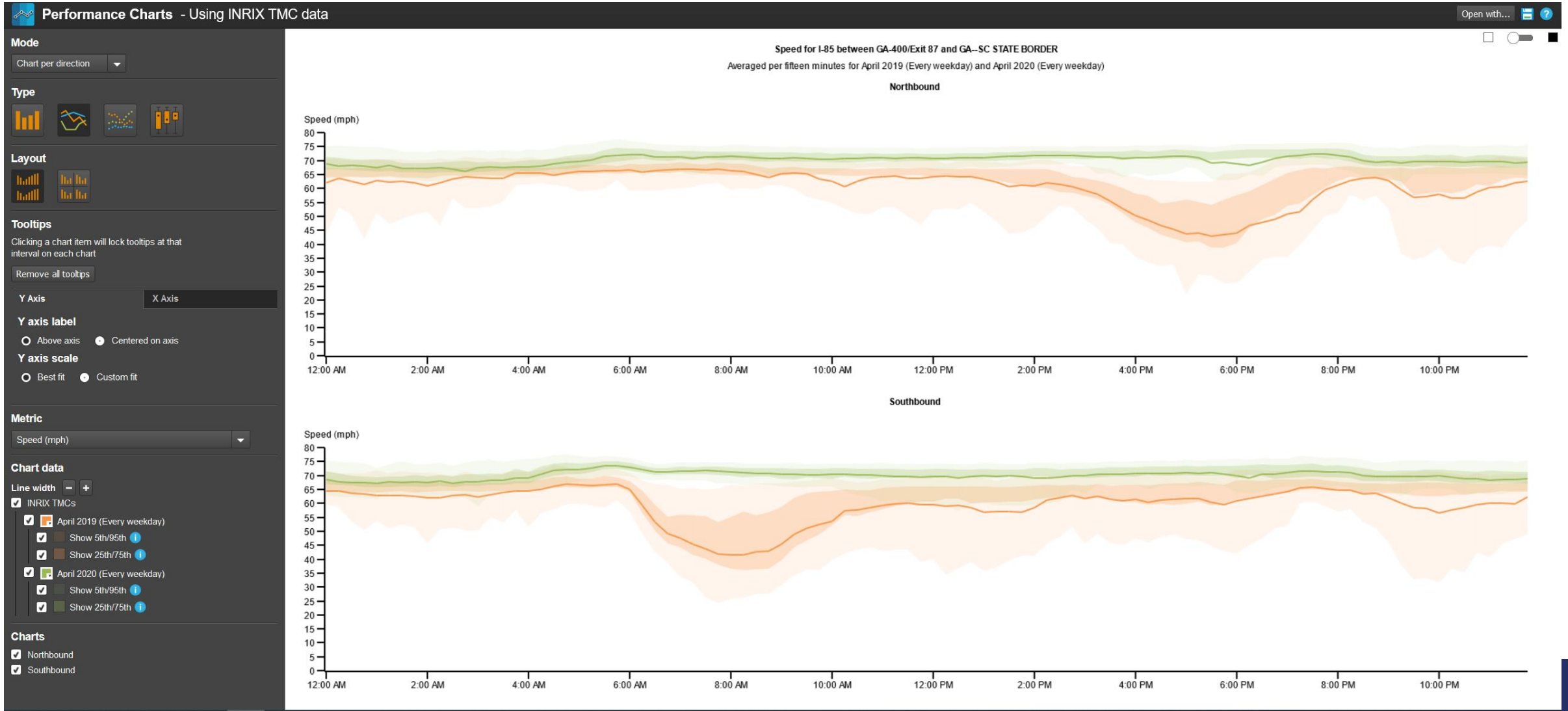
- Location: I-85 north of Atlanta, GA
- Dates: April 2019 vs. April 2020
- Times: AM and PM Peak Periods



Using Congestion Scan…



Using Performance Charts…



Corridor Time Comparison

Corridor Time Comparison allows plotting of the change in various metrics across a contiguous stretch of road to help pinpoint exactly where traffic conditions tend to break down.

1. Select a country

United States

2. Select roads

TMC segments from HERE

TMC-based roads represent both directions of the same road. You can search for multiple roads, and the results will be stitched together to form a single contiguous visualization of both sides of each road. This is useful for depicting a route that spans multiple roads.

Road | Saved | Advanced

Search in Maryland...

3. Select one or more time periods to analyze

Days | Months | Years

05/03/2022 - through - 05/03/2022

Limit to specific days of week

Sun Mon Tue Wed Thu Fri Sat

Add time period

4. Select a time range to analyze within each time period

12:00 AM 12:00 PM 12:00 AM

12:00 AM 12:00 AM

Add another time range

5. Select data sources

- INRIX
- HERE
- TomTom
- NPMRDS from INRIX (Passenger vehicles)
- NPMRDS from INRIX (Trucks and passenger vehicles)
- NPMRDS from INRIX (Trucks)
- NPMRDS from HERE (Passenger vehicles)
- NPMRDS from HERE (Trucks and passenger vehicles)
- NPMRDS from HERE (Trucks)

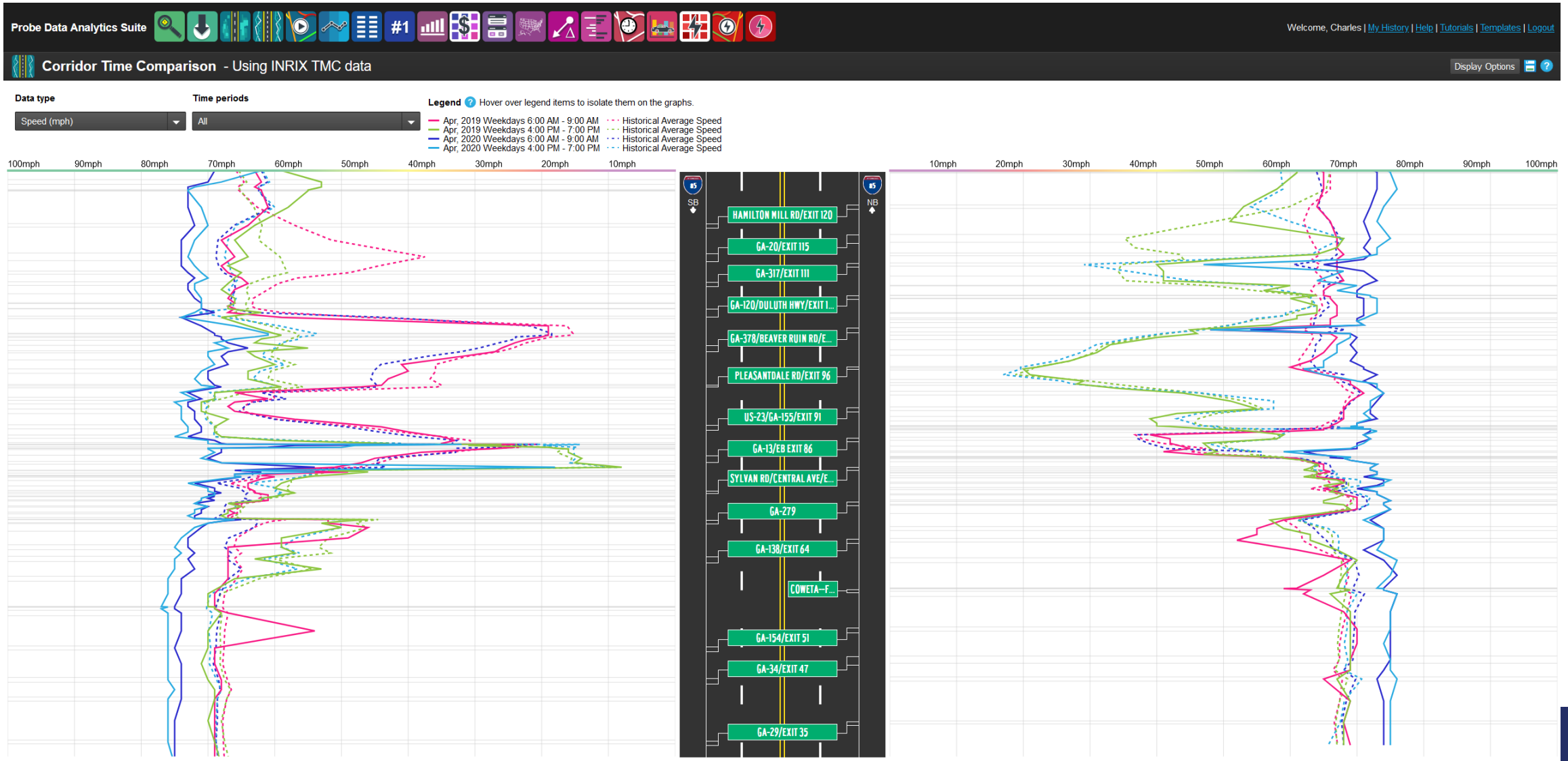
CORRIDOR TIME COMPARISON

View congestion metrics as a function of location on a road.

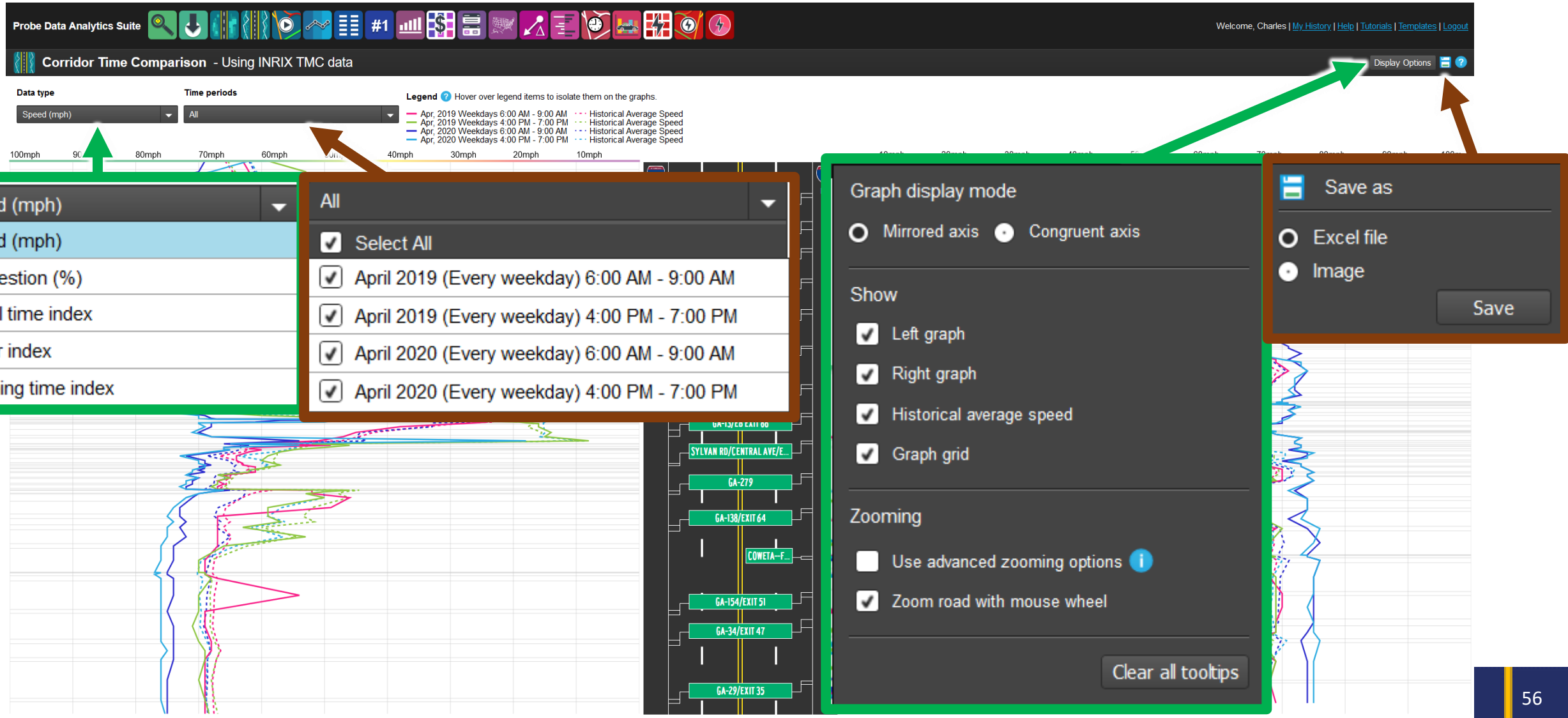
Help History

Gulf Of Alaska
British Columbia
Edmonton
Saskatchewan
Manitoba
Saskatoon
Calgary
Winnipeg
Québec
Newfoundland And Labrador
Labrador Sea
El Paso
Texas
Fort Worth
Houston
San Antonio
Corpus Christi
Alabama
Jacksonville
Florida
Miami
Océano Atlántico
Puerto Rico
Atlantic Ocean

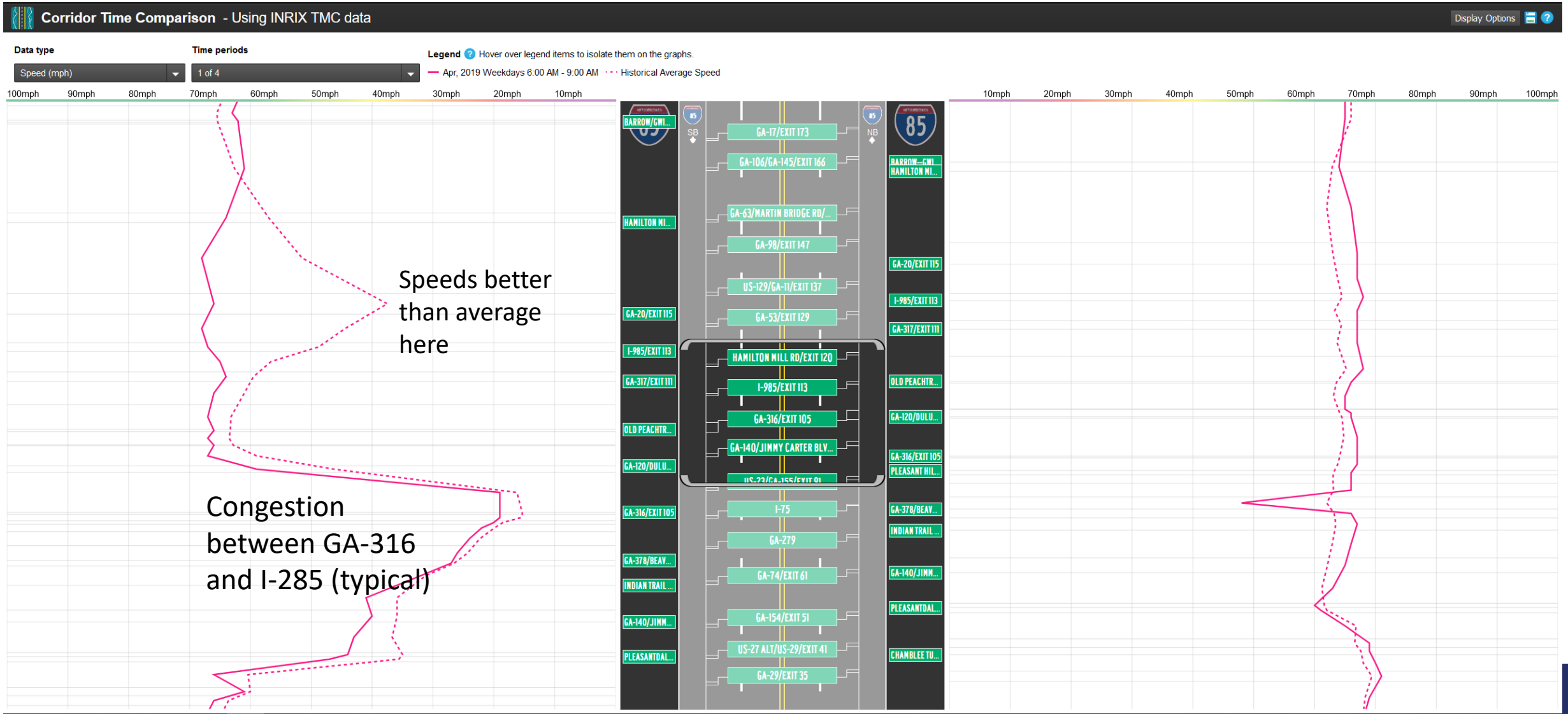
The Corridor Time Comparison



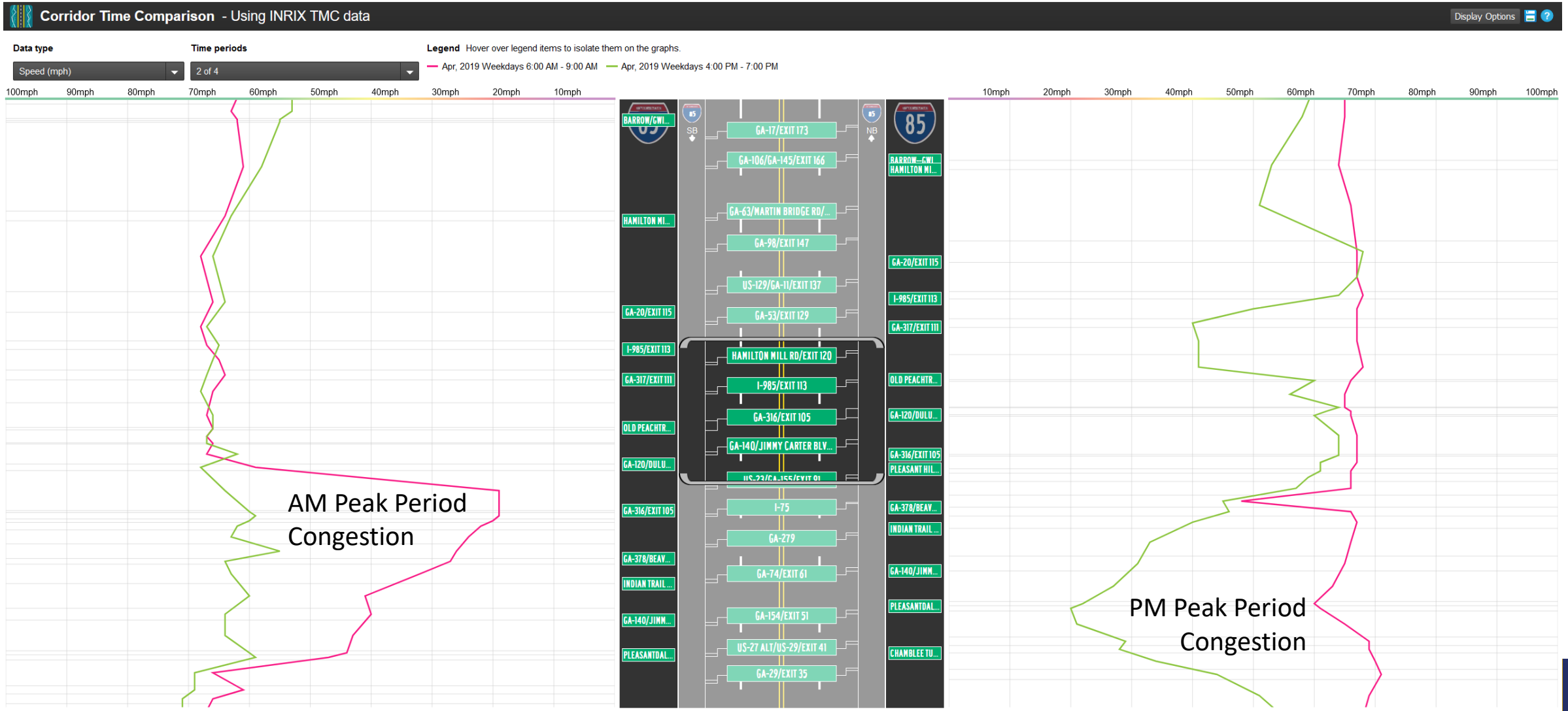
The Corridor Time Comparison



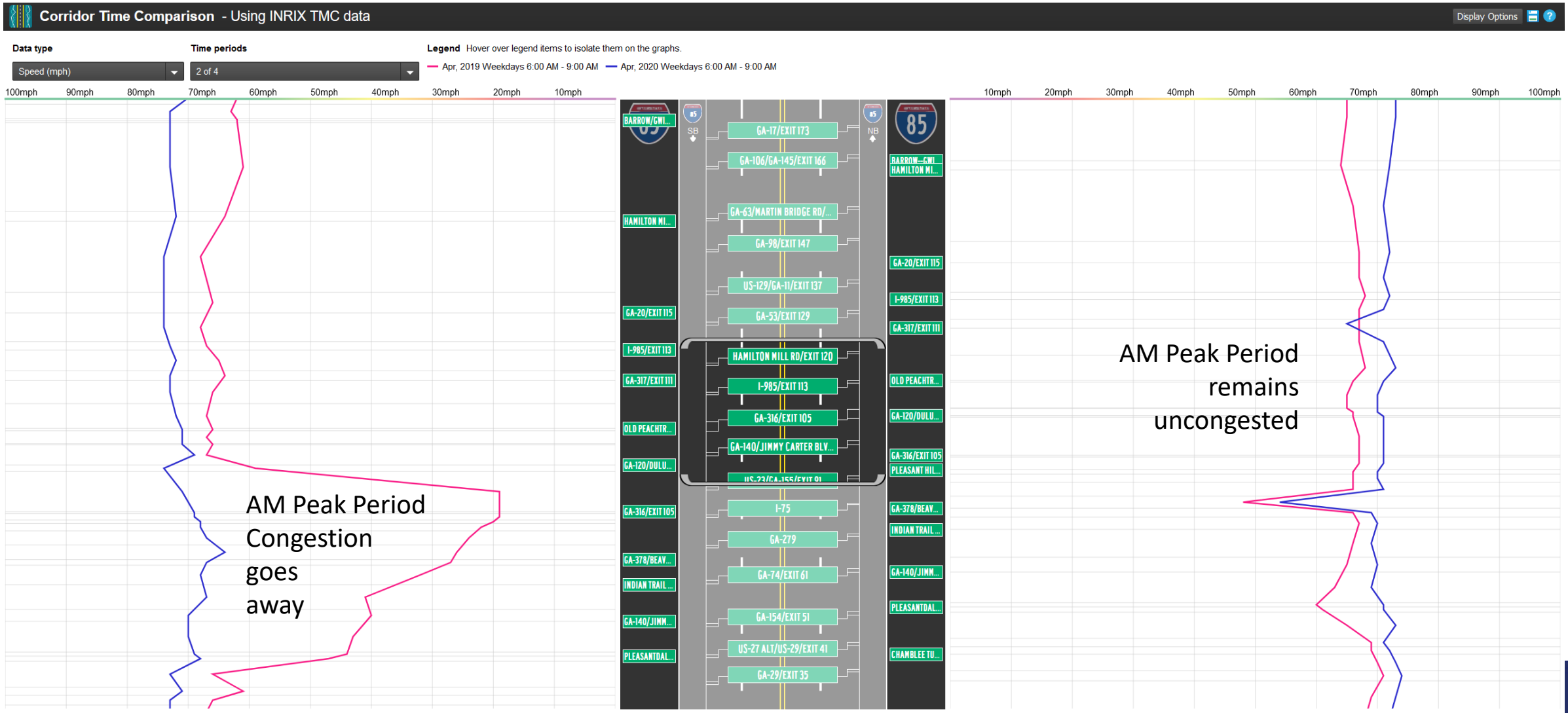
CTC: AM Peak Period (April 2019)



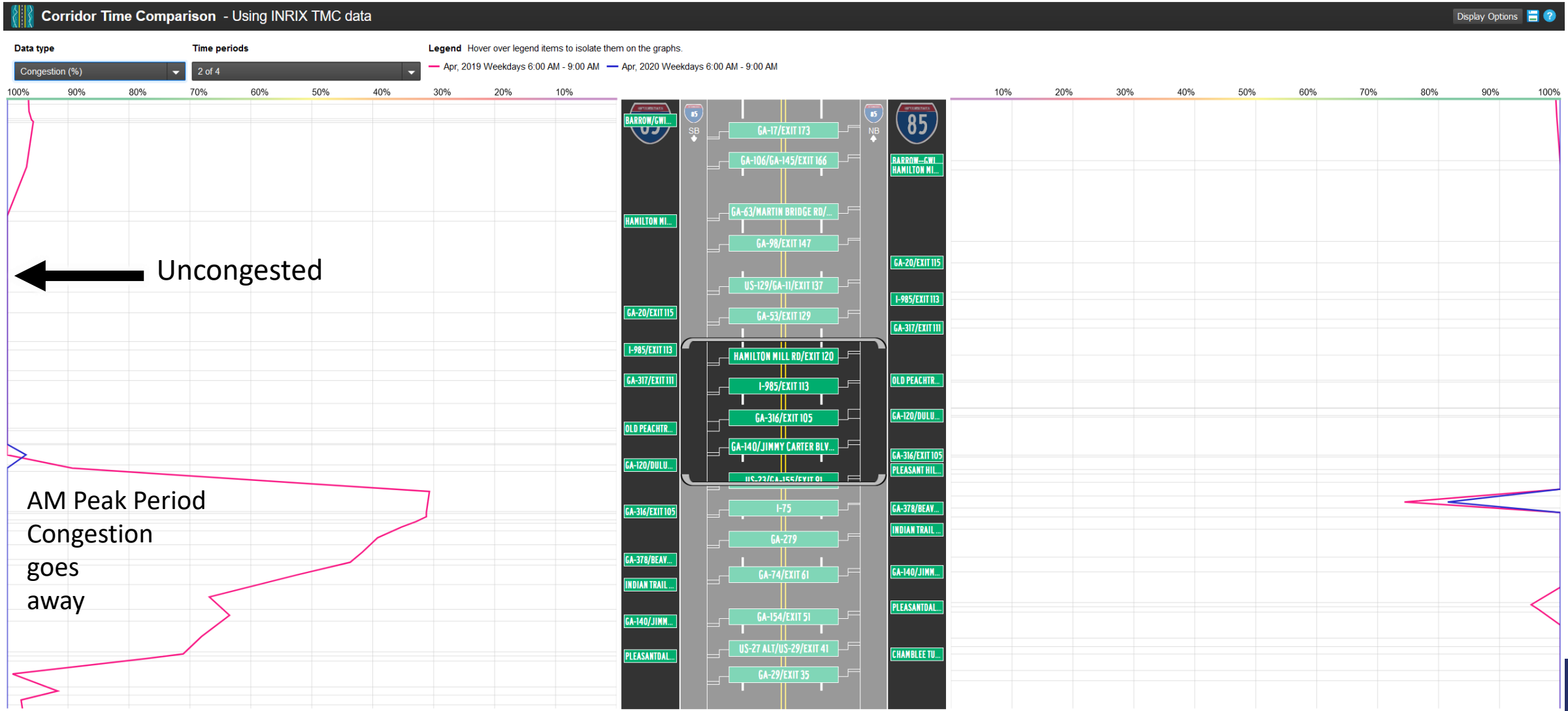
CTC: AM & PM Peak Periods (April 2019)



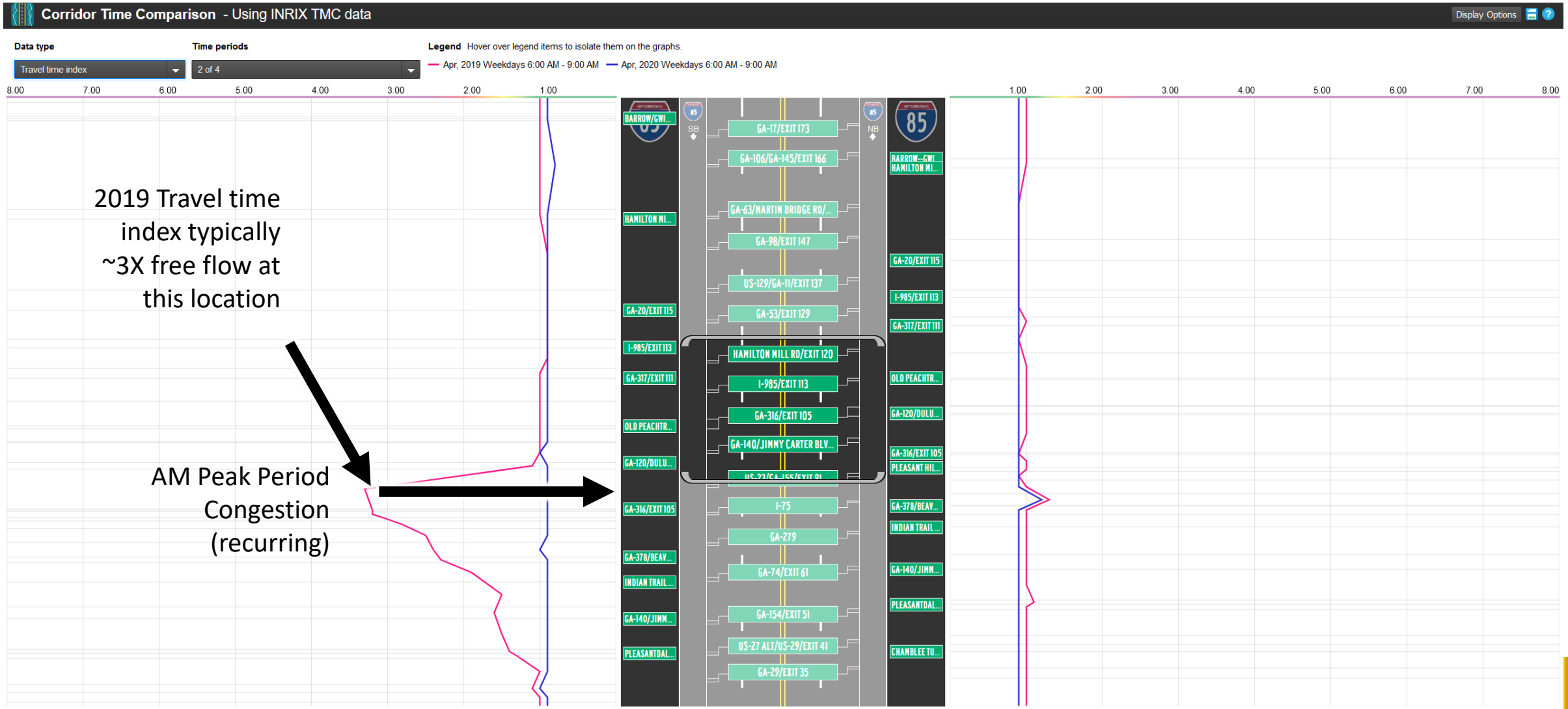
CTC: AM Peak Period (April 2019 vs April 2020)



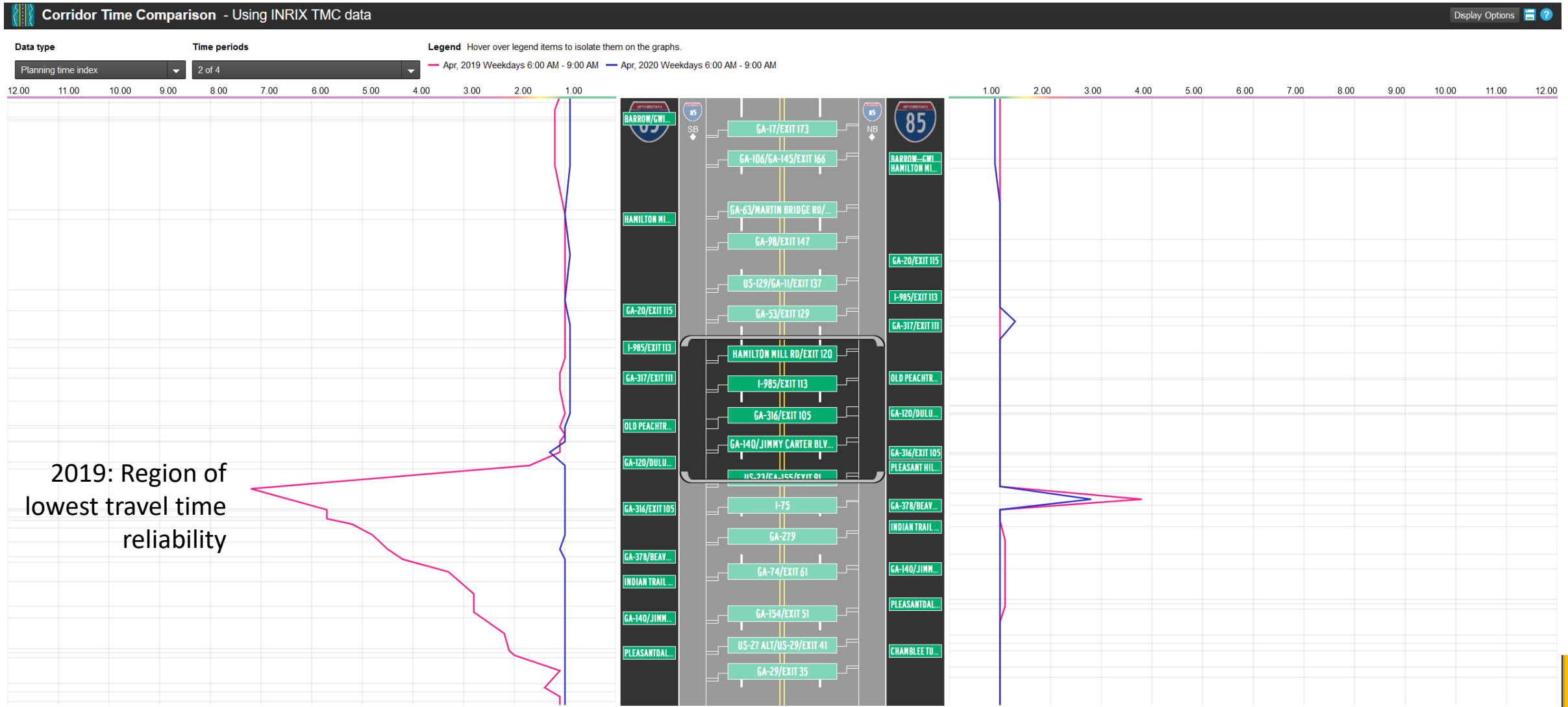
CTC: 2019 vs. 2020 (congestion)



CTC: 2019 vs. 2020 (travel time index)

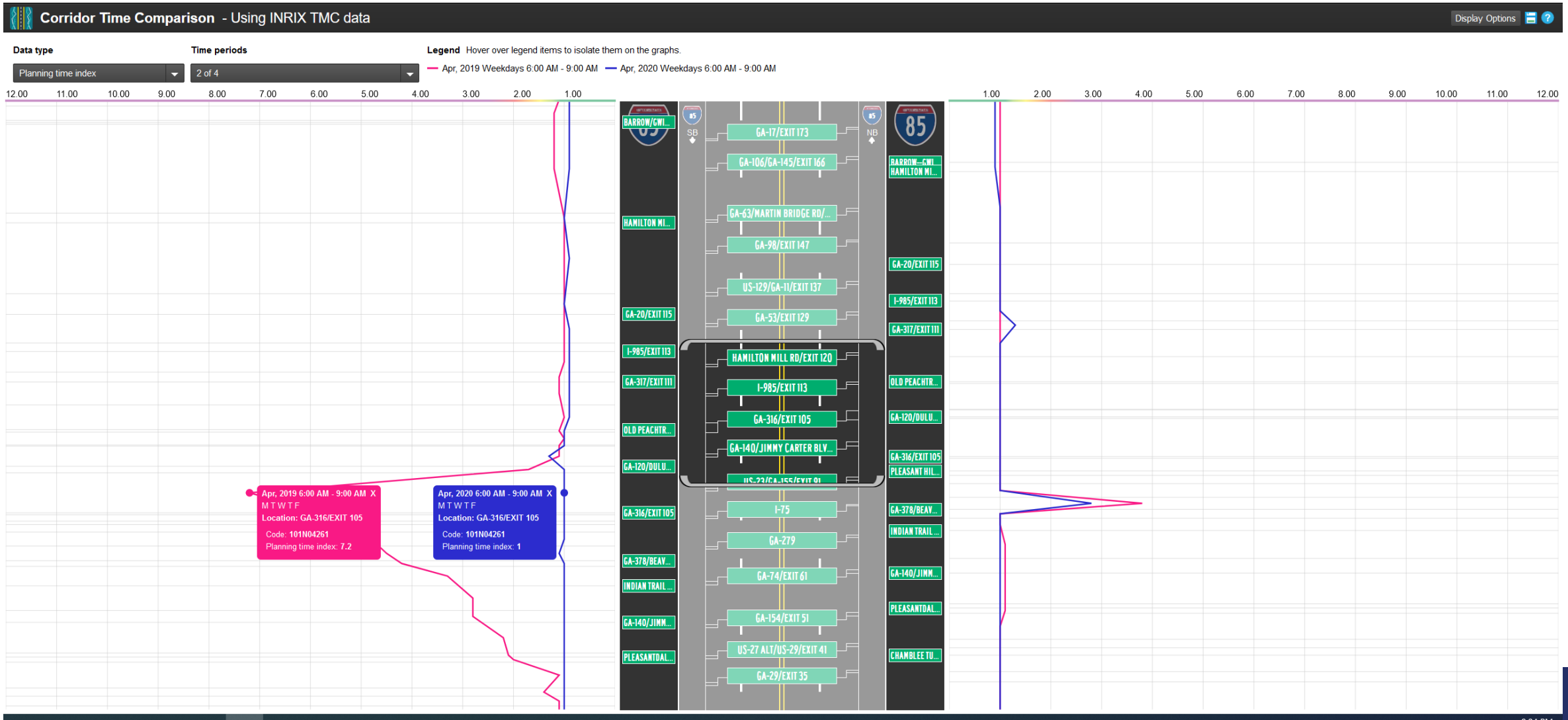


CTC: 2019 vs. 2020 (planning time index)



2019: Region of lowest travel time reliability

CTC: Using Tooltips to Compare Metrics



Corridor Time Comparison (CTC) Tool

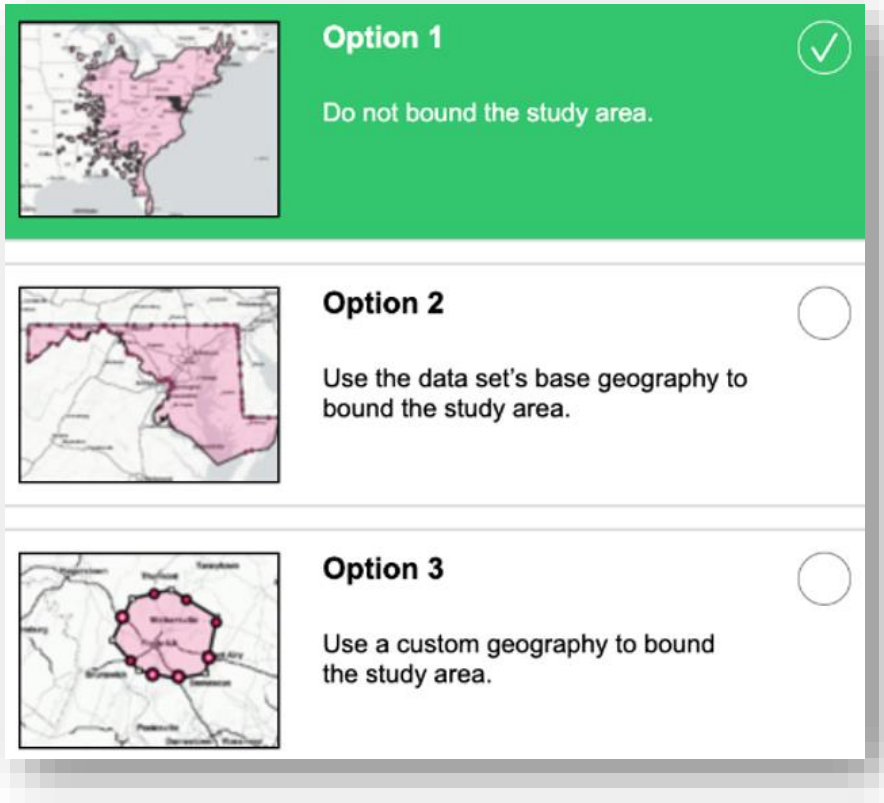
- New capabilities and insights
- Compliments existing PDA tools, like Congestion Scan and Performance Charts

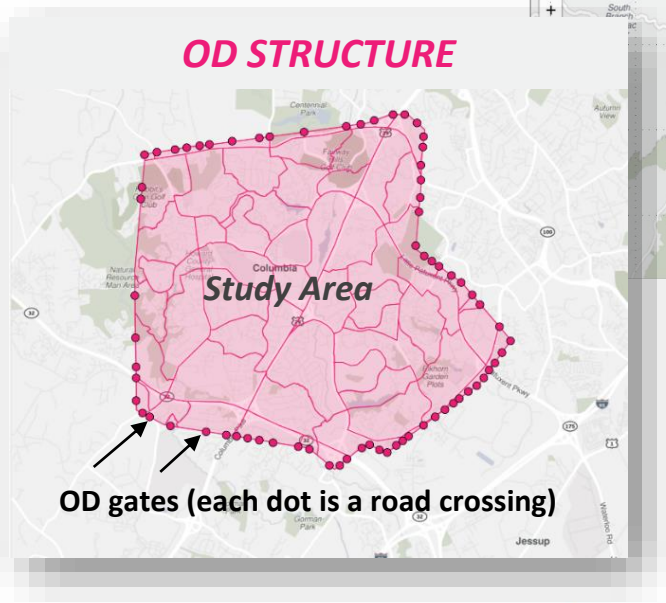
- Questions?

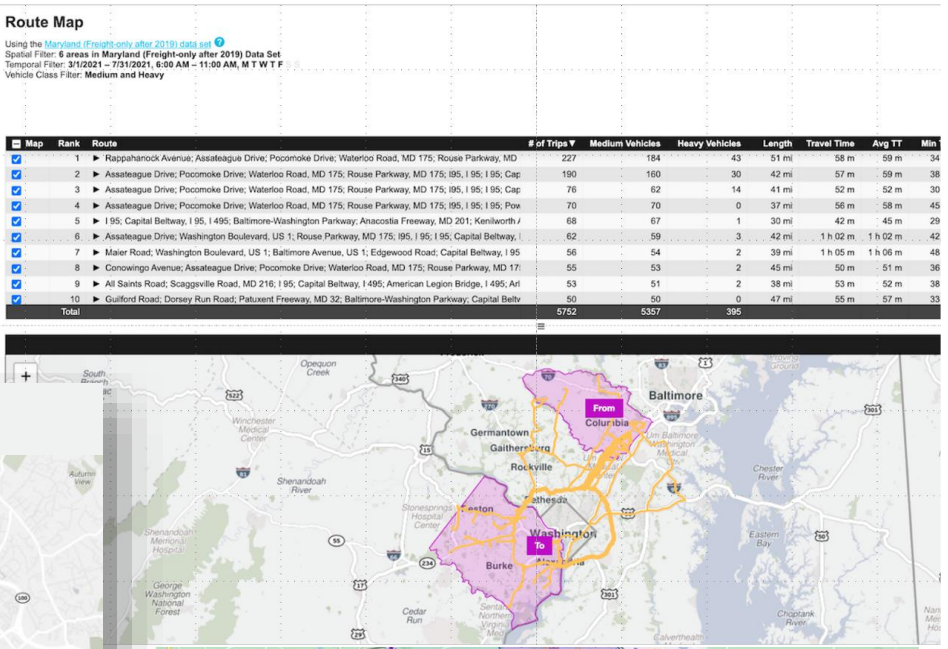
CORRIDOR TIME COMPARISON

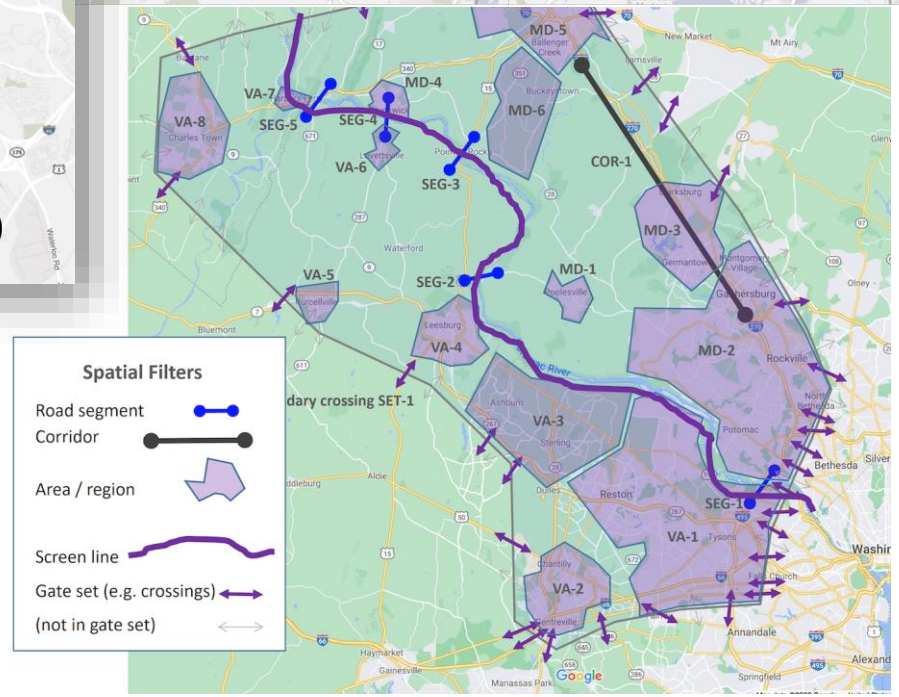
Trip Analytics

Trip Analytics Updates









Beta Testing with Users On-going

https://trips.ritis.org/new

Signal Analytics

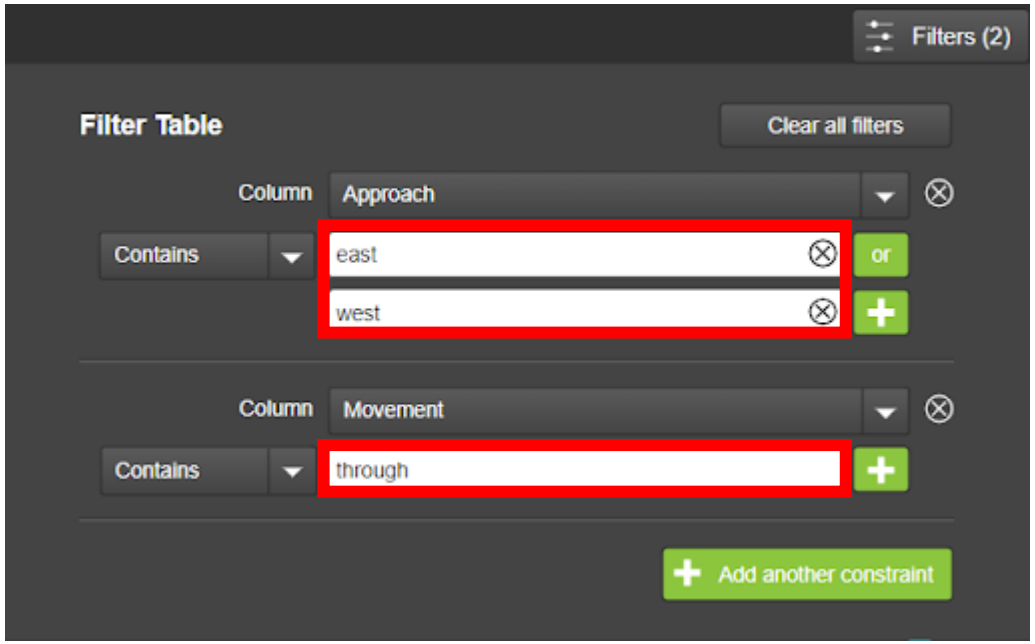
Signal Analytics **Updates**

When viewing query results, we've significantly expanded options for filtering the intersection table.

Filtering options are now added one at a time, instead of being selected from a long list.

To add filters, first pick the column that you want to filter on from the drop-down menu, then type your filtering constraints.

In this example, the user is filtering the table to show only thorough movements in the eastbound and westbound directions.



https://signals.ritis.org/analytics/updates/

RITIS Signal Analytics

Overview and Development Preview

Charles R. Lattimer, CATT Lab

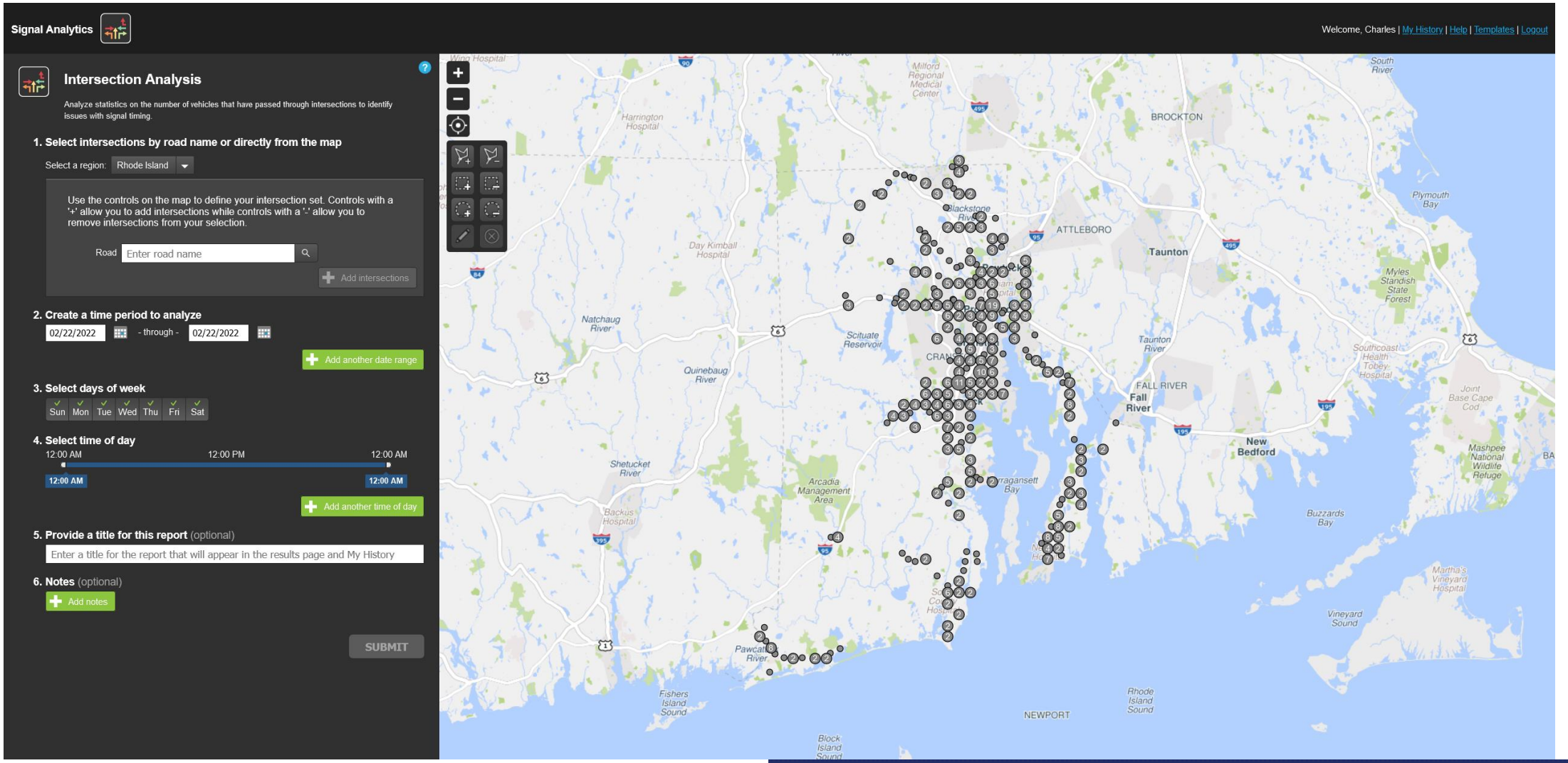
CATT LABORATORY

Overview of RITIS Signal Analytics

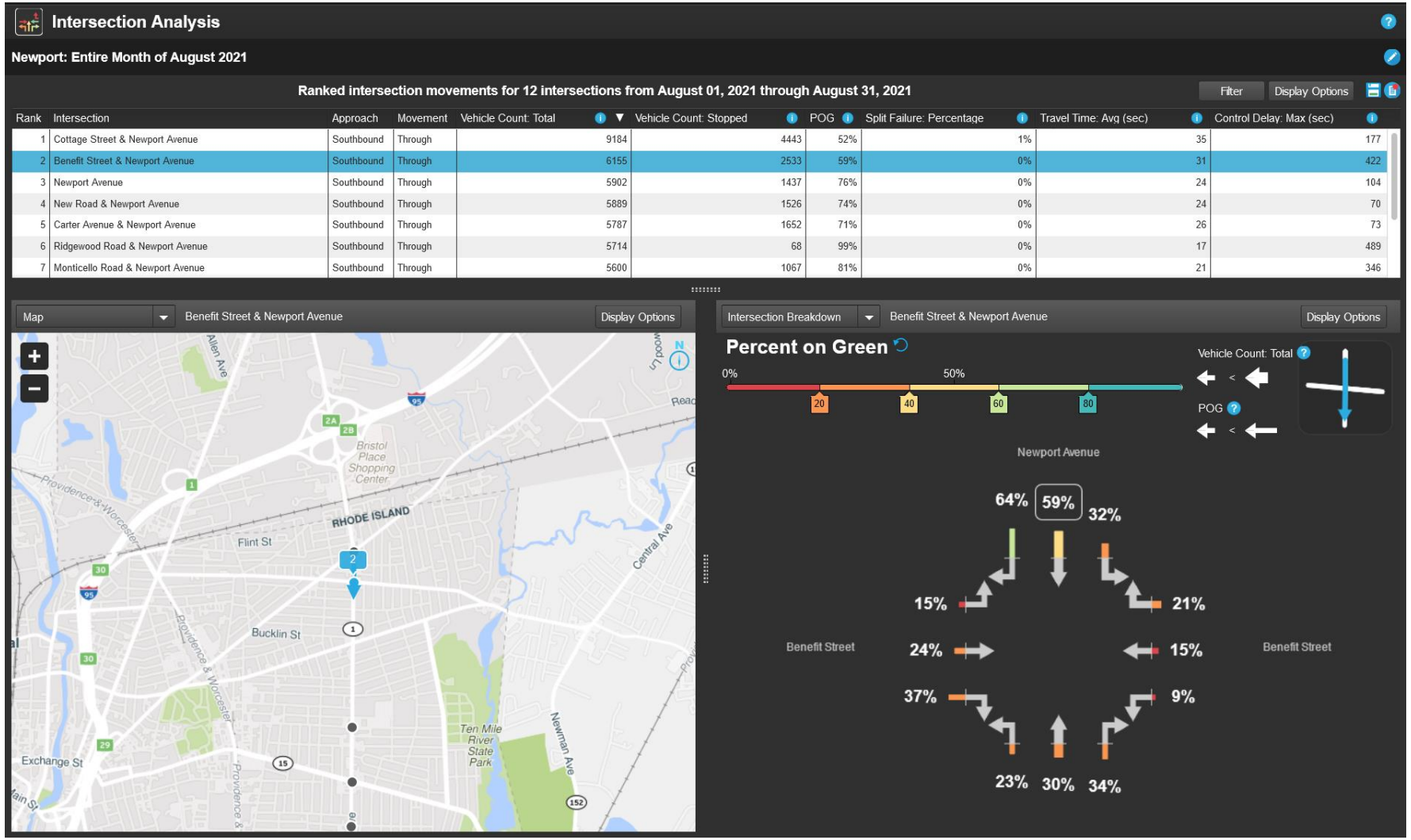
Brief Introduction to RITIS Signal Analytics

- Generates traffic signal performance measures based on high-resolution probe data (no roadside infrastructure!)
- Quick and simple to implement
- Scalable from local to statewide level

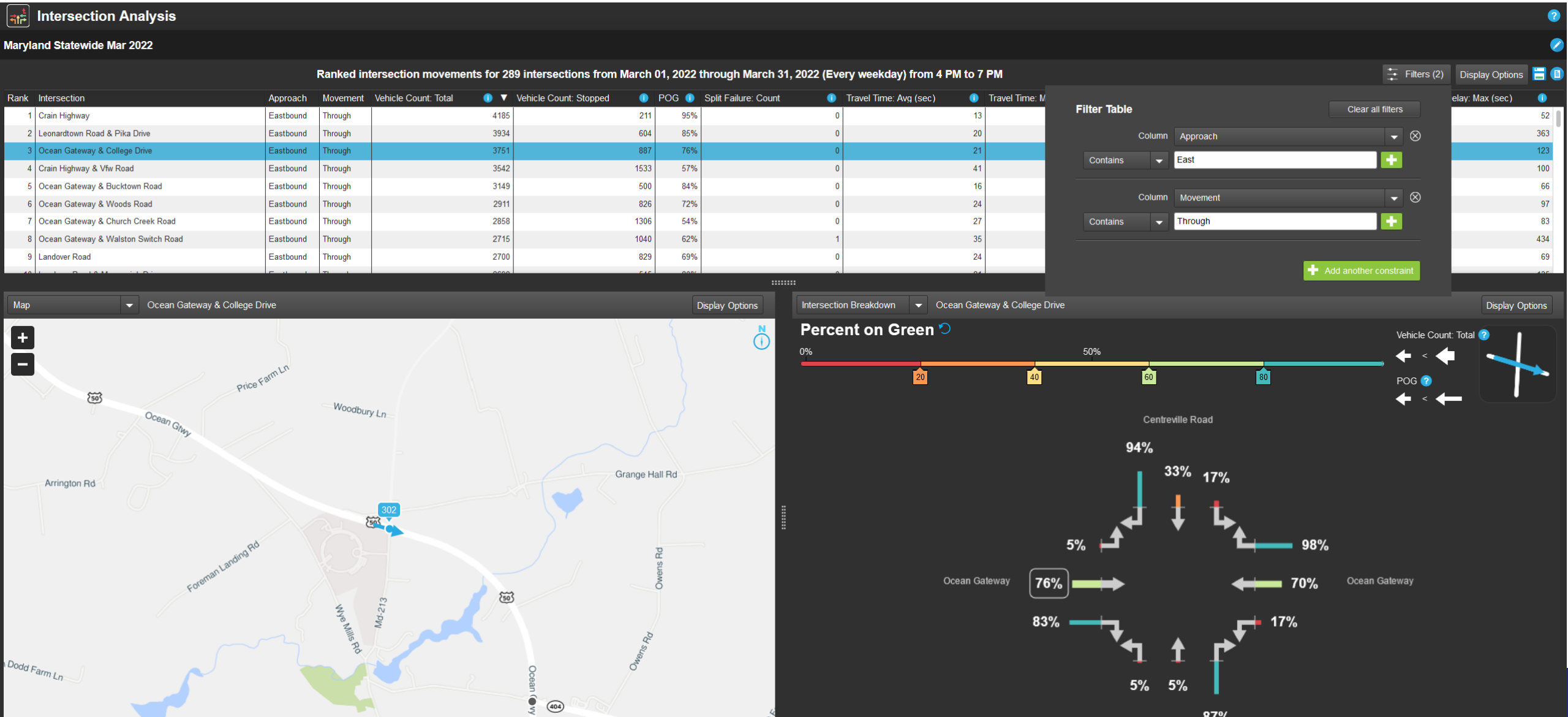
Selecting Intersections



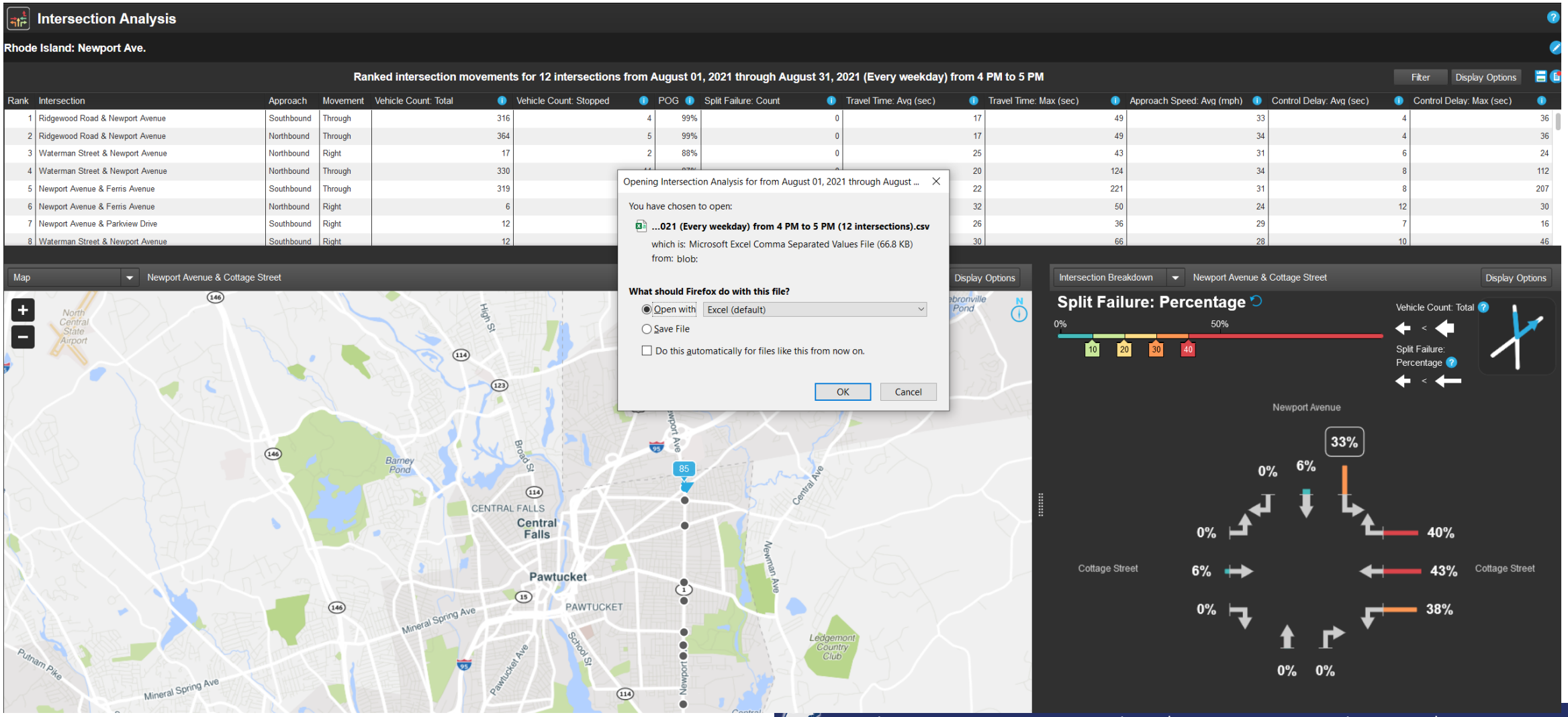
Intersection Analysis



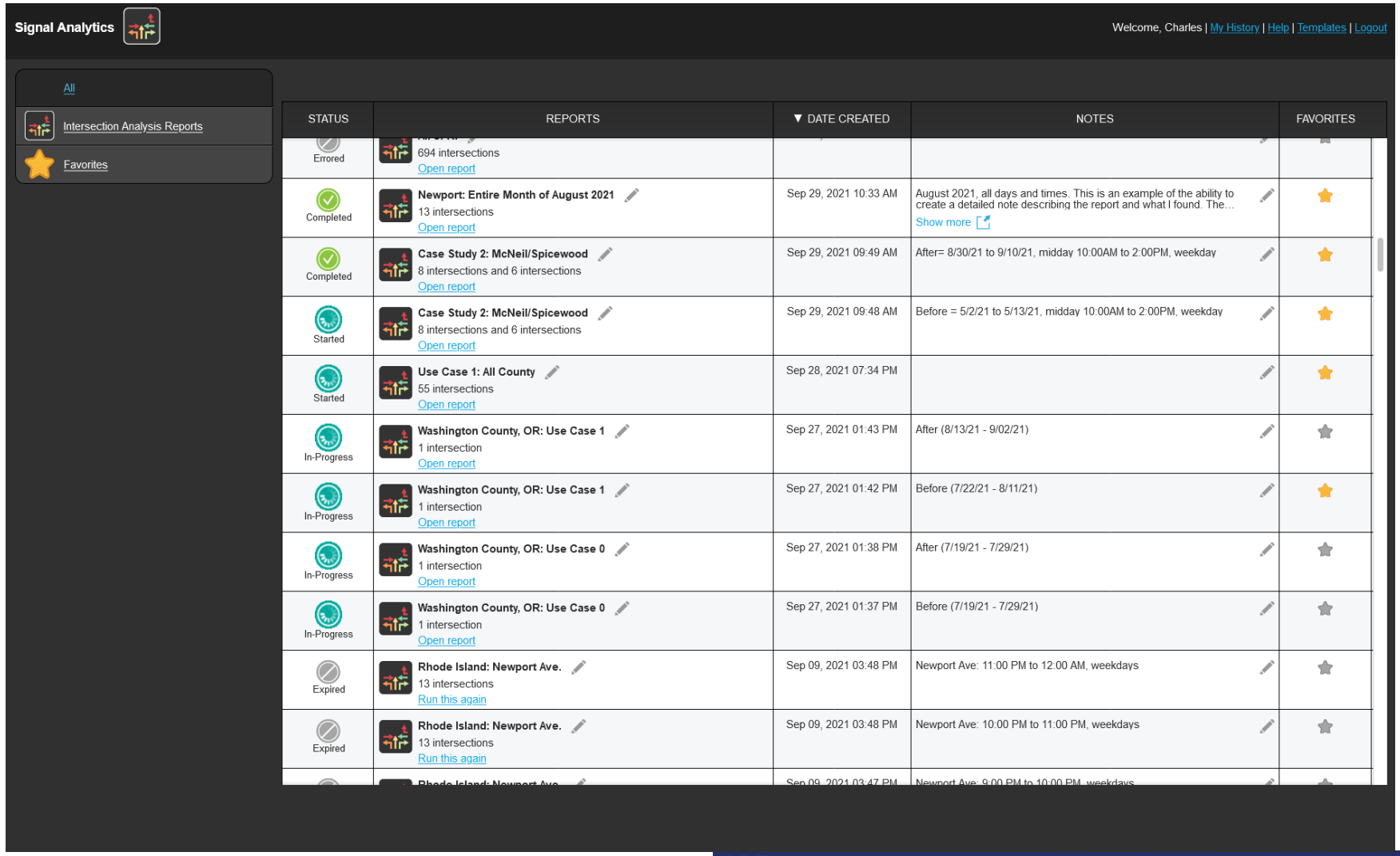
Users Can Filter Data in Table to Rank Signals on a Corridor



Users Can Download Data as a CSV File

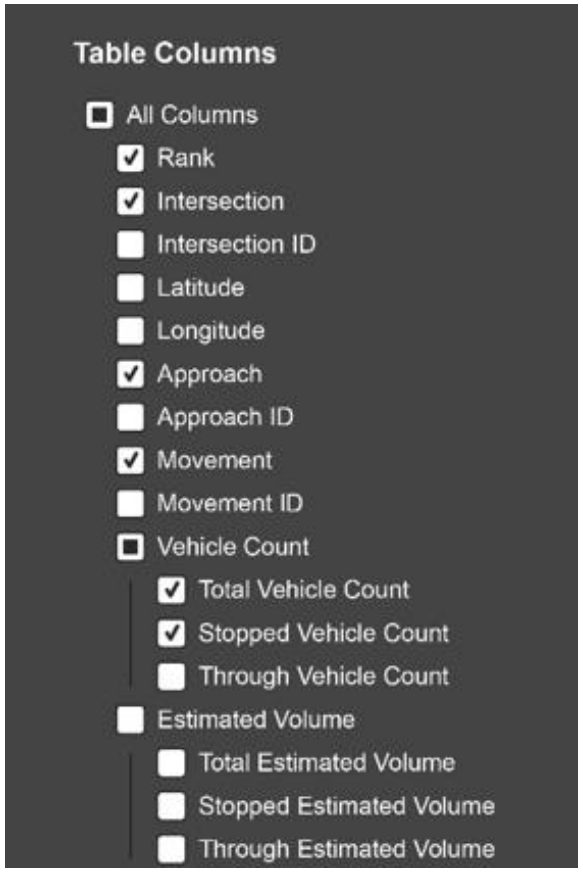


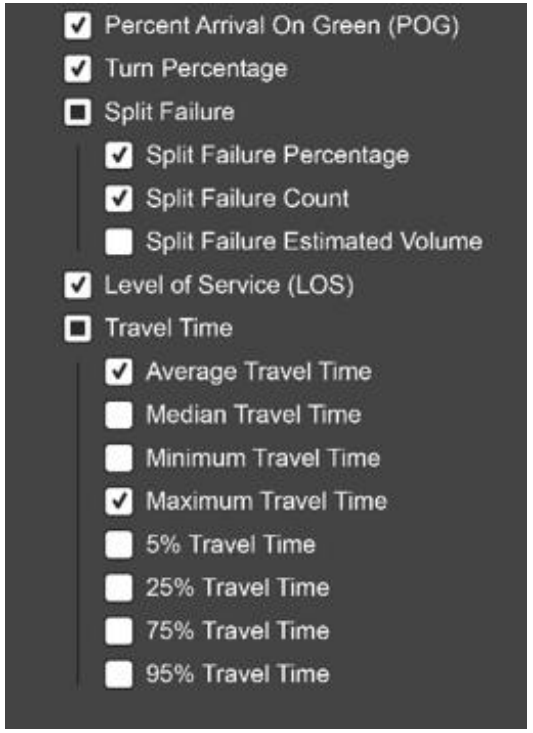
My History Page

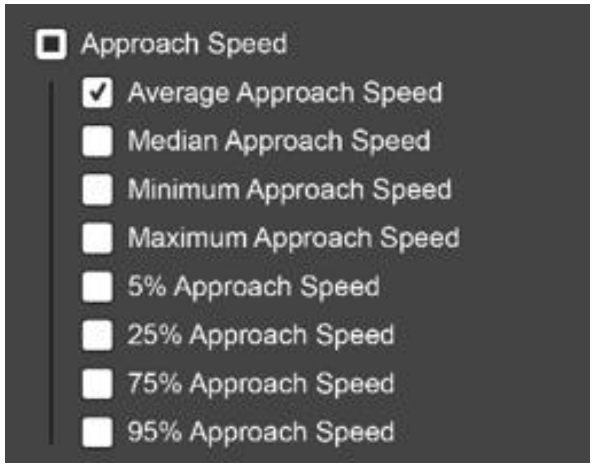


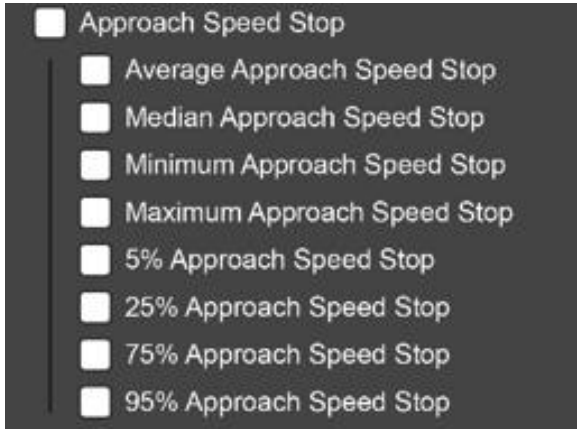
In the Pipeline…

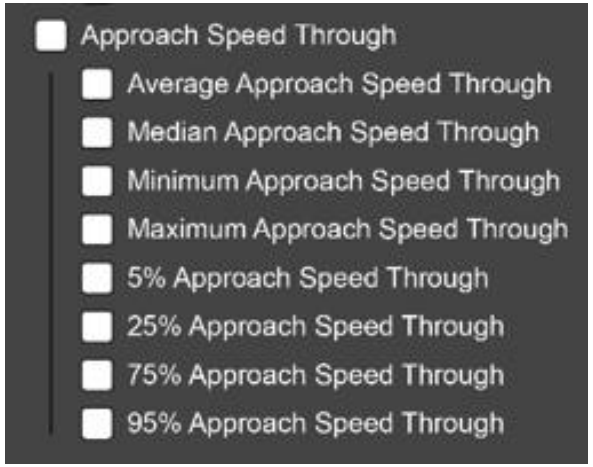
More Data Fields



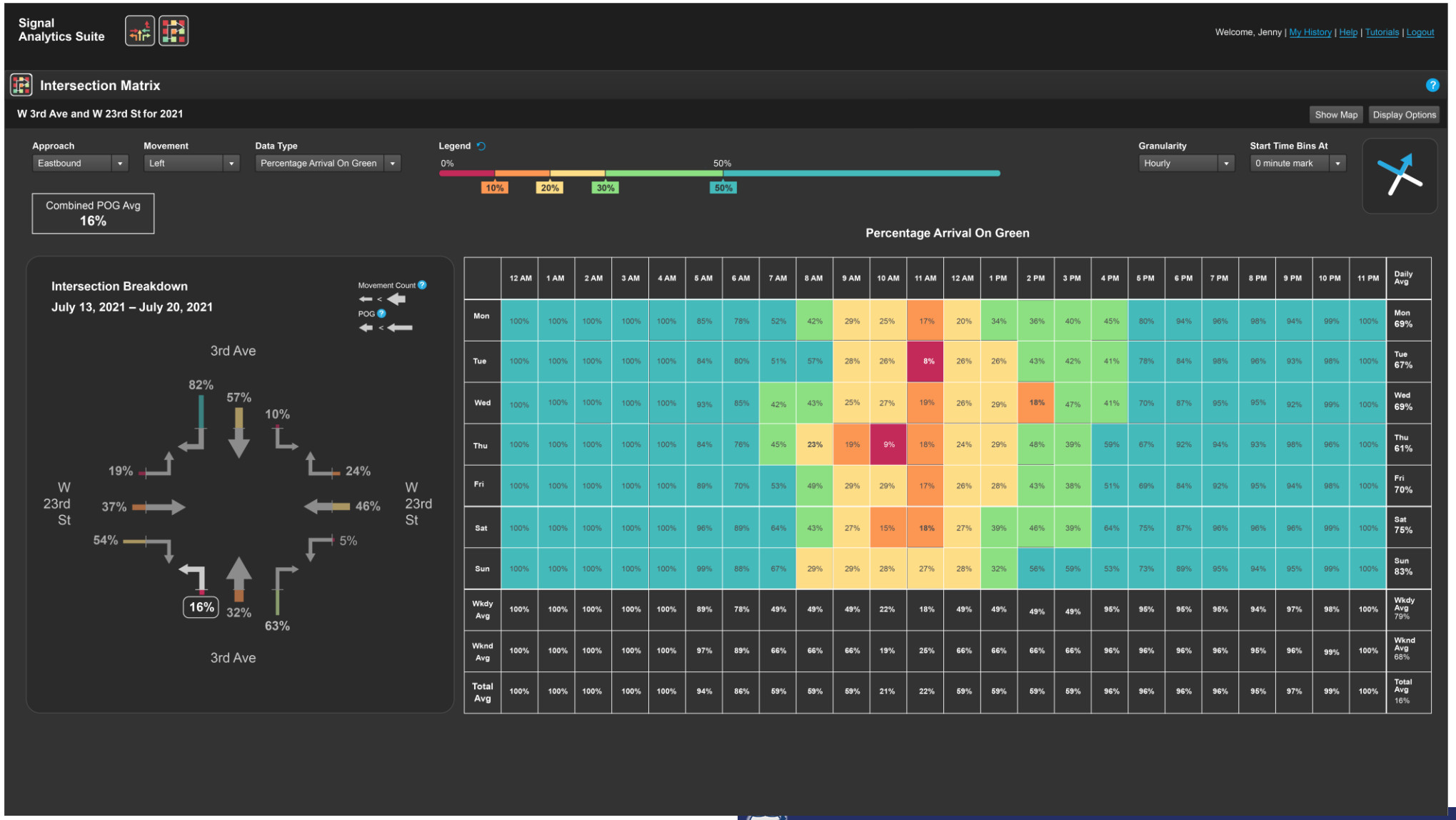








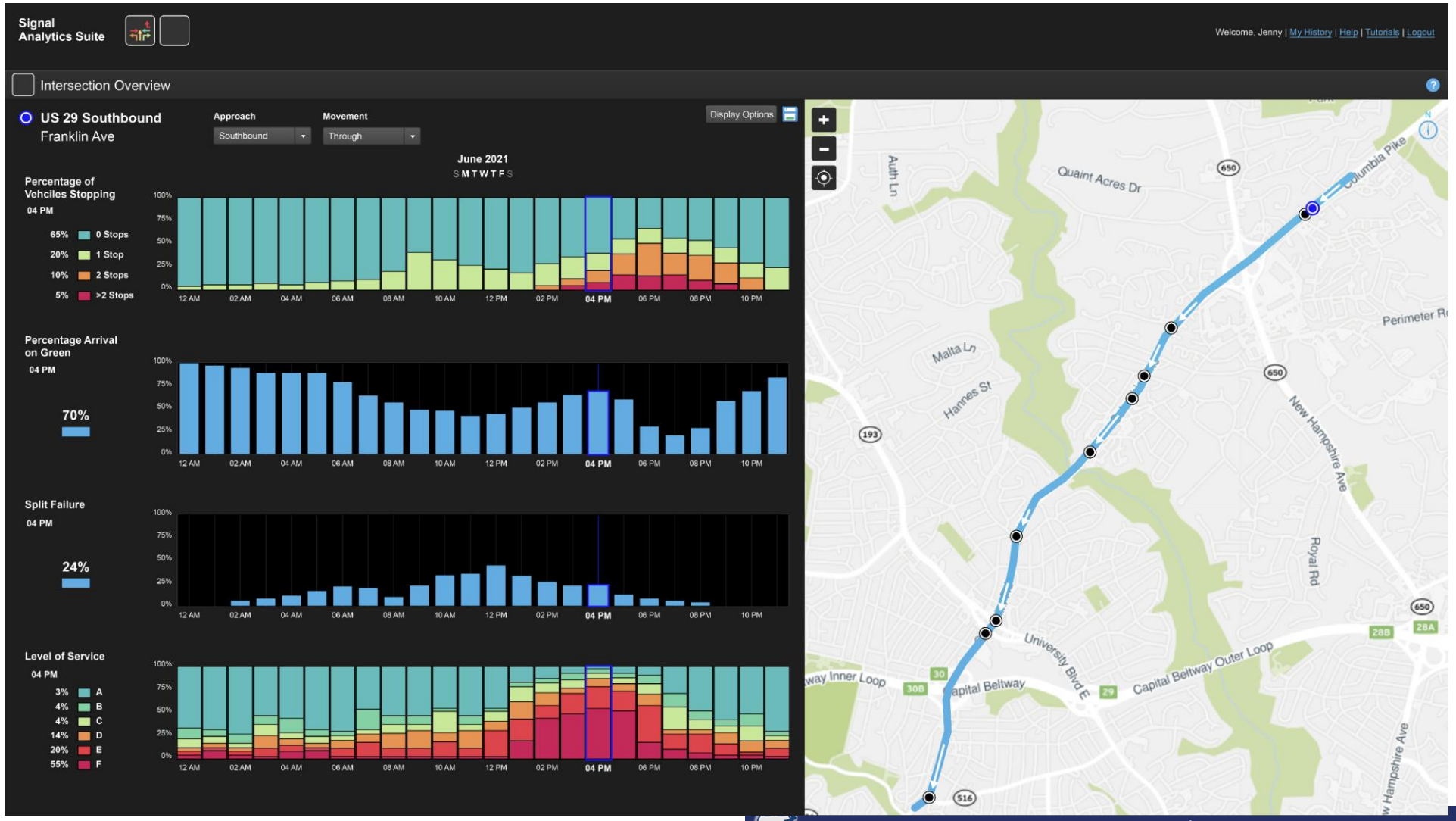
Intersection Matrix Tool



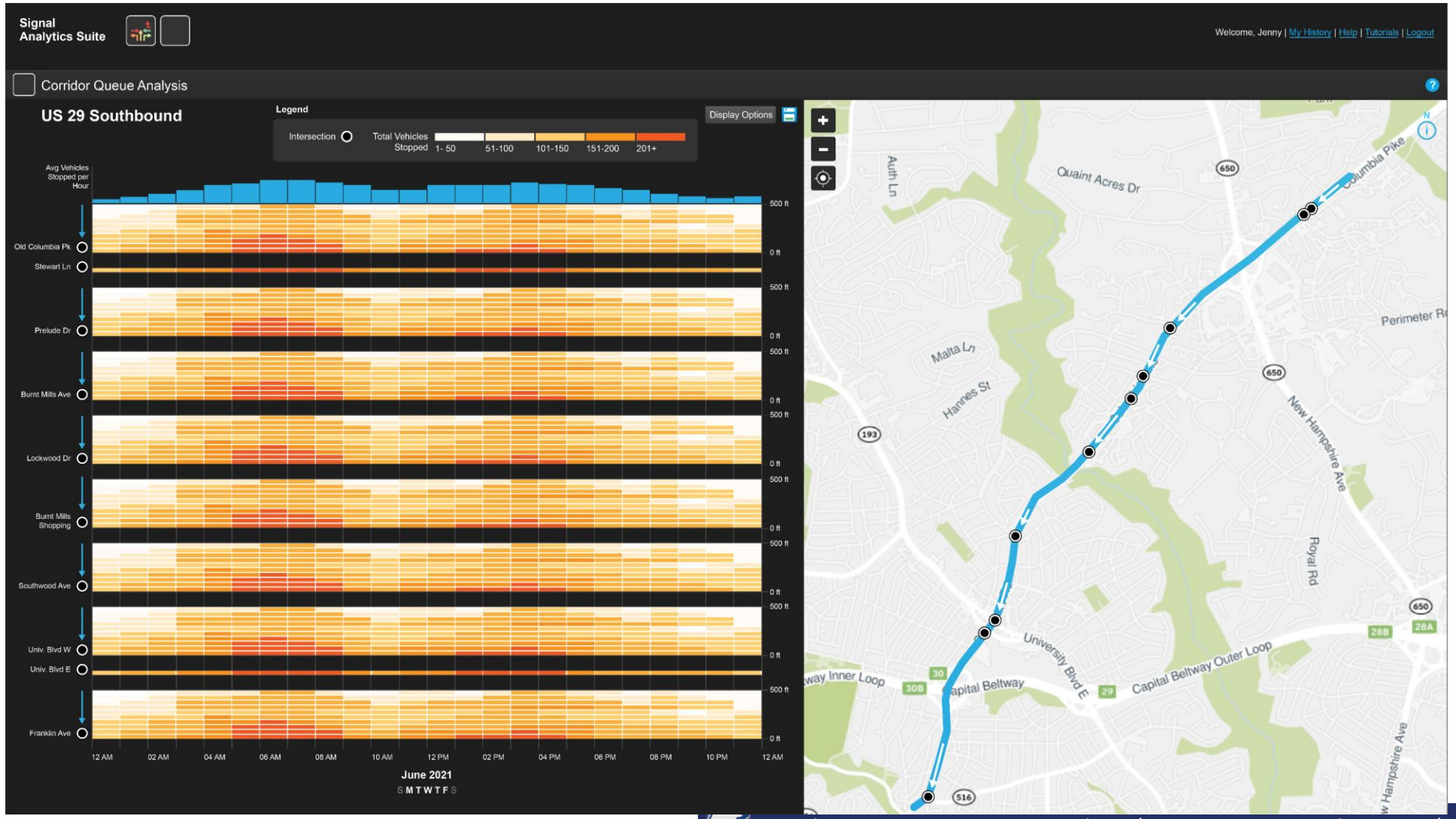
	12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 AM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Daily Avg
Mon	100%	100%	100%	100%	100%	85%	78%	52%	42%	29%	25%	17%	20%	34%	36%	40%	45%	80%	94%	96%	98%	94%	99%	100%	Mon 69%
Tue	100%	100%	100%	100%	100%	84%	80%	51%	57%	28%	26%	8%	26%	26%	43%	42%	41%	78%	84%	98%	96%	93%	98%	100%	Tue 67%
Wed	100%	100%	100%	100%	100%	93%	85%	42%	43%	25%	27%	19%	26%	29%	18%	47%	41%	70%	87%	95%	95%	92%	99%	100%	Wed 69%
Thu	100%	100%	100%	100%	100%	84%	76%	45%	23%	19%	9%	18%	24%	29%	48%	39%	59%	67%	92%	94%	93%	98%	96%	100%	Thu 61%
Fri	100%	100%	100%	100%	100%	89%	70%	53%	49%	29%	29%	17%	26%	28%	43%	38%	51%	69%	84%	92%	95%	94%	98%	100%	Fri 70%
Sat	100%	100%	100%	100%	100%	96%	89%	64%	43%	27%	15%	18%	27%	39%	46%	39%	64%	75%	87%	96%	96%	96%	99%	100%	Sat 75%
Sun	100%	100%	100%	100%	100%	99%	88%	67%	29%	29%	28%	27%	28%	32%	56%	59%	53%	73%	89%	95%	94%	95%	99%	100%	Sun 83%
Wkdy Avg	100%	100%	100%	100%	100%	89%	78%	49%	49%	49%	22%	18%	49%	49%	49%	49%	95%	95%	95%	95%	94%	97%	98%	100%	Wkdy Avg 79%
Wknd Avg	100%	100%	100%	100%	100%	97%	89%	66%	66%	66%	19%	25%	66%	66%	66%	66%	96%	96%	96%	96%	95%	96%	99%	100%	Wknd Avg 68%
Total Avg	100%	100%	100%	100%	100%	94%	86%	59%	59%	59%	21%	22%	59%	59%	59%	59%	96%	96%	96%	96%	95%	97%	99%	100%	Total Avg 16%

Time-Series Graphs

Stacking of Performance Metrics



Comparing Consecutive Intersections



Thank you!

Charles R. Lattimer, CATT Lab

lattimer@umd.edu

RITIS | PROBE DATA ANALYTICS SUITE

RITIS Workshop Updates

Rick Ayers
UMD CATT Lab
Public Sector Advocate

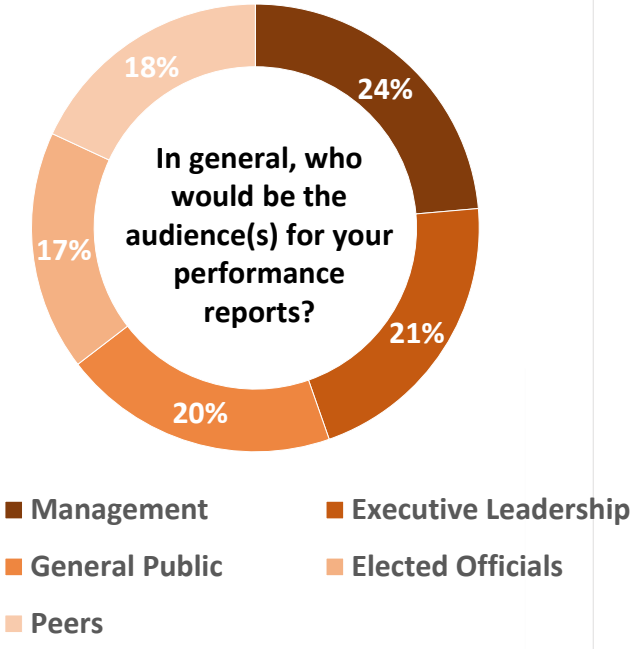
RITIS Report Templates Workshop - Poll Results

RITIS WORKSHOP

March 29th
- Developing performance reports using RITIS tools and templates

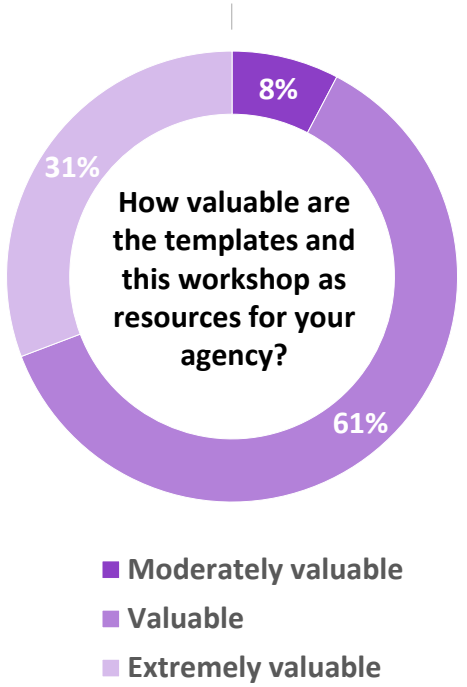
April 8th
- Trip and travel pattern insights from waypoint data using RITIS Trip Analytics

These three questions were asked at the end of the training session to help the CATT Lab understand: the usefulness of the materials and information presented; and, to gauge interest in future RITIS Workshops.



82%

would use reports geared towards less technically-oriented audiences



90%

thought the templates and workshop were valuable resources to their agencies

99%

were interested in more RITIS tools/templates training, given 4X per year

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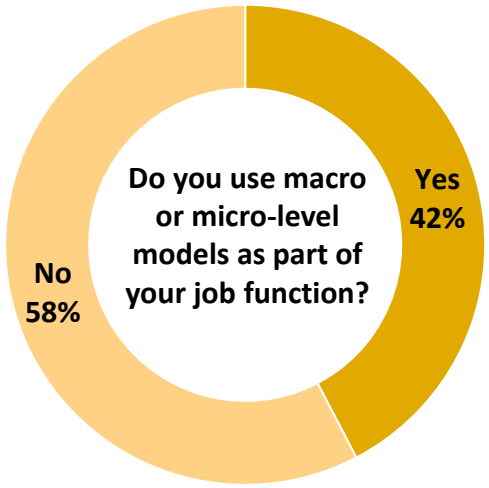
RITIS Trip Analytics Workshop - Poll Results

RITIS WORKSHOP

March 29th
- Developing performance reports using RITIS tools and templates

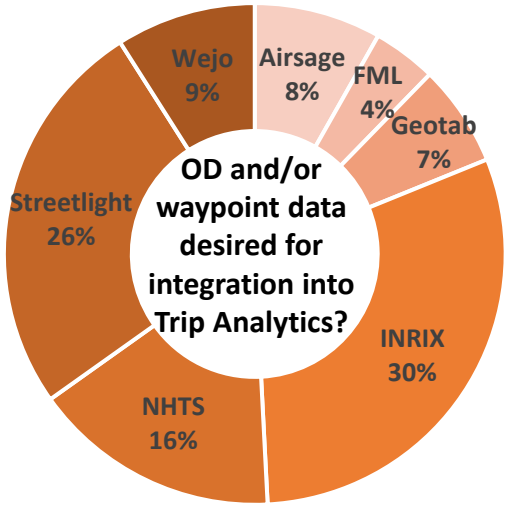
April 8th
- Trip and travel pattern insights from waypoint data using **RITIS Trip Analytics**

These three questions were asked at the end of the training session to help the CATT Lab direct its design and development teams as well as focus on future workshop planning activities.



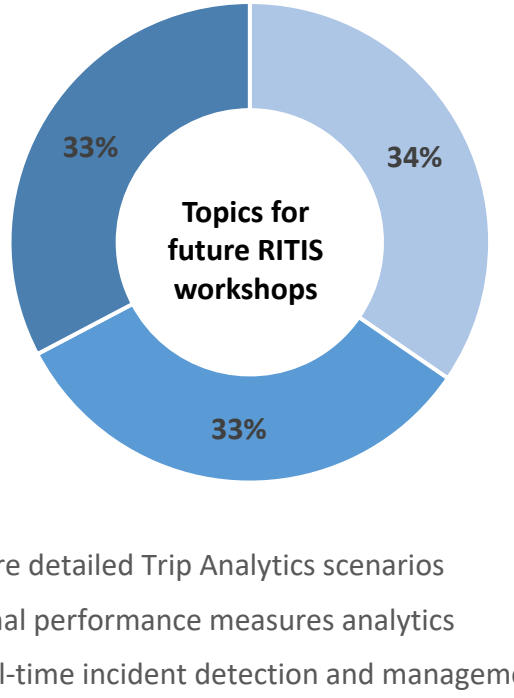
42%-46%

Use micro and macro-level modeling for their work



102 Responses

Many respondents selected more than 3 vendors

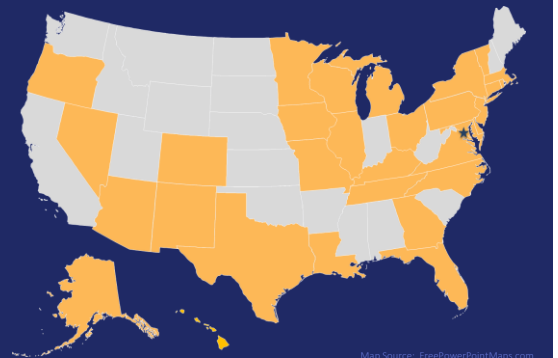


Desired topics for future RITIS workshops hosted by TETC

FUTURE RITIS Workshops and PDH Hours

Future RITIS workshop delivery goals will be to offer tools and/or template training on a quarterly basis

CATT Lab user community provides guidance to our planning and design initiatives.



For the 12-month data program for FY2022, TETC TSMO planning committee recommended the following schedule:

- 4 RITIS User Group Meetings (July, October, February, May)
- **2 Additional RITIS Workshops**
- 4 Technical Advisory Committee meetings
- 2 Data Driven Webinars

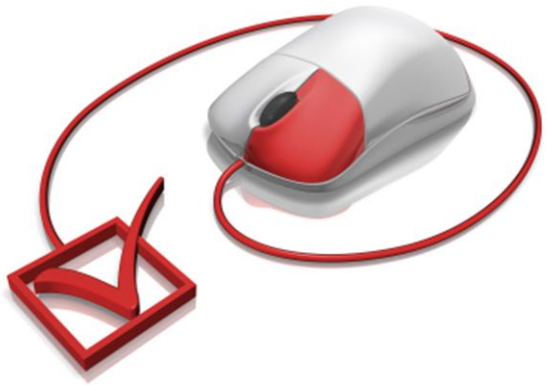
Plans afoot for Professional Development Hours (PDH credit)

- Is this of interest?

Poll 2: The CATT Lab is considering developing curriculum to support earning Professional Development Hours (PDH) for RITIS workshops and related training. Is this something your agency would be interested in?

Answer Options:

1. Yes
2. No
3. Perhaps, would depend on the topic



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PDA Suite Performance Measures Working Group

John Allen
UMD CATT Lab
Faculty Assistant, Outreach & Education

Performance Reporting **Poll Result**

Here are the results of a poll taken at the last RITIS User Group meeting for prioritizing the next set of reporting categories.

The **Top 10 Bottlenecks template** (and resource documents) are under development now, then we'll tackle the After-Action Review and Holiday Travel Forecast templates.

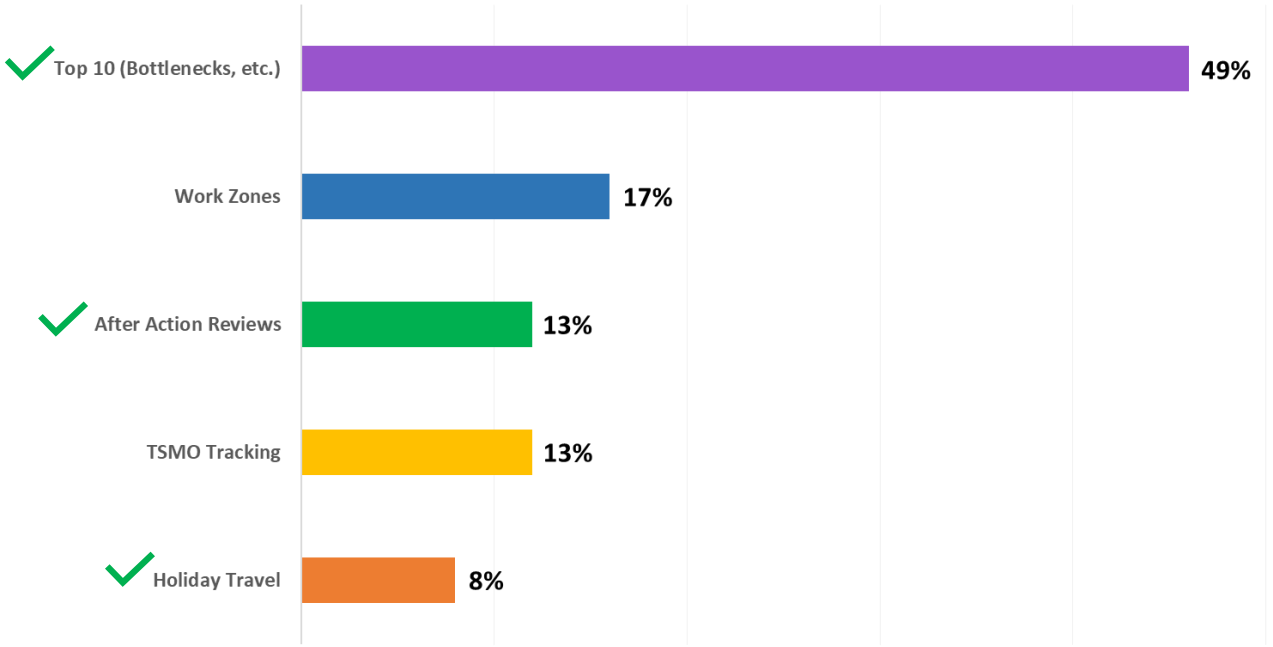
RITIS USER GROUP

User Group Meeting

February 24, 2022
10:00 am to 12:00 pm (ET)

In addition to Corridor Performance, Project Assessment and Monthly Congestion reports already available on the templates page, which reporting would you like to see covered next?

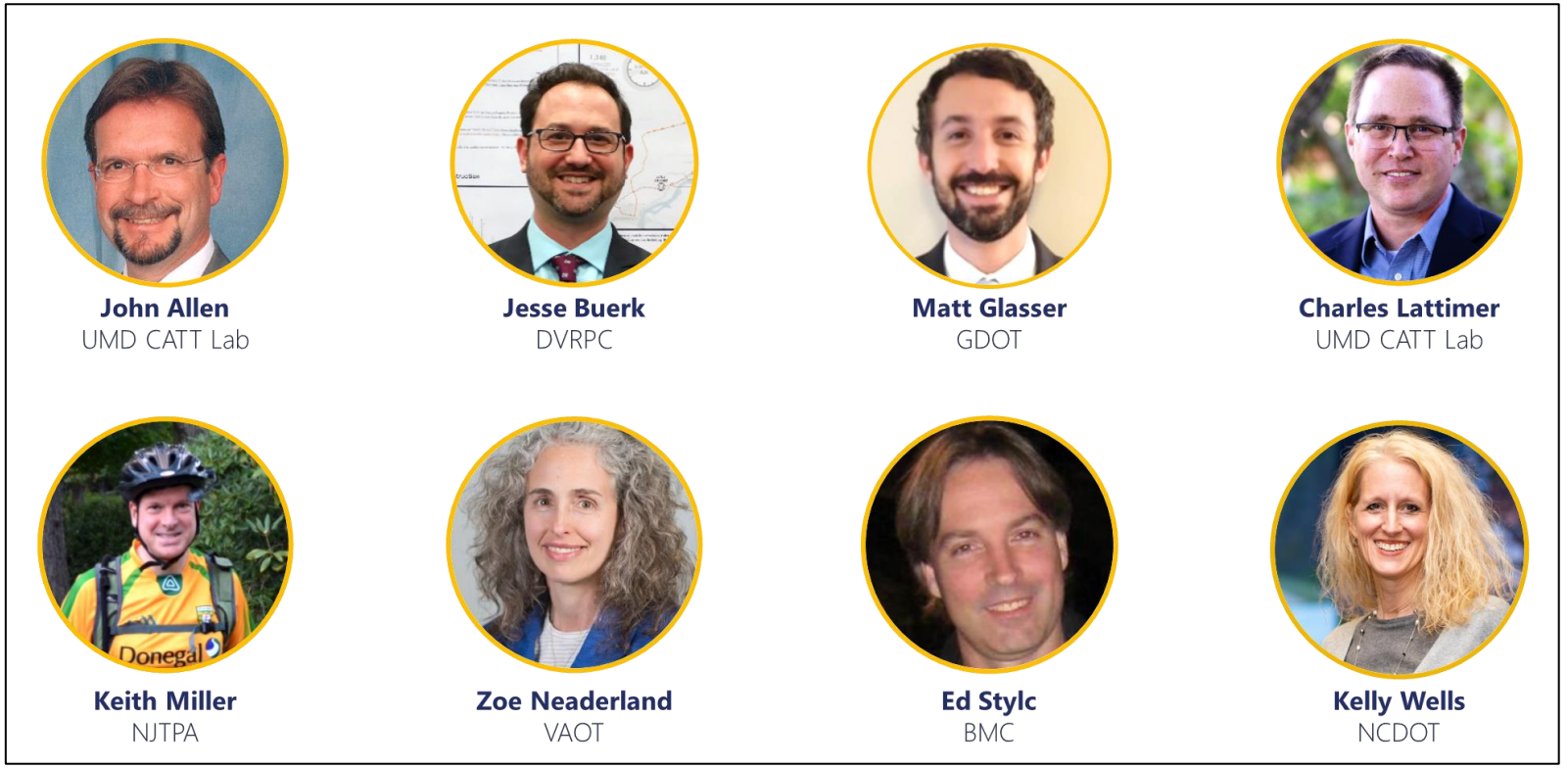
Poll Result



Performance Reporting **Working Group Meeting**

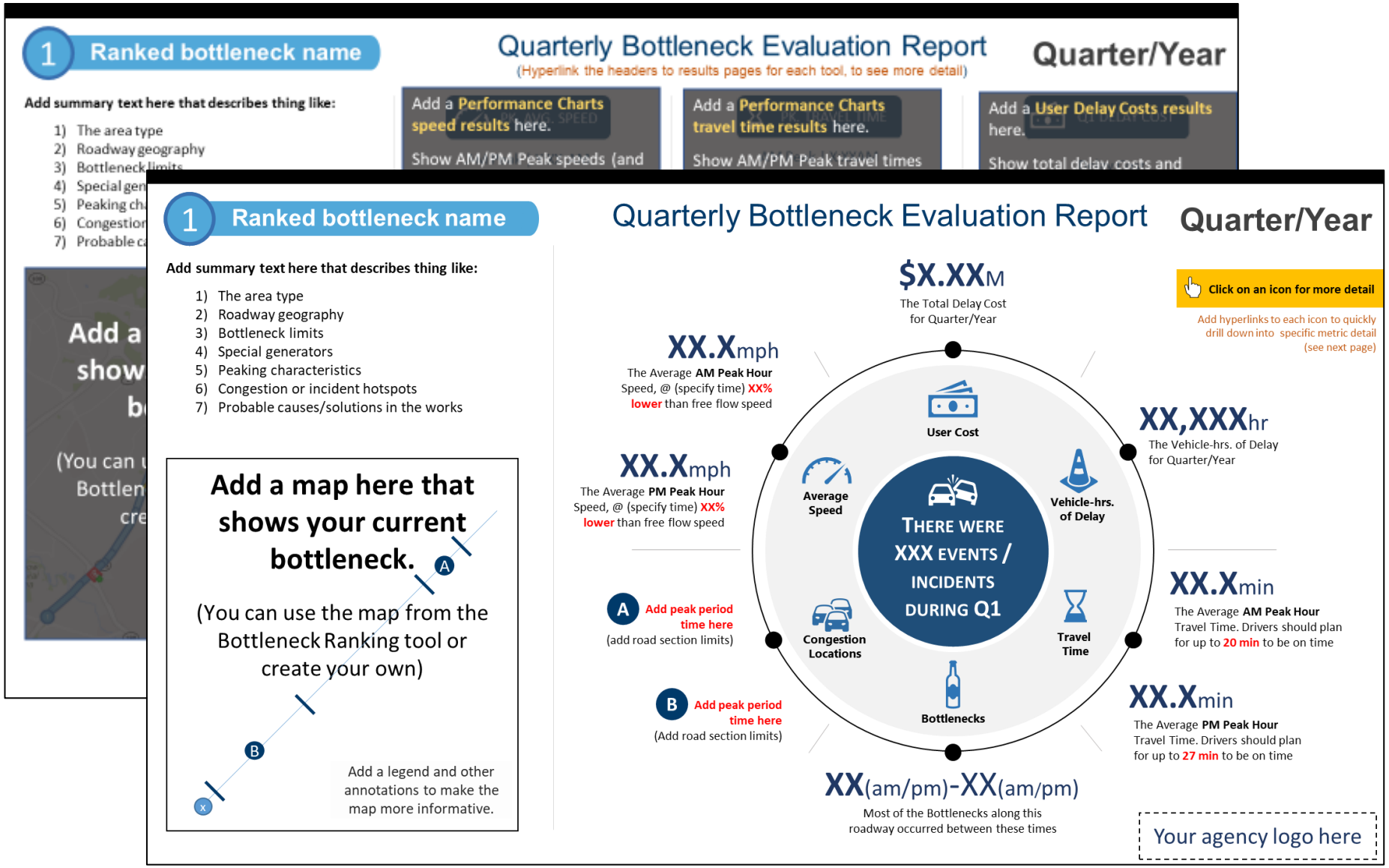
The **Working Group** will have a meeting soon to:

- **Review the next set of templates** and design resource documents under development
- **Strategize development** of the remaining templates
- **Get feedback on the RITIS templates page**, to improve content, layout, etc.



Performance Reporting **Template Use Update**

Ed Stylc (Baltimore Metropolitan Council & Working Group member) is using a prototype of the **Top 10 Bottlenecks templates** for developing BMC's Q1 2022 Quarterly Congestion Analysis Report.



QUESTIONS?

John C. Allen

jallen35@umd.edu

www.ritis.org

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RITIS Enhancement Working Group

Michael Pack
UMD CATT Lab
Director

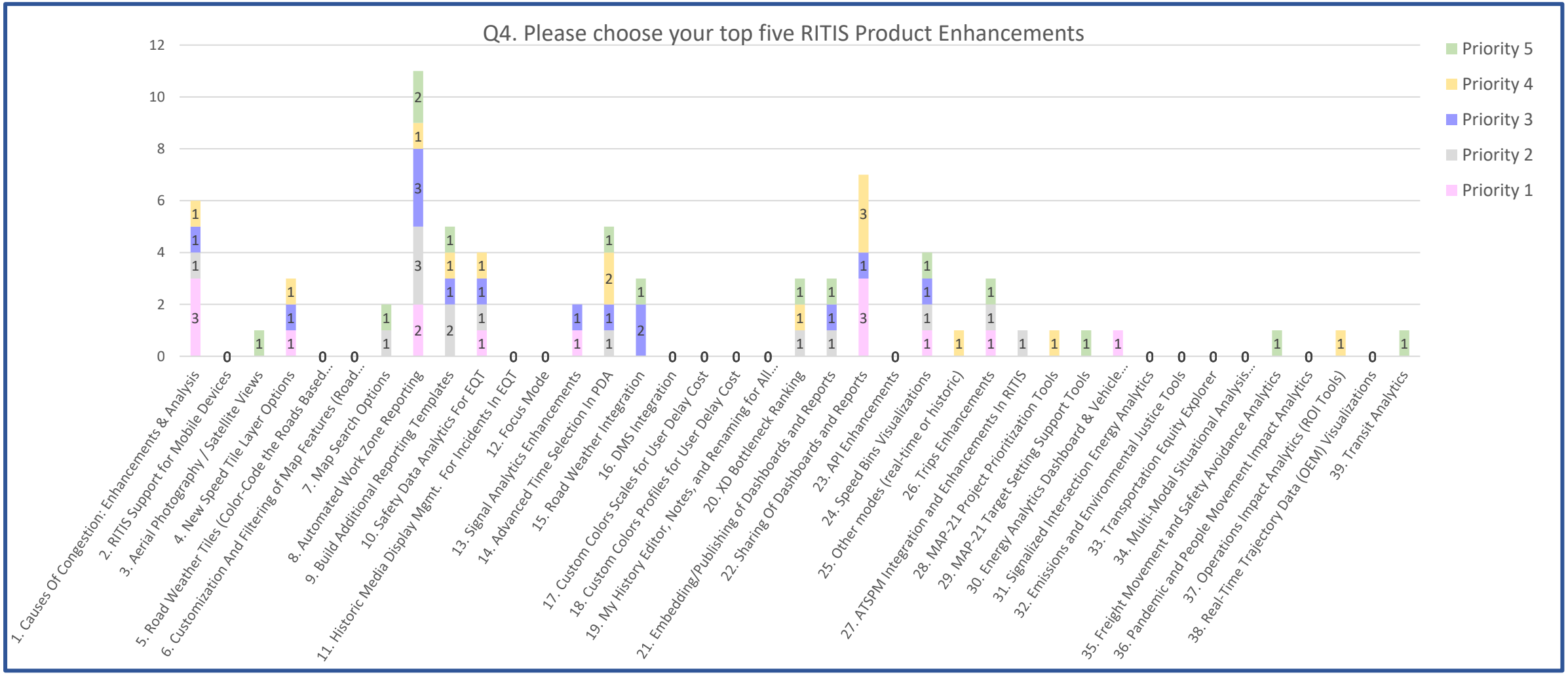
RITIS Enhancements Working Group

- **Purpose**:
  - Form a nimble group to fund RITIS enhancements & assist CATT Lab with prioritizing features
  - Provide stable funding
  - Connect agencies with similar needs

- **2021 Funding Commitments Came from:**
  - Georgia
  - Massachusetts
  - Oregon
  - Virginia
  - Michigan

3 Major Projects funded by RITIS Enhancements Working Group in FY 2022 – Waze Enhancements, Corridor Speed Graphs, and Causes of Congestion Pie Chart Deep-Dive Analytics

FY 2023 – In the process of selecting Enhancements to fund



Next Steps

- **Next meeting is Thursday, May 12th from 2:30pm-3:30pm, ET**
  - If you are a member of the group you should have received an invitation
  - Interested in joining the group, please reach out to
    - Michael Pack - PackML@umd.edu
    - Denise Markow - dmarkow@tetcoalition.org

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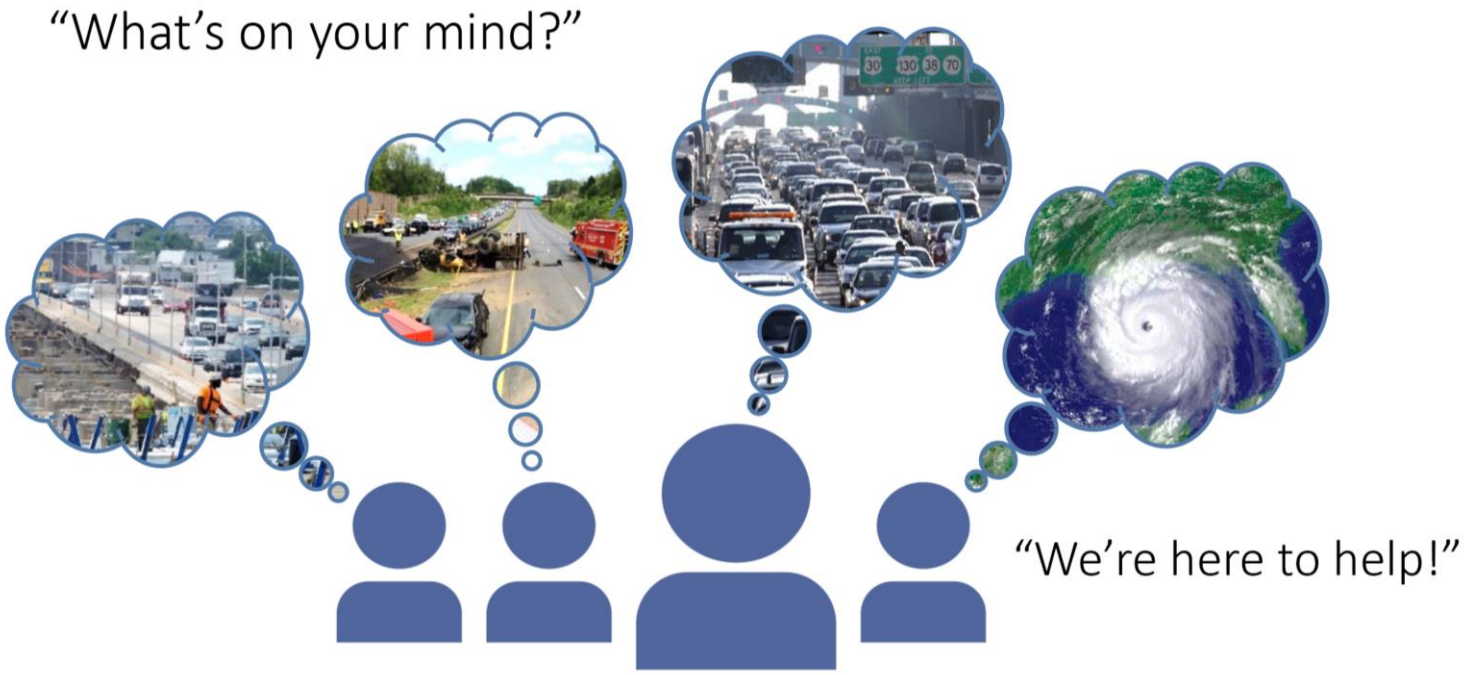
Agency Input Session

Michael Pack
UMD CATT Lab
Director

We want to hear from you!

- All features and functionality are driven by state/mpo users.
- You are welcome to join any of our User Groups / Working Groups / Listening Sessions to brainstorm/define these new features and functionality.
- You can also type your comments to us today either in the Q&A box or with an email to support@ritis.org



Wrap Up

Jesse Buerk
Manager, Office of Capital Programs
RITIS User Group Co-chair
DVRPC

Questions?

Denise Markow (TETC)	dmarkow@tetcoalition.org	301.789.9088
Joanna Reagle (Logistics)	jreagle@kmjinc.com	610.228.0760
Michael Pack (CATT Lab)	PackML@umd.edu	
RITIS Tech Support	support@ritis.org	
PDA Suite Tech Support	pda-support@ritis.org	

Thank you!

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