

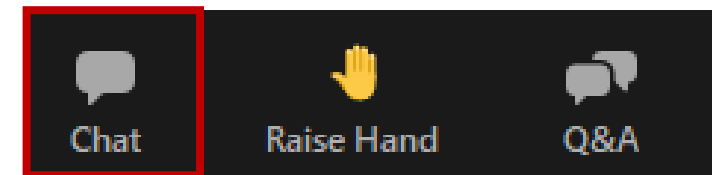
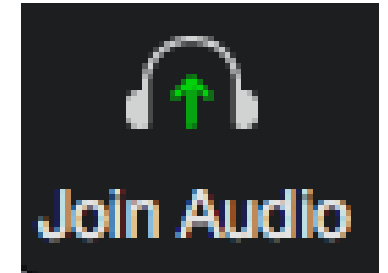
# RITIS User Group

Web Meeting | July 15, 2021



# 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 the chat box or email ([ekleit@kmjinc.com](mailto:ekleit@kmjinc.com))



# Using the Q&A box and Chatbox



- Use the **Q&A box** to ask presenters questions
- Ex. “How accurate is the captured data?”



- Use the **Chatbox** for technical issues or to contact Coalition staff
- Ex. “I can’t hear the presenter”

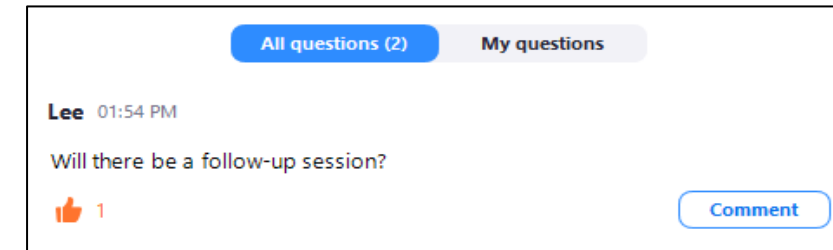
# Asking Questions in the Q&A Box



- 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 asking a question**



# Coalition Update



**Denise Markow**

The Eastern Transportation Coalition  
*TSMO Director*

— **THE EASTERN  
TRANSPORTATION  
COALITION**

CONNECTING FOR SOLUTIONS



# Coalition Update

## RECENT

- ✓ **Coalition-wide Strategic Planning Web Workshop** - June 8, 2021
- ✓ **WAZE Technical Bi-Annual Working Group** - June 15, 2021
- ✓ **VPP-Traffic Data Marketplace State POC Meeting** - June 22, 2021



## UPCOMING

- **Traffic Data Marketplace - RFP Evaluation Kick-off Meetings** - August 17-18, 2021
- **Data Driven Webinar: Best Practices for Conflation Data Sets** - August 19, 2021
- **Travel Info Web Meeting on Work Zone Data Exchange** - September 9, 2021 (*tentative*)
- **Mapping Technical Meeting** – October 7, 2021 (*member invite only*)
- **RITIS User Group Web Meeting** – October 2021

# Welcome & Introductions



**Matt Glasser**

Assistant State Traffic Engineer, Georgia DOT  
RITIS User Group Co-chair





# Today's Meeting

Welcome and Introductions	Matt Glasser, Georgia DOT & User Group Co-chair
Spotlight Presentation: Update on the Transportation Disruption and Disaster Statistics – Phase 2	Mark Franz, UMD CATT Lab
Spotlight Presentation: Ranking Intersections Statewide in Georgia using RITIS	Landon Perry, Georgia DOT
RITIS Product Enhancement Working Group Update	Matt Glasser, Georgia DOT
PDA Suite Performance Measures Working Group Update	John Allen, UMD CATT Lab
New RITIS Tools and Recent Enhancements	Michael Pack, UMD CATT Lab
Agency Input Session	Michael Pack, UMD CATT Lab
Wrap Up and Remaining Questions	Matt Glasser, Georgia DOT



# Today's Speakers



**Michael Pack**  
UMD CATT Lab  
*Director*



**Landon Perry**  
Georgia DOT  
*District 7 Preconstruction Engineer*



**Matt Glasser**  
Georgia DOT  
*Assistant State Traffic Engineer*



**Mark Franz**  
UMD CATT Lab  
*Lead Transportation Analyst*




**John Allen**  
UMD CATT Lab  
*Faculty Assistant, Outreach & Education*

# Meeting Participants

## Agencies

AECOM	Connecticut DOT	Gannett Fleming	Kingsport MTPO	Maryland Transportation Authority	MWVCOG	Office of Intermodal Planning and Investment	Southwestern Pennsylvania Commission
Arcadis	Denver Regional Council of Governments	Georgia DOT	KISNN Assoc	Massachusetts DOT	National Renewable Energy Laboratory	Ohio DOT	State of Rhode Island - Division of Statewide Planning
Atkins Global	District DOT	Georgia DOT (CHA)	Kittelson & Associates	McLean County Regional Planning Commission	New Jersey DOT	Oregon DOT	Tennessee DOT
Atlanta Regional Commission	DVRPC	Georgia Environmental Protection Division	KMJ Consulting Inc	Mead & Hunt	New Jersey Institute of Technology	Pennsylvania DOT	Texas AM Trans Inst.
Baltimore Metropolitan Council	East Central Intergovernmental Association	Grand Valley Metro Council	Knoxville Regional TPO	Michigan DOT	New Jersey Sports & Exposition Authority	Pennsylvania Turnpike Commission	Springfield-Sangamon County
Cabarrus-Rowan MPO	Federal Highway Administration	Gresham Smith	Louisiana DOTD	Mid-America Regional Council	New York City DOT	Pioneer Valley Planning Commission	The University of North Carolina at Charlotte
Capital Area MPO (CAMPO-Raleigh)	FEMA	Indiana DOT	Lumin8 Transportation	Minnesota DOT	New York State DOT	Rhode Island DOT	TRANSCOM
Central Texas Regional Mobility Authority	Florida DOT	Illinois DOT	Maricopa Association of Governments	Montachusett Regional Planning Commission	NJTPA	Richmond Regional Planning Agency	University of Maryland CATT Lab
City of Concord, NC	Florida's Turnpike Enterprise	INRIX	Maryland DOT	Montgomery County Planning Department	North Carolina DOT	SANDAG	Vermont AOT
City of Sandy Springs, Georgia	Forward Pinellas	Jacobs Engineering (Formerly Maryland SHA)	Maryland DOT-SHA	MWCOG	North Central PA Regional Planning & Development Commission	South Jersey Transportation Planning Organization	Virginia DOT





Update on the Transportation Disruption and  
Disaster Statistics (TDADS) Phase 2 –  
*Identifying and Quantifying the Causes of  
Congestion*

*Mark Franz*  
UMD CATT Lab  
*Lead Transportation Analyst*



# Transportation Disruption and Disaster Statistics (TDADS)

## Identifying and Quantifying the Causes of Congestion

PHASE 2 UPDATE

JULY 15, 2021



# Today's topics

- Phase 2 TDADS Work
  - Updates on Tasks 4 & 7



# TDADS Phase II tasks

1. Project Management
2. TDADS Steering Committee
3. Procure INRIX data
- ➔ **4. Process disruption statistics nationally**
5. Production deployment of the TDADS website
6. National Webinar: Showcase the TDADS tool & its functionality
- ➔ **7. Implement geographic improvements to TDADS**
8. Scope Development & Requirements for Deep-dive Analytics
9. Signal Congestion Attribution
10. Special Event Impact Analysis Scoping



# TDADS Phase II process

Continue engagement of the Steering Committee for guidance throughout the Phase II process

- 1 Procure 1-min probe data from INRIX**  
(Produce national & state charts)
- 2 Implement Geographic & Temporal Improvements**  
(County & monthly level)
- 3 Develop Requirements**  
(For deep-dive analytics)
- 4 Conduct a National Webinar**  
(Showcase the TDADS tool)





# Demo

Time Aggregation Year 2019



View County Broward, Florida

Sort By County Name A to Z

## Sources of Disruption Nationwide 2019

- Total UDC
- Vehicle Hours of Delay

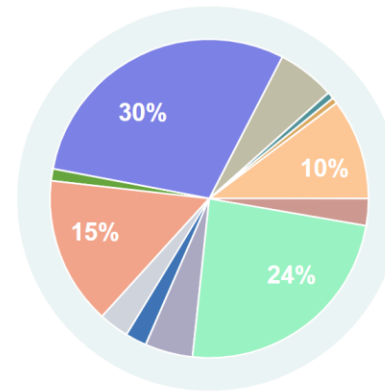
Data coming soon

- Recurrent
- Incident
- Weather
- Work Zone
- Signals
- Holiday
- Incident & Weather
- Signal & Weather
- Incident & Workzone
- Recurrent & Incident
- Other Multiple Causes
- Unclassified

## Florida 2019

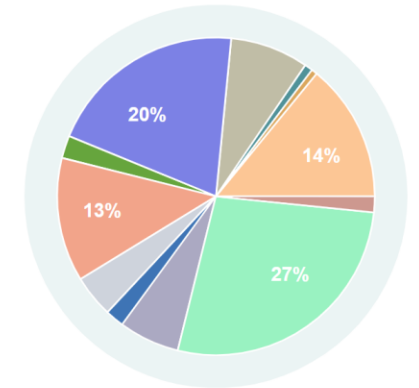
View States

\$2.87b Total UDC (24.8% of US)  
109.68m Vehicle Hours of Delay



## Broward, FL 2019

\$305.91m Total UDC (10.7% of FL)  
11.69m Vehicle Hours of Delay



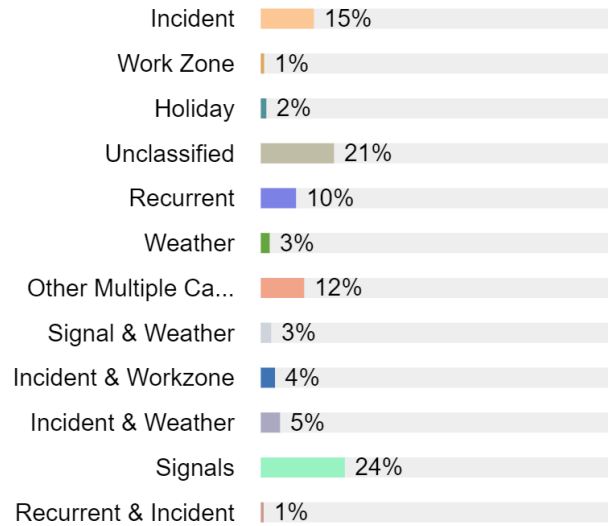
# Results-Alabama Statewide

## Annual - 2019

### Alabama 2019

**\$361.88m** Total UDC (3.1% of US)

**13.83m** Vehicle Hours of Delay

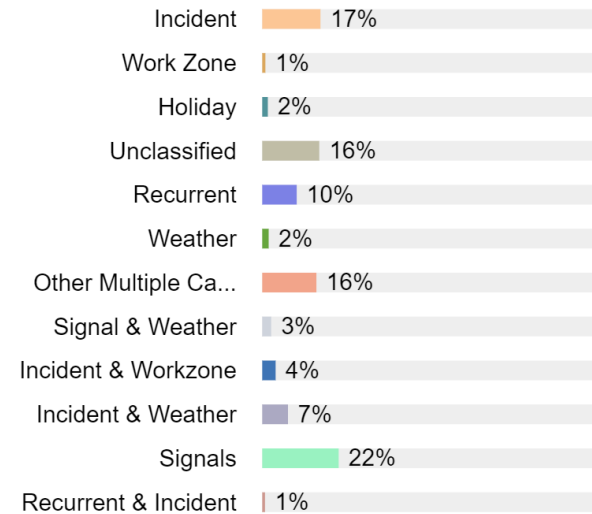


## July-Sept 2019

### Alabama July 2019 - September 2019

**\$79.25m** Total UDC (2.9% of US)

**3.03m** Vehicle Hours of Delay

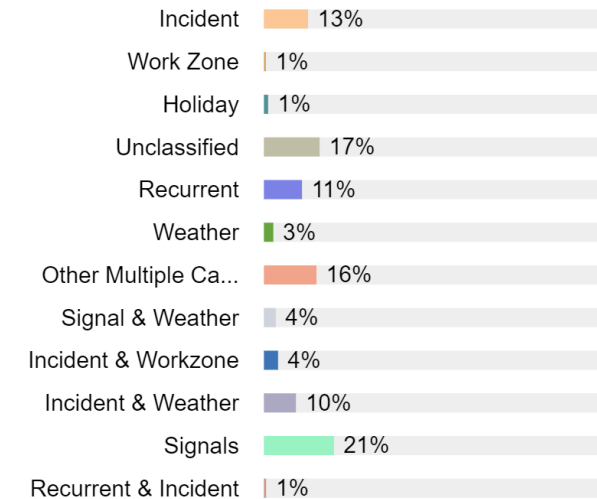


## Aug 2019

### Alabama August 2019

**\$28.72m** Total UDC (3.0% of US)

**1.10m** Vehicle Hours of Delay

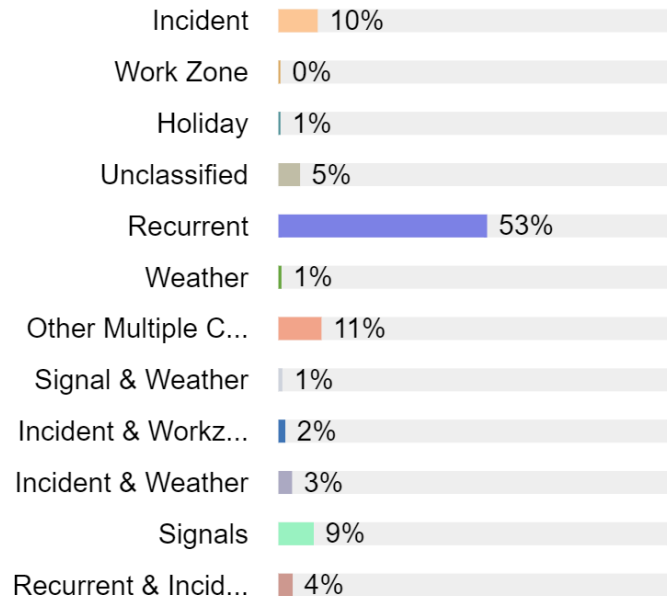


# Results-Georgia Urban vs Rural Counties (2019)

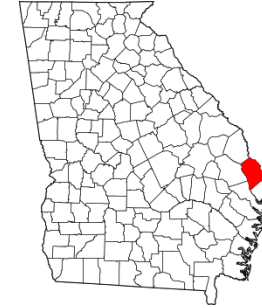
## Fulton, GA 2019



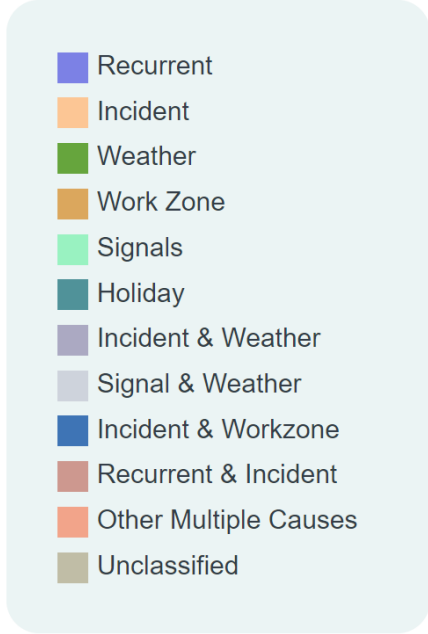
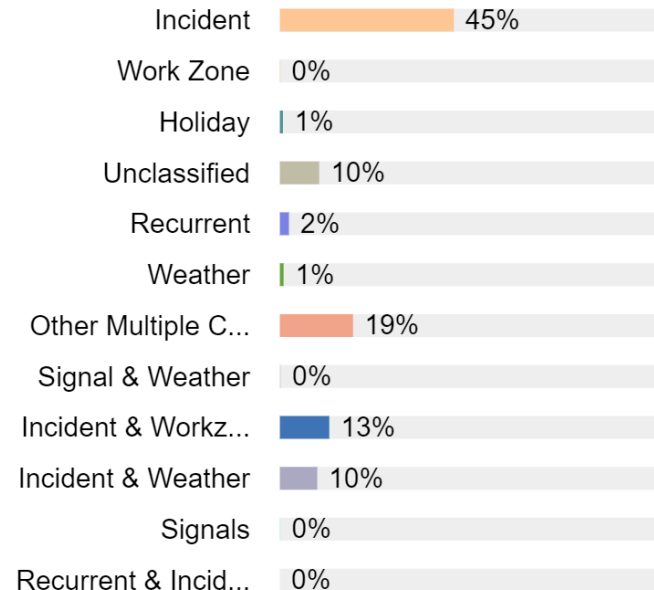
**\$499.46m** Total UDC (30.9% of GA)  
**19.09m** Vehicle Hours of Delay



## Effingham, GA 2019



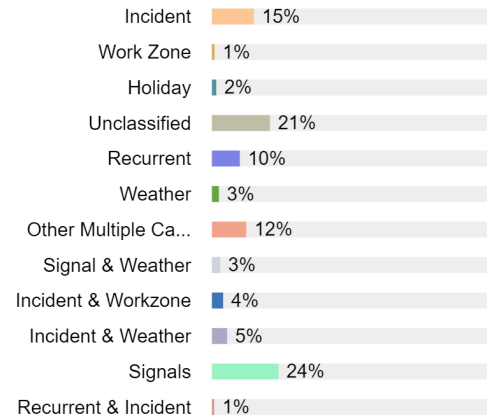
**\$2.36m** Total UDC (0.1% of GA)  
**90.34k** Vehicle Hours of Delay



# Results- Annual 2019 Multistate Comparison

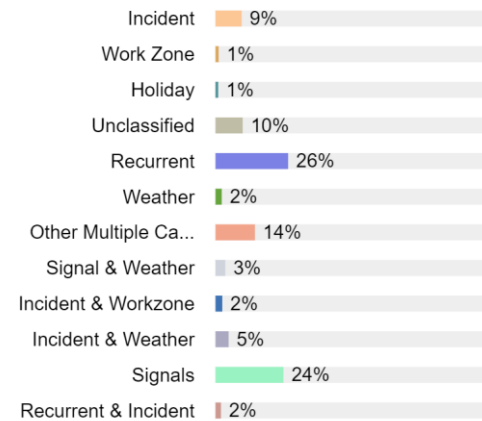
## Alabama 2019

**\$361.88m** Total UDC (3.1% of US)  
**13.83m** Vehicle Hours of Delay



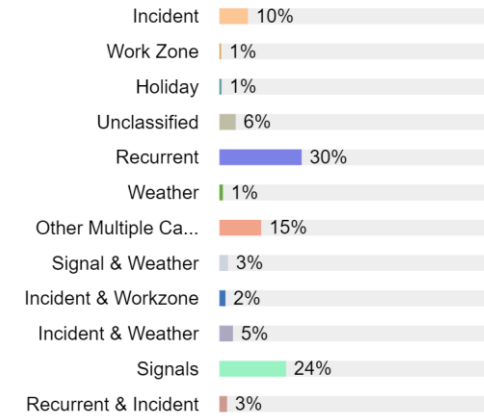
## Colorado 2019

**\$936.11m** Total UDC (8.1% of US)  
**35.77m** Vehicle Hours of Delay



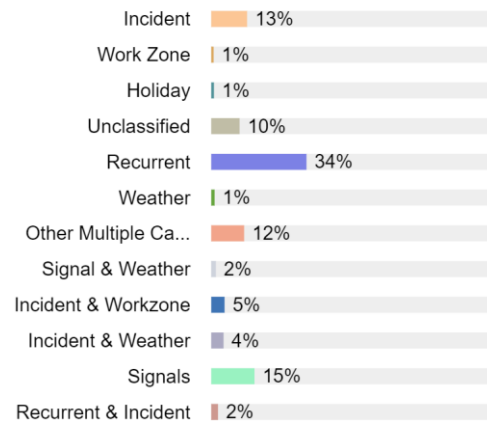
## Florida 2019

**\$2.87b** Total UDC (24.8% of US)  
**109.68m** Vehicle Hours of Delay



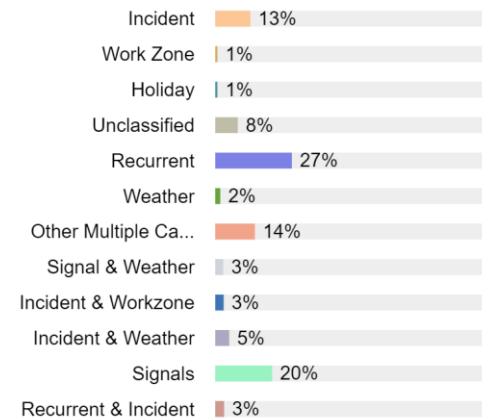
## Georgia 2019

**\$1.61b** Total UDC (13.9% of US)  
**61.69m** Vehicle Hours of Delay



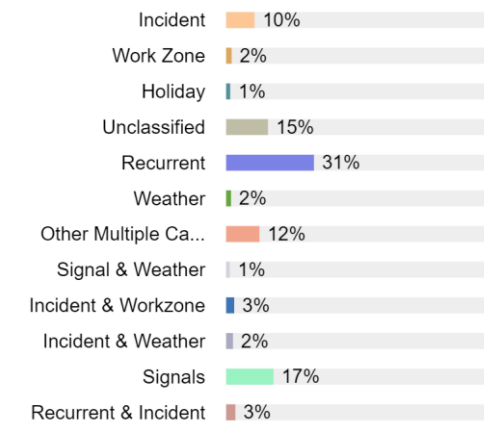
## Maryland 2019

**\$1.51b** Total UDC (13.0% of US)  
**57.71m** Vehicle Hours of Delay



## Texas 2019

**\$4.30b** Total UDC (37.1% of US)  
**164.20m** Vehicle Hours of Delay



# Next Steps through Sept 2021

1. Continue processing data for the Phase 2 online tool
2. Integrate results into online tool
3. Develop requirements for Deep-Dive Tool
4. Conduct a National webinar

**Transport Disruption and Disaster Statistics**  
Transport Disruption and Disaster Statistics helps you understand the sources of congestion.

**1. Select geography**  
Roads Region Map  
State and counties: Delaware  
Directions: All  
Zip codes: Example: 20742, 20904  
Road classes: All  
+ Add region

Your selected roads: Delaware  
Remove all

**2. Select one or more time periods to analyze**  
Day(s) Month(s) Year  
A maximum of 7 days is allowed within a single date range  
12/19/2018 - through - 12/28/2018  
 Create a single time period for this range  
 Limit to specific days of week  
Sun Mon Tue Wed Thu Fri Sat  
 Create a time period for each day within this range  
+ Add time period

SUBMIT

# Questions?



Denise Markow  
[dmarkow@tetcoalition.org](mailto:dmarkow@tetcoalition.org)



Mark L. Franz  
[mfranz1@umd.edu](mailto:mfranz1@umd.edu)



# Ranking Intersections Statewide in Georgia using RITIS

*Landon Perry*

Georgia DOT

*District 7 Preconstruction Engineer*



# Ranking Intersections in Georgia Using RITIS



Landon Perry, PE, PTOE  
State Traffic Operations Manager



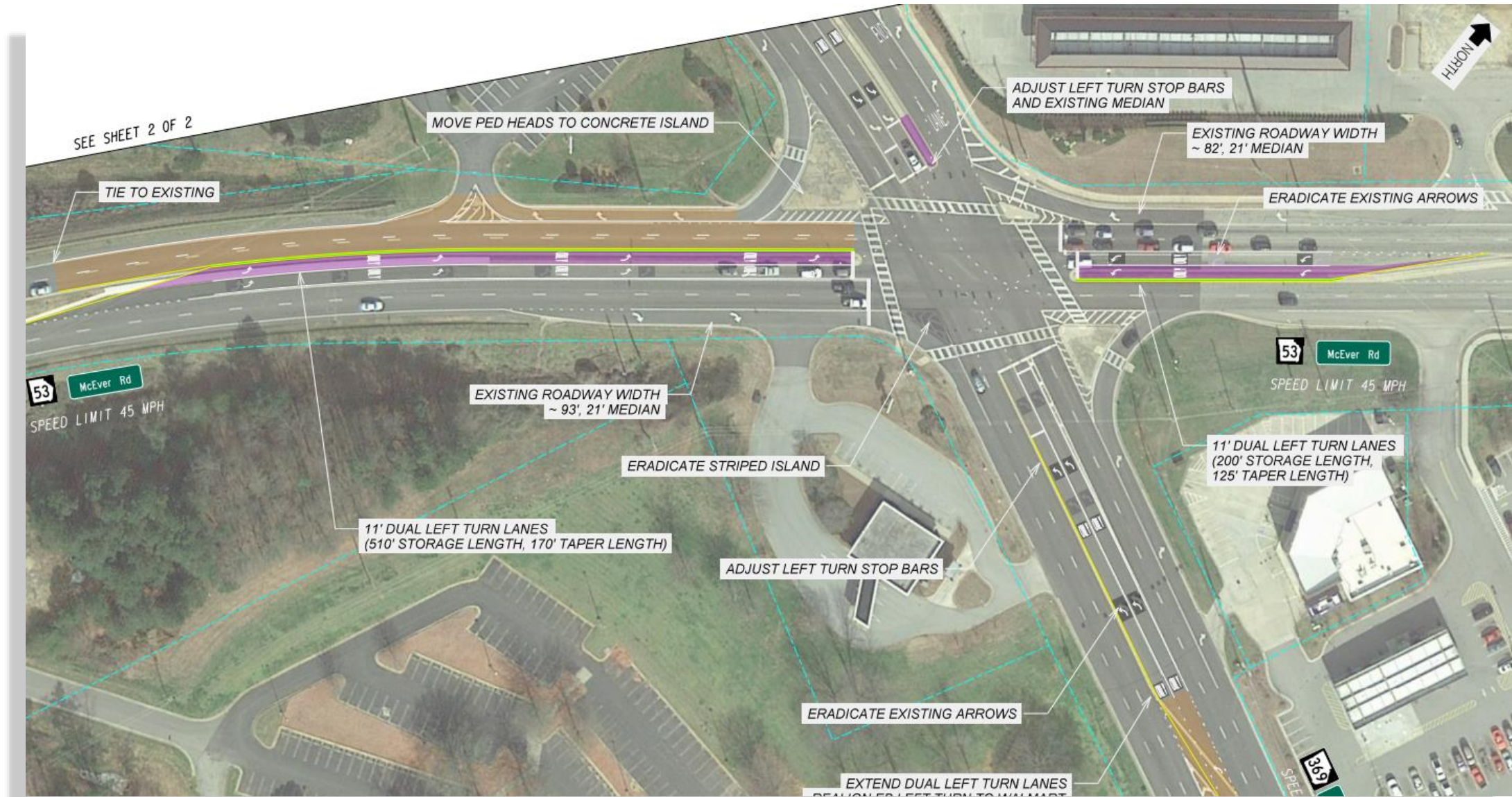
# GDOT OPERATIONAL IMPROVEMENT PROGRAM OVERVIEW

- Funding through agreement between GDOT and FHWA
- Funding Sources:
  - Federal: \$12M/yr
  - State (HB170): \$18M/yr
- Surgical Improvements
  - Turn Lanes
  - Roundabouts
  - Median U-Turns/Restricted Crossing U-Turn
  - Existing Footprint Optimization
- Project Cost
  - Majority under \$1M
  - Funding for Negotiated Bid Projects (<\$200K)

# TYPICAL PROJECT TYPE – BEFORE CONDITION



# TYPICAL PROJECT TYPE – AFTER Ops IMPROVEMENT



## TYPICAL PROJECT PRIORITIZATION CRITERIA

- ✓ Operational B/C
- ✓ Based on User Delay Cost
- ✓ 20-Year Life Cycle for Benefits
- ✓ Cost is Based on GDOT Expense

# BOTTLENECK INPUTS

GDOT Districts

All

February and March 2021

HERE Speed Data

## #1 Bottleneck Ranking

Rank congestion locations over long periods of time and discover which ones have the greatest impact.

### 1. Select roads

TMC segments from **HERE**

**Road** | **Region** | **Segment codes** | **Map** | **Saved**

Regions: All

Directions: All

Zip Codes: Example: 20742, 20904

Road Classes: All

**+ Add region**

### 2. Select a time period to analyze

02/02/2021 - through - 02/02/2021

### 3. Select data sources

HERE

TomTom

### 4. Select inclusion criteria

Include congestion that originates outside your selected geography  
*Queries of more than 50 segments may fail if this option is checked.*

### 5. Select time zone

Segment Local

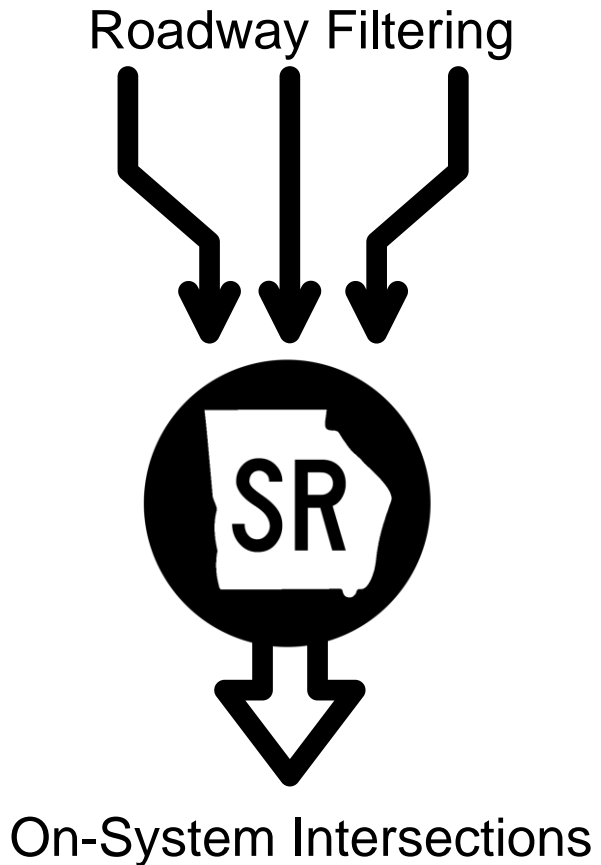
**SUBMIT**

# BOTTLENECK OUTPUTS

Base Impact	TOTAL DELAY
11,149	4,579,010
19,492	4,131,036
8,522	4,109,820
6,237	3,751,757
11,302	3,518,677
6,631	2,914,589

**30,000**  
**TMC exports**

# OFFLINE DATA PROCESSING



## Analysis Excluded:

Arterial intersections without state route or US highway involved, or

The merge or diverge points of freeway mainline and ramps.

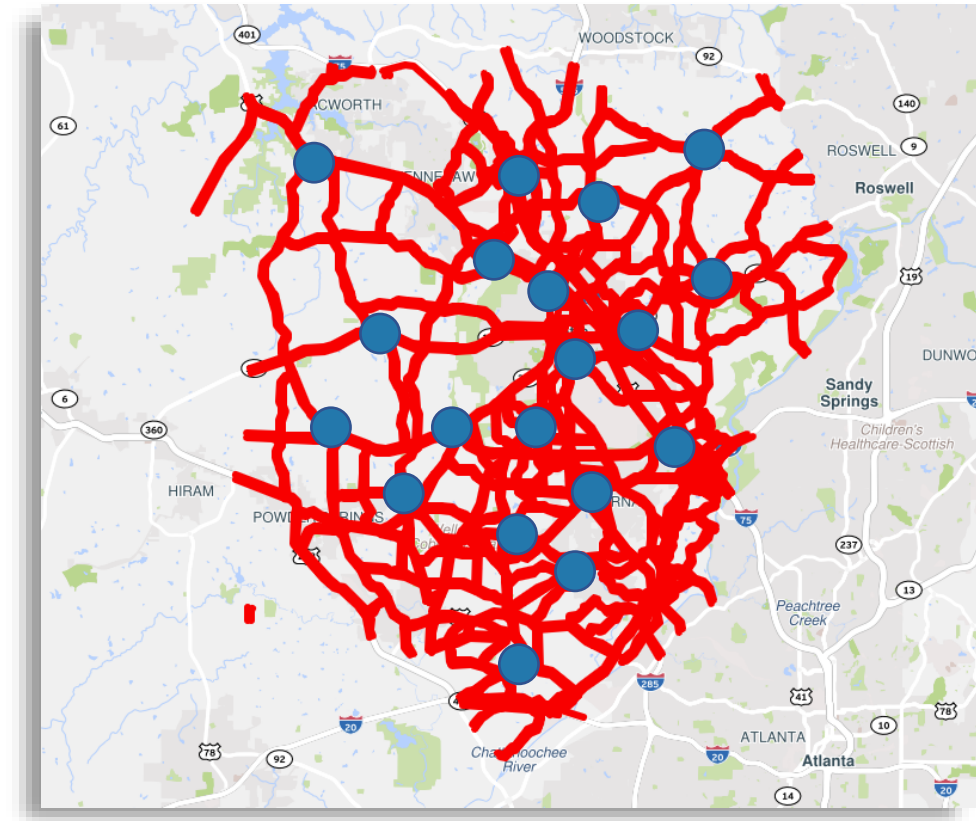
# OFFLINE DATA PROCESSING

## Aggregation Completed:

TMC Codes

TMC Head Locations ( $\pm 0.0002$ )

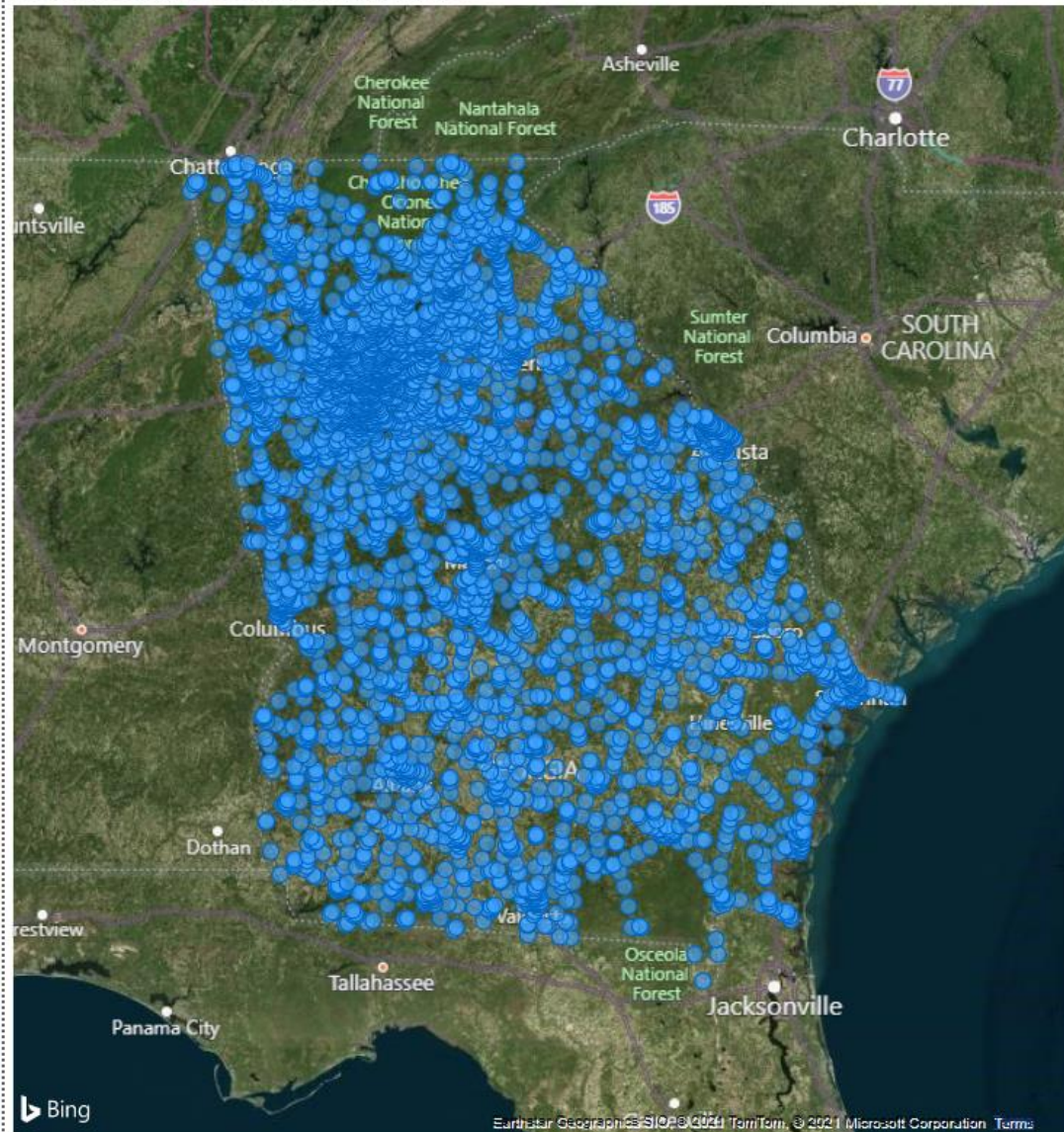
## Intersection Aggregation





# Customized Dashboard

Bottleneck Intersections Ranking List



Georgia Department of Transportation

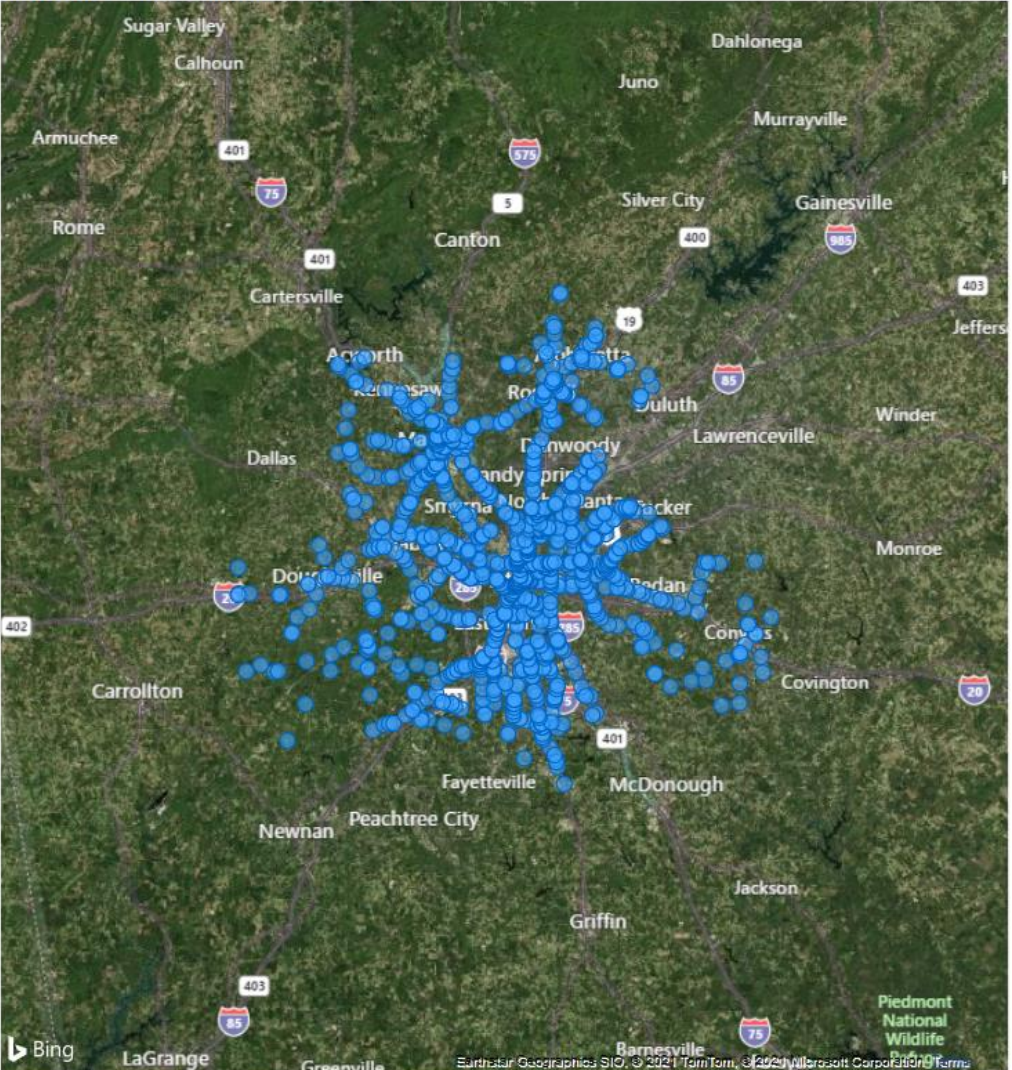
Municipali... County Type GDOT District  
 All All  Select all  Select all  
 Interchange  1  
 Intersection  2  
 3  
 4  
 5


Statewide Ranking	Intersection Name	GDOT District	District Ranking	County
1	NORTH AVE NE @ PEACHTREE ST NE/JUNIPER ST NE	7	1	Fulton
2	I-20 EXIT 82	7	2	Rockdale
3	I-75 EXIT 218	3	1	Henry
4	I-85 EXIT 99	1	1	Gwinnett
5	GA-154/MEMORIAL DR SW @ GA-154/TRINITY AVE	7	3	Fulton
6	GA-124 @ US-78/GA-10/MAIN ST SW	1	2	Gwinnett
7	I-75 EXIT 244			
8	US-23 @ GA-20/GA-81/COURTHOUSE SQ			
9	US-29 @ US-23/GA-42/MORELAND/BRIARCLIFF			
10	GA-140 @ OLD ALABAMA RD			
11	GA-21 @ GA-204/ABERCORN ST			
12	I-285 EXIT 31A/B			
13	PRYOR ST SW @ GA-154/TRINITY AVE SW	7	8	Fulton
14	CAPITOL AVE @ GA-154/MEMORIAL DR	7	9	Fulton
15	GA-400 EXIT 7	7	10	Fulton
16	GA-120 @ GA-120-LOOP/MARIETTA PKWY	7	11	Cobb
17	I-75 EXIT 263	7	12	Cobb
18	GA-120 @ GA-141/MEDLOCK BRIDGE RD	7	13	Fulton
19	GA-139 @ US-29/GA-154/WHITEHALL ST/LEE ST	7	14	Fulton


Numerous filtering and sorting options available.

# Customized Dashboard

**Bottleneck Intersections Ranking List**







Georgia Department of Transportation

Municipali... County Type

All All  Select all  Interchange  Intersection

**GDOT District**

1

2

3

4

5

6

7

Statewide Ranking	Intersection Name	GDOT District	District Ranking	County
1	NORTH AVE NE @ PEACHTREE ST NE/JUNIPER ST NE	7	1	Fulton
2	I-20 EXIT 82	7	2	Rockdale
5	GA-154/MEMORIAL DR SW @ GA-154/TRINITY AVE	7	3	Fulton
7	I-75 EXIT 244	7	4	Fulton
9	US-29 @ US-23/GA-42/MORELAND/BRIARCLIFF	7	5	Fulton
10	GA-140 @ OLD ALABAMA RD	7	6	Fulton
12	I-285 EXIT 31A/B	7	7	DeKalb
13	PRYOR ST SW @ GA-154/TRINITY AVE SW	7	8	Fulton
14	CAPITOL AVE @ GA-154/MEMORIAL DR	7	9	Fulton
15	GA-400 EXIT 7	7	10	Fulton
16	GA-120 @ GA-120-LOOP/MARIETTA PKWY	7	11	Cobb
17	I-75 EXIT 263	7	12	Cobb
18	GA-120 @ GA-141/MEDLOCK BRIDGE RD	7	13	Fulton
19	GA-139 @ US-29/GA-154/WHITEHALL ST/LEE ST	7	14	Fulton
20	GA-154/MEMORIAL DR SW @ US-23/GA-42/MORELAND AVE	7	15	Fulton
21	CAMPBELLTON ST @ US-78/GA-5/GA-8/GA-92/E BROAD ST	7	16	Douglas
24	GA-155 @ US-23/US-29/US-78/GA-8/SCOTT BLVD	7	17	DeKalb

# Customized Dashboard

**Bottleneck Intersections Ranking List**

**Municipali...**

Alpharetta

**County**

All

**Type**

Select all

Interchange

Intersection

**GDOT District**

Select all

7

Statewide Ranking	Intersection Name	GDOT District	District Ranking	County
25	KIMBALL BRIDGE RD @ GA-120	7	18	Fulton
46	HARDSCRABBLE RD @ GA-140/ARNOLD MILL RD/HOUZE RD	7	28	Fulton
208	GA-400 EXIT 10	7	118	Fulton
217	GA-120 @ MADDOX ST/OLD MILTON PKWY	7	124	Fulton
598	ACADEMY ST @ GA-9/N MAIN ST	7	291	Fulton
662	GA-9 @ WINDWARD PKWY W	7	308	Fulton
673	MAYFIELD RD @ GA-9/N MAIN ST	7	312	Fulton
751	STATE BRIDGE RD @ GA-120/KIMBALL BRIDGE RD	7	339	Fulton
840	HAYNES BRIDGE RD @ GA-120/MADDOX ST/OLD MILTON PKWY	7	369	Fulton
1127	NORTH POINT PKWY @ GA-120/OLD MILTON PKWY	7	462	Fulton
1673	GA-9 @ COGBURN RD	7	556	Fulton
3491	MANSELL RD @ US-19/TURNER MCDONALD PKWY	7	624	Fulton
3776	WILLS RD @ GA-9/GA-120/S MAIN ST/ALPHARETTA HWY	7	746	Fulton
3897	BROADWELL RD @ GA-372/CRABAPPLE RD/MAYFIELD RD	7	795	Fulton
3929	KIMBALL BRIDGE RD @ GA-120/STATE BRIDGE RD	7	805	Fulton
4002	WESTSIDE PKWY @ GA-120/OLD MILTON PKWY	7	833	Fulton

# DATA DRIVEN IDENTIFICATION

**Rank**

**4859**

Intersections

**Screen**

**750**

Intersections

**Result:**

**X**

Projects

**3,457**

Total delay  
(volume component)

**1,402**

Base impact RITIS ranking

**GA**

## THE BENEFITS



Data Backed

Proactive

Prioritizes Requests

Before vs. After Validation

Additional Probe Data Integration

Annual Updates to be Completed

Additional Data Attributes to be Included

# Q&A



RITIS



PROBE DATA

ANALYTICS SUITE

# RITIS Enhancement Working Group



**Matt Glasser**

Assistant State Traffic Engineer  
Georgia DOT



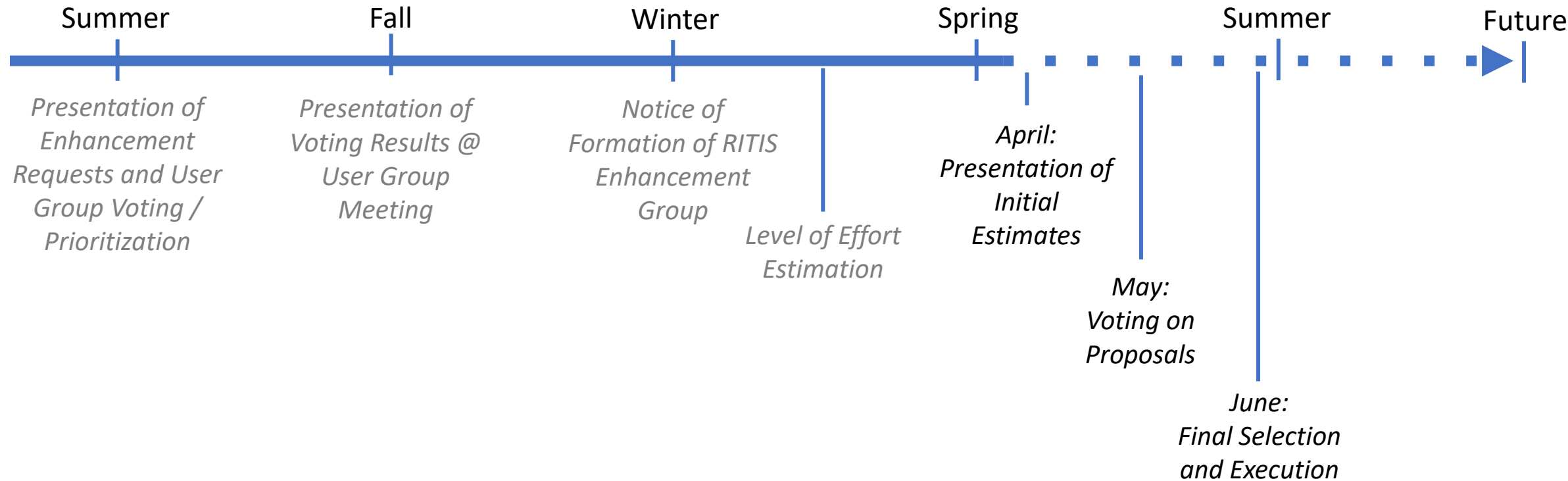


# Purpose and Goal

- Form a nimble “pooled fund” like group to:
  - Fund RITIS Enhancements
  - Assist with prioritization efforts for the CATT Lab
- Provide stable, annualized funding
- Connect Agencies with similar needs

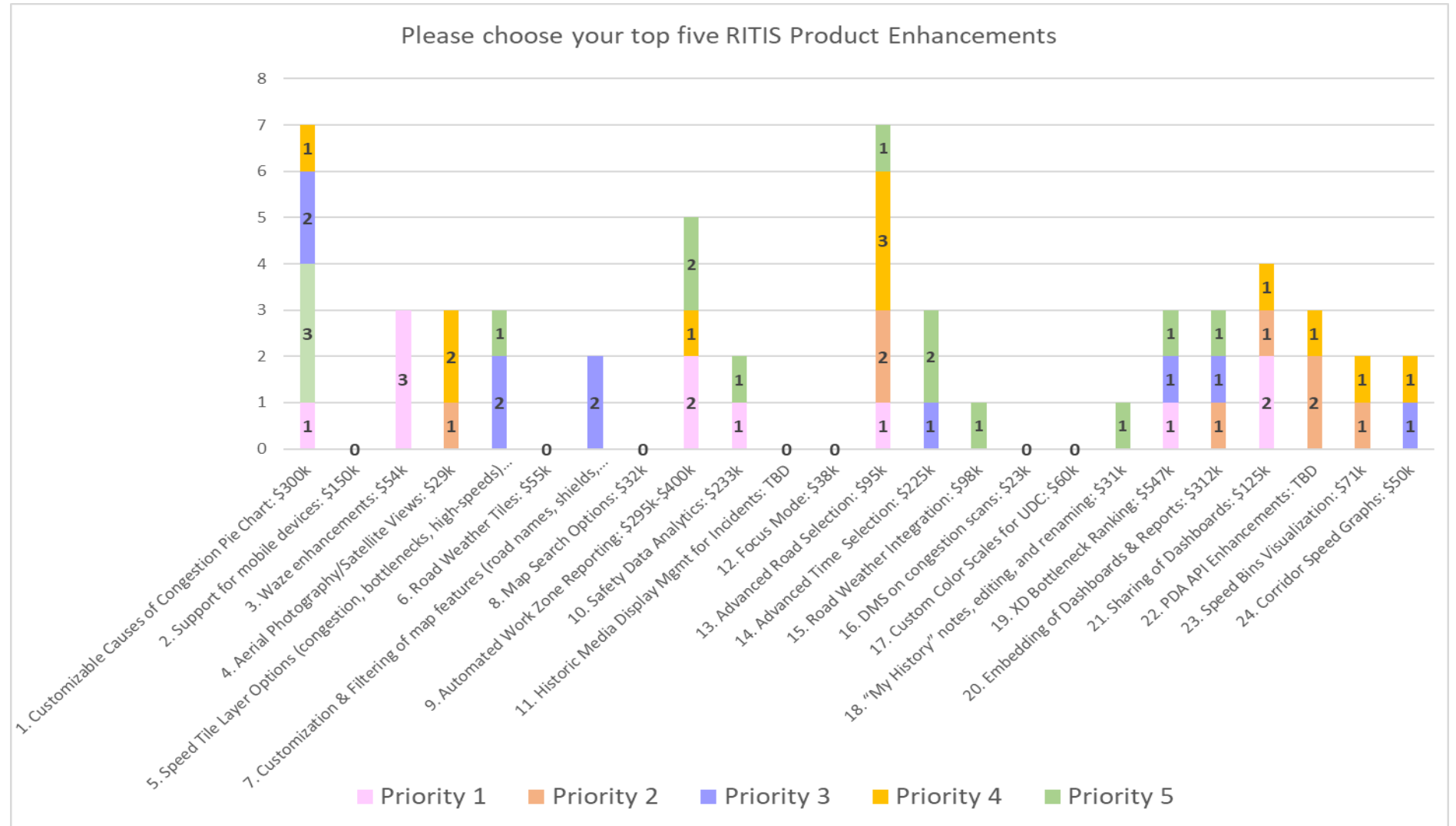


# Getting to Today



# High-level Overview

- DVRPC
- Georgia DOT**
- Massachusetts DOT
- Michigan DOT**
- MWCOG
- New Jersey DOT
- North Carolina DOT
- Oregon DOT**
- Pennsylvania DOT
- Rhode Island DOT
- Virginia DOT**



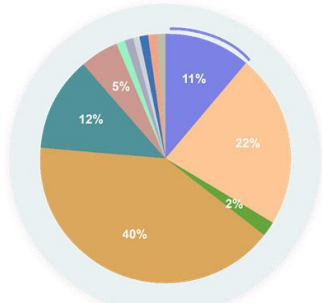
# Causes of Congestion Pie Charts

RITIS  
Transportation Disruption and Disaster Statistics

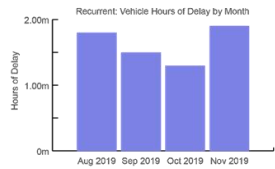
Time Aggregation Range From August 2019 to November 2019 View Counties Arizona Sort By County Name

## Sources of Disruption Nationwide August 2019 - November 2019

\$3.41b Total UDC  
109.2m Total Vehicle Hours of Delay

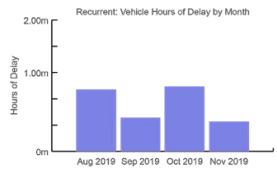
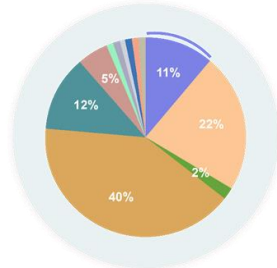


- Recurrent
- Incident
- Weather
- Work Zone
- Signals
- Holiday
- Incident & Weather
- Signal & Weather
- Incident & Workzone
- Recurrent & Incident
- Other Multiple Causes
- Unclassified



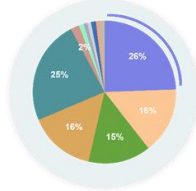
## Arizona Aug 2018 - Nov 2019

\$120.12k Total UDC (0.9% of US)  
51.09k Total Vehicle Hours of Delay (0.8% of US)



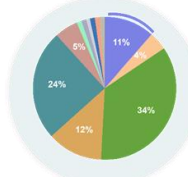
## Apache County, AZ Aug 2019 - Nov 2019

\$9.3k Total UDC (6.8% of AZ)  
14.2 k Total Vehicle Hours of Delay (7.3% of AZ)



## Cochise County, AZ Aug 2019

\$3.5k Total UDC (3.2% of AZ)  
11.09k Total Vehicle Hours of Delay



### DELAWARE

Wednesday December 19, 2018 to Wednesday, December 26th, 2018

#### Summary

The numbers represent the total number of events for the entire county.

- Bottlenecks:** 1,982
- Traffic Incidents:** 1,120
- Bad Weather:** 434
- Work Zone:** 329
- Poor Signal Timing:** 109
- Special Events / Other:** 59

#### Delay Cost

- Total: \$51,000
- Per VMT: \$50

#### Hours of Delay:

- Person-hours: 343
- Vehicle-hours: 120

#### Vehicle miles traveled (VMT):

- Total: 873,000 miles
- Passenger: 230,000 miles
- Commercial: 643,00 miles

#### Delay per VMT:

- 33 mins / mile

**Data validity:** 100%

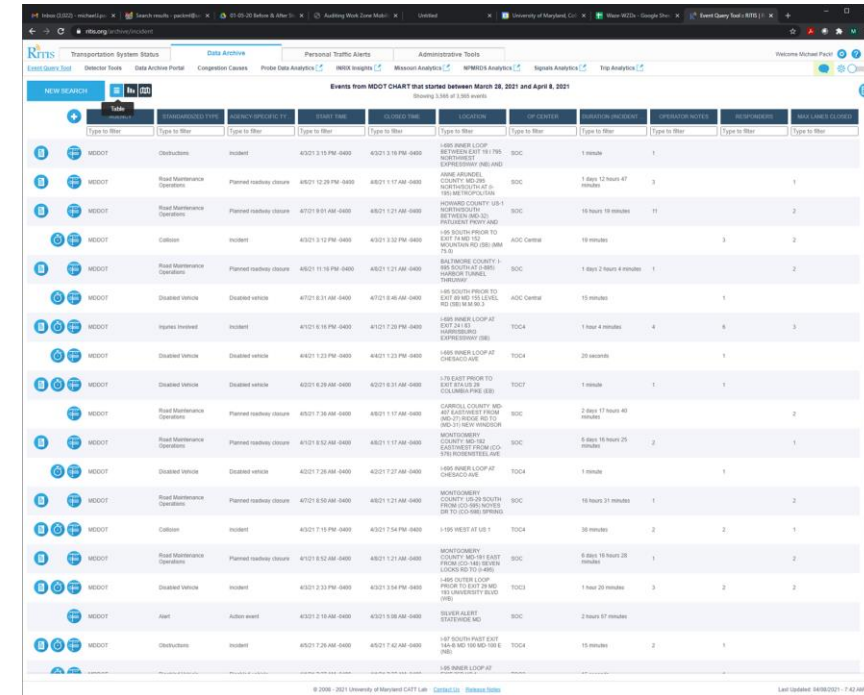


But wait, there's more...

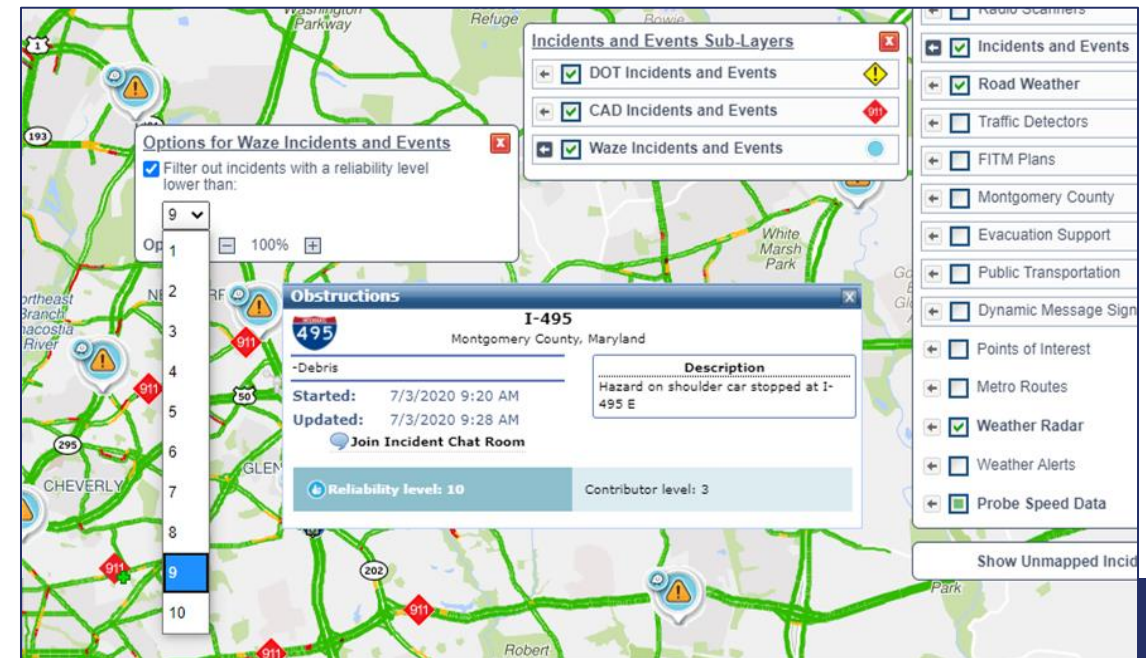
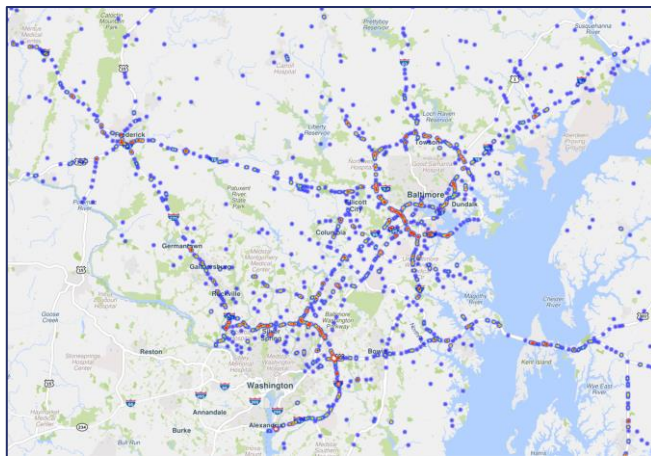


# Various Waze enhancements

- Additional filtering options by event type, geography, road class, etc.
- Add Waze data downloads and analysis to the Event Query Tool
- Scalability to handle increased load and browser limitations



Event ID	Event Type	Location	Start Time	End Time	Status	Operator	Duration	Reliability	Contributor
45001	Obstruction	L&D WHEEL LOOP	45001 11:15 PM -0400	45001 11:16 PM -0400	Incident	911	1 minute	1	1
45002	Road Maintenance Operations	JANE ARONOLD COUNTY 100 ROAD	45002 12:29 PM -0400	45002 11:17 AM -0400	Planned road closure	DOT	1 day 12 hours 47 minutes	3	1
45003	Road Maintenance Operations	WHEELER COUNTY 100 ROAD	45003 11:15 AM -0400	45003 11:17 AM -0400	Planned road closure	DOT	10 hours 19 minutes	11	2
45004	Collision	WHEELER COUNTY 100 ROAD	45004 11:12 PM -0400	45004 11:13 PM -0400	Incident	911	10 seconds	3	2
45005	Road Maintenance Operations	BALTIMORE COUNTY 100 ROAD	45005 11:16 PM -0400	45005 11:17 AM -0400	Planned road closure	DOT	1 day 2 hours 4 minutes	1	2
45006	Disabled vehicle	L&D SOUTH PAST EAST	45006 11:16 PM -0400	45006 11:17 AM -0400	Incident	911	15 minutes	1	1
45007	Vehicle involved	L&D WHEEL LOOP AT	45007 11:16 PM -0400	45007 11:17 PM -0400	Incident	911	1 hour 4 minutes	4	3
45008	Disabled vehicle	L&D WHEEL LOOP AT	45008 11:13 PM -0400	45008 11:13 PM -0400	Incident	911	20 seconds	1	1
45009	Disabled vehicle	L&D SOUTH PAST EAST	45009 11:16 PM -0400	45009 11:17 AM -0400	Incident	911	1 minute	1	1
45010	Road Maintenance Operations	CARROLL COUNTY MD	45010 11:16 PM -0400	45010 11:17 AM -0400	Planned road closure	DOT	2 days 11 hours 49 minutes	2	2
45011	Road Maintenance Operations	WASHINGTON COUNTY 100 ROAD	45011 11:16 PM -0400	45011 11:17 AM -0400	Planned road closure	DOT	6 days 16 hours 25 minutes	2	1
45012	Disabled vehicle	L&D WHEEL LOOP AT	45012 11:16 PM -0400	45012 11:17 AM -0400	Incident	911	1 minute	1	1
45013	Road Maintenance Operations	WASHINGTON COUNTY 100 ROAD	45013 11:16 PM -0400	45013 11:17 AM -0400	Planned road closure	DOT	16 hours 31 minutes	1	2
45014	Collision	L&D WEST AT US 1	45014 11:15 PM -0400	45014 11:16 PM -0400	Incident	911	38 minutes	2	2
45015	Road Maintenance Operations	WASHINGTON COUNTY 100 ROAD	45015 11:16 PM -0400	45015 11:17 AM -0400	Planned road closure	DOT	6 days 16 hours 28 minutes	1	2
45016	Disabled vehicle	L&D WHEEL LOOP	45016 11:16 PM -0400	45016 11:17 PM -0400	Incident	911	1 hour 20 minutes	3	2
45017	Alert	SILVER ALERT	45017 11:16 AM -0400	45017 11:16 AM -0400	Alert	911	2 hours 17 minutes	1	1
45018	Distribution	L&D SOUTH PAST EAST	45018 11:16 AM -0400	45018 11:17 AM -0400	Incident	911	15 minutes	2	1



**Options for Waze Incidents and Events**

Filter out incidents with a reliability level lower than: 9

**Incidents and Events Sub-Layers**

- DOT Incidents and Events
- CAD Incidents and Events
- Waze Incidents and Events

**Obstructions**

**I-495**  
Montgomery County, Maryland

-Debris

Started: 7/3/2020 9:20 AM  
Updated: 7/3/2020 9:28 AM

Join Incident Chat Room

Reliability level: 10  
Contributor level: 3

Description: Hazard on shoulder car stopped at I-495 E

Reliability Scanners

- Incidents and Events
- Road Weather
- Traffic Detectors
- FITM Plans
- Montgomery County
- Evacuation Support
- Public Transportation
- Dynamic Message Sign
- Points of Interest
- Metro Routes
- Weather Radar
- Weather Alerts
- Probe Speed Data

Show Unmapped Incidents

# Corridor Speed Graph Visualizations in PDA

Metro Region I-96 Westbound

●●●● 2014-2018 AM Peak Average Speed  
—— 2019 AM Peak Speed  
●●●● 2014-2018 PM Peak Average Speed  
—— 2019 PM Peak Speed

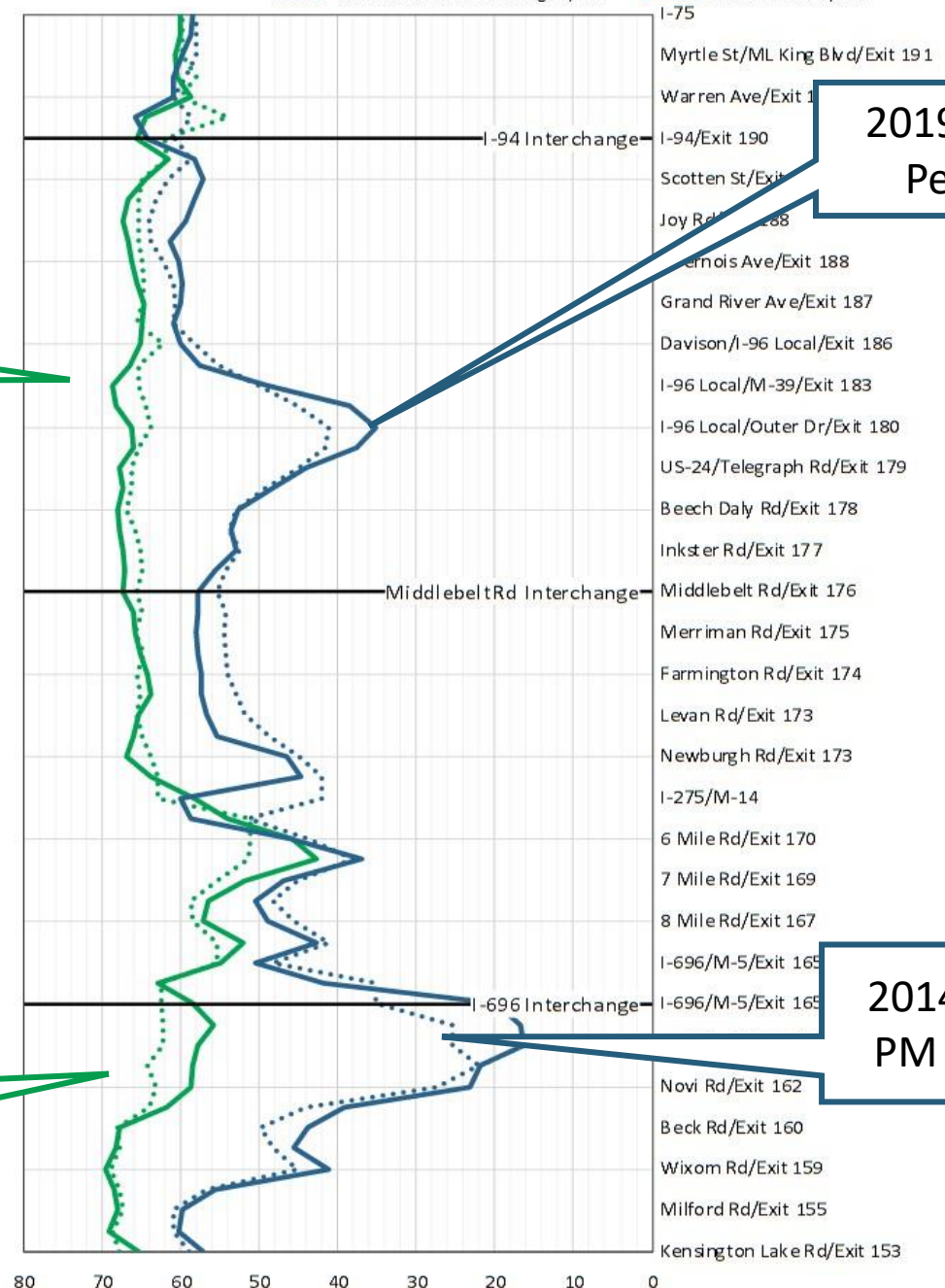
2019 AM Peak

2019 PM Peak

## 2019 Metrics *Avg Speed* *Metro WB I-96*

2014 - 18 AM Peak

2014 - 18 PM Peak



RITIS



PROBE DATA

ANALYTICS SUITE

# PDA Suite Performance Measures Working Group



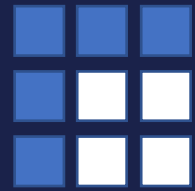
**John Allen**

UMD CATT Lab

Faculty Assistant, Outreach & Education







# Template Matrix



# RITIS Performance Reporting Template Matrix

- Helps users choose the right template for the job

<b>Discipline</b> ↓ <b>Template</b> →	After Action Review	Before & After Study	Corridor Performance	Holiday Travel	Monthly Congestion	TSMO Tracking	Work Zones
<b>Planning</b>		●	●		●		
<b>Traffic Ops</b>	●		●			●	●
<b>Travel Info</b>			●	●	●		●
<b>Research</b>	●	●	●	●	●	●	●

● Most likely use of the available templates

# Event Summary Report Walk-through



Complete Team Meeting | June 17, 2021



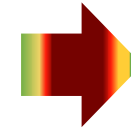
# Roadmap for building the I-75 NB event summary report



Provided with GDOT's STIMS I-75 NB Incident Review slides (including some RITIS results)



Selected a RITIS Incident Timeline template as a base



Developed "dual-purpose" & TIM\* Timeline Options

BEGIN



END



Gathered intel of the accident from the web and used Google Maps for location map; ran PDA Suite tools for additional performance results



Added to the template:

- Header
- Incident Summary
- Location Map
- Incident Timeline
- Timeline Detail
- Traffic Impact photo w/caption
- Performance Chart
- Congestion Scan
- Gears/NaviGator incident data
- Trip Time graphic w/caption

\* - Learn more about Traffic Incident Management by visiting FHWA's Office of Operations Gap Analysis Primer page <https://ops.fhwa.dot.gov/publications/fhwahop15007/chapter1.htm>





# AAR completed "dual-purpose" timeline template (front)

Header  
(GDOT)

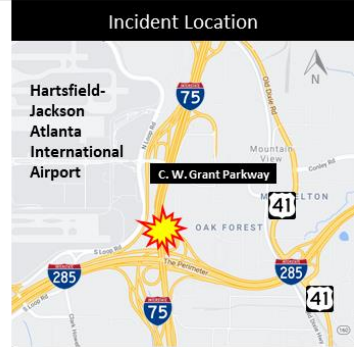


## Event Summary

### Pedestrian Hit & Run

I-75 NB near Exit 239 (CW Grant Pkwy.) | December 9, 2019

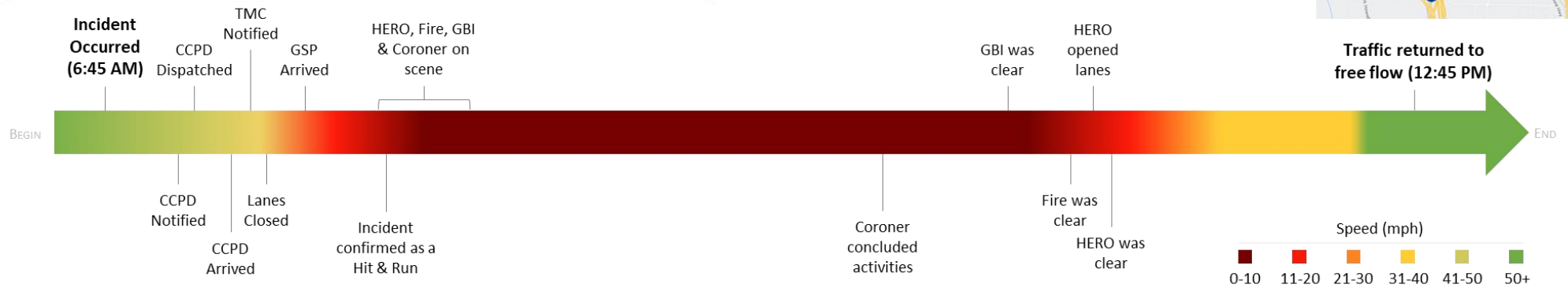
On Monday morning, December 9, 2019, a pedestrian was struck and killed on I-75, resulting in four hours of road closures and gridlock through the Southside. The northbound lanes were shut down at C.W. Grant Parkway about 7:30 AM for authorities to conduct an investigation. Traffic began flowing again about 11:30 AM. Tough delays remained out of Morrow through the lunch hour.



Location Map  
(Google Maps)

Summary  
(Media)

### Incident Timeline | Total Elapsed Time: 6 hours



Timeline  
(GDOT)

### Timeline Detail

- 7:05 AM** Clayton Police first received a report of a pedestrian struck by a motor vehicle
- 7:19 AM** Clayton PD arrived on scene
- 7:26 AM** TMC was advised of incident from Clayton PD and found a camera visual
- 7:30 AM** All lanes were blocked; confirmed fatality
- 7:36 AM** Traffic was diverted to I-285, messages posted
- 7:41 AM** Georgia State Patrol (GSP) on scene and assisting with traffic control
- 8:06 AM** Incident confirmed as a hit & run; GSP, Clayton PD, the Fire Department, GBI, HERO, and the Coroner are all on scene
- 10:26 AM** Coroner removed the deceased from the scene
- 11:06 AM** GBI is clear
- 11:20 AM** Fire clears scene
- 11:25 AM** HERO opens lanes to traffic
- 12:45 PM** Traffic returned to normal flow

### Traffic Impact



During the investigation, major delays stretched back more than six miles. At their worst, the trip from Mt. Zion Boulevard to I-285 clogged in at nearly four hours.



Traffic Impact  
(Media)





# AAR completed template (back)

Header  
(GDOT)



## Performance Impacts

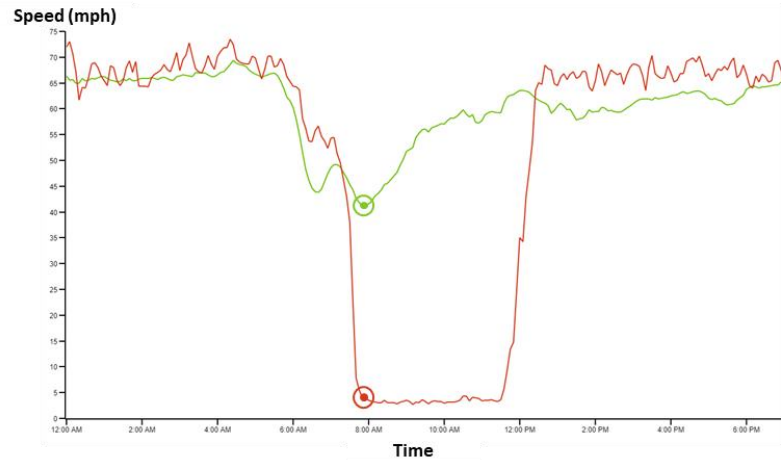


## Pedestrian Hit & Run

I-75 NB near Exit 239 (CW Grant Pkwy.) | December 9, 2019

### Performance Chart for I-75 NB

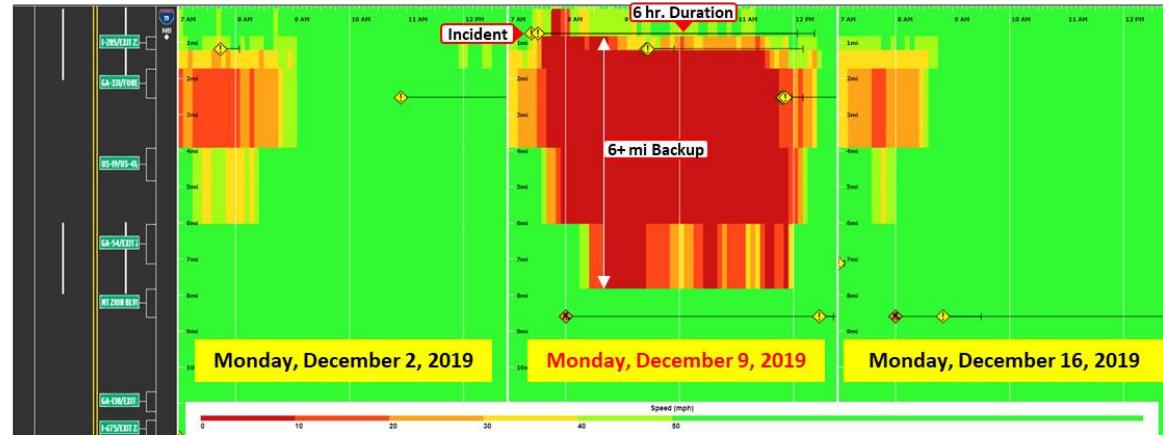
between Cleveland Ave/Exit 241 and I-675/Exit 227



(Above) At 7:55 AM, weekday speeds for the year averaged **41.2 mph**, while during the course of the investigation, speeds dropped to **3.9 mph**.

### Congestion Scan for I-75 NB

between I-285/Exit 238 and I-675/Exit 227



(Above) Comparisons between the incident date and the Monday before and Monday after show dramatic speed reductions and traffic queuing differentials due to the investigation.

(Right) Those stuck in the backups were eventually turned around and diverted off the interstate onto I-285 East. Commuters were crowding onto I-675, Old Dixie Highway and Jonesboro Road throughout the morning drive.

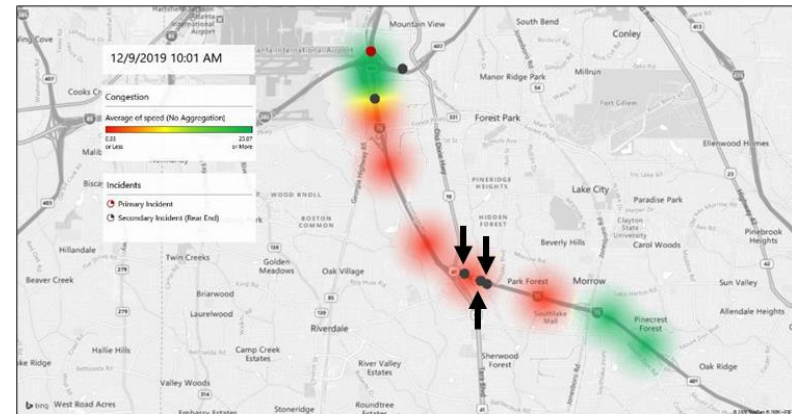


Trip Time  
Graphic  
(Media)

Congestion  
Scan  
(RITIS)

GEARS/  
NaviGator  
(GDOT)

(Right) Data from GEARS and NaviGator show the primary (red dot) and secondary (black dots) incidents that occurred. Note the three secondary incidents that occurred between 9 a.m. and 10:00 a.m. at the back of the queue (black arrows).



# How long did this take to build?



Assemble Information	~ 1 hr.
Create front page	~ 3 hr.
Create back page	~ 2 hr.
<hr/>	
<b>Total</b>	<b>~ 6 hr.*</b>

\* (included dual-purpose/TIM timeline development & other PDA runs/results)



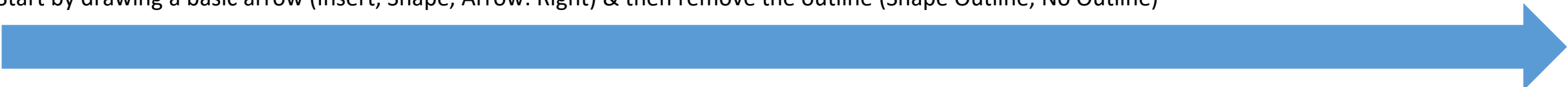


# New how-to & design resources

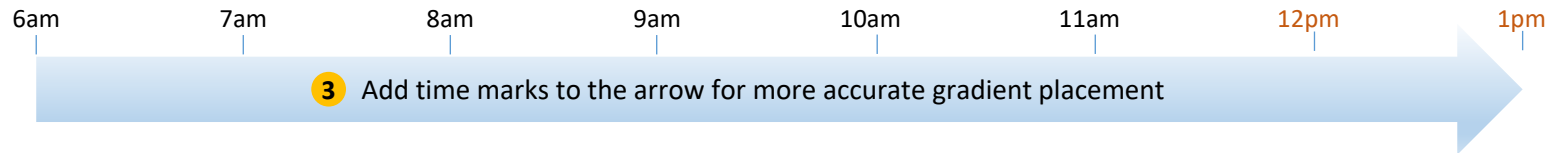
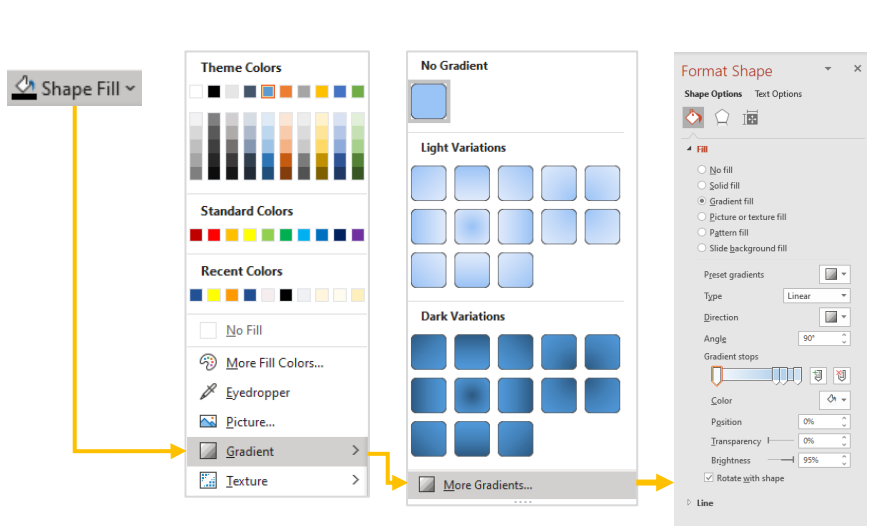


# Making the “dual-purpose” timeline (in MS PowerPoint®)

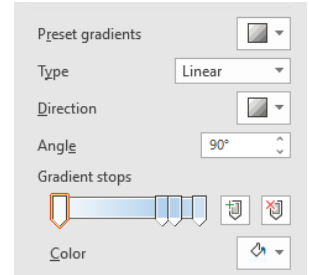
1 Start by drawing a basic arrow (Insert, Shape, Arrow: Right) & then remove the outline (Shape Outline, No Outline)



2 Next, add a gradient to the arrow, representing the change in a metric (speed, travel time, queuing, etc.) over time



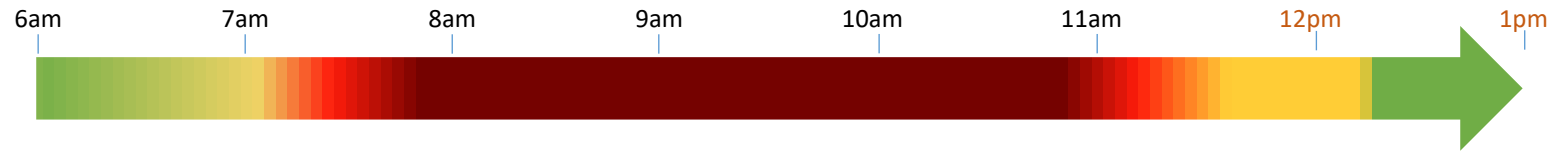
4 Choose a **Linear** Type and **Right** Direction. Add additional stops by clicking on the stops line.



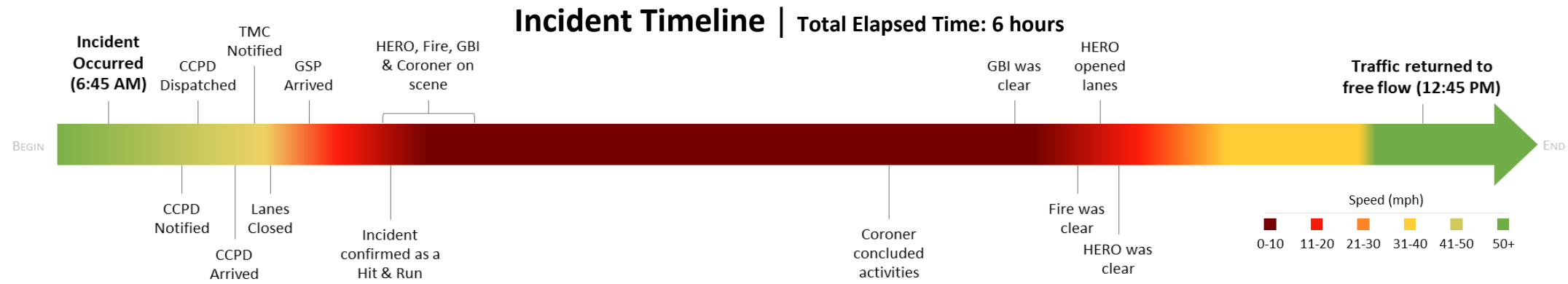
5 Color the stops according to the RITIS color thresholds, and slide to the proper time positions.



(Note: to remove stops, click and hold the left mouse button and drag off the stops bar)



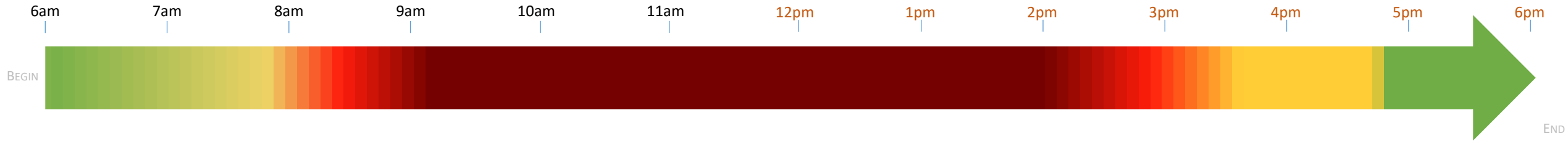
6 Add a header, BEGIN and END, descriptors at key traffic incident times and a legend for metric thresholds.



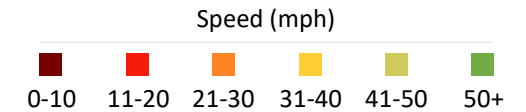
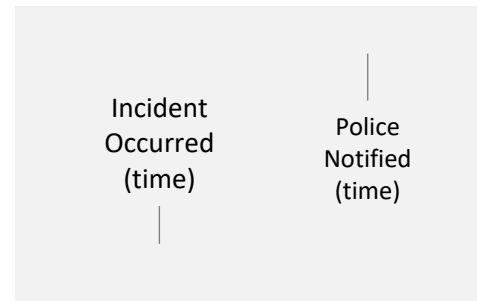
# Incident Timeline

This graphic was constructed in PowerPoint® to give it a certain look, and each element is editable. Simply click on each element to change size, shape, location, color, content, etc. To maintain scale and easily resize when adding to your report, group all elements together, right-click the table, click copy, then in your report, right click a location, then choose Picture under Paste options.

## Incident Timeline | Total Elapsed Time: x hours xx minutes



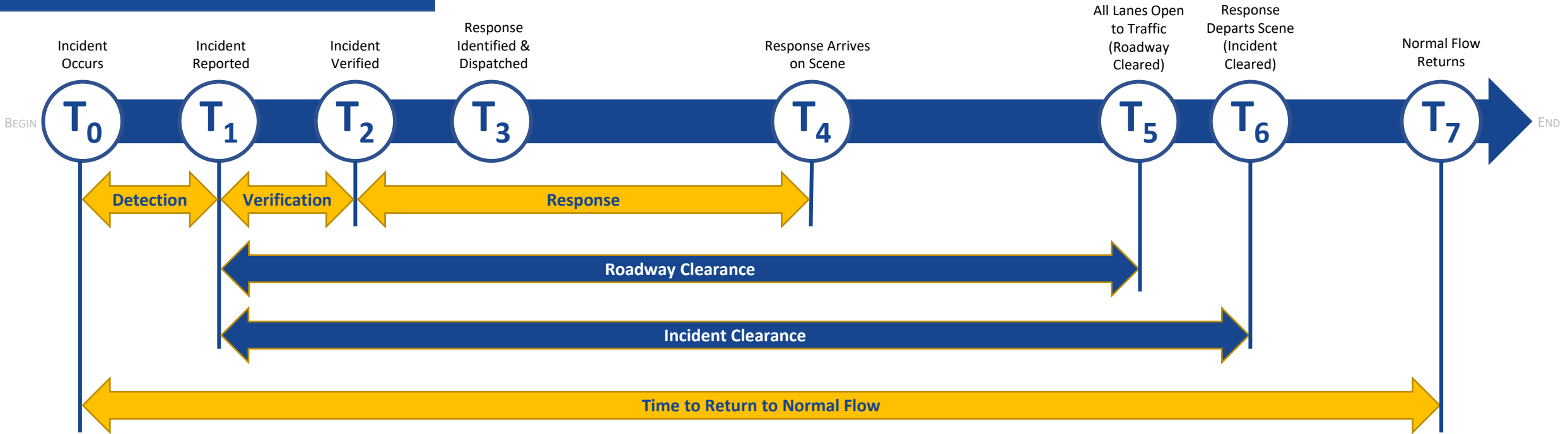
Use these incident action text boxes and connector lines to add incident elements to your specific example, then align to the Incident Timeline, alternating between top and bottom (center the time indicators on the timeline, to help place the incident elements more accurately)



- Use this basic shape to create a simple incident “dual-purpose” timeline graphic
- Adjust the time indicators by editing, adding or removing them, then align horizontally to get them evenly spaced
- Slide the gradient stops that correspond to an incident action (incident occurred, police notified) at a specific point in time, then remove the time indicators
- Add a legend for your specific metric (speed, travel time, queue length)

# TIM Element Timeline\*

This graphic was constructed in PowerPoint® to give it a certain look, and each element is editable. Simply click on each element to change size, shape, location, color, content, etc. To maintain scale and easily resize when adding to your report, group all elements together, right-click the table, click copy, then in your report, right click a location, then choose Picture under Paste options.



Measure	Definition
<b>Detection Time</b> T <sub>1</sub> – T <sub>0</sub>	Time between the incident occurring and the incident being reported. Detection time is not typically reported due to the fact that the actual time the incident occurred is often unknown.
<b>Verification Time</b> T <sub>2</sub> – T <sub>1</sub>	Time between incident being reported and the incident being verified. TMCs can typically assist with verification through use of their CCTV cameras.
<b>Response Time</b> T <sub>4</sub> – T <sub>2</sub>	Time between the incident being verified and the first responder arriving on scene. Law enforcement may not always be the first party to arrive on scene.
<b>Roadway Clearance Time (RCT)</b> T <sub>5</sub> – T <sub>1</sub>	Time between the first recordable awareness of the incident by a responsible agency and the first confirmation that all lanes are available for traffic flow.
<b>Incident Clearance Time (ICT)</b> T <sub>6</sub> – T <sub>1</sub>	Time between the first recordable awareness of the incident by a responsible agency and the time at which the last responder has left the scene.

\* Source: FHWA's Traffic Incident Management Gap Analysis Primer: <https://ops.fhwa.dot.gov/publications/fhwahop15007/chapter1.htm>

# Two Quick Reminders...



# Save your TMC sets!

Helps you quickly and easily access ALL your past roadway or network query info, so you don't have to recreate it. It can also be shared within your agency.

**Probe Data Analytics Suite**

Welcome, John | [My History](#) | [Help](#) | [Tutorials](#) | [Logout](#)

### Congestion Scan

Congestion Scan lets you analyze traffic conditions on one or more stretches of road. If you choose to analyze individual days, traffic events and incidents will be plotted on the appropriate roadway. If you choose to analyze date ranges, traffic events will not be shown.

- Select a country**  
United States
- Select roads**  
TMC segments from INRIX  
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  
Search in Georgia...  
Your selected roads: I-75 Northbound between Cleveland Ave/Exit 241 and I-675/Exit ...  
Directions:  Northbound  Southbound  
Intersections: 59  
From: Intersection To: Intersection  
CLEVELAND AVE/EXIT 241 I-675/EXIT 227  
17 miles of roadway selected (26 TMC segments)  
Segments from INRIX  
[Report a problem with this road](#)  
Show segment IDs [Save as segment set](#)
- Select one or more time periods to analyze**  
Day(s) Month(s) Year  
07/15/2021 - through - 07/15/2021  
 Create a single time period for this range  
 Limit to specific days of the week  
 Create a time period for each day within this range  
[+ Add time period](#)

**Save as segment set**

Name your segment set  
I-75 Hit & Run (Georgia)  
 Allow users within my agency to use this segment set  
Once this segment set has been created you are the only user with permissions to rename or delete it.  
Save Cancel

### Congestion Scan

Congestion Scan lets you analyze traffic conditions on one or more stretches of road. If you choose to analyze individual days, traffic events and incidents will be plotted on the appropriate roadway. If you choose to analyze date ranges, traffic events will not be shown.

- Select a country**  
United States
- Select roads**  
TMC segments from INRIX  
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  
Showing 26 of 25 available segment sets  
Display Options  
 Show only my segment sets  
 Filter by text  
Add selected segment sets

Segment ID	Segment Name	User
1	Phila to AC (via US 322)	
1	Phila. to AC (ACE)	
564	GA I-75 NB, for and AAR Template	jallen35@umd.edu
211	I-75 Hit & Run (Georgia)	jallen35@umd.edu
264	TDOT TEST CASE	jallen35@umd.edu
468	Papal Visit Layer-Final	jallen35@umd.edu
475	Detour around WWB on 6/20/18 - Tr...	jallen35@umd.edu

Your selected roads: I-75 Northbound between Cleveland Ave/Exit 241 and I-675/Exit ...  
Directions:  Northbound  Southbound  
Intersections: 59  
From: Intersection To: Intersection  
CLEVELAND AVE/EXIT 241 I-675/EXIT 227  
17 miles of roadway selected (26 TMC segments)  
Segments from INRIX  
[Report a problem with this road](#)



# Use My History!

Helps you quickly and easily access ALL your past downloads and reports, AND open results in different tools.



Probe Data Analytics Suite

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STATUS	DOWNLOADS AND REPORTS	DATE CREATED	FAVORITES
	I-75 Northbound between Cleveland Ave/Exit 241 and I-675/Exit 227 <a href="#">Open report</a> <a href="#">Open with...</a>	Jun 14, 2021 06:01 AM	★
	I-76 between Holloway Rd/Exit 337 and US-1/City Ave/Exit 340/Exit 339 <a href="#">Open report</a> <a href="#">Open with...</a>	Apr 28, 2021 06:46 AM	★
	US-1 <a href="#">Open report</a>	Feb 02, 2021 02:57 PM	★
	I-270 <a href="#">Open report</a> <a href="#">Open with...</a>	Jan 28, 2021 06:00 AM	★
	SR 141 / Peachtree Road Signal Operational Improvement <a href="#">Open report</a>	Jan 20, 2021 06:58 AM	★
	GA-141 S @ DRUID HILLS RD <a href="#">Open report</a> <a href="#">Open with...</a>	Jan 12, 2021 10:17 AM	★
	US-1 <a href="#">Open report</a>	Dec 15, 2020 09:42 AM	★
	US-1 <a href="#">Open report</a>	Dec 15, 2020 07:05 AM	★
	US-1 <a href="#">Open report</a>	Dec 15, 2020 06:32 AM	★
	US-1 <a href="#">Open report</a>	Dec 15, 2020 06:21 AM	★
	US-1 <a href="#">Open report</a>	Dec 15, 2020 05:53 AM	★
	US-1 <a href="#">Open report</a>	Dec 14, 2020 03:37 PM	★
	GA-141 between Druid Hills Rd and I-285 <a href="#">Open report</a>	Dec 11, 2020 07:42 AM	★
	#1 Bottleneck Ranking for GA-141 between Druid Hills Rd and I-285 between June 1, 2018 and June 30, 2018 displayed in US/Eastern <a href="#">Open report</a>	Dec 10, 2020 12:25 PM	★

Open with...

Choose a different tool to open this query in:

- Trend Map
- Performance Charts
- User Delay Cost Analysis





# Truck Bridge Strike



# Event Summary Truck Bridge Strike

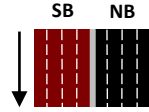
Occurred on the I-95 SB at Exit 30B in Lexington, MA • Tuesday, June 15, 2021



The incident occurred at about 8:15 AM, with traffic back to normal about 11:00 AM.



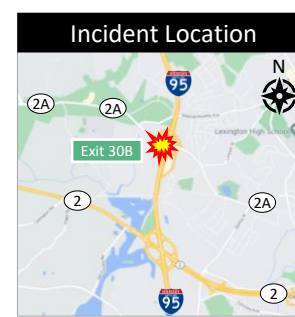
A flatbed truck traveling under Rt 2A overpass struck the bridge and lost part of its load.



The I-95 SB lanes were closed for over 2 hours.



MSP, first responders and MassDOT engineers actively participated in this operation.



Massachusetts State Police were first on the scene.



An injured driver was taken to the hospital with non-life-threatening injuries.

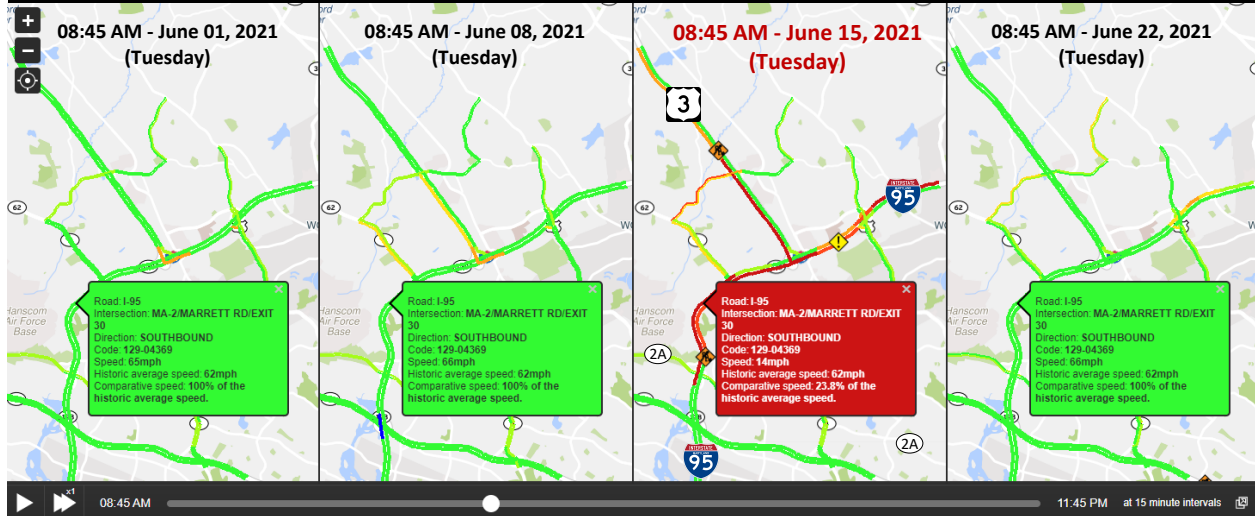


Traffic backups persisted for 2+ hours during the lanes' shutdown.

### Trend Map showing congestion at time of incident

(click [here](#) to view full animation of travel conditions throughout the day)

**79% Speed Reduction**  
@ 8:45am due to incident  
(vs other June Tuesdays)



**15%**

Increase in travel time on alternate routes for the day of the accident vs typical free-flow conditions.

**1840h – 3400h**  
(+85%)

Increase in vehicle-hours of delay for the region on the day of the accident vs normal June Tuesdays.

**\$55k - \$102k**  
(+84%)

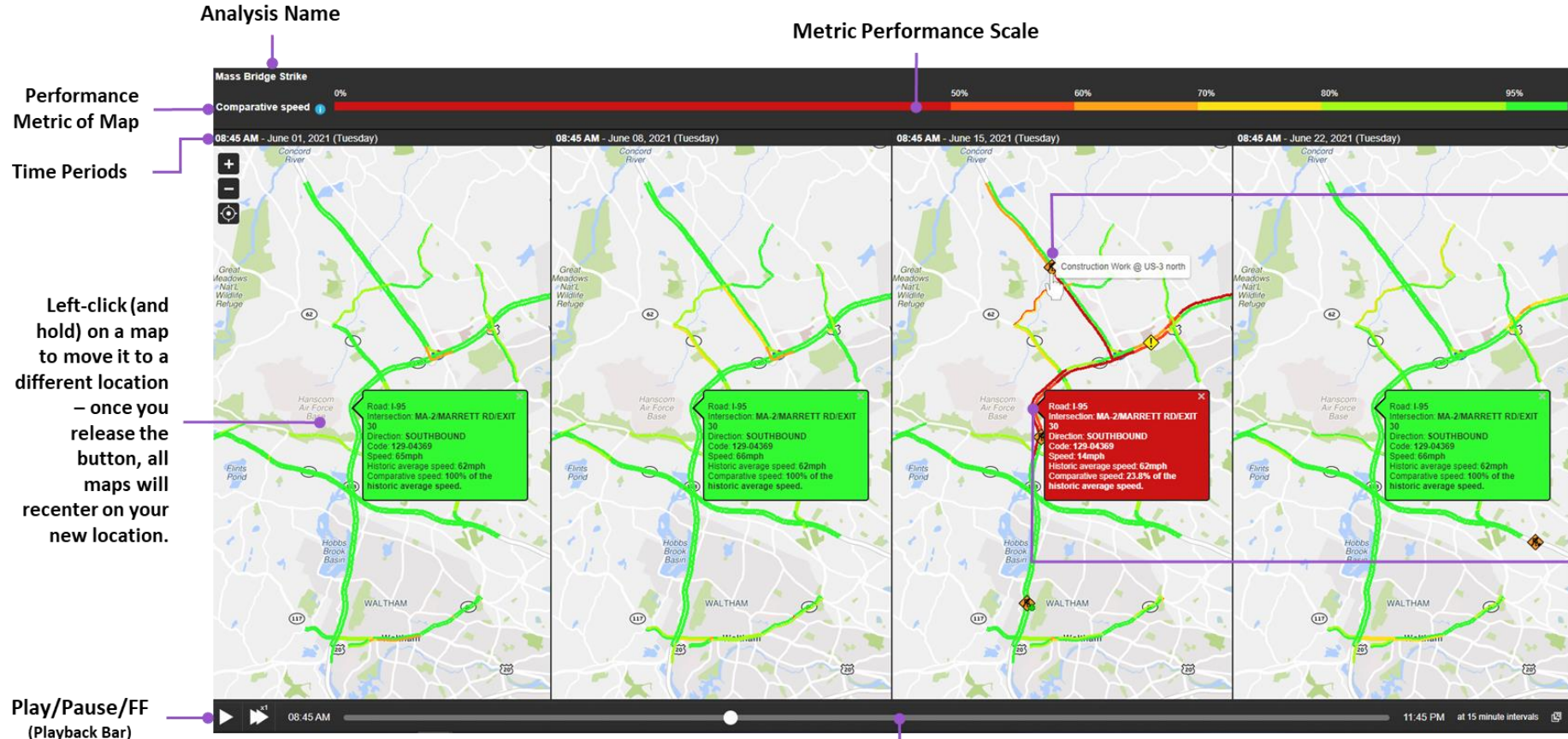
Increase in delay cost for the region on the day of the accident vs normal June Tuesdays.



# Trend Map Quick Start Guide

## PDA Trend Map Quick Start Guide

Clicking on the Trend Map itself - or the text link in the Trend Map header - will open the PDA Trend Map for this incident. The PDA Trend Map is fully interactive such that you can zoom in or out (using mouse wheel or map controls in the upper-left corner of the map frame) on any of the map panels to explore more details. You can click on any of the colored road segments to view a pop-up with more detailed statistics regarding traffic flow at that moment in time. Users can also animate the traffic conditions as they changed over the course of a day for the selected time periods by clicking the play button in the lower-left corner of the Trend Map.



Hover over any event icon (roadwork, incident, etc.) to see more detail.

Hover over any road segment to view detailed information across all time periods. Single-click on the road segment to lock the pop-up in place (good for taking screenshots to compare performance across various road segments).

Analysis Name

Performance Metric of Map

Time Periods

Left-click (and hold) on a map to move it to a different location - once you release the button, all maps will recenter on your new location.

Play/Pause/FF (Playback Bar)

You can click and drag the time slider anywhere on the playback bar (at your pre-selected time intervals) or just click on the playback bar to move the slider. (Note: once tooltips are locked in place on a TMC, clicking play or moving the slider will show any metric changes in the pop-ups over time)

For more information on the full-featured Trend Map tool - including a video tutorial - go to: <https://pda.ritis.org/suite/help/#trend-map>





# Performance Reporting Working Group



# Performance Reporting Working Group

- Meet sometime after the summer
- Review of new materials to improve, test-drive, etc.
- Feedback on latest versions (content, structure, etc.) of RITIS templates page
- Help develop a virtual training program for RITIS users



**John Allen**  
UMD CATT Lab



**Jesse Buerk**  
DVRPC



**Matt Glasser**  
GDOT



**Charles Lattimer**  
UMD CATT Lab



**Keith Miller**  
NJTPA



**Zoe Neaderland**  
VAOT



**Ed Stylc**  
BMC



**Kelly Wells**  
NCDOT

# Recent Organization Tutorials



ITSGA Performance Reporting Workshop  
(December 10, 2020)

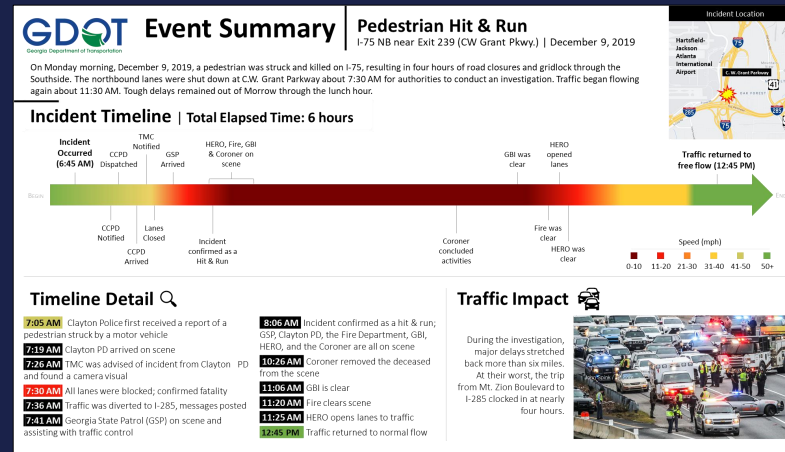


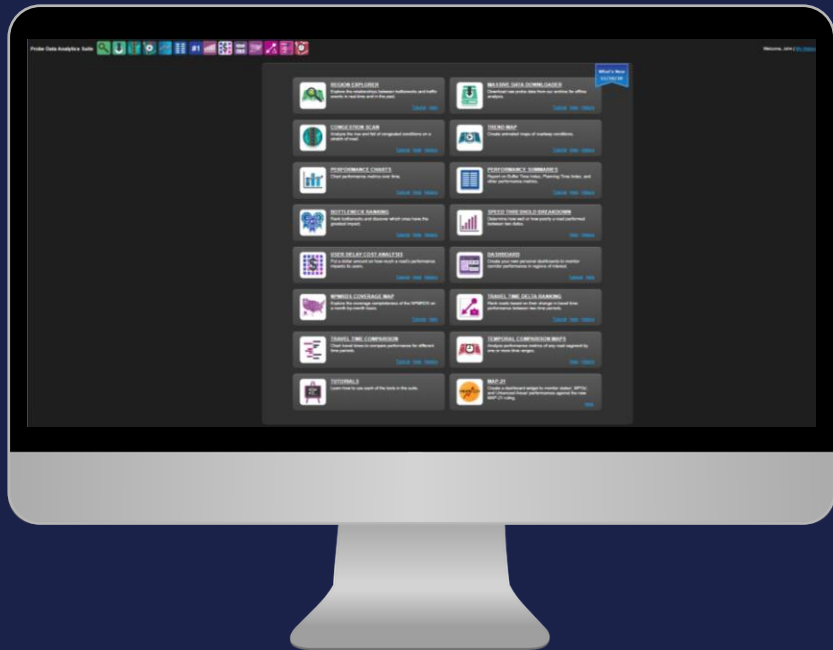
Complete Team

I-75 NB Event Summary Walk-through  
(June 17, 2021)



RITIS Incident/Accident Evaluation Workshop  
(July 1, 2021)





# RITIS User Group

## Virtual Performance Reporting Workshops?

# User Poll

**Q1** | Would you be interested in a workshop to learn how to develop performance reports, using RITIS templates?

 Yes, definitely






 Maybe, but I need to know more

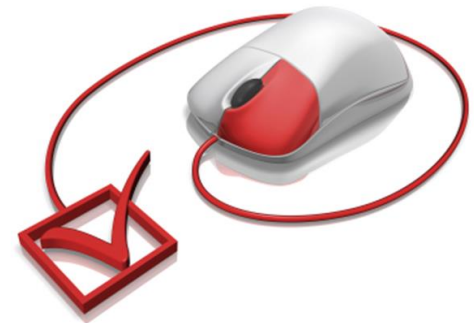
 No thanks



# User Poll

**Q2** Which template would you be most interested in for the workshop to cover?

-  After Action Reviews
-  Before & After Studies
-  Corridor Performance
-  Holiday Travel
-  Monthly Congestion



RITIS



PROBE DATA

ANALYTICS SUITE

# New RITIS Tools and Recent Enhancements



**Michael Pack**

UMD CATT Lab  
*Director*





# RITIS



# RITIS latest updates

1 Added a default filter name in the **RITIS Traffic Map - Public Transportation Layer** when creating a new transit route filter.

**Options for Public Transportation**

Select a set of parameters for the transit routes you would like to see displayed on the map.

Display Options

All

Create a Filter

Agencies: All

Modes: All

Routes: All

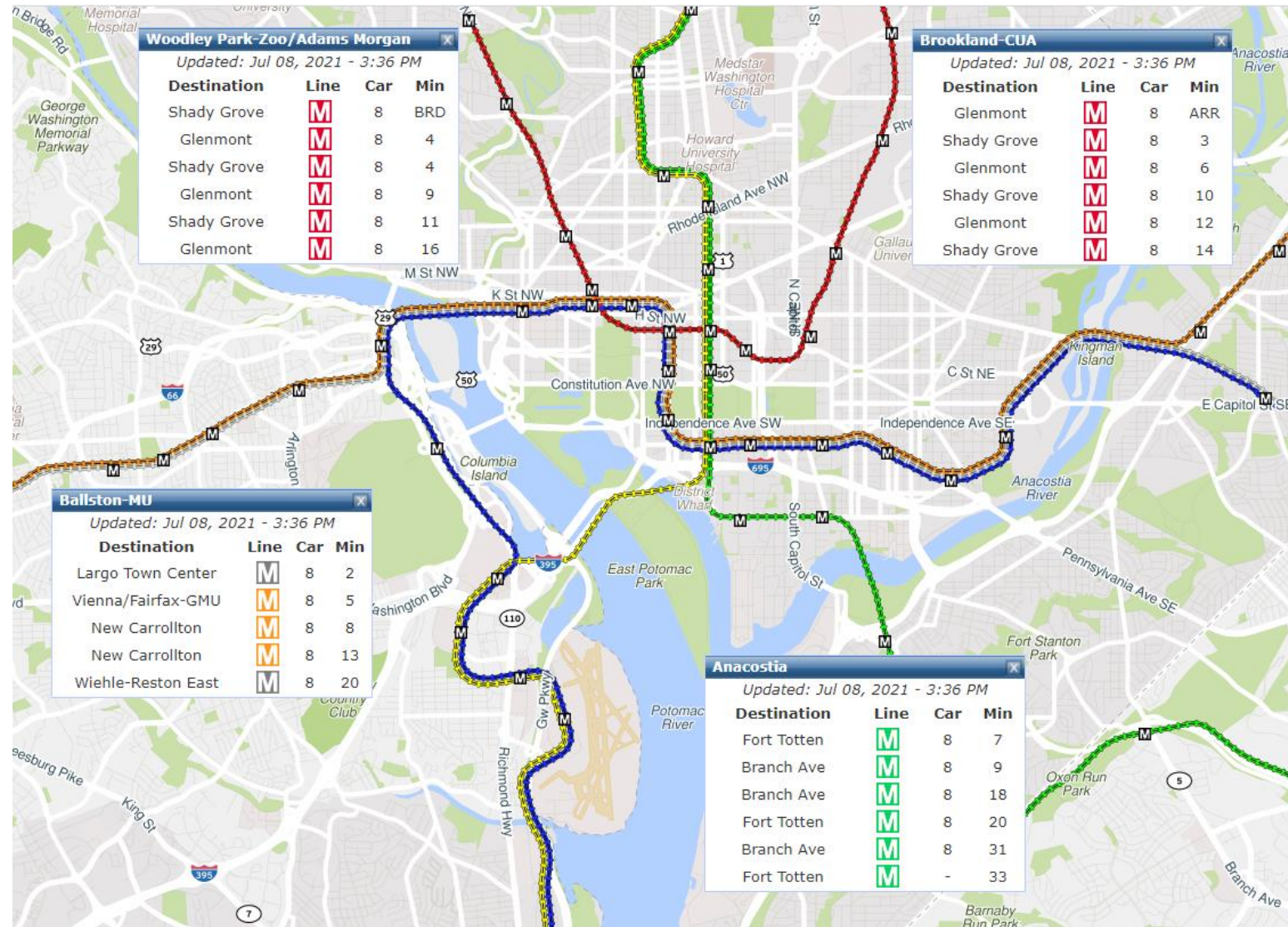
Filter name: Custom Filter

Add Route(s) to Map

Displayed Routes

Custom Filter

2 Improved performance loading **RITIS Traffic Map - Public Transportation Layer** route lines.



# RITIS latest updates

3 Changed the label on the RITIS Traffic Map - Future Events Layer popups from "Started" to "Added" to clarify when the data was added since the event hasn't yet started.

The screenshot displays the RITIS Traffic Map interface. At the top, there are navigation tabs: "Transportation System Status", "Data Archive", "Personal Traffic Alerts", and "Administrative Tools". Below these are various tool links like "Incident List", "Traffic Map", "Incident Overview", "Traffic Cameras", "RSS Feed", "Operations Dashboard", "COVID-19 Impact", "VWS", "WZPMA", and "RITIS Meeting". The main area is a map of Arlington, Virginia, with a popup window for "Road Maintenance Operations reported by VDOT". The popup shows details for an incident on VA-120E east at MM 4.700, including the date and time it was added and updated, a description of the planned event, and a link to join the incident chat room. A yellow arrow points to the "Added" label in the popup. On the right side, there is a "Layer List" panel with various layers like "Future Events", "Incidents and Events", "Dynamic Message Signs", etc. A dialog box titled "Options for Future Events" is also visible, showing a date range of 07/09/2021 from 6 AM to 7 AM with 100% opacity.

## 4 Improved formatting on the Tool Catalog to enhance readability.



### PDA - Energy Use and Emissions Matrix

Energy Use and Emissions Matrix creates a color-coded matrix of aggregated energy use and emissions estimates for all roads for each hour within a customized analysis period. In the resulting matrix, you can switch between energy use from two models as well as CO2, NOX, PM2.5, PM2.5NOX precursor, and VOC emissions. Totals across the hour, day, and each date within the query range are provided as well as the overall total. This tool is recommended for analysts interested in estimating aggregate hourly sustainability metrics to discover patterns or abnormalities.



### PDA - Energy Use and Emissions Trend Map

Energy Use and Emissions Trend Map creates hourly animations of energy use and emissions on selected roads and date ranges. The output map provides estimates of energy use and emissions for each selected segment as well as the aggregate. Results are normalized by VMT to assist in identifying segments with abnormal sustainability performance. Similar to the original Trend Map, you can select up to seven time ranges to create synchronized map animations to discover differences in sustainability metrics from the driving mode. As with the other energy use and emissions tools, you can switch between energy use from two models, as well as CO2, NOX, PM2.5, PM2.5NOX precursor, and VOC emissions. This tool is recommended for analysts seeking to evaluate segment-level and aggregate hourly sustainability metrics on a time-stepped map-based visualization.



## 5 Corrected Issues

- Subscription Alerts
- Chat Menu
- Traffic Map





# Probe Data Analytics Suite



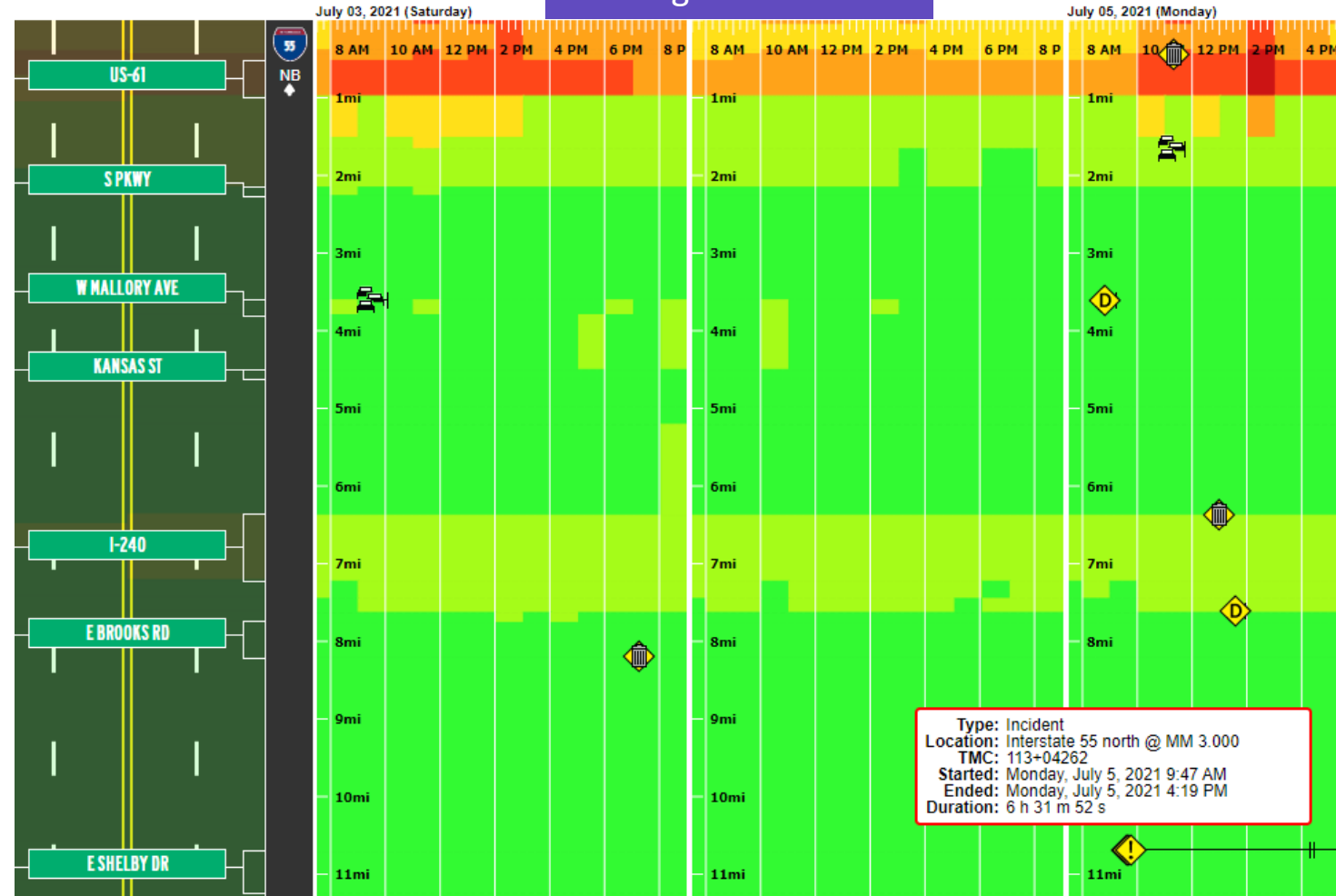
# PDA Suite latest updates

- 1 Event data from Tennessee DOT is now available in all tools that support event data

RITIS Traffic Map



Congestion Scan



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



## 2 Excel exports from Trend Map now include a column for the segments' road names

### Speed for I-76, NJ-42, and US-322 between NJ-42/Black Horse Pike/Glassbo and Captain John A O'donnell Pkwy using INRIX data

June 30, 2019 through July 05, 2019

Segment ID	Road	Intersection	Miles	12:00 AM	1:00 AM	2:00 AM	3:00 AM	4:00 AM	5:00 AM	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM
103+09624	NJ-42	CR-689/CROSS KEYS BERLIN RD	2.523842	48.18	46.5	46.7	47.02	47.2	48.82	50.04	50.48	51.75	48.52	48.48	47.32	45.79	45.08	46.17	44.57	45.29	45.0
103P09628	NJ-42	US-322/SICKLerville RD	0.091530	33.07	33.23	34.51	33.99	35.77	34.04	31.28	32.12	34.36	35.54	35.74	37.06	33.56	33.87	37.72	27.96	32.65	27.9
103+09625	NJ-42	TUCKAHOE RD/STAGECOACH RD	0.898171	43.56	41.67	41.52	42.46	43.5	45.72	41.54	43.0	39.19	36.15	36.3	35.94	36.06	34.28	33.54	38.1	38.47	38.49
103+09626	NJ-42	FRIES MILL RD	1.392264	45.3	42.58	42.03	40.46	42.74	46.57	47.02	46.36	44.68	43.93	41.81	40.9	38.96	39.74	39.38	39.92	41.48	40.49
103+09627	NJ-42	GANTTOWN RD	0.385422	32.68	31.91	33.85	32.59	30.66	28.87	33.14	31.73	30.04	26.84	25.19	25.76	25.52	24.99	22.37	15.6	15.68	15.38
103+04295	NJ-42	NJ-168/ATLANTIC CITY EXPY	0.870263	38.0	35.21	37.4	37.47	38.85	38.18	32.84	34.11	32.79	30.68	28.87	29.46	27.78	28.38	25.35	29.69	29.83	29.47
103P04295	NJ-42	NJ-168/ATLANTIC CITY EXPY	0.917756	54.41	53.84	54.53	55.83	56.3	58.52	54.3	54.38	54.19	52.67	52.45	52.74	51.7	51.78	50.24	54.06	54.61	42.07
103+15548	NJ-42	COLLEGE DR/BLACK HORSE PIKE	0.642040	66.14	66.04	66.24	67.46	68.43	70.16	61.18	63.77	70.24	68.81	67.75	67.55	66.26	64.59	61.17	64.86	58.2	41.49
103+04296	NJ-42	CHURCH ST	0.948460	68.52	67.55	68.56	69.4	70.59	72.16	59.76	47.87	67.91	69.5	69.52	69.3	67.76	54.4	65.23	53.75	33.66	23.2
103P15548	NJ-42	COLLEGE DR/BLACK HORSE PIKE	0.148131	67.17	66.78	66.63	68.58	69.25	71.07	59.38	58.16	70.42	69.31	68.23	68.21	66.7	60.48	64.56	63.64	41.64	26.5
103P04296	NJ-42	CHURCH ST	0.206745	67.59	67.24	68.36	69.94	69.31	72.0	57.53	42.9	48.93	63.23	69.45	69.01	67.09	53.35	65.23	50.98	29.57	24.35
103+04297	NJ-42	COLES RD	0.461400	66.96	66.6	67.17	69.04	69.1	71.27	58.6	44.53	44.42	61.26	67.58	67.34	64.77	52.95	64.28	50.93	42.85	37.17
103+04298	NJ-42	NJ-168/BLACK HORSE PIKE	0.343936	67.73	67.58	67.54	69.16	70.24	71.72	58.8	43.25	41.95	60.6	68.13	67.97	64.91	52.23	66.4	60.4	62.82	59.83
103P04298	NJ-42	NJ-168/BLACK HORSE PIKE	0.171130	67.59	67.52	68.01	69.35	70.03	72.28	57.54	41.68	38.83	60.06	69.15	68.97	66.18	50.05	67.73	64.3	61.43	63.03
103+04299	NJ-42	LOWER LANDING RD/EXIT 10B	0.922645	66.64	66.68	66.68	68.01	69.25	71.58	53.94	37.12	35.74	56.37	67.62	66.7	63.52	47.65	65.47	53.21	51.75	57.73
103+04300	NJ-42	NJ-41/HURFFVILLE RD	0.459670	64.16	64.43	64.39	65.95	67.25	69.58	52.82	35.65	37.51	54.89	64.11	63.35	60.8	55.24	61.95	45.51	50.4	53.4
103P04300	NJ-42	NJ-41/HURFFVILLE RD	0.357785	66.55	65.45	65.78	68.38	68.82	70.95	52.73	33.52	33.13	54.71	67.11	66.5	63.4	63.73	64.85	22.77	45.87	53.36
103+04301	NJ-42	CLEMENTS BRIDGE RD/EXIT 12	0.209601	67.02	65.82	66.26	69.36	68.91	71.44	54.02	36.21	36.84	55.12	67.21	67.44	63.0	65.86	65.45	22.56	47.1	51.92
103P04301	NJ-42	CLEMENTS BRIDGE RD/EXIT 12	0.229161	66.92	66.62	66.18	69.18	68.82	71.33	56.95	39.49	37.84	55.86	64.97	66.65	61.84	66.15	65.14	21.94	47.49	52.88
103+04302	NJ-42	NJ-55/EXIT 13	0.720785	67.32	67.3	67.17	70.4	69.1	71.61	61.36	49.38	43.08	59.14	58.34	63.33	62.1	65.56	61.76	23.43	54.85	58.22
103+04303	NJ-42	LEAF AVE	0.878632	63.49	64.26	63.6	65.98	65.41	67.59	61.09	51.38	45.33	59.77	49.98	58.23	59.67	59.92	52.29	32.92	57.3	58.81
103P04303	NJ-42	LEAF AVE	0.076669	61.72	61.48	60.97	64.08	63.02	66.31	60.88	51.57	45.28	59.53	54.79	58.36	59.04	58.7	49.79	38.64	57.02	57.96
103+04304	NJ-42	I-295/I-76/EXIT 26	0.222188	59.23	59.42	58.63	62.66	62.02	64.56	59.96	49.59	43.22	57.71	55.47	56.68	56.72	56.89	51.26	46.17	55.02	55.96
103P04304	NJ-42	I-76/I-295/EXIT 1	0.290290	61.6	61.78	61.71	64.97	65.93	67.61	62.67	47.62	41.2	61.05	60.67	59.63	60.81	60.62	59.79	57.77	59.21	59.46
103+04305	NJ-42	US-130	0.226059	61.03	60.83	61.25	63.78	64.67	66.59	61.43	49.77	45.05	59.13	60.1	59.16	59.19	59.31	59.32	58.66	58.56	58.21
103P04305	NJ-42	US-130	0.274752	61.61	61.66	61.94	63.76	65.15	67.45	62.97	53.69	49.31	59.69	61.09	60.38	60.14	60.1	60.54	60.24	59.98	59.63



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





③ Performance Summaries results that span less than a week will now show values in the "Weekday" and "Weekend" columns for the subset of those time periods that are covered by the days in your selection, instead of displaying N/A.

Performance Summaries - Using INRIX TMC data

July 01, 2021 through July 04, 2021 Northbound | July 01, 2021 through July 04, 2021 Southbound

Northbound segments from I-270 between I-495/MD-355 and Shady Grove Rd/Exit 8 using INRIX data

July 01, 2021 through July 04, 2021

		Speed (mph)	Buffer time (minutes)	Buffer index	Planning time (minutes)	Planning time index	Travel time (minutes)	Travel time index	
		12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	12:00 AM - to - 12:00 AM	
X	Mon	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Mon
X	Tue	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Tue
X	Wed	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Wed
7/1	Thu	61.92	1.47	0.18	9.83	1.20	8.37	1.02	Thu
7/2	Fri	64.65	0.38	0.05	8.65	1.06	8.02	0.98	Fri
	Weekdays	63.26	1.09	0.13	9.41	1.15	8.20	1.00	Weekdays
7/3	Sat	65.43	0.56	0.07	8.66	1.06	7.92	0.97	Sat
7/4	Sun	67.00	0.08	0.01	8.29	1.01	7.74	0.94	Sun
	Weekends	66.21	0.32	0.04	8.48	1.03	7.83	0.96	Weekends
	All Days	64.70	0.76	0.09	8.99	1.10	8.01	0.98	All Days

4 The agency lists in the Event Count Widget and the Clearance Time Widget are now alphabetized.

The screenshot displays the 'Clearance Time' widget configuration interface on the left and a map of North America on the right. The configuration panel includes the following sections:

- 1. Select agency:** A dropdown menu with a search bar. The list of agencies is alphabetized and includes: 511NY (New York, New Jersey, and Connecticut Traveller Information), Austin, TX, Caltrans (California Department of Transportation), DDOT CapTOP (District Department of Transportation), DelDOT (Delaware Department of Transportation), and FDOT (Florida Department of Transportation). A blue arrow points to this list.
- 2. Select event types:** Radio buttons for 'Standardized event types' and 'Agency event types'. A dropdown menu is set to 'All except for Roadwork'.
- 3. Select visualizations for this widget:** Checkboxes for 'Clearance Time Matrix', 'Distribution Chart', and 'Box and Whisker Chart'.
- 4. Compare this year to the previous:** A dropdown menu set to '3' years.
- 5. Select days of week:** Checkmarks for Sun, Mon, Tue, Wed, Thu, Fri, and Sat.
- 6. Show events that started between:** Time range set to 12:00 AM to 11:59 PM.
- 7. Name your widget:** Radio buttons for 'Clearance Time Widget' and 'Clearance Time Widget'.

The map on the right shows a geographical view of North America with various cities and states labeled, including British Columbia, Washington, Oregon, California, Nevada, Utah, Colorado, Kansas, Missouri, Illinois, Indiana, Michigan, Ohio, Pennsylvania, New York, and Florida.

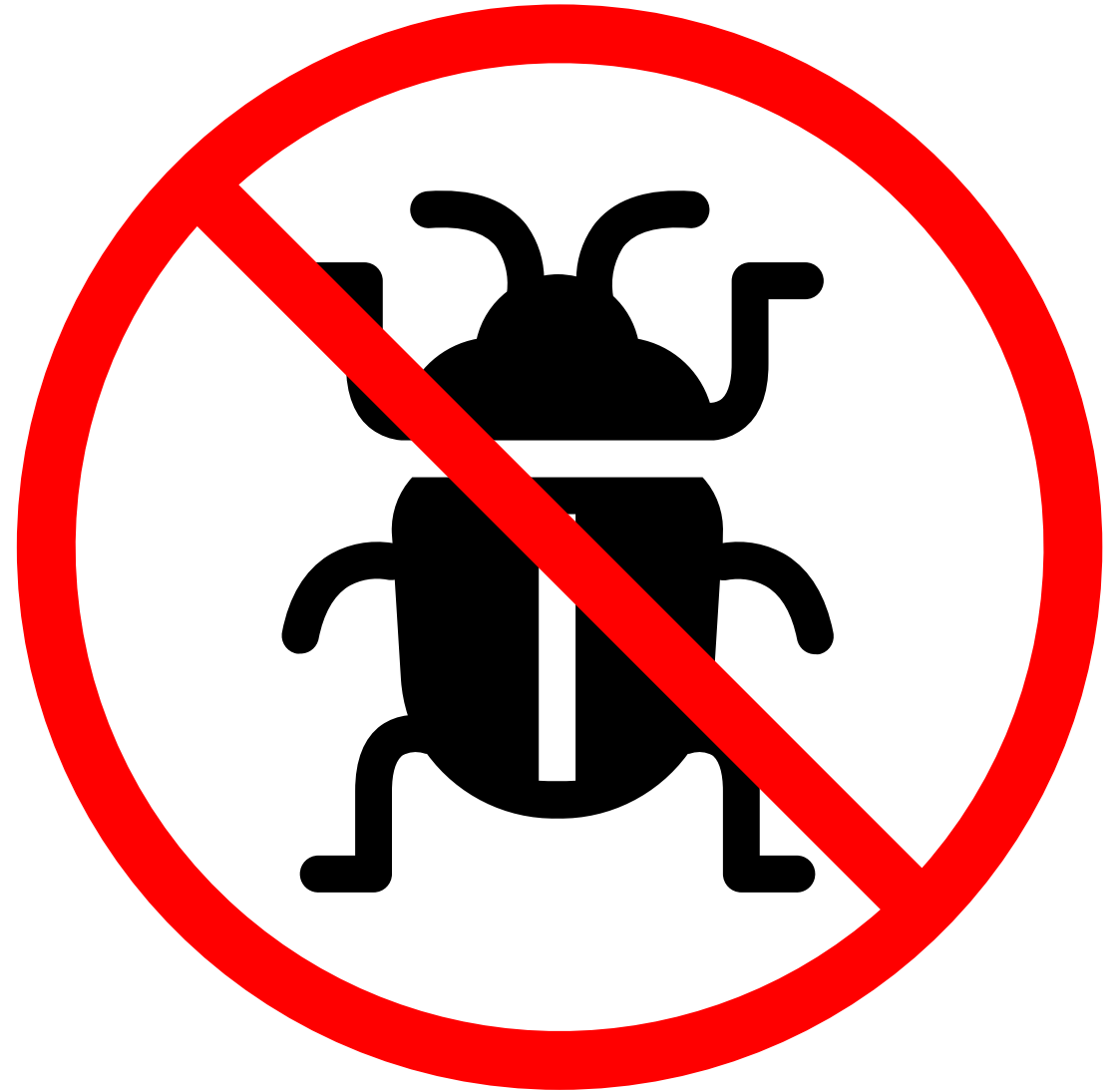
5 The UDC widget can now be resized down half the width of the Dashboard. Previously it could not be shrunk below two-thirds of the Dashboard's width.



The screenshot shows a dashboard with two main widgets. The left widget, titled 'User Delay Cost Table', is a 'Half Size UDC Widget'. It features a map of the Baltimore area with a blue line indicating a route through Frederick, Germantown, Rockville, Reston, Bethesda, and Arlington. Below the map is a table showing user delay costs by month and year from 2018 to 2021. The right widget, titled 'Caltrans', shows an 'Event Count for I-5 Northbound between MEX--USA NATIONAL BORDER and Stockdale Hwy'. It includes a horizontal bar chart for event types (Obstructions, Collision, Incident, Roadwork, Disturbances, Traffic Conditions, Weather) and two circular gauges comparing 'Current Week to Date' (426 total events) and 'Same Week Last Year' (471 total events).

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Total
2021	\$1.6M	\$1.6M	\$2M	\$1.2M	\$1.7M	\$2.4M							-
2020	\$2.9M	\$2.4M	\$1.5M	\$0.4M	\$0.5M	\$1M	\$1M	\$1.4M	\$1.6M	\$1.6M	\$1.2M	\$1.5M	\$16.8M
2019	\$2.5M	\$3.6M	\$3.2M	\$3.8M	\$4.3M	\$3.6M	\$3.9M	\$3.3M	\$3.7M	\$3.9M	\$3.4M	\$3M	\$42.1M
2018	\$2.6M	\$2.3M	\$2.4M	\$2.9M	\$3.7M	\$3M	\$2.6M	\$2.9M	\$3M	\$4.1M	\$3.7M	\$2.7M	\$35.8M

## Various bug fixes





# Trip Analytics



# Trip Analytics latest updates

Significant progress towards  
Trips Analytics Version 4

<https://trips.ritis.org/new>

Trip Analytics

Using the Maryland Data Set

### 1. Set up a Study

#### Using a Study Area to Shorten Trips

A study area can be used to restrict the scope of the analysis. If specified, the study area's perimeter will be used to trim off all trip legs that are external. Perimeter crossings are called **OD gates**, which will be reported as origins or destinations for all trimmed legs. If a study area is not specified, trips will not be trimmed – therefore actual start and end points will determine all origins and destinations.

Choose one of the following options:

**Option 1**  Don't specify a study area

**Option 2**  Specify the data set's base geography as the study area

**Option 3**  Specify a custom geography as the study area

Use Predefined Areas  Draw Area on Map  Load File

Assemble a single, contiguous study area by selecting adjacent area(s) from one of the following sets

You can also use the map to refine your selection.

States



# 3 options for setting up origins and destinations: Option 1 – Don't specify a study area

Using the Maryland Data Set



## 1. Set up a Study

### Using a Study Area to Shorten Trips

A study area can be used to restrict the scope of the analysis. If specified, the study area's perimeter will be used to trim off all trip legs that are external. Perimeter crossings are called **OD gates**, which will be reported as origins or destinations for all trimmed legs. If a study area is not specified, trips will not be trimmed – therefore actual start and end points will determine all origins and destinations.

Choose one of the following options:



#### Option 1



Don't specify a study area



#### Option 2



Specify the data set's base geography as the study area

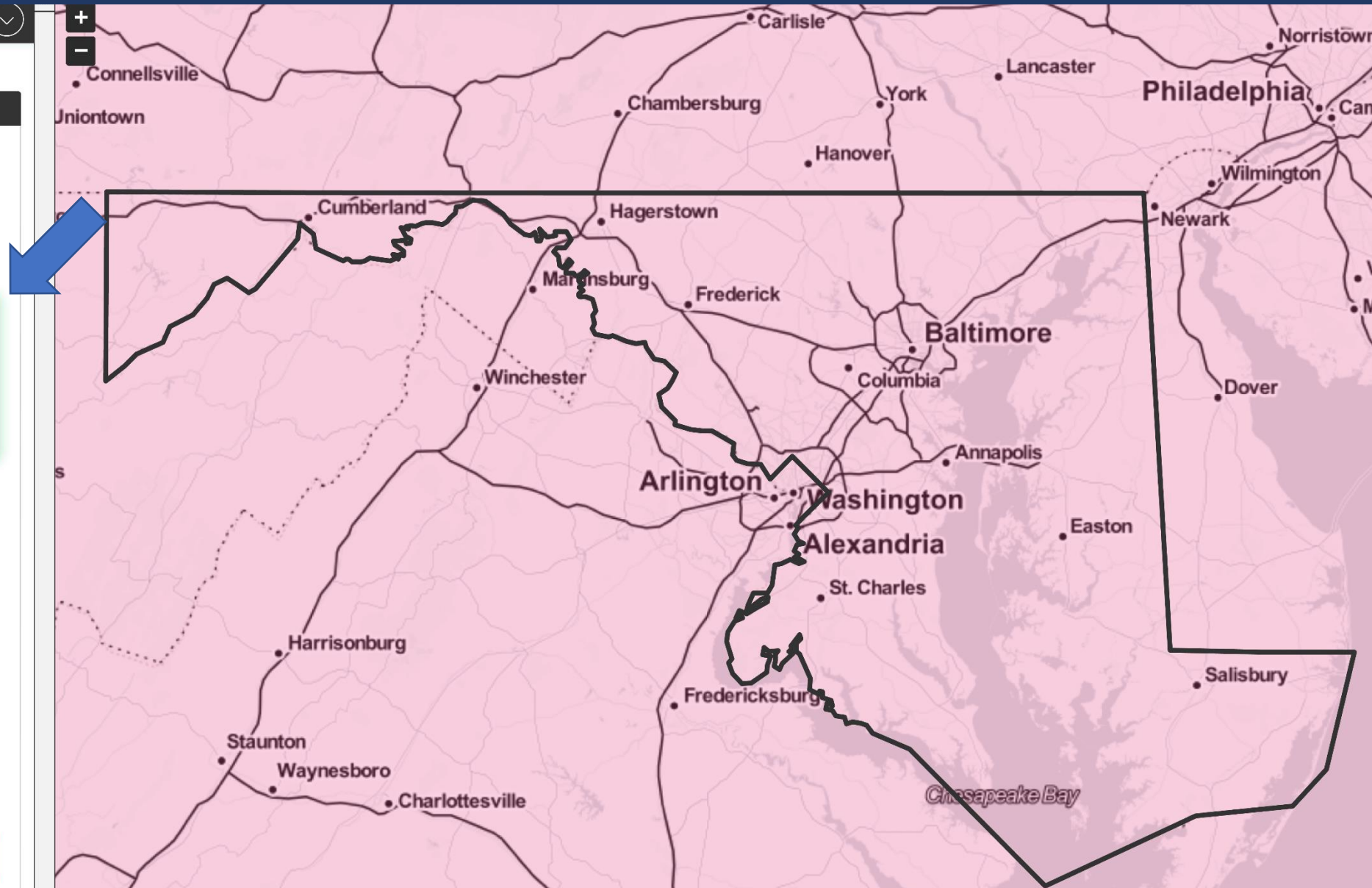


#### Option 3



Specify a custom geography as the study area

NEXT



If a study area is not named, all of map space is regarded as the study area, and zones will define all origins and destinations

# Option 2 – Use the data set's base geography as the study area

Using the Maryland Data Set

## 1. Set up a Study

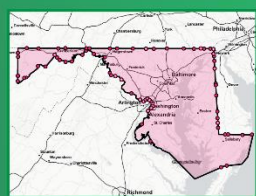
### Using a Study Area to Shorten Trips

A study area can be used to restrict the scope of the analysis. If specified, the study area's perimeter will be used to trim off all trip legs that are external. Perimeter crossings are called **OD gates**, which will be reported as origins or destinations for all trimmed legs. If a study area is not specified, trips will not be trimmed – therefore actual start and end points will determine all origins and destinations.


Choose one of the following options:

 **Option 1**

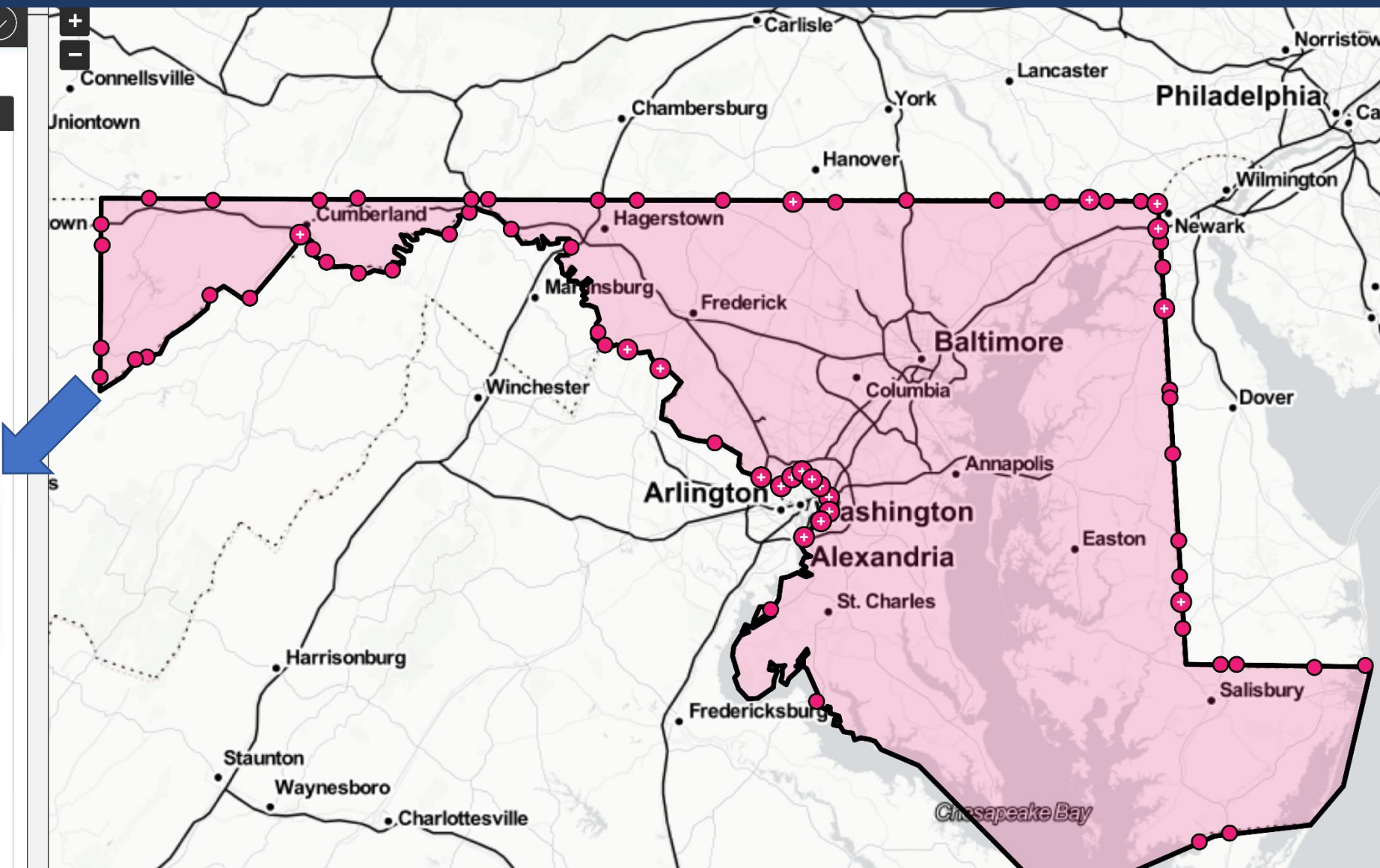
Don't specify a study area

 **Option 2**

Specify the data set's base geography as the study area

 **Option 3**

Specify a custom geography as the study area



A specified study area divides map space into internal and external regions; external legs are trimmed off, and the trimmed locations (red/pink dots called OD gates) are reported as origins or destinations for those legs.



# Option 3 – Specify, load or create a custom study area

Using the Maryland Data Set

## 1. Set up a Study

### Using a Study Area to Shorten Trips

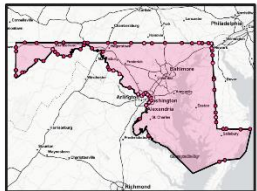
A study area can be used to restrict the scope of the analysis. If specified, the study area's perimeter will be used to trim off all trip legs that are external. Perimeter crossings are called **OD gates**, which will be reported as origins or destinations for all trimmed legs. If a study area is not specified, trips will not be trimmed – therefore actual start and end points will determine all origins and destinations.

Choose one of the following options:



#### Option 1

Don't specify a study area



#### Option 2

Specify the data set's base geography as the study area

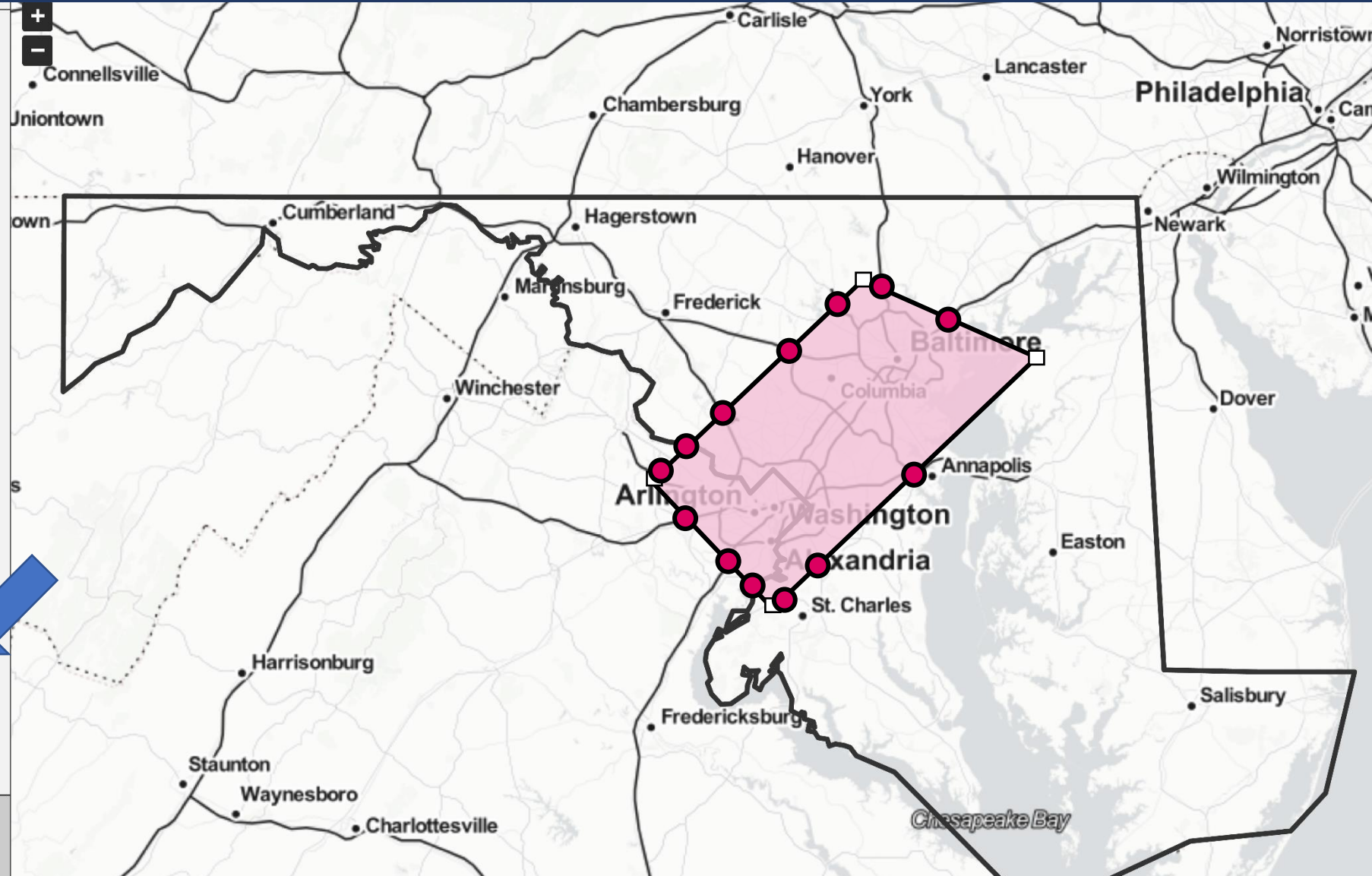


#### Option 3

Specify a custom geography as the study area



Use Predefined Areas  Draw Area on Map  Load File



A specified study area divides map space into internal and external regions; external legs are trimmed off, and the trimmed locations (red/pink dots called OD gates) are reported as origins or destinations.

# Choosing a zone layer for reporting untrimmed or internal origins and destinations

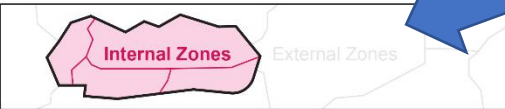
Using the Maryland Data Set

## 1. Set up a Study

▶ **Using a Study Area to Shorten Trips** ✓  
Option 2: Use base geography as a study area  
Number of study area OD gates: 1324

▼ **Specify Internal Zones for Origins and Destinations**

Internal zones will be used to report origins and destinations inside the study area. You may specify a predefined zone layer (e.g. counties or zip codes), draw zones on a map, or load a zone file in geoJSON format.



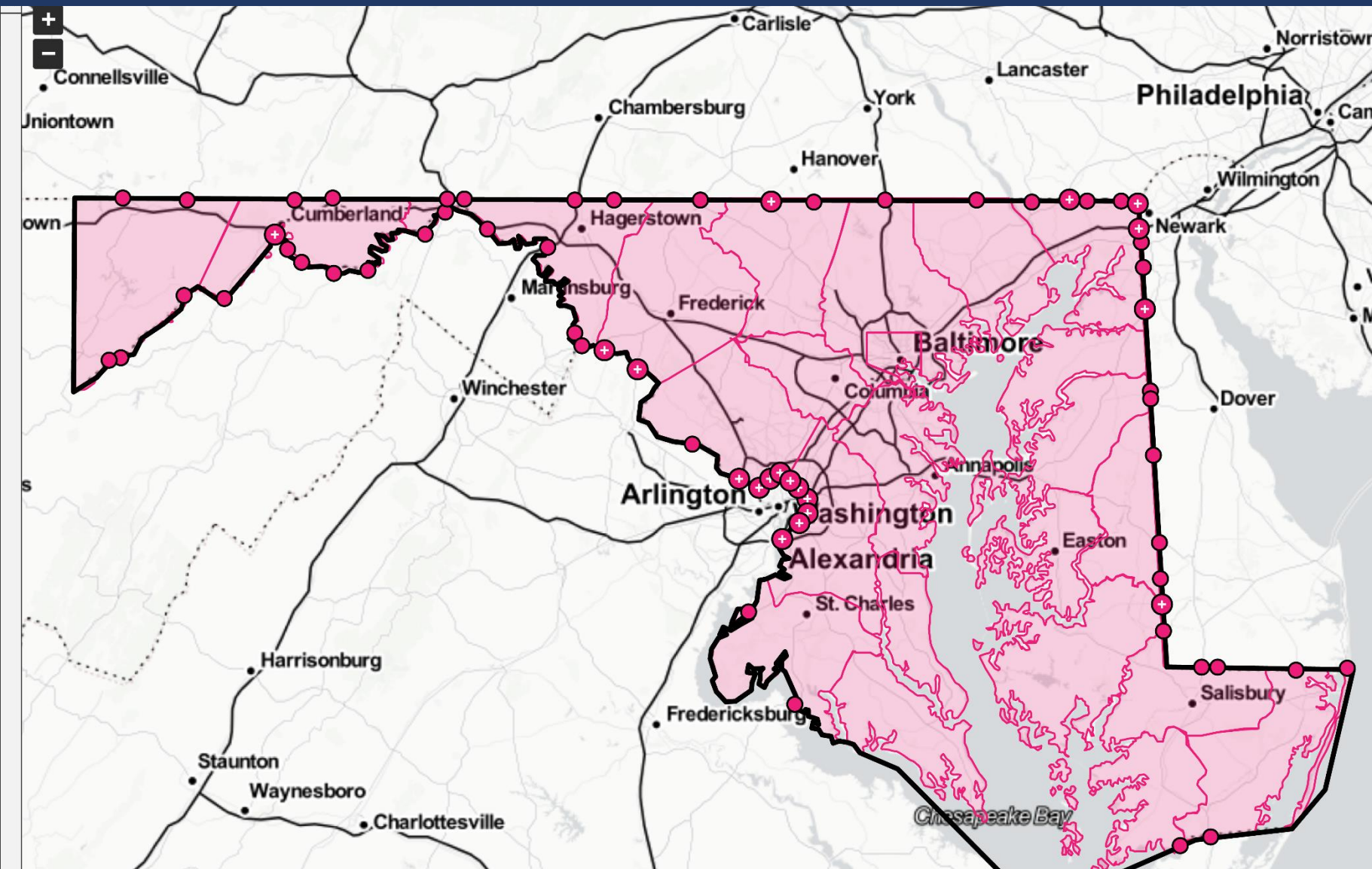
Use Predefined Zones    Draw Zone on Map    Load File

Counties

▶ Specify External Zones

▶ Name Study

SAVE STUDY AND PROCEED TO FILTERS



The internal zone layer will define origins and destinations of all trip legs that have not been trimmed off.

# Choosing an external zone layer for optional analysis of external origins or destinations (switch on/off as needed)

Using the Maryland Data Set

## 1. Set up a Study

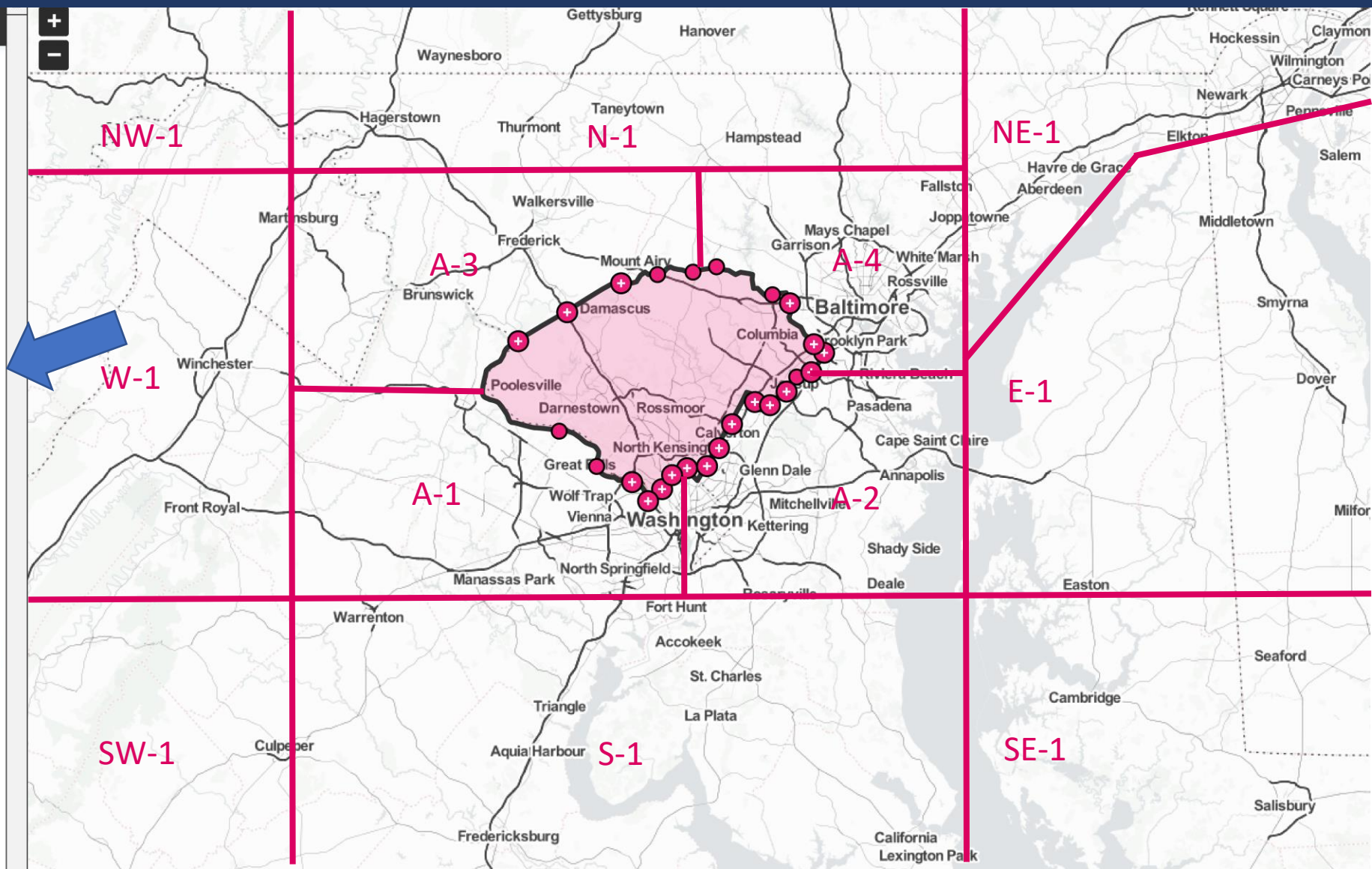
▶ **Using a Study Area to Shorten Trips** ✓  
Option 3: Use custom geography as a study area  
Predifined areas: 2 Maryland Counties  
Number of study area OD gates: 252

▶ **Specify Internal Zones for Origins and Destinations** ✓  
Counties

▶ **Specify External Zones** ✓  
Custom shape file

▶ **Name Study**

SAVE STUDY AND PROCEED TO FILTERS



By specifying an external zone layer, user will have the option later to view external origins and destinations (toggle on/off)

# Naming and saving the study to complete set-up

Using the Maryland Data Set

## 1. Set up a Study

▶ **Using a Study Area to Shorten Trips** ✓  
Option 3: Use custom geography as a study area  
Predifined areas: 2 Maryland Counties  
Number of study area OD gates: 252

▶ **Specify Internal Zones for Origins and Destinations** ✓  
Counties

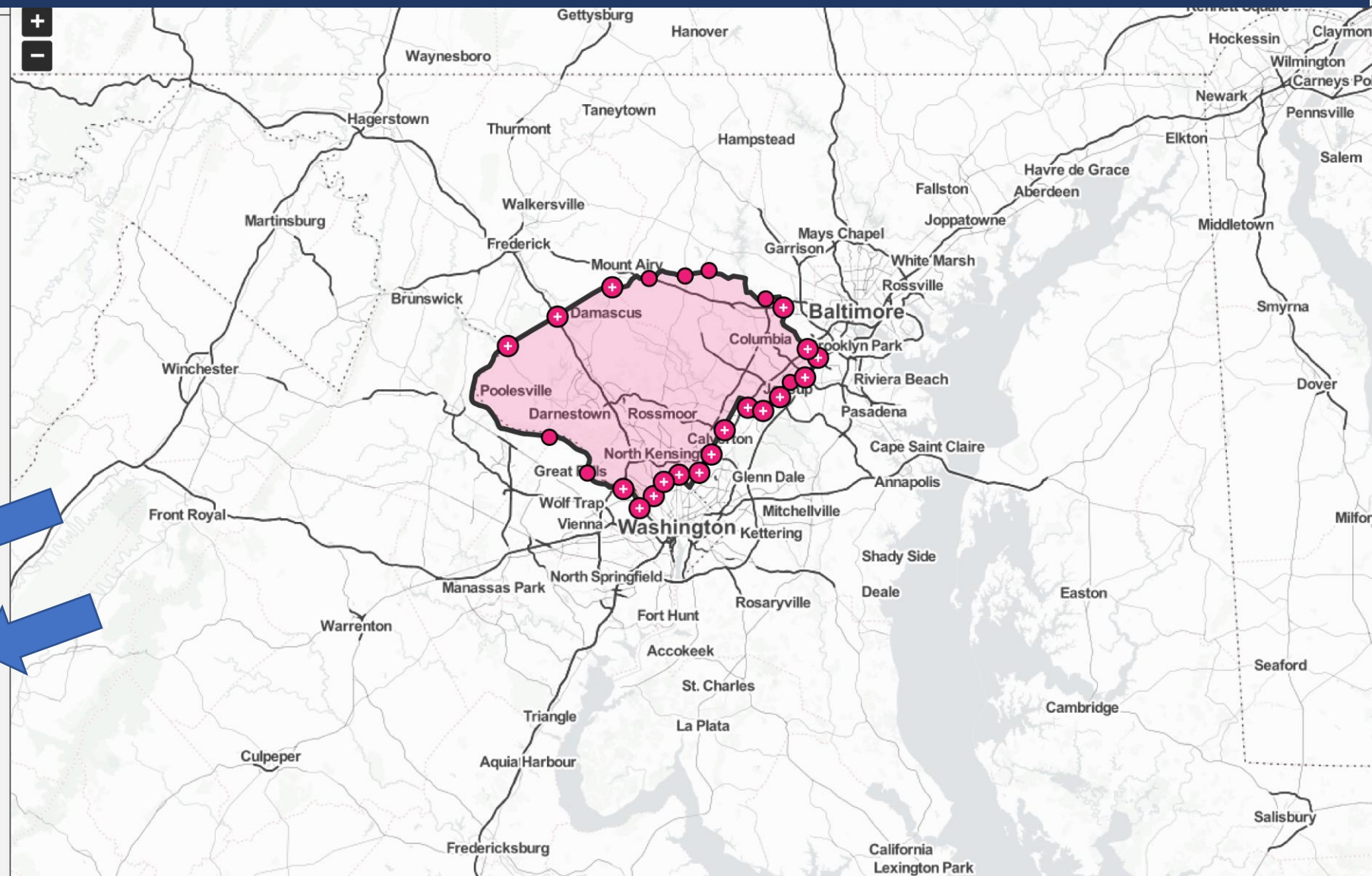
▶ **Specify External Zones** ✓  
Custom shape file

### ▼ Name Study

The study name will keep related analyses together for easy retrieval in My History.

Montgomery and Howard County Study V2.0

SAVE STUDY AND PROCEED TO FILTERS



After naming and saving the study structure, user may proceed to setting trip filters and submitting queries

RITIS



PROBE DATA

ANALYTICS SUITE

# Agency Input Session



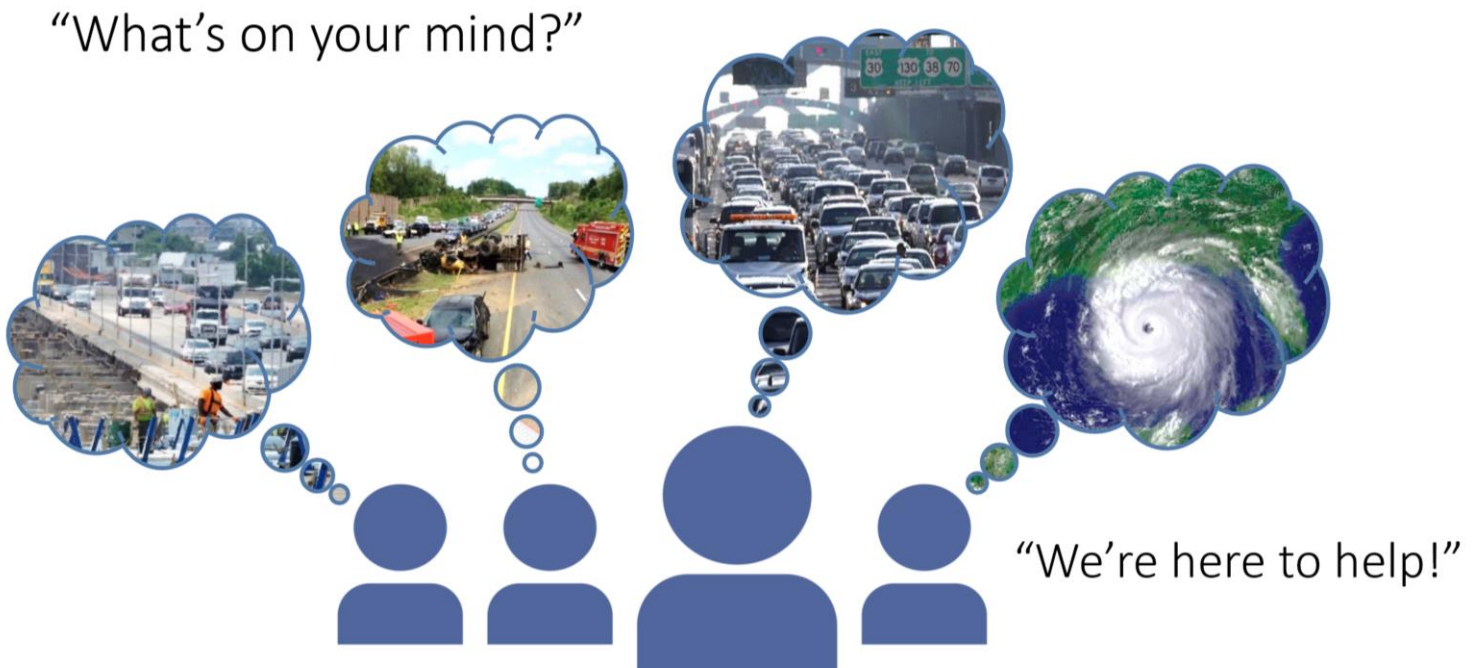
**Michael Pack**

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 chat box below, or with an email to [support@ritis.org](mailto:support@ritis.org)



# Wrap Up



**Matt Glasser**

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RITIS User Group Co-chair



# Questions?



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# Thank you!



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COALITION**

*CONNECTING FOR SOLUTIONS*

