RITIS Workshop

Using Trip Analytics to Support Operations & Planning

April 20, 2023

CATT LABORATORY | THE EASTERN TRANSPORTATION COALITION

demonstrating INRIX *Trip Paths Datasets*

Our Team Welcomes You!

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CATT Lab

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CATT Lab

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CATT Lab

Today we're presenting a 90-minute workshop on using **Trip Analytics**, divided into two sessions:

Introduction: How it works (10 minutes)

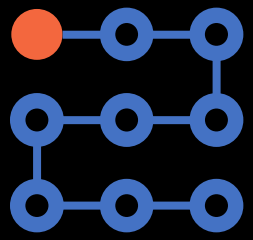
Session 1 for Operators (1:00pm – 1:45pm)

- "Last-mile" routes and travel time statistics
- Testing device deployments (ramp metering)
- Detour route planning
- Signal timing Before & After use case

Session 2 for Planners (1:45 – 2:30pm)

Introduction: (5 minutes)

- OD matrices for model calibration, etc. (from macro to micro)
- Bottleneck Mitigation Before & After use case
- Document urban truck route compliance in neighborhoods



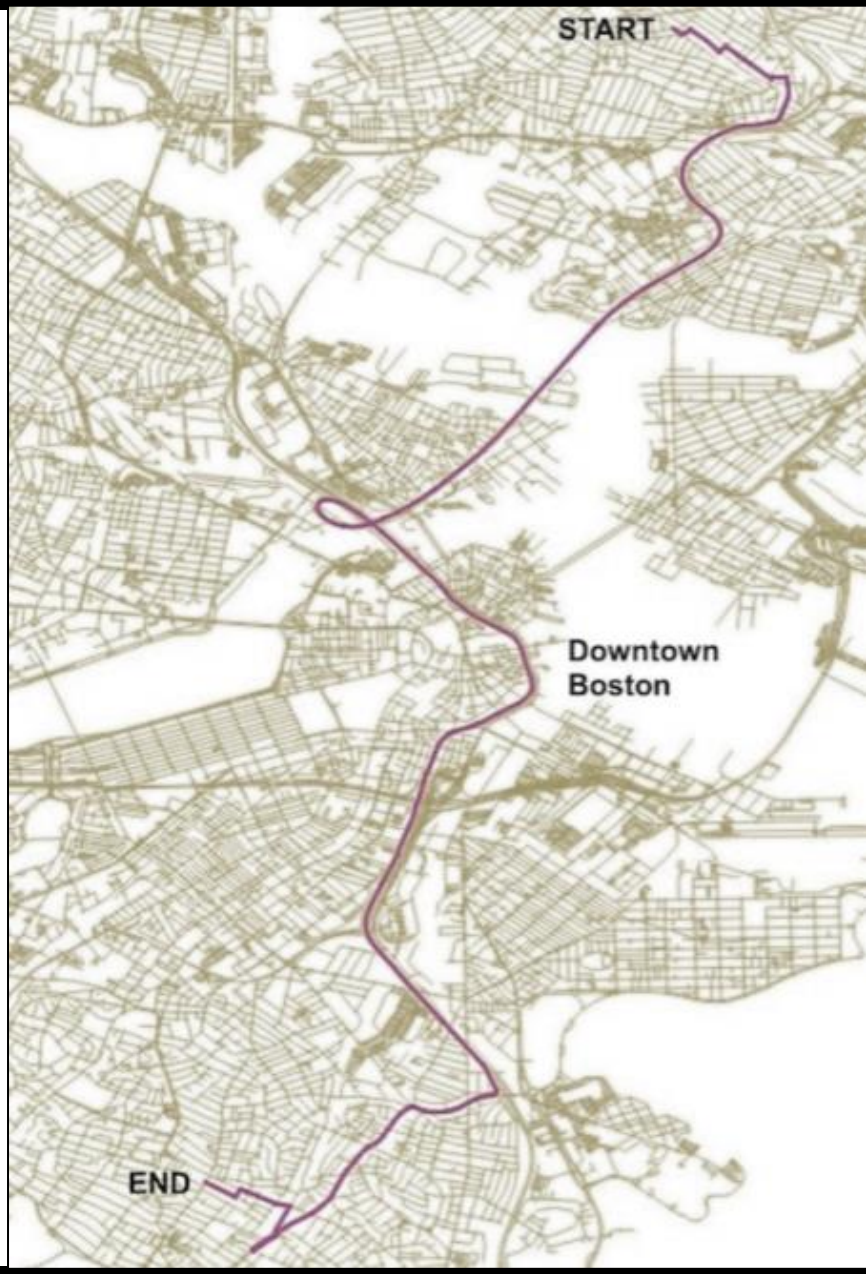
Trip Analytics Introduction

The Big Picture – What are we doing here?

- We want to learn about patterns of how things move – in this case, cars or trucks on highways – by analyzing samples of real-world trips

- Data sources are GPS pings from cell phones, connected vehicles and trucking fleets, etc., fitted to roadway networks

- When datasets like this includes full pathways, more insight can be gained than when only the start- and endpoints are provided



Where we start:

We need a map with roads and zones (like counties, census tracts, or other / custom) so we can report trip patterns (O's, D's, and shared routes)

We need fixed names of places, just like a...

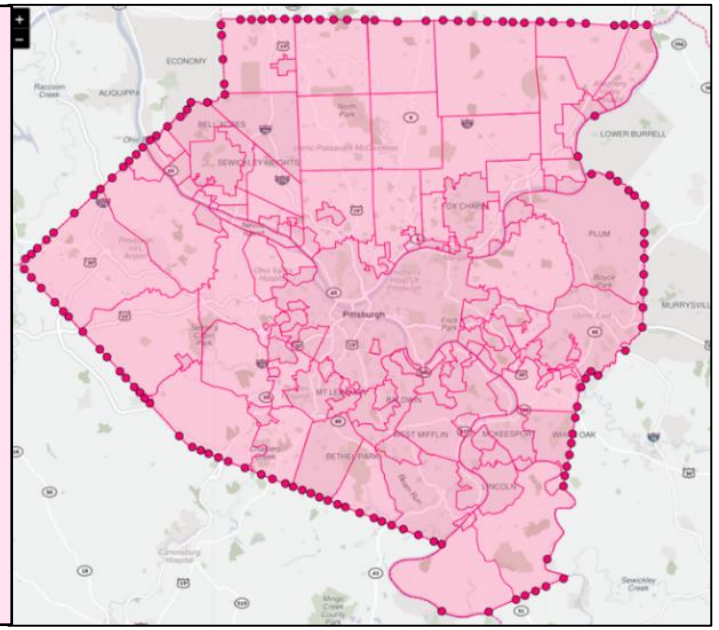
- deck plan for an ocean liner or jet
- stadium or concert hall venue map
- floor plan for a building

These names will define the origins and destinations of the trips we care about

Therefore, Step 1 is to set up zones and gates to define O's and D's:

Step 1

Define how origins and destinations will be named and reported



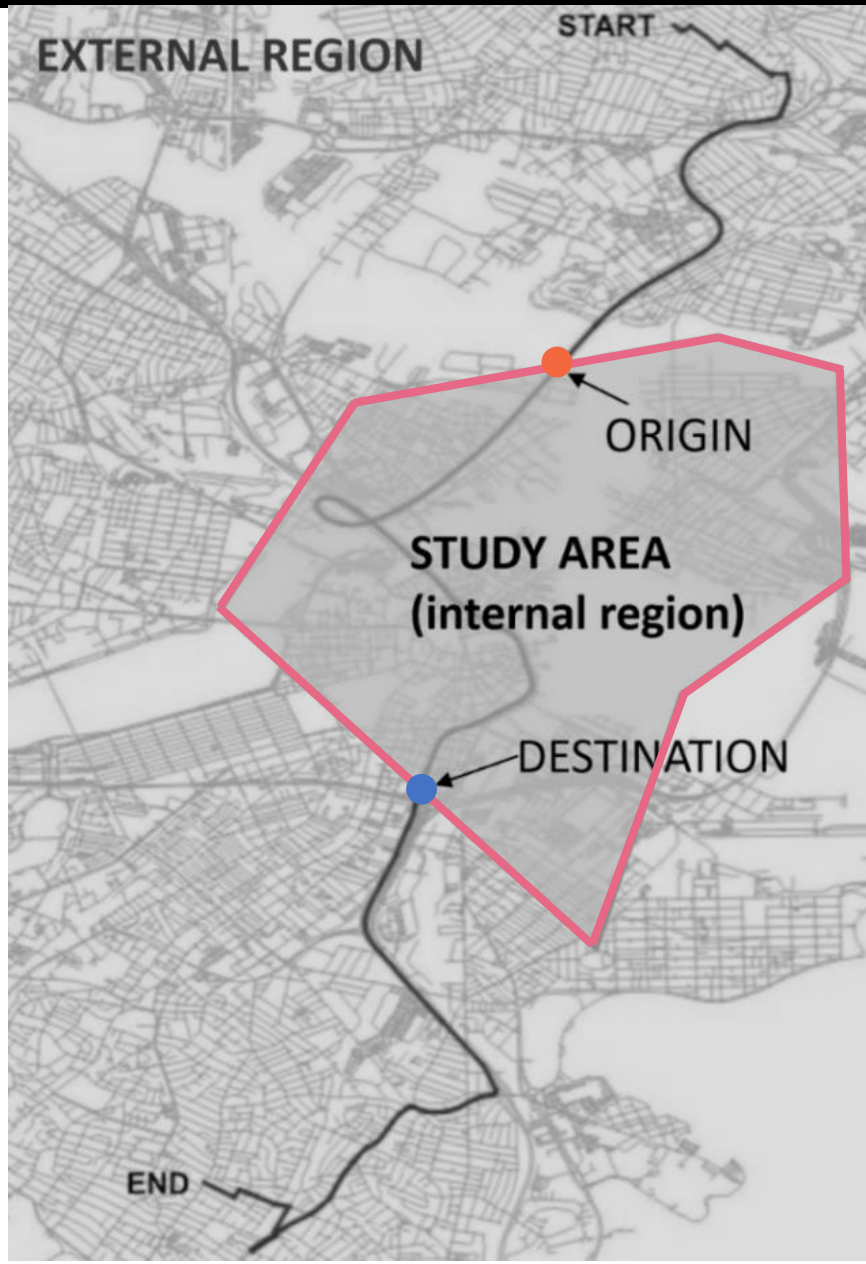
Define a **pink** study area, internal zones, and OD gates (**red dots**) or external zones

Set-up is done **just once**, at the start of each new study

All investigations begin by defining a ***study area:***

- Any polygon can serve as a bounded study area; this divides the map into internal and external regions (right)

- A study area can be unbounded such that it contains the full extent of all pathways in the dataset (i.e. everywhere is ‘internal’)



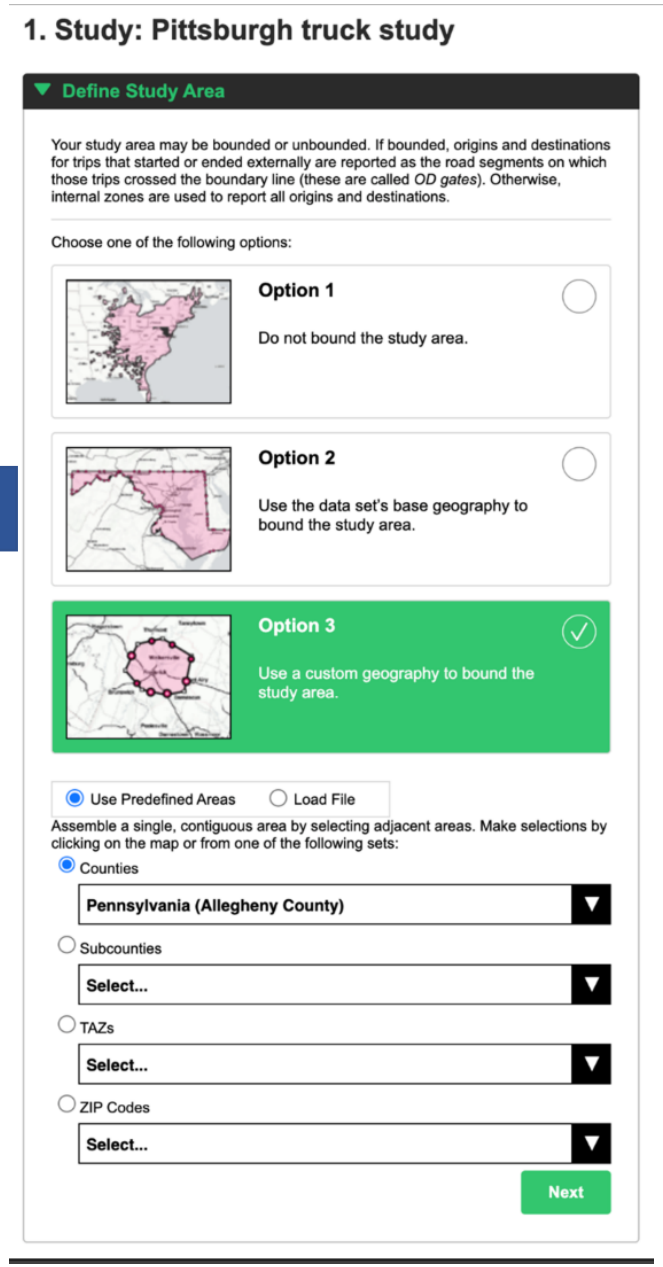
Step 1

Define how origins and destinations will be named and reported

1. Define the Study Area

(bounded / unbounded?)

(assemble from zones or load a custom polygon)



SET-UP

Step 1

Define how origins and destinations will be named and reported

1. Define the Study Area

(bounded / unbounded?)

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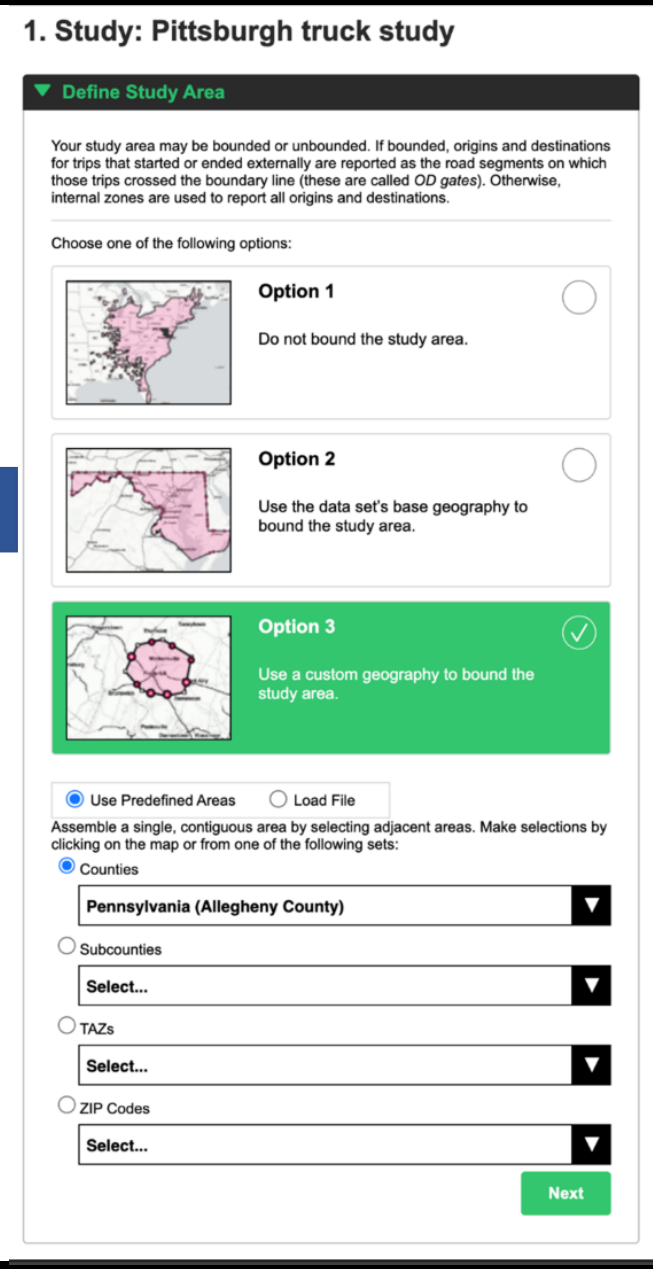
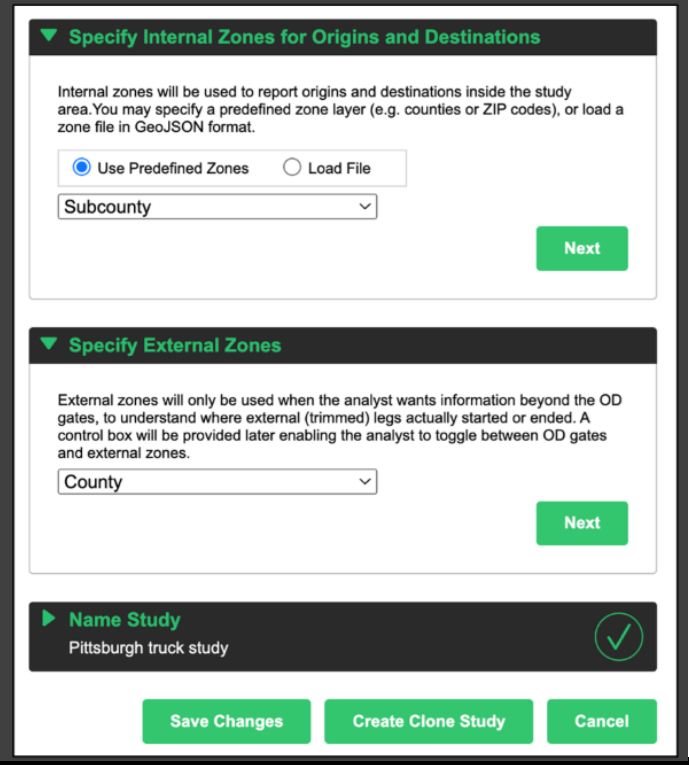


SET-UP



2. Define internal zones

3. Define external zones (if needed)

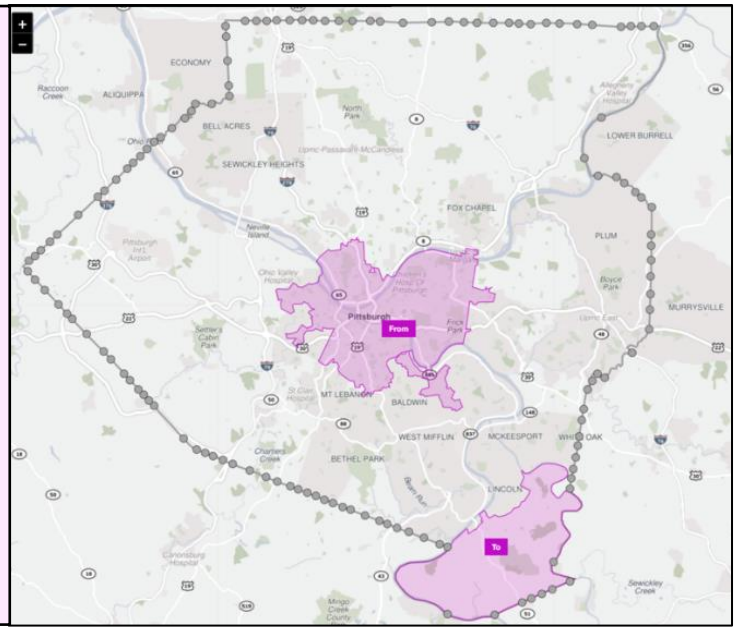
4. Save to *My Studies*

Now that we have decided how to name the origins and destinations of the trips we care about, we can go about finding the trips we care about!

(Over and over, for different scenarios)

Step 2

Set filters and submit as many queries as needed to achieve study goals



Spatial filter polygons are **purple**

Each query finds a group of similar trips based on **where** they went, **when** they went there, and **which ones** went there

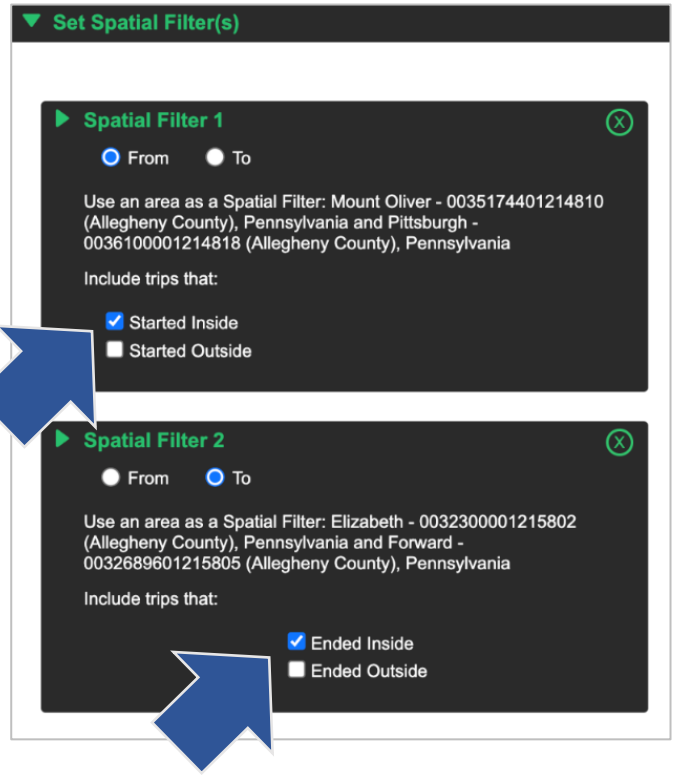
Step 2

Set filters and submit as many queries as needed to achieve study goals

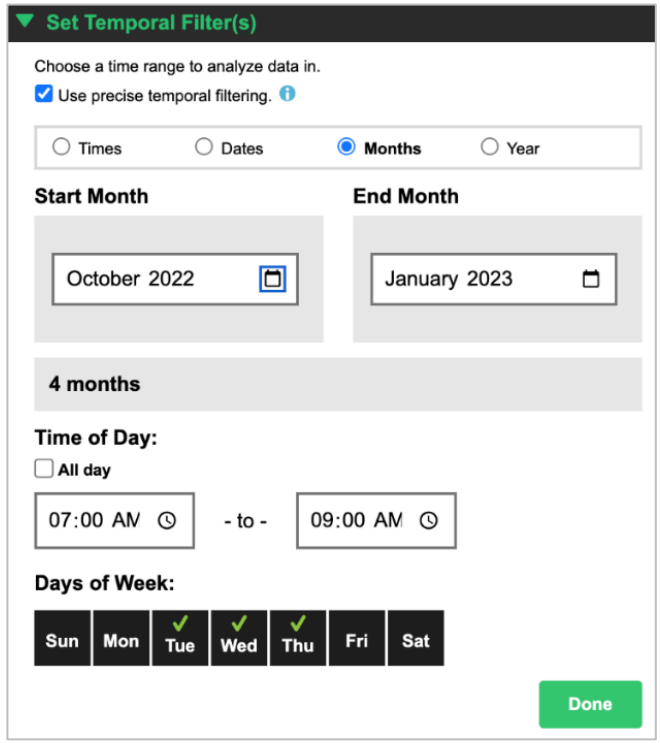
Name or load any polygon as a spatial filter, and use intuitive menus to set the parameters

Use flexible pass-through check-boxes to gather similar trips:

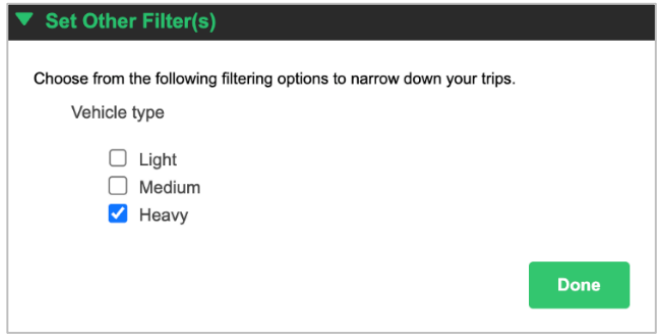
1. Where did they go? (spatial)



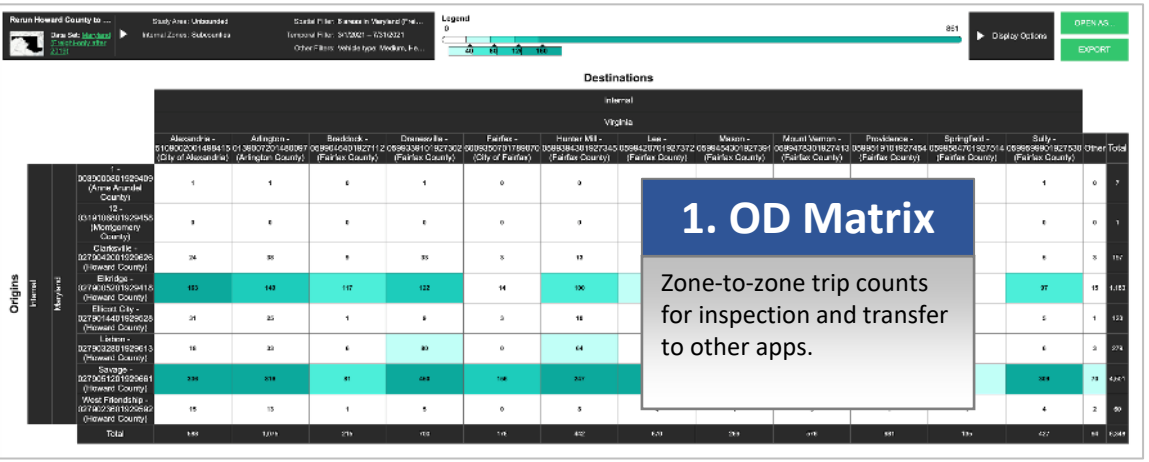
2. When did they go there? (temporal)



3. Which ones went there? (other attributes)

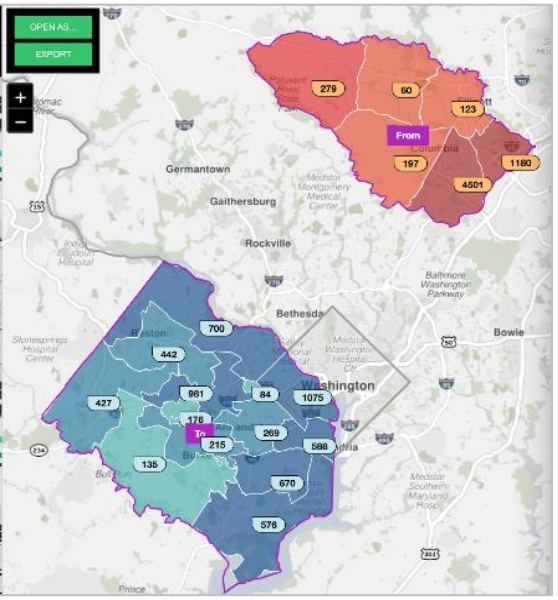


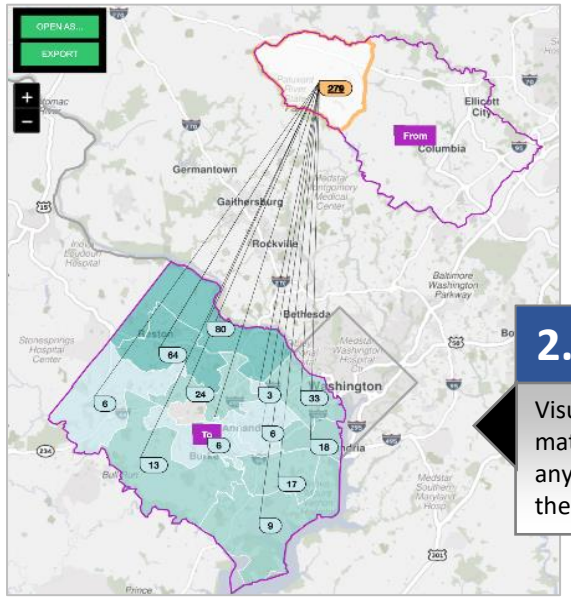
Each query produces a set of three matching reports, with the O/Ds, routes and travel times of those trips



1. OD Matrix

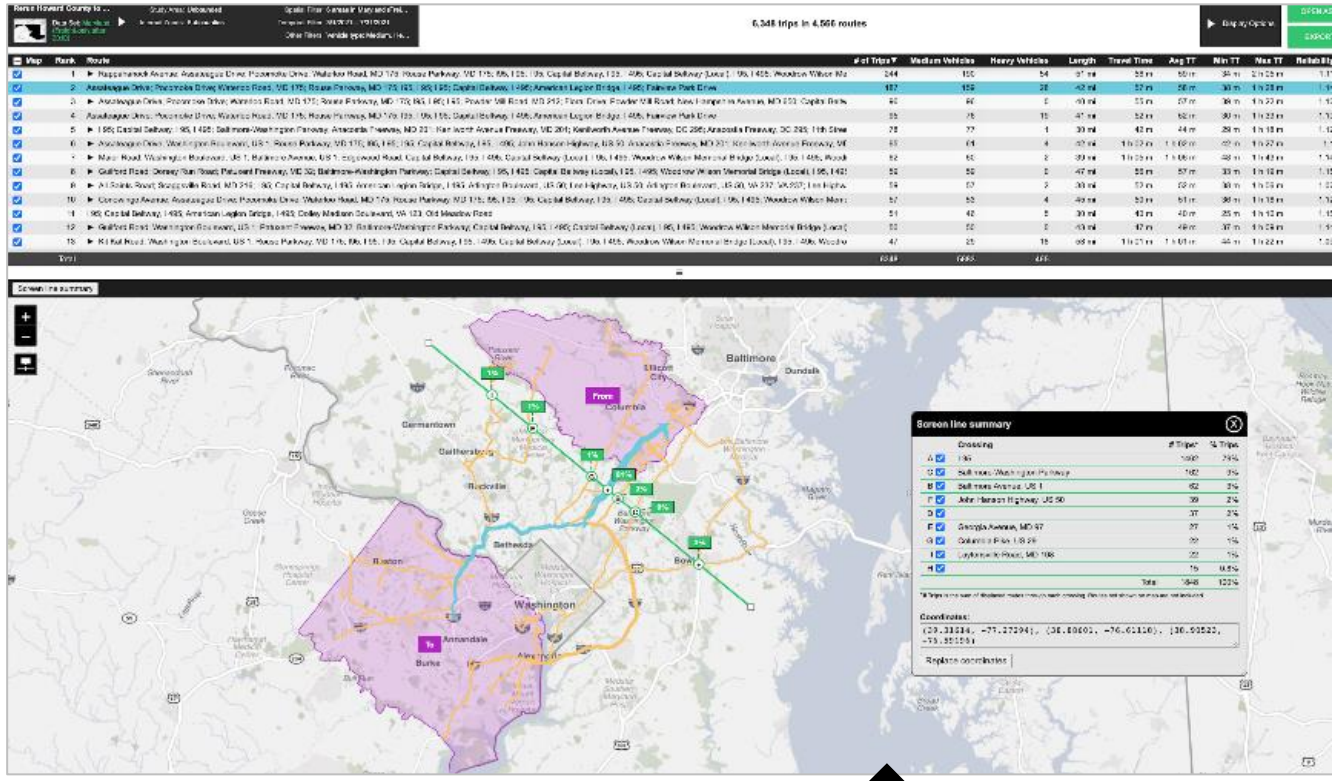
Zone-to-zone trip counts for inspection and transfer to other apps.





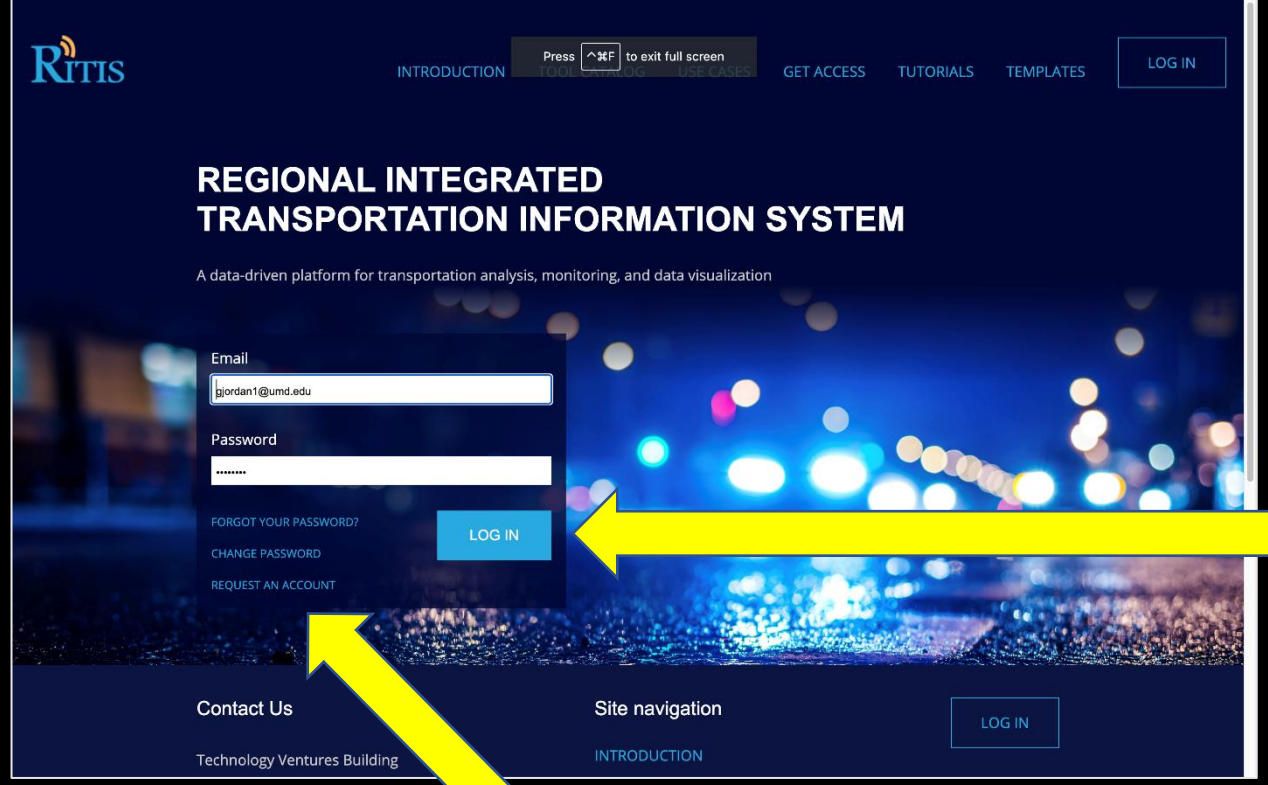
2. Zone Map

Visualize each OD matrix on a map. Click any zone to break out the trip count.



3. Route Map & Table

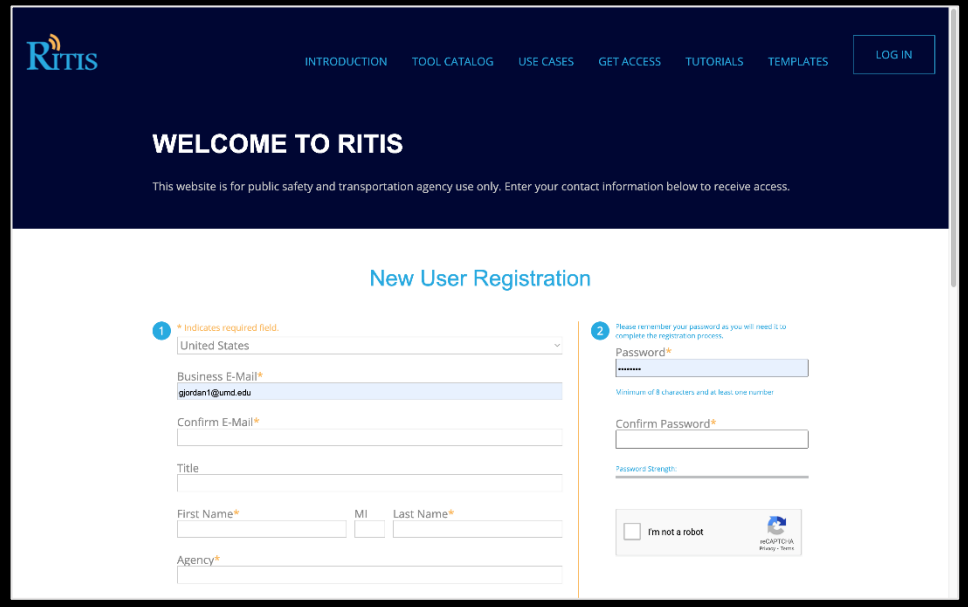
For every trip in the OD matrix, see segment-by-segment pathways of each unique route. Get trip counts, travel times, and reliability metrics for each route. Draw screen lines or cordon lines to produce sample counts and split percentages for each crossing. Make a time series to document trends or the impact of events.

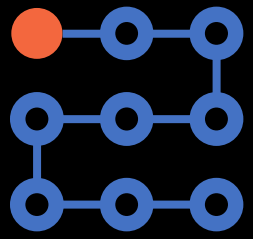


Log-in at ritis.org, follow links to Trip Analytics

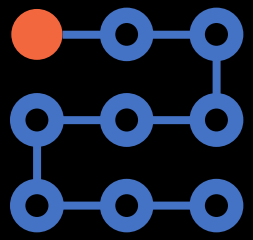
or go directly to trips.ritis.org

New user registration:
Go to ritis.org,
click “Request an Account”





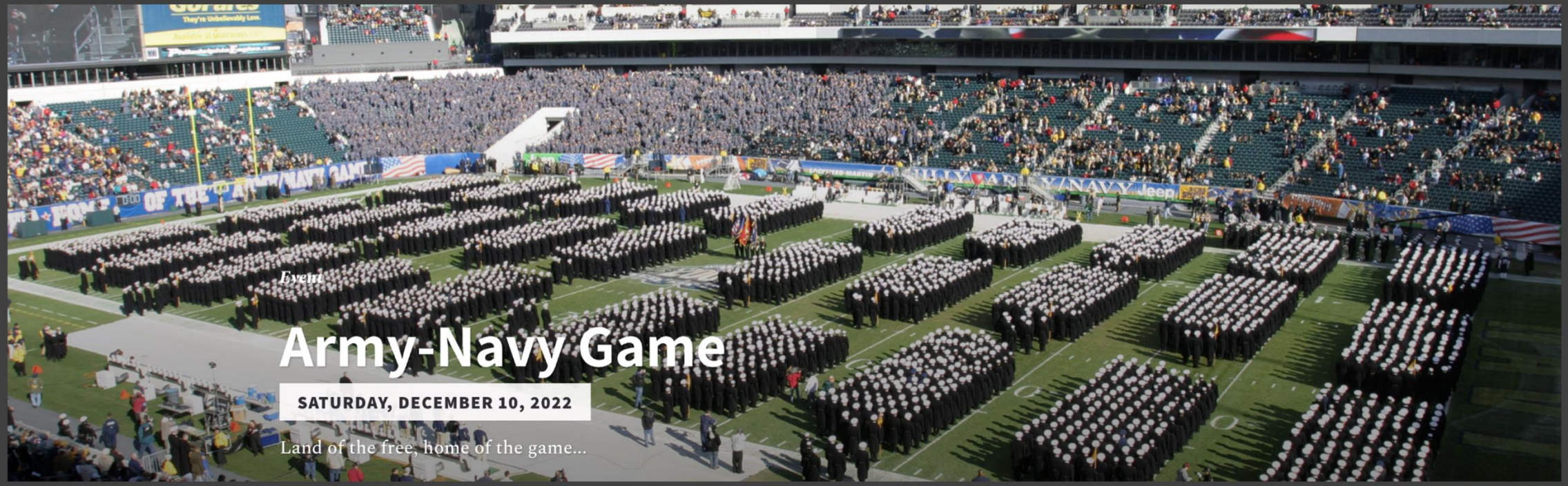
Trip Analytics
Orientation to the screens
(screen share)



Trip Analytics for Operations

General applications for Operations

- Plan for major construction, detour, or regional event
- Make a contingency plan for major emergency
- Show the need for a ramp meter, or evaluate its effectiveness
- Conduct a post-mortem review of a major incident or event
- Document truck route compliance near neighborhoods
- Make the case for a new investment in ITS infrastructure
- Document the benefits of prior investments



3. Example: Sporting Event Traffic Analysis

Question: What routes were taken to various parking sections around Lincoln Financial Field?

What were the associated travel times? Where were attendees driving from?

570 sample trips are in the dataset that entered in the Army-Navy parking area within 4 hours of kick-off

Route Map report

Trip Analytics

Logged in as gjordan1@umd.edu | My Studies | Help | Switch data set | Logout

Sports Complex

Data Set: Pennsylvania

Study Area: Custom Geography | Spatial Filter: 1 area in Pennsylvania Da…
Internal Zones: Custom | Temporal Filter: 12/10/2022
External Zones: Subcounties | Other Filters: Vehicle type: Light

570 trips in 570 routes

Display Options | Open as... | Export

Map	Rank	Route	# of Trips	Light Vehicles	Length	Travel Time	Avg TT	5% TT	95% TT	Reliability
☑	285	▶ West Germantown Pike; Sandy Hill Road; East Germantown Pike; Mid County Expressway, I 476; I 476; Delaware Expressway, I 95; South Governor Print	1	1	33 mi	1 h 06 m	1 h 06 m	1 h 06 m	1 h 06 m	1
☑	286	▶ New Jersey Turnpike, I 95, NJTP; New Jersey Turnpike, NJTP; New Jersey Turnpike; North Black Horse Pike, NJ 168; I 295; North-South Freeway, I 76; W	1	1	42 mi	42 m	42 m	42 m	42 m	1
☑	287	Delaware Expressway, I 95; South Broad Street, PA 611	1	1	4 mi	8 m	8 m	8 m	8 m	1
☑	288	▶ Tranquility Court; NJ 70; US 206, NJ 70; I 295; North-South Freeway, I 76; Walt Whitman Bridge, I 76; Walt Whitman Bridge, I 76,Walt Whitman Bridge, I 76	1	1	36 mi	52 m	52 m	52 m	52 m	1
☑	289	▶ John F. Kennedy Memorial Highway, I-95; John F. Kennedy Memorial Highway, I 95; John F. Kennedy Memorial Highway, I 95,John F. Kennedy Memorial H	1	1	76 mi	1 h 23 m	1 h 23 m	1 h 23 m	1 h 23 m	1
☑	290	▼ Beachside Avenue; Greens Farms Road; Nyala Farms Road; Sherwood Island Connector; I 95; I 95,I 95; New England Thruway, I 95,New England Thruway, I 95; New England Thruway, I 95; Main Street, US 1; Boston Post Road, US 1; Hutchinson River Parkway, HRP; Hutchinson River Parkway, HR; Bruckner Expressway, I 95; Throgs Neck Expressway, I 695; Throgs Neck Expressway; Randall Avenue; Cross Bronx Expressway; Cross Bronx Expressway, I 295; Cross Bronx Expressway, I 95; Cross Bronx Expressway, I 95, US 1; Trans-Manhattan Expressway, I 95, US 1; George Washington Bridge (lower level), I 95, US 1; George Washington Bridge (lower level), I 95, US 1,George Washington Bridge (lower level), I 95, US 1; George Washington Bridge Plaza, I 95, US 1; New Jersey Turnpike, I 95, NJTP; New Jersey Turnpike (Express Lanes), I 95, NJTP; New Jersey Turnpike, I 95; New Jersey Turnpike, I 95, NJTP Southbound; New Jersey Turnpike Southbound, I 95, NJTP; New Jersey Turnpike (TRUCK Lanes), I 95, NJTP; New Jersey Turnpike, NJTP; New Jersey Turnpike; NJ 73; I 295; North-South Freeway, I 76; Walt Whitman Bridge, I 76; Walt Whitman Bridge, I 76,Walt Whitman Bridge, I 76; Schuylkill Expressway, I 76; South 7th Street; Pattison Avenue; South 11th Street	1	1	154 mi	2 h 47 m	2 h 47 m	2 h 47 m	2 h 47 m	1
☑	291	▶ Stapler Place; West 16th Street; North Scott Street; Lovering Avenue; North Adams Street; I 95, US 202, I 95, I 95, Delaware Expressway, I 95 Delawa	1	1	27 mi	42 m	42 m	42 m	42 m	1
☑	292	▶ Lehann Circle; Saxer Avenue; East Baltimore Pike; Baltimore Pike; Mid County Expressway, I 476; I 476; Delaware Expressway, I 95; GirarJ Point Bridge, I	1	1	18 mi	34 m	34 m	34 m	34 m	1
☑	293	▶ Memorial Drive; North Dupont Highway, US 13; Wilmington Bypass, I 495; Philadelphia Pike, US 13; Philadelphia Pike, US 13,Philadelphia Pike, US 13; We	1	1	28 mi	45 m	45 m	45 m	45 m	1
☑	294	▶ North 19th Street; John F. Kennedy Boulevard, PA 3; Market Street, PA 3; South 23rd Street; Walnut Street; Schuylkill Expressway, I 76; South 26th Street;	1	1	7 mi	29 m	29 m	29 m	29 m	1
☑	295	▶ Sandstone Court; Phillips Avenue; Street Road; Meehan Drive; Addison Way; Easton Road, PA 611; Pennsylvania Turnpike, I 276, PATP; Pennsylvania Tur	1	1	51 mi	1 h 35 m	1 h 35 m	1 h 35 m	1 h 35 m	1
☑	296	South 8th Street; Tasker Street; South 10th Street; Packer Avenue; South Darien Street; Pattison Avenue	1	1	2 mi	13 m	13 m	13 m	13 m	1
	Total		570	570						

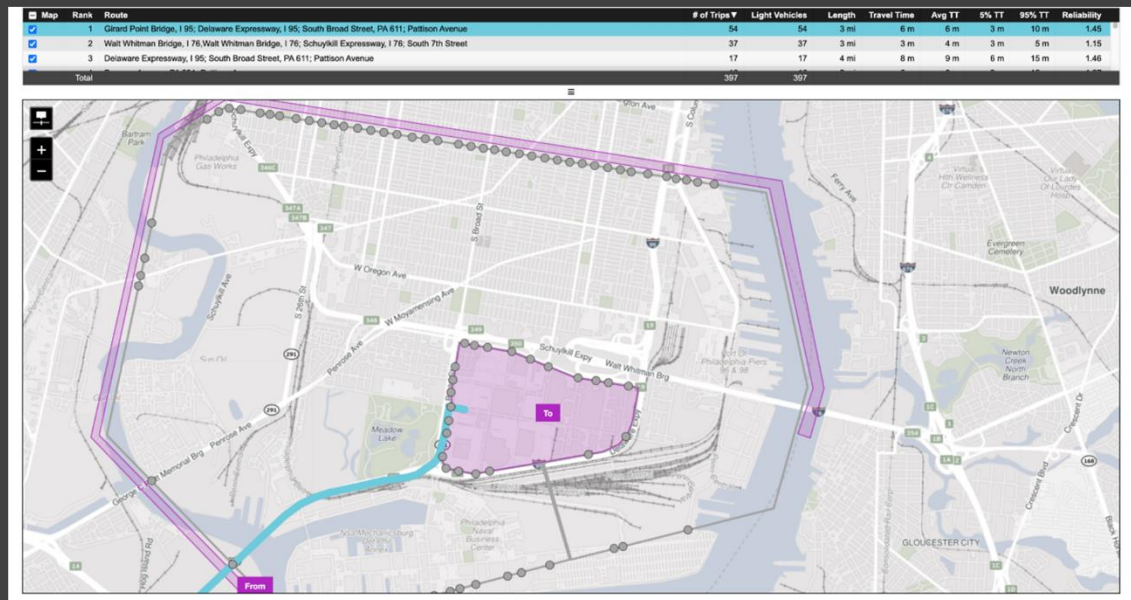
(routes taken to game by the 570 sampled vehicles; a trip from Bridgeport, CT is highlighted)

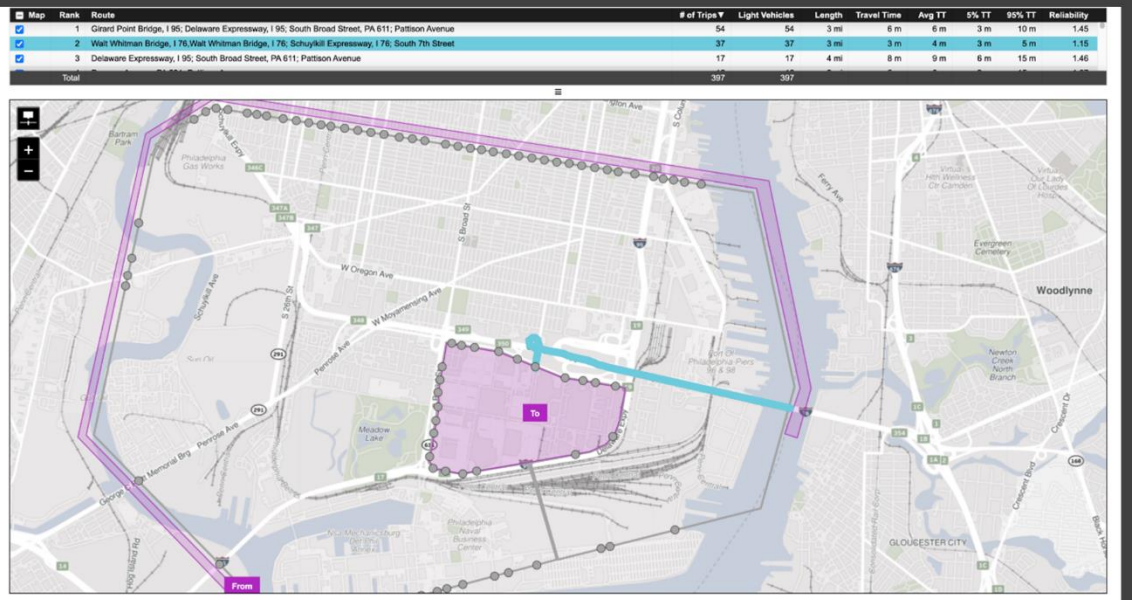
Report External Origins and Destinations

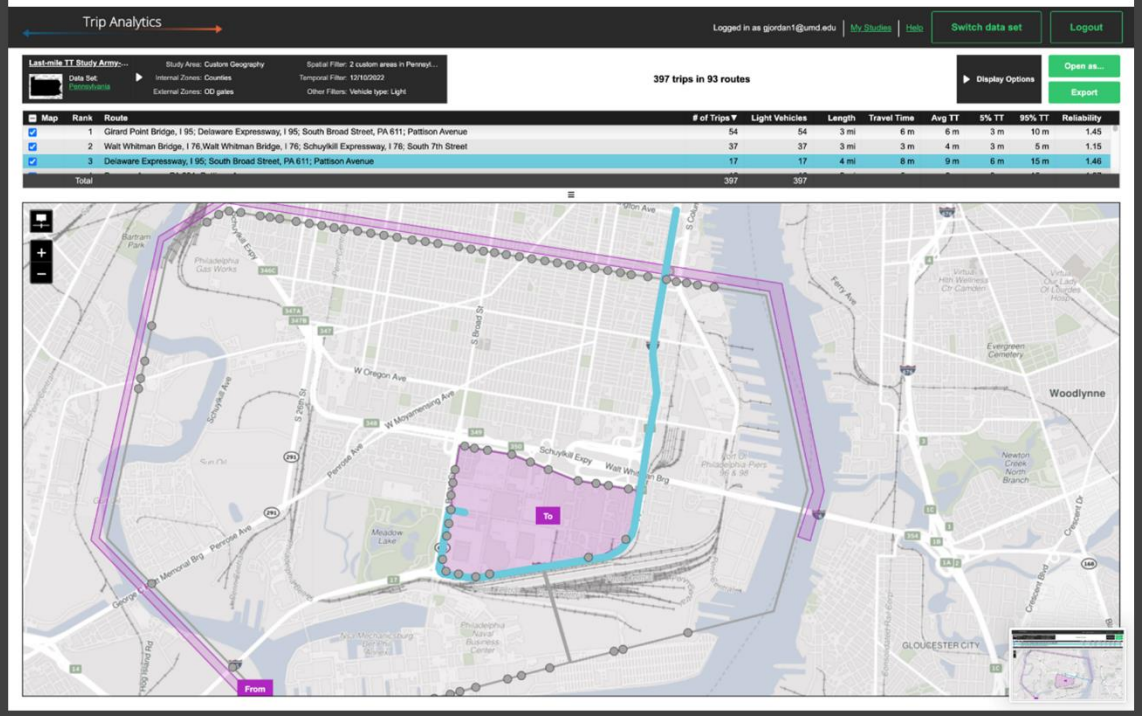
○ Using OD gates ◉ **Using external zones**

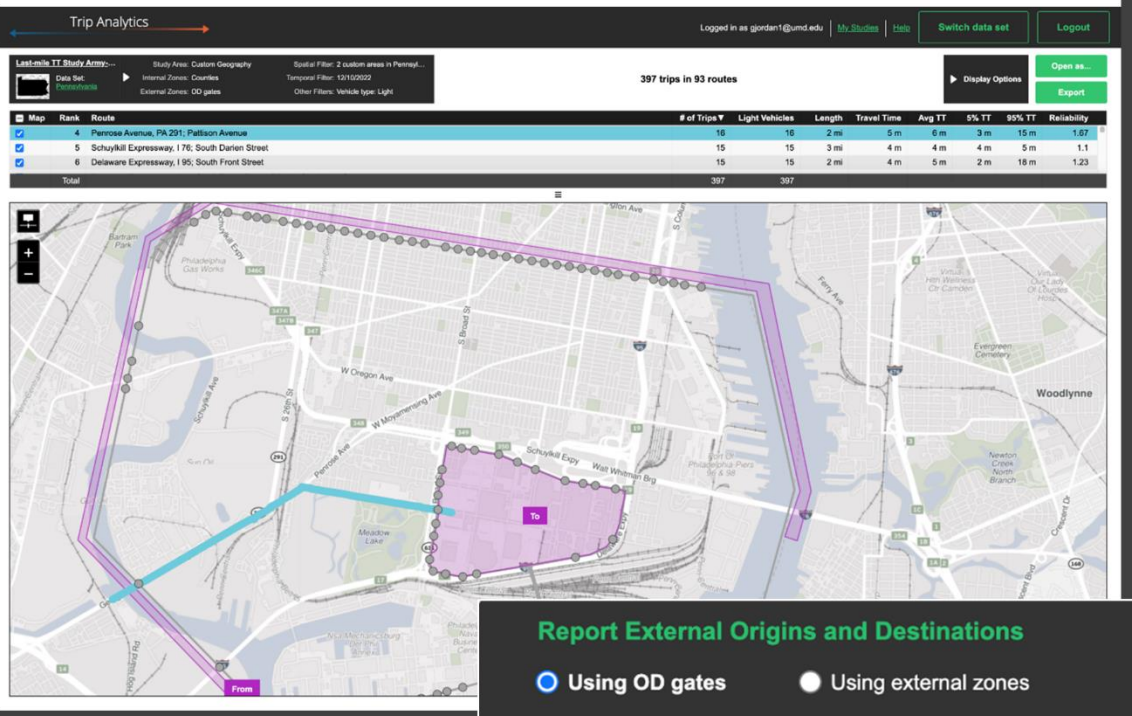
“Last-mile” routes w/ travel time statistics FROM a cordon line TO the parking area entrances (ranked #1,2,3,4)

Route Map report









Report External Origins and Destinations

- (●) **Using OD gates**
- ( ) Using external zones

Route Map report (export)

(see previous slide)

Last-mile TT Study Army-Navy-routeSummaryTable - Excel

File Home Insert Page Layout Formulas Data Review View Power Pivot Tell me what you want to do...

Q45

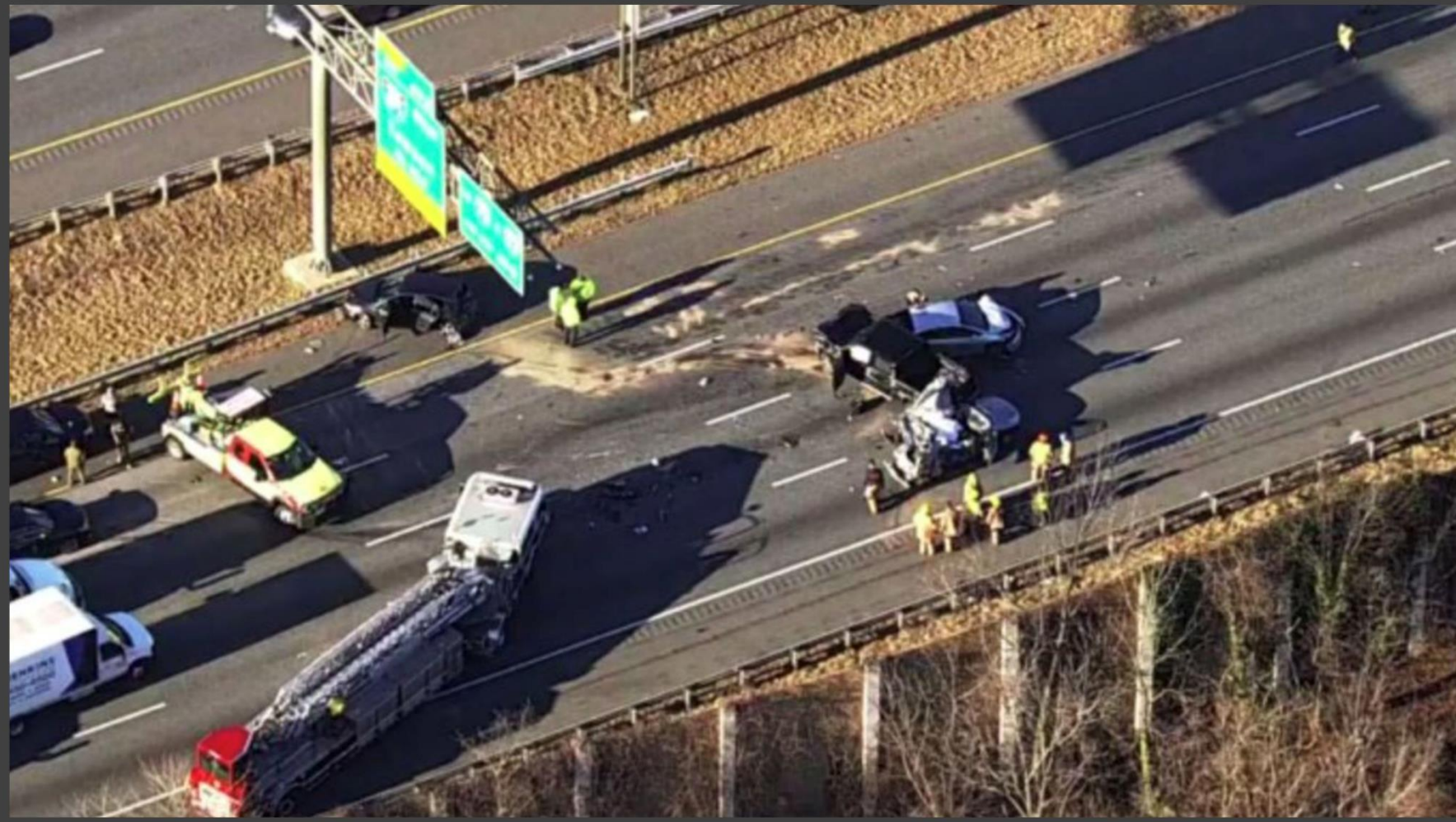
	A	B	C	D	E	F	G	H	I	J	K	L
1	Rank	Route	# of Trips	Light Vehicles	Length	Travel Time	Avg TT	5% TT	95% TT	Reliability	Avg TT (hr)	Avg Speed
2	1	Girard Point Bridge, I 95; Delaware Expressway, I 95; South Broad Street, PA 611; Pattison Avenue	54	54	2.59	0:05:31	0:05:58	0:03:25	0:09:31	1.45	0.0041435	26
3	2	Walt Whitman Bridge, I 76,Walt Whitman Bridge, I 76; Schuylkill Expressway, I 76; South 7th Street	37	37	3.3	0:03:20	0:03:31	0:02:42	0:05:04	1.15	0.0024421	56
4	3	Delaware Expressway, I 95; South Broad Street, PA 611; Pattison Avenue	17	17	4.01	0:07:35	0:08:53	0:05:56	0:14:45	1.46	0.006169	27
5	4	Penrose Avenue, PA 291; Pattison Avenue	16	16	2.46	0:05:04	0:06:16	0:03:28	0:15:17	1.67	0.0043519	24
6	5	Schuylkill Expressway, I 76; South Darien Street	15	15	3.04	0:04:07	0:04:14	0:03:45	0:05:04	1.1	0.0029398	43
7	6	Delaware Expressway, I 95; South Front Street	15	15	2.22	0:03:43	0:04:46	0:01:50	0:17:30	1.23	0.0033102	28
8	7	Delaware Expressway, I 95; South Broad Street, PA 611; South 11th Street	15	15	3.88	0:05:02	0:04:54	0:04:02	0:05:39	1.04	0.0034028	48
9	8	Schuylkill Expressway, I 76; South Broad Street, PA 611; South Broad Street; Pattison Avenue	14	14	3.03	0:05:26	0:05:57	0:04:02	0:09:12	1.29	0.0041319	31
10	9	Walt Whitman Bridge, I 76,Walt Whitman Bridge, I 76; Schuylkill Expressway, I 76; South 7th Street; Packer Avenue; South Darien Street	14	14	3.41	0:03:53	0:04:07	0:03:09	0:06:32	1.15	0.0028588	50
11	10	Girard Point Bridge, I 95; Delaware Expressway, I 95; South Broad Street, PA 611; North Access Road	11	11	2.41	0:04:02	0:04:51	0:02:42	0:09:41	1.52	0.0033681	30
12	11	Girard Point Bridge, I 95; Delaware Expressway, I 95; Packer Avenue; South Lawrence Street	10	10	4.25	0:04:37	0:04:52	0:04:00	0:05:42	1.13	0.0033796	52
13	12	Girard Point Bridge, I 95; Delaware Expressway, I 95; South Broad Street, PA 611; South Broad Street; Pattison Avenue	9	9	2.62	0:03:29	0:04:29	0:02:32	0:07:11	1.95	0.0031134	35
14	13	Delaware Expressway, I 95; South Front Street; Packer Avenue; South 7th Street	9	9	2.73	0:04:38	0:05:44	0:03:35	0:12:47	1.47	0.0039815	29
15	14	Penrose Avenue, PA 291; Pattison Avenue	8	8	2.45	0:05:43	0:05:31	0:03:29	0:08:16	1.07	0.003831	27
16	15	South Broad Street, PA 611; South Broad Street; Pattison Avenue	8	8	1.88	0:08:45	0:10:17	0:06:21	0:14:34	1.54	0.0071412	11
17	16	Walt Whitman Bridge, I 76,Walt Whitman Bridge, I 76; Schuylkill Expressway, I 76; South Front Street	8	8	3.48	0:03:29	0:03:35	0:02:58	0:04:06	1.15	0.0024884	58
18	17	Delaware Expressway, I 95; South Broad Street, PA 611; North Access Road	7	7	3.83	0:05:04	0:05:07	0:04:35	0:05:37	1.1	0.0035532	45
19	18	Girard Point Bridge, I 95; Delaware Expressway, I 95; Packer Avenue; South Darien Street	6	6	4.58	0:06:14	0:06:12	0:05:09	0:07:16	1.06	0.0043056	44
20	19	Delaware Expressway, I 95; South Front Street; Packer Avenue; South 10th Street	5	5	3.02	0:05:15	0:06:31	0:05:05	0:11:41	1.02	0.0045255	28
21	20	Walt Whitman Bridge, I 76,Walt Whitman Bridge, I 76; Schuylkill Expressway, I 76; Pollock Street; South Broad Street, PA 611; Hartranft Street	5	5	3.97	0:05:00	0:05:23	0:03:58	0:06:58	1.27	0.0037384	44
22	21	South 10th Street; Packer Avenue; South Darien Street	5	5	1.45	0:09:44	0:09:43	0:07:40	0:12:00	1	0.0067477	9
23	22	Penrose Avenue, PA 291; South 26th Street; Langley Avenue; League Island Boulevard; South Broad Street; South Broad Street, PA 611; South 11th Street	5	5	3.25	0:07:15	0:06:58	0:05:56	0:08:03	1.05	0.004838	28
24	23	Schuylkill Expressway										39
25	24	Walt Whitman Bridge										46
26	25	Street										49
27	26	Schuylkill Expressway										30
28	27	Schuylkill Expressway, I 76; Packer Avenue; South 7th Street	4	4	3.15	0:04:16	0:04:30	0:04:07	0:04:55	1.15	0.003125	42
29	28	Girard Point Bridge, I 95; Delaware Expressway, I 95; South Broad Street, PA 611	3	3	2.58	0:07:20	0:06:41	0:03:55	0:08:50	1.2	0.0046412	23
30	29	South 61st Street; Passyunk Avenue; Schuylkill Expressway, I 76; South Darien Street	3	3	3.18	0:06:25	0:06:19	0:05:34	0:07:00	1.09	0.0043866	30
31	30	Girard Point Bridge, I 95; Delaware Expressway, I 95; Packer Avenue; South 7th Street	3	3	4.44	0:05:47	0:05:45	0:05:32	0:05:58	1.03	0.0039931	46
32	31	Access Road	3	3	3.9	0:10:31	0:12:57	0:08:38	0:19:44	1.87	0.0089931	18
33	32	Delaware Expressway, I 95; South Front Street; Packer Avenue; South Darien Street	3	3	2.88	0:04:52	0:04:45	0:04:23	0:05:02	1.03	0.0032986	36
34	33	Avenue	3	3	4.24	0:05:59	0:06:01	0:04:51	0:07:15	1.21	0.0041782	42
35	34	Walt Whitman Bridge, I 76,Walt Whitman Bridge, I 76; Schuylkill Expressway, I 76; Delaware Expressway, I 95; South Broad Street, PA 611; Pattison Avenue	3	3	5.68	0:07:57	0:08:18	0:07:53	0:09:04	1.14	0.0057639	41
36	35	Penrose Avenue, PA 291; Schuylkill Expressway, I 76; South Darien Street	3	3	3.1	0:05:07	0:05:18	0:04:53	0:05:56	1.15	0.0036806	35
37	36	Schuylkill Expressway, I 76; South Darien Street	2	2	3.21	0:03:55	0:04:18	0:03:55	0:04:42	1.2	0.0029861	45
38	37	Penrose Avenue, PA 291; Pattison Avenue; South Broad Street, PA 611; Zinkoff Boulevard; South 11th Street	2	2	3.08	0:05:07	0:07:02	0:05:07	0:08:57	1.74	0.0048843	26
39	38	Street	1	1	4.22	0:04:27	0:04:27	0:04:27	0:04:27	1	0.0030903	57
40	39	South Broad Street, PA 611; South Broad Street; Pattison Avenue; West Shunk Street; South 15th Street; Oregon Avenue; South 16th Street; West Porter Street; Snyder Avenue; South 2nd Street; McKean Street; East Moyamensing Avenue; Schuylkill Expressway, I 76	1	1	7.92	2:46:52	2:46:52	2:46:52	2:46:52	1	0.1158796	3
41	40	Walt Whitman Bridge, I 76,Walt Whitman Bridge, I 76; Schuylkill Expressway, I 76; Pollock Street; South Broad Street, PA 611; Delaware Expressway, I 95; Penrose Avenue, PA 291; Pattison Avenue	1	1	9.08	0:18:49	0:18:49	0:18:49	0:18:49	1	0.0130671	29
42	41	Penrose Avenue, PA 291; Pattison Avenue	1	1	2.48	0:27:36	0:27:36	0:27:36	0:27:36	1	0.0191667	5
43	42	Hartranft Street	1	1	3.49	0:17:09	0:17:09	0:17:09	0:17:09	1	0.0119097	12
44	43	Girard Point Bridge, I 95; Delaware Expressway, I 95; South Broad Street, PA 611; South Broad Street; Pattison Avenue; Penrose Avenue, PA 291	1	1	7.32	0:38:13	0:38:13	0:38:13	0:38:13	1	0.0265394	11
45	44	Walt Whitman Bridge, I 76,Walt Whitman Bridge, I 76; Schuylkill Expressway, I 76; Pollock Street; South Broad Street, PA 611; Packer Avenue; South 19th Street; Schley Street; South 18th Street; Forrestal Street; South Smedley Street; Curtin Street; Geary Street	1	1	4.77	0:09:39	0:09:39	0:09:39	0:09:39	1	0.0067014	30
46	45	Girard Point Bridge, I 95; Delaware Expressway, I 95; South Broad Street, PA 611; Pattison Avenue; South 11th Street	1	1	3.08	0:21:01	0:21:01	0:21:01	0:21:01	1	0.0145949	9
47	46	Delaware Expressway, I 95; South Broad Street, PA 611	1	1	3.6	0:06:32	0:06:32	0:06:32	0:06:32	1	0.004537	33
48	47	Walt Whitman Bridge, I 76,Walt Whitman Bridge, I 76; Schuylkill Expressway, I 76; South 7th Street; South 11th Street; South Broad Street, PA 611; Packer Avenue; South Broad Street; Pattison Avenue	1	1	5.02	0:18:29	0:18:29	0:18:29	0:18:29	1	0.0128356	16
49	48	Schuylkill Expressway, I 76; West Oregon Vare Avenue; Oregon Avenue/Vare Avenue; Oregon Avenue; South 20th Street; Pattison Avenue	1	1	3.23	0:09:44	0:09:44	0:09:44	0:09:44	1	0.0067593	20

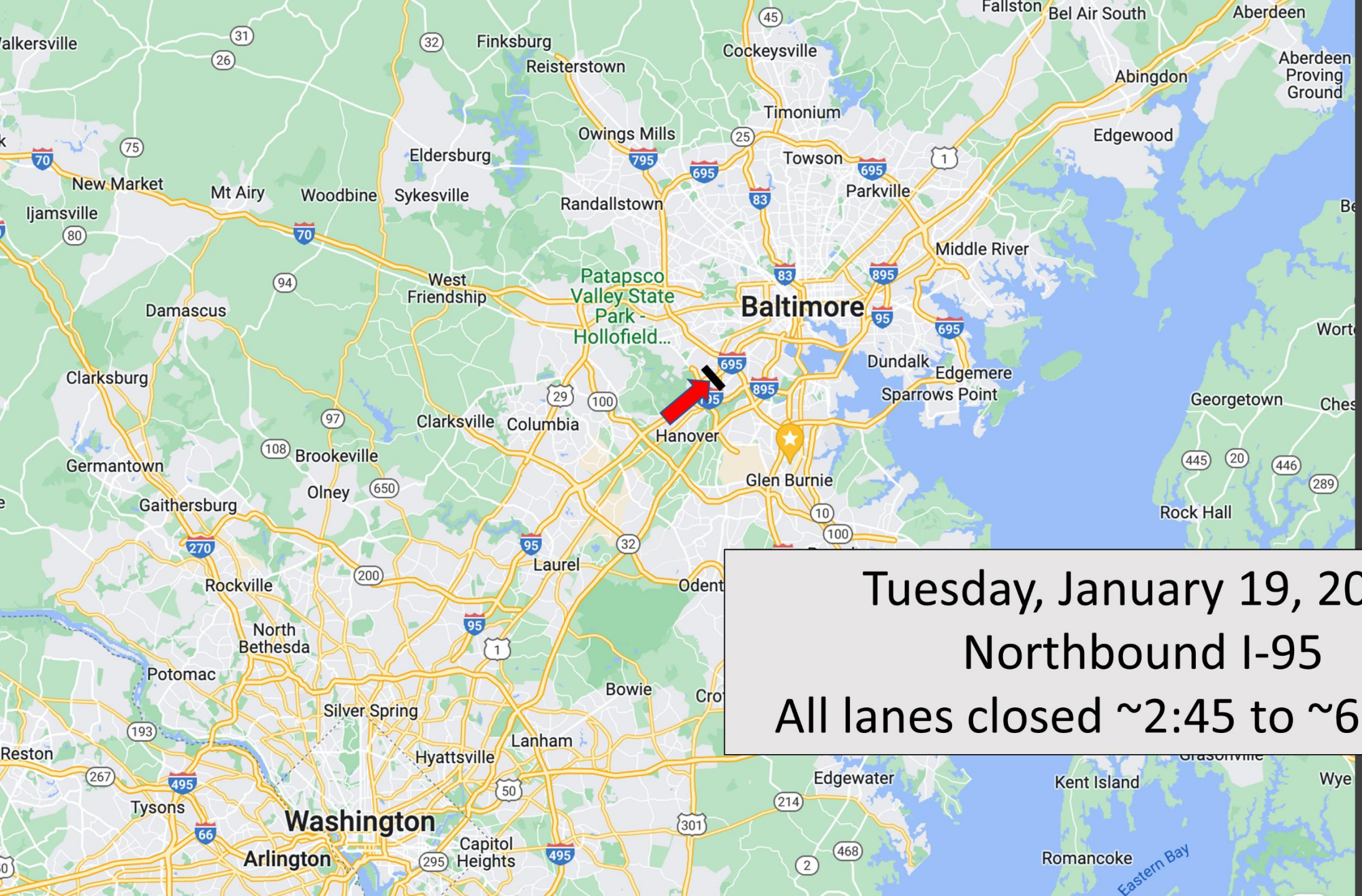
Export table with last-mile travel time statistics

Last-mile TT Study Army-Navy-ro

Ready

Example 5: Post-mortem Analysis of Detour Routes near Baltimore




Tuesday, January 19, 2021
Northbound I-95
All lanes closed ~2:45 to ~6:45 pm
Baltimore
Washington
Arlington
Hanover
Columbia
Laurel
Glen Burnie
Dundalk
Edgemere
Sparrows Point
Middle River
Towson
Timonium
Owings Mills
Randallstown
Parkville
Cockeysville
Finksburg
Reisterstown
Eldersburg
Sykesville
Woodbine
Mt Airy
New Market
Damascus
West Friendship
Patapsco Valley State Park - Hollofield...
Clarksburg
Clarksville
Brookeville
Olney
Germantown
Gaithersburg
Rockville
North Bethesda
Potomac
Silver Spring
Bowie
Lanham
Hyattsville
Tysons
Capitol Heights
Edgewater
Kent Island
Romancoke
Eastern Bay
Rock Hall
Georgetown
Edgewood
Abingdon
Aberdeen Proving Ground
Aberdeen
Bel Air South
Fallston

2. Set Filters and Submit Query

Set Spatial Filter(s)

Spatial Filter 1

From To

Use a custom area as a Spatial Filter: MD 2021-01-19 Sampling li ne south V2.geojson

Include trips that:

- [ ] Started Inside
- [x] Started Outside

Spatial Filter 2

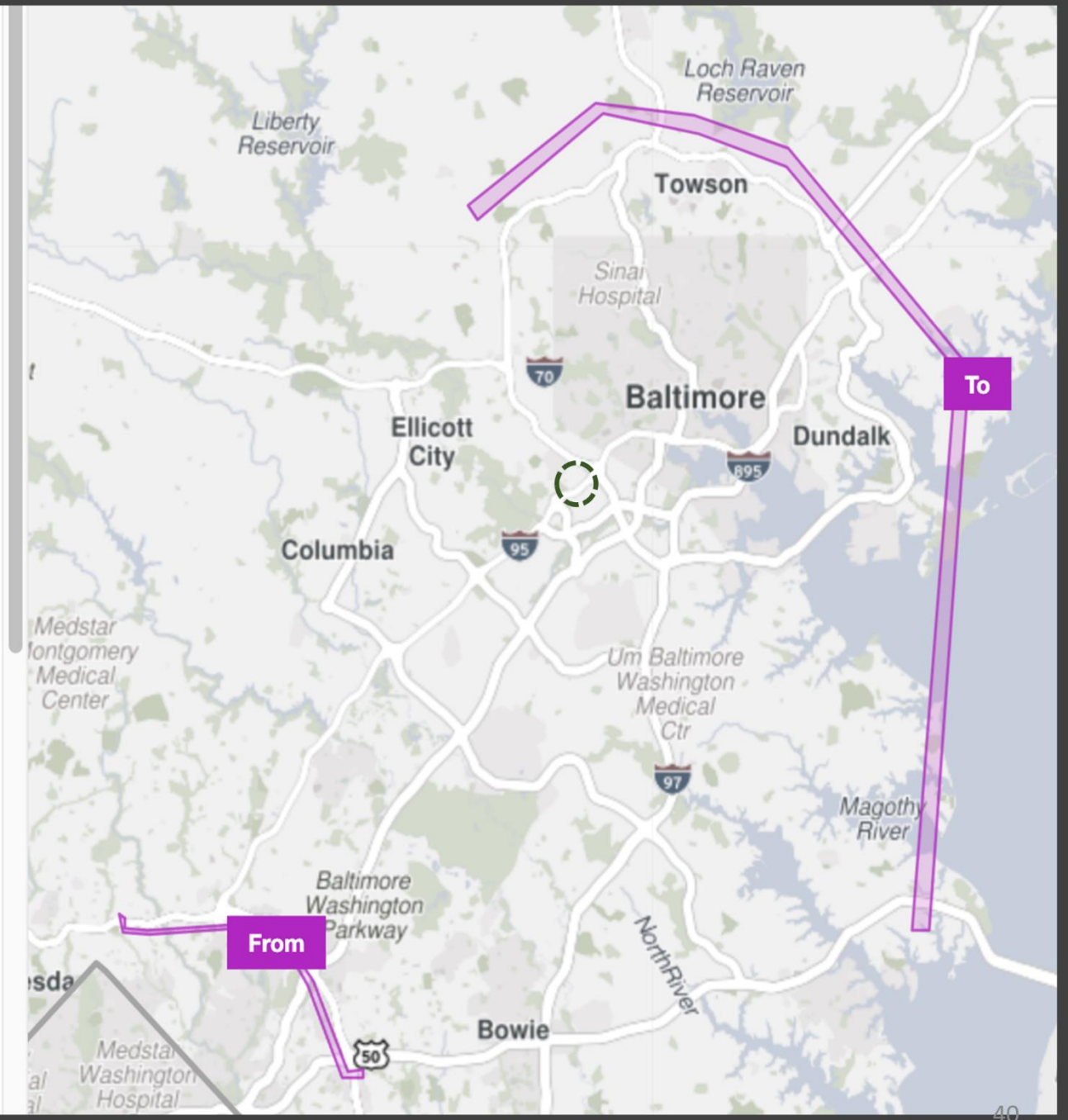
From To

Use a custom area as a Spatial Filter: MD 2021-01-19 Sampling li ne north V2.geojson

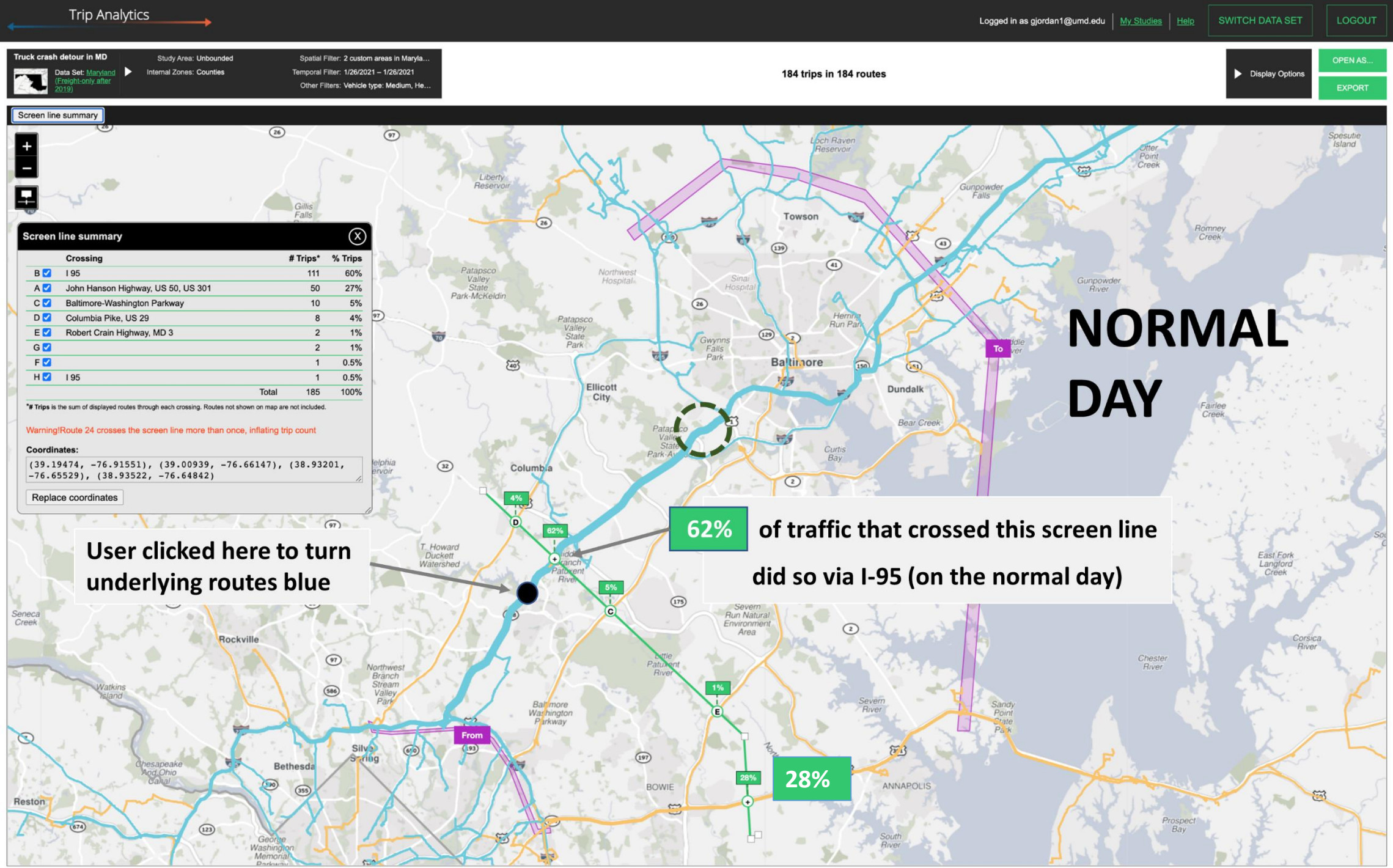
Include trips that:

- [ ] Ended Inside
- [x] Ended Outside

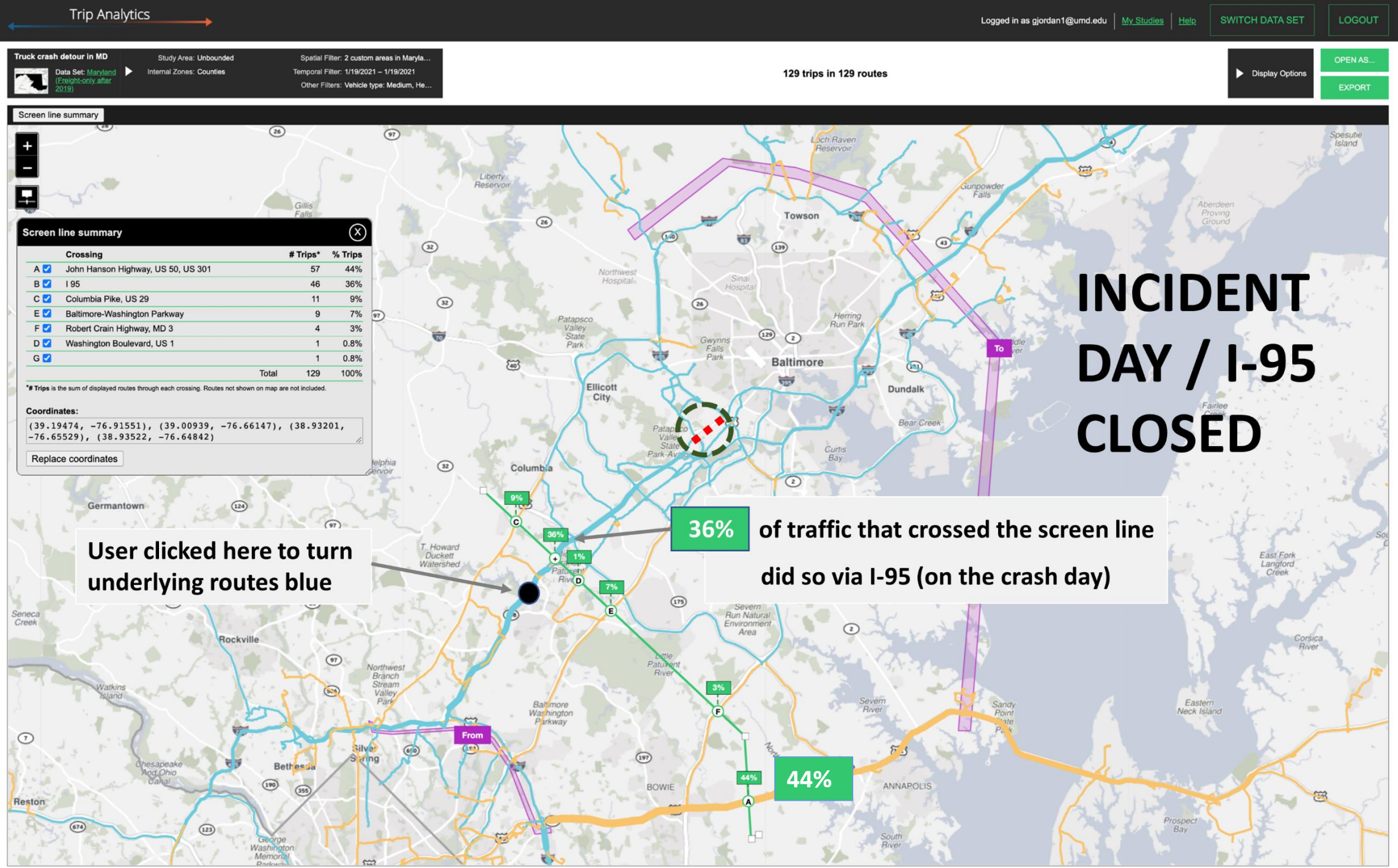
Pass through ttings:

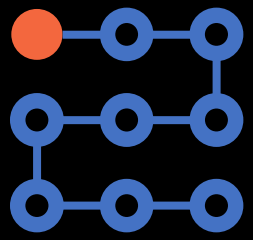


Route Map report



Route Map report





Trip Analytics for Operations
DEMO

Today we're presenting a 90-minute workshop on using **Trip Analytics**, divided into two sessions:

Introduction: How it works (10 minutes)

Session 1 for Operators (1:00pm – 1:45pm)

- "Last-mile" routes and travel time statistics
- Testing device deployments (ramp metering)
- Detour route planning
- Signal timing Before & After use case

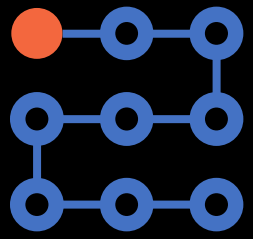
Session 2 for Planners (1:45 – 2:30pm)

Introduction (5 minutes)

- OD matrices for model calibration, etc. (from macro to micro)
- Bottleneck Mitigation Before & After use case
- Document urban truck route compliance in neighborhoods

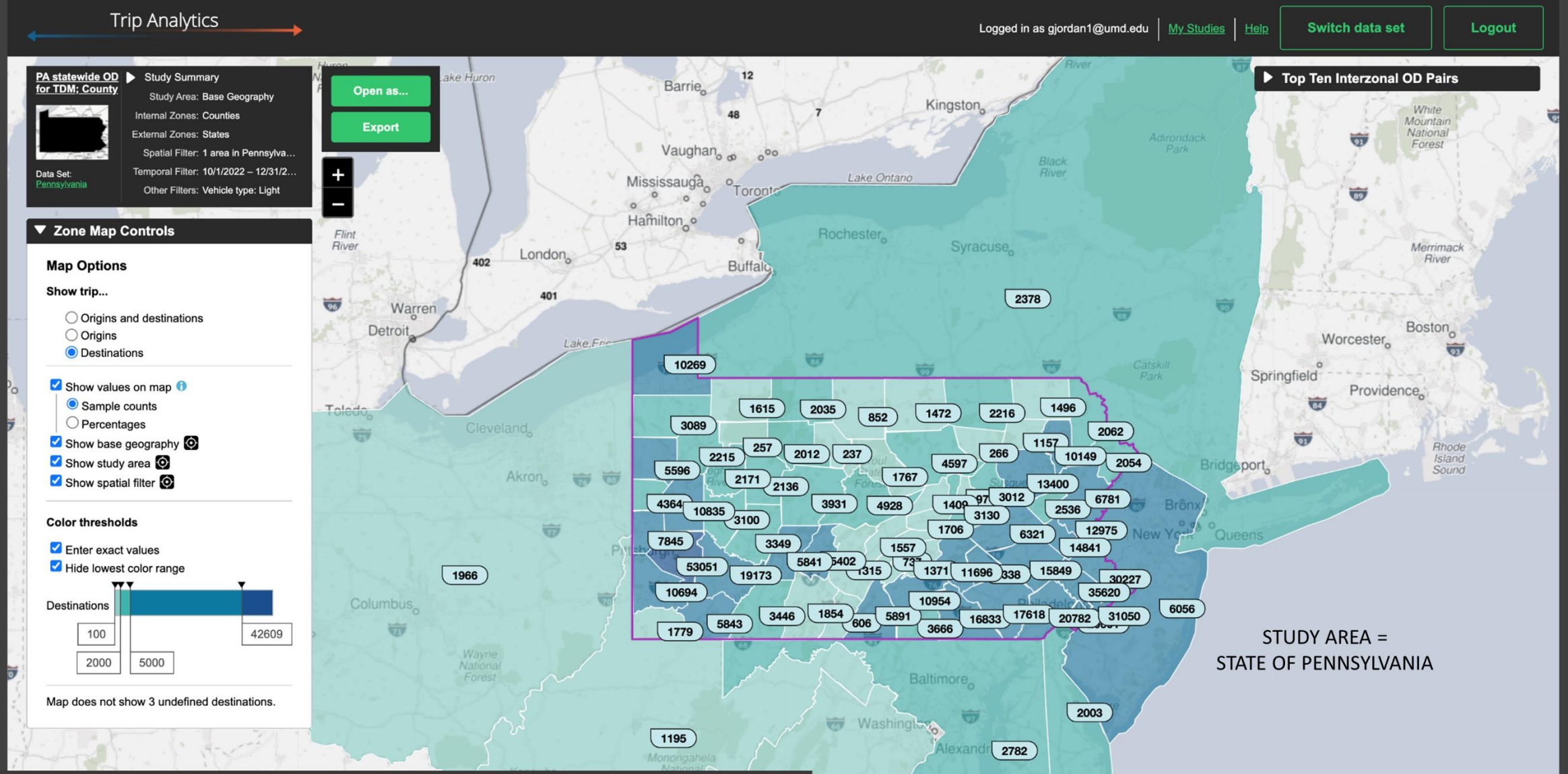
General applications for **Planning**

- Understand the intricacies of regional traffic patterns
- Calibrate or validate travel demand models
- Provide information and basic data for major investment studies
- Evaluate potential sites for:
  - Terminals
  - Transit stops
  - Park-n-rides
  - EV charging stations and more
- Prioritize proposed or existing transportation improvement projects
- Quantify and document the benefits of infrastructure investments



Trip Analytics for Planning

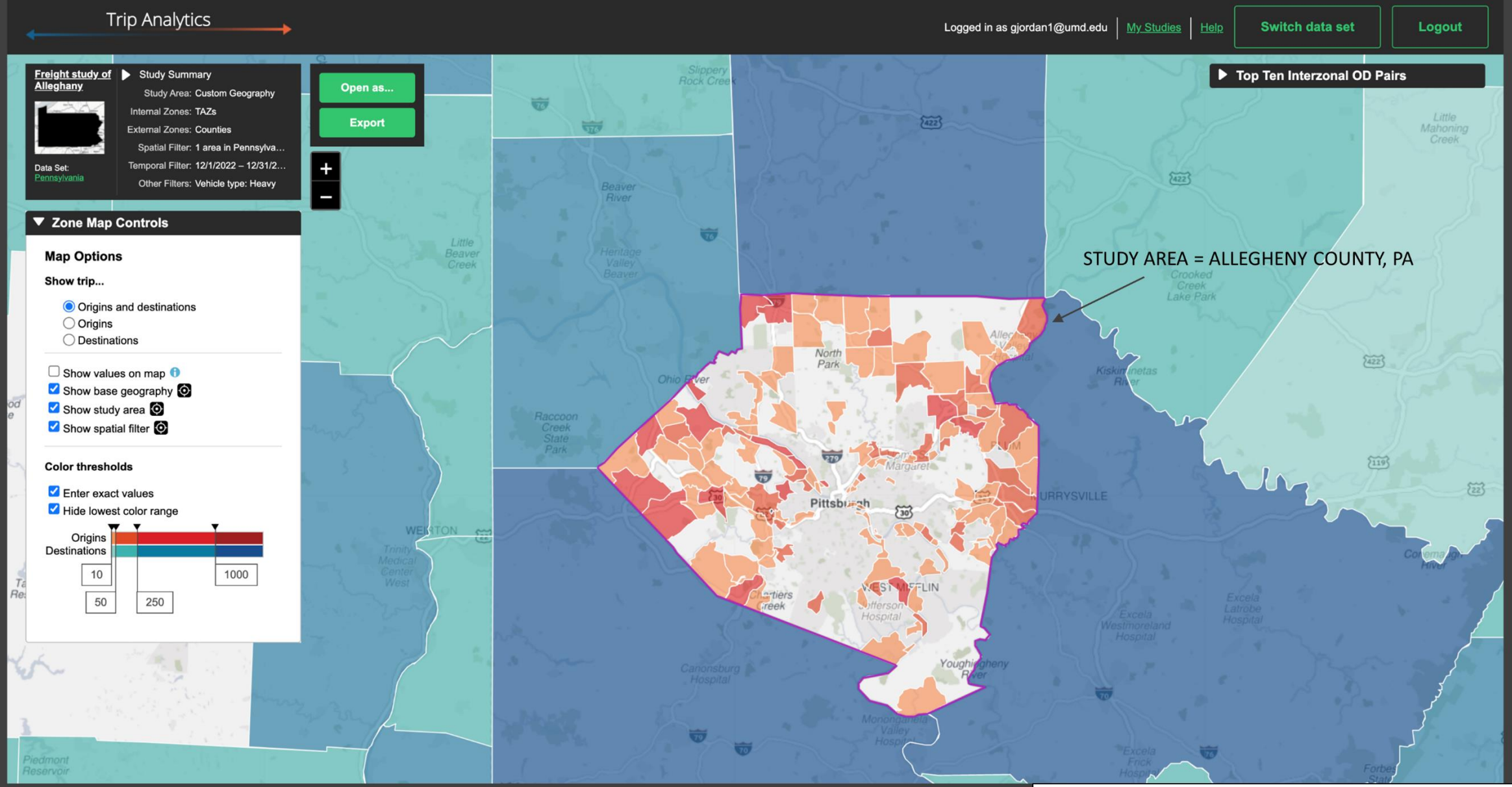
Zone Map report



Macro-level ZONE MAP of destinations of the trips in the Pennsylvania dataset (n>100)

(For this query, the study area was chosen as the spatial filter)

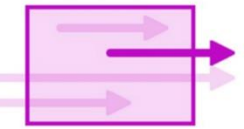
Zone Map report



ZONE MAP of freight OD counts leaving Allegheny County

SPATIAL FILTER PASS-THROUGH SETTINGS:

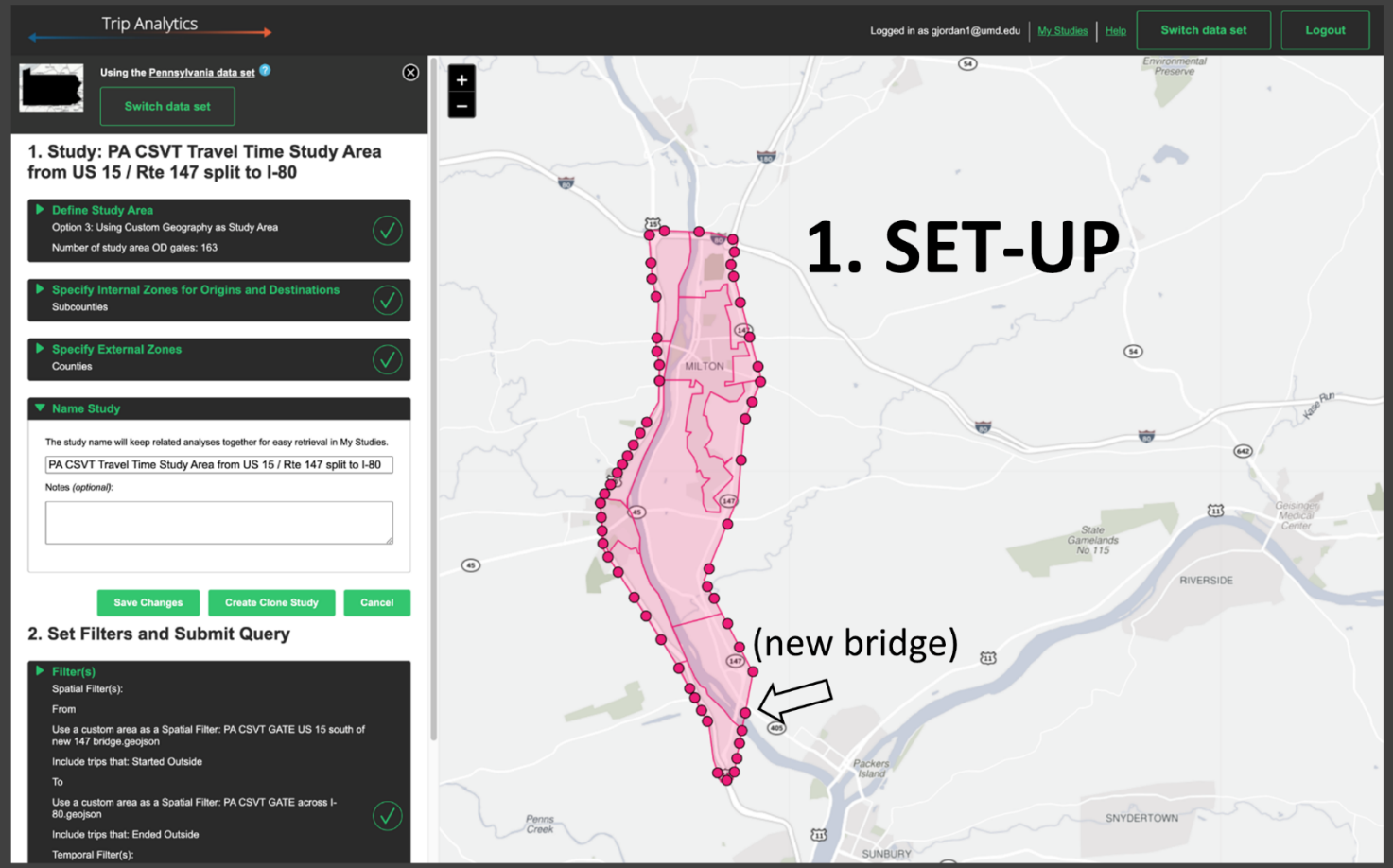
- [x] Started Inside
- [ ] Ended Inside
- [ ] Started Outside
- [x] Ended Outside



(For this query, the study area was chosen as the spatial filter)

2. Example: New highway bridge & freeway opened (CSVT Project / Route 147)

Questions: How did route choices change? Were travel time benefits achieved?



Route Map report

This study area was designed to consolidate samples to get robust travel time statistics on both US 15 (west side of the river) and the new corridor across the river to the east

Trip Analytics

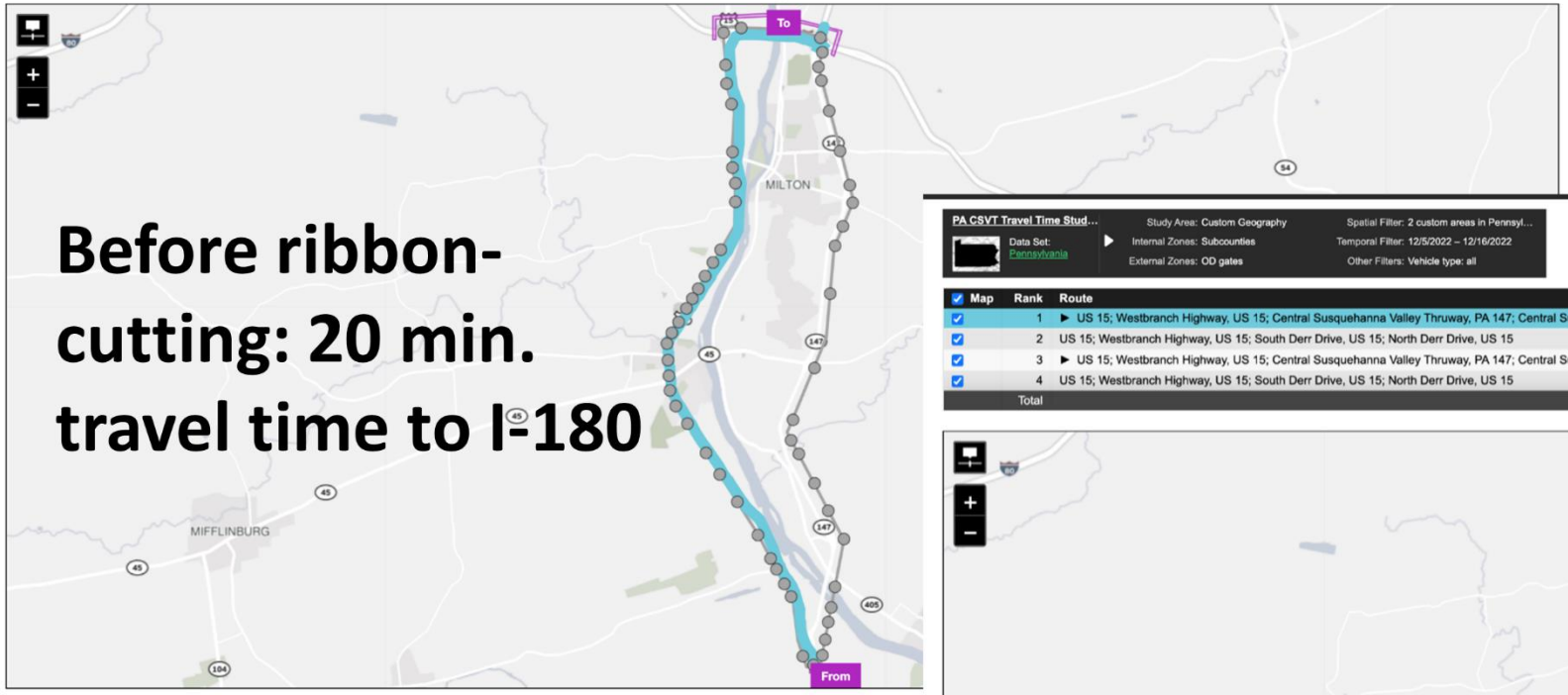
Logged in as gjordan1@umd.edu | My Studies | Help | Switch data set | Logout

PA CSVT Travel Time Stud...
Data Set: Pennsylvania
Study Area: Custom Geography
Internal Zones: Subcounties
External Zones: OD gates
Spatial Filter: 2 custom areas in Pennsyl...
Temporal Filter: 4/4/2022 – 4/15/2022
Other Filters: Vehicle type: all

4,408 trips in 75 routes

Display Options | Open as... | Export

Map	Rank	Route	# of Trips	Light Vehicles	Medium Vehicles	Heavy Vehicles	Length	Travel Time	Avg TT	Min TT	Max TT	Reliability
☑	1	US 15; Westbranch Highway, US 15; South Derr Drive, US 15; North Derr Drive, US 15	3423	3125	152	146	13 mi	16 m	17 m	9 m	4 h 15 m	1.09
☑	2	US 15; Westbranch Highway, US 15; South Derr Drive, US 15; North Derr Drive, US 15	405	320	49	36	13 mi	17 m	18 m	13 m	1 h 34 m	1.11
☑	3	US 15; Westbranch Highway, US 15; South Derr Drive, US 15; North Derr Drive, US 15; I 80; I 180	310	218	49	43	15 mi	20 m	21 m	14 m	3 h 07 m	1.09
☑	4	US 15; Westbranch Highway, US 15; South Derr Drive, US 15; North Derr Drive, US 15; I 80	48	27	21	0	15 mi	19 m	19 m	15 m	30 m	1.09
	Total		4408	3894	285	229						



Before ribbon-cutting: 20 min. travel time to I-180

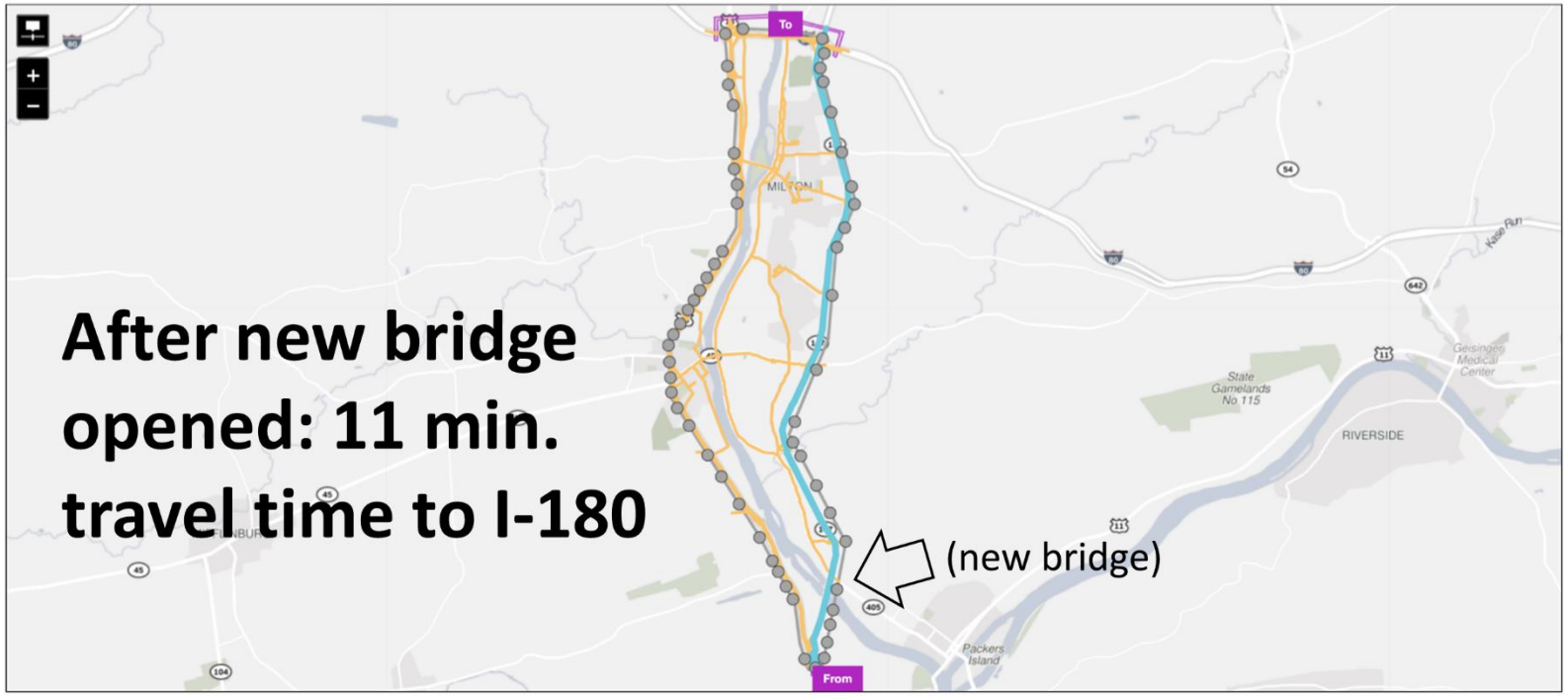
Route Map report

PA CSVT Travel Time Stud...
Data Set: Pennsylvania
Study Area: Custom Geography
Internal Zones: Subcounties
External Zones: OD gates
Spatial Filter: 2 custom areas in Pennsyl...
Temporal Filter: 12/5/2022 – 12/16/2022
Other Filters: Vehicle type: all

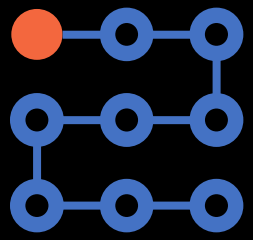
3,085 trips in 135 routes

Display Options | Open as... | Export

Map	Rank	Route	# of Trips	Light Vehicles	Medium Vehicles	Heavy Vehicles	Length	Travel Time	Avg TT	Min TT	Max TT	Reliability
☑	1	▶ US 15; Westbranch Highway, US 15; Central Susquehanna Valley Thruway, PA 147; Central Susquehanna Valley	1404	849	330	225	12 mi	11 m	11 m	8 m	51 m	1.06
☑	2	US 15; Westbranch Highway, US 15; South Derr Drive, US 15; North Derr Drive, US 15	851	701	84	66	13 mi	16 m	17 m	11 m	1 h 37 m	1.1
☑	3	▶ US 15; Westbranch Highway, US 15; Central Susquehanna Valley Thruway, PA 147; Central Susquehanna Valley	265	217	39	9	14 mi	12 m	13 m	11 m	37 m	1.06
☑	4	US 15; Westbranch Highway, US 15; South Derr Drive, US 15; North Derr Drive, US 15	121	81	17	23	13 mi	17 m	18 m	13 m	26 m	1.09
	Total		3085	2153	563	369						



After new bridge opened: 11 min. travel time to I-180



Trip Analytics for Planning
DEMO

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EXTRAS

HOW TO LOG IN Log-on; beta vs. legacy

Planning: Show NHTS National, Truck, and add-on (GA)

Are datasets representative?
What about privacy?

Show My Studies

Show geojson.io?

ADD report examples

TIPS
Get sample counts > % > outside counts for expansion – ODMs, zone maps, screen & cordon lines

+ sample count until %'s stop changing significantly

1:00pm-1:45pm, ET - Session 1: For Operators

How to draw a "travel time study area" to get:

- "Last-mile" routes and travel time statistics for event-related traffic moving between an outer cordon line and a central parking district
- Travel time measurements along primary and parallel corridors to test a new ramp meter installation or other device deployments
- options while planning detour routes, or later, find out how many drivers followed the recommended detour route
- Before/after documentation of flow improvements from signal retiming along a corridor (while quantifying travel time changes for crossing traffic)

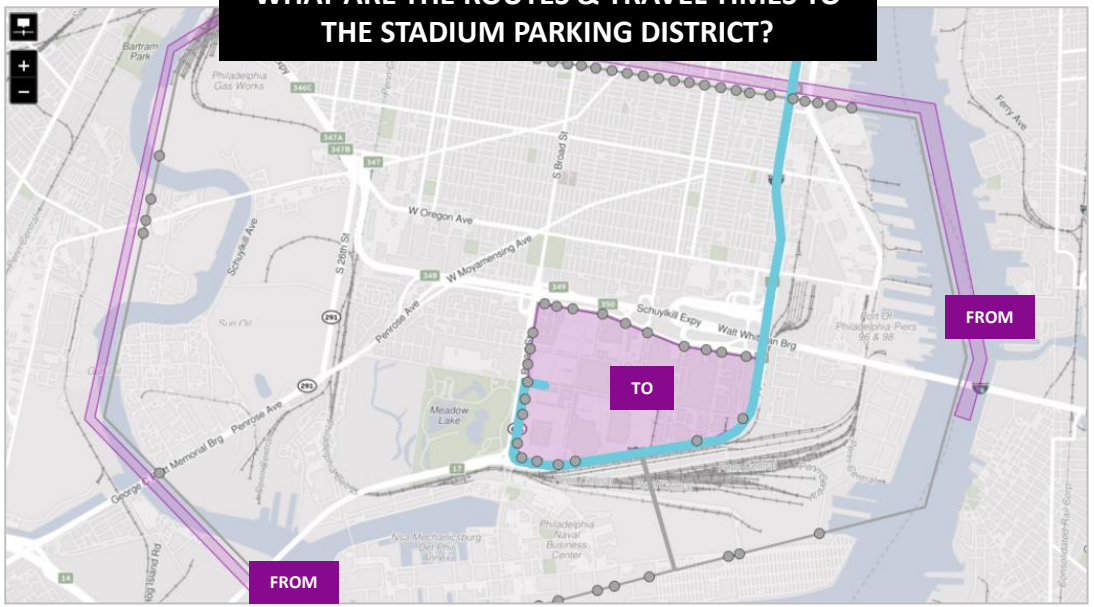
1:45pm-2:30pm, ET- Session 2: For Planners

How to:

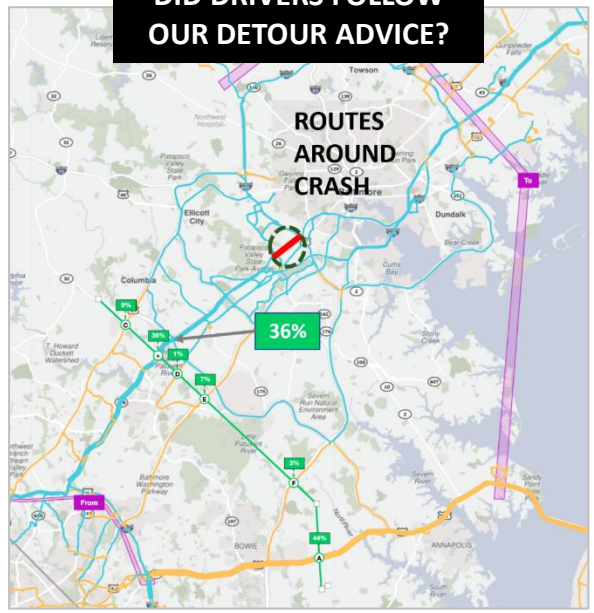
- Calibrate or validate an MPO/DOT macro-level travel demand model (TDM) for specific subregions in a planning area
- For micro-simulation packages such as VISSIM, Aimsun, or Transmodeler, use small "cookie cutter" study areas to calibrate or validate base line OD tables
- Provide before/after documentation of the travel time and reliability benefits by completing a bottleneck mitigation project (scuttle your floating cars for good)
- Document urban truck route compliance with measured travel times through & around neighborhoods

ARE PORT TRUCKS CUTTING THROUGH NEIGHBORHOODS?

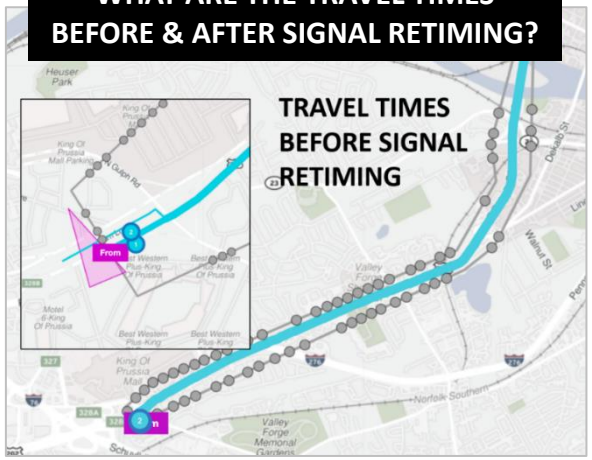
WHAT ARE THE ROUTES & TRAVEL TIMES TO THE STADIUM PARKING DISTRICT?



DID DRIVERS FOLLOW OUR DETOUR ADVICE?



WHAT ARE THE TRAVEL TIMES BEFORE & AFTER SIGNAL RETIMING?



Trip Analytics can provide answers to a variety of Planning and Operations questions

WHAT ARE THE TRAVEL TIME BENEFITS OF A NEW BRIDGE & HIGHWAY?