

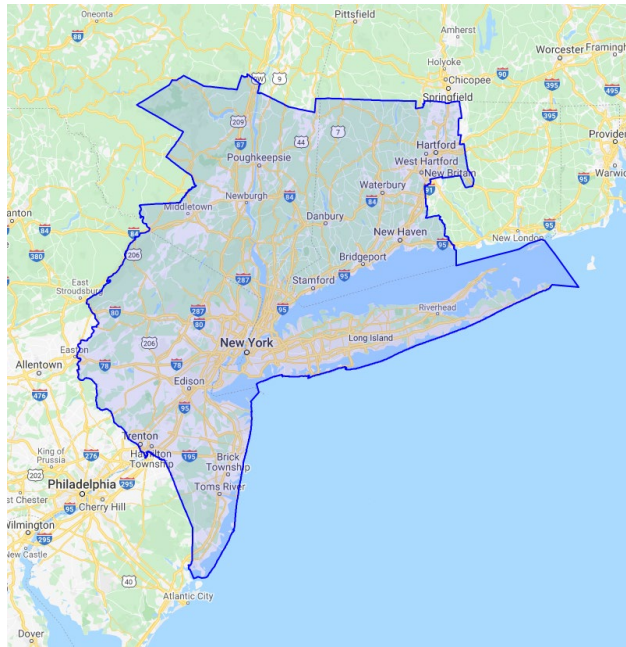
The Power of CV Data – *Imagining the Possibilities*



ITS-NJ Presentation
June 28th, 2021

CHALLENGES WITH CV DATA

- Three months of data for the NYC Metropolitan Area
 - Every three seconds
- Ingesting, processing and rendering CV data
- Real-time Conflation
- Privacy – Priority for public transportation agencies and planning organizations



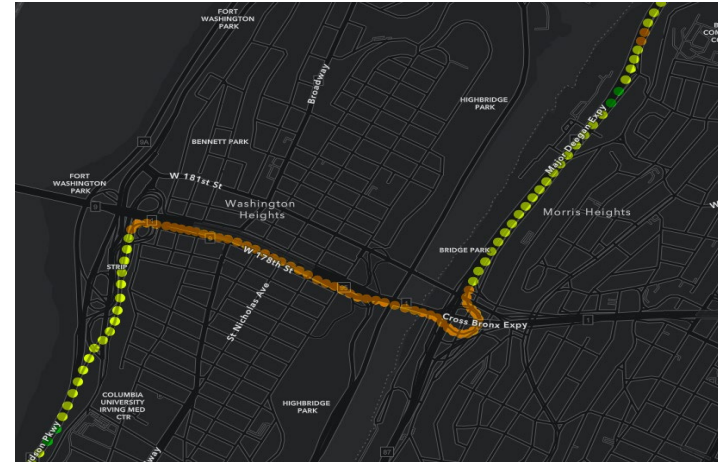
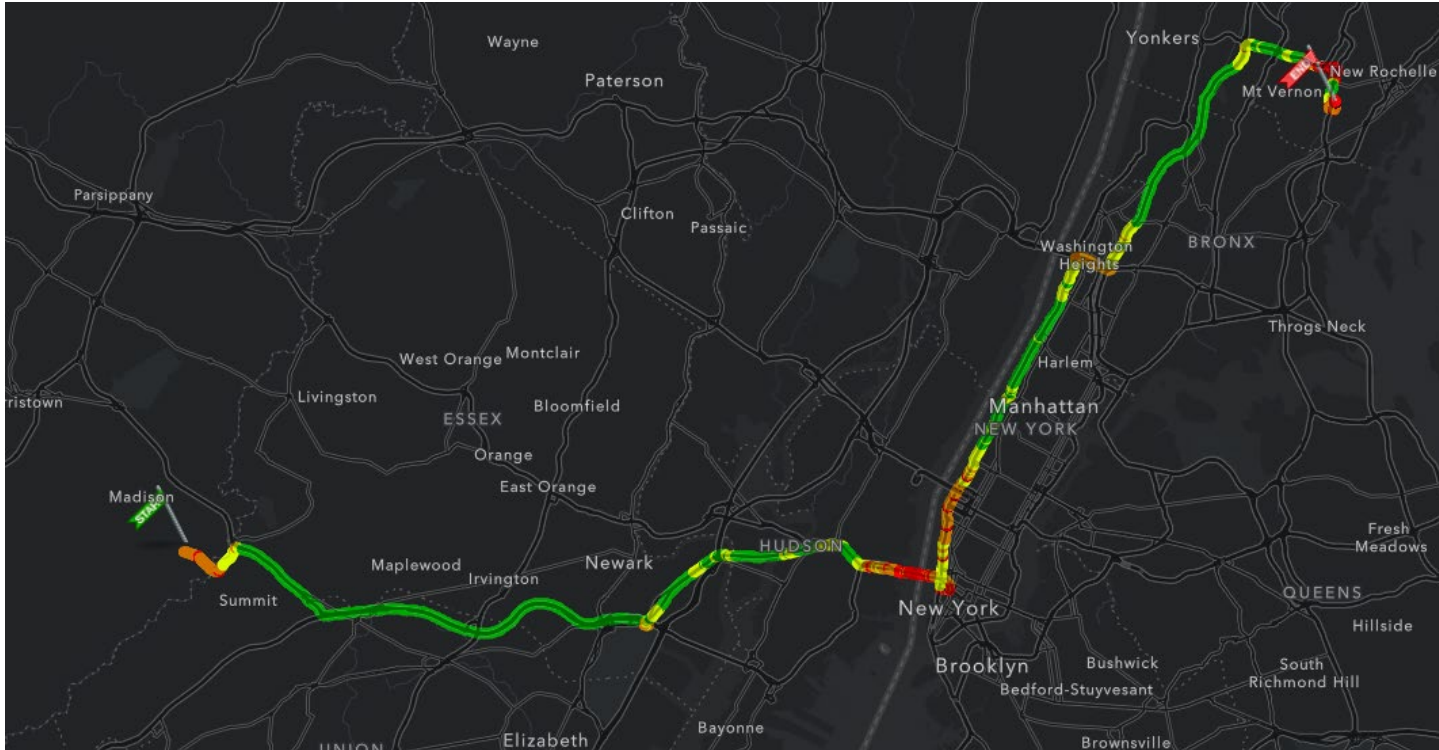
Waypoints/Day	560,000,000
Journeys/Day	1,800,000
Waypoints/rush hour (4 hours)	160,000,000
Journeys/rush hour (4 hours)	560,000
Files Processed/Day	8,160,000
Files Processed/rush hour (4 hours)	2,110,000
Database Size/Day	160 GB

CHALLENGES WITH CV DATA THAT IS CURRENTLY INTEGRATED CONT.

- Real Time Conflation of data
 - Speed / Waypoint – ~30 Seconds
 - Origin and Destination -- 15 minutes - Hour
- Various Visualization Systems
 - Open-source Business Intelligence (BI)
 - Custom Dashboards
- Integrate CV Data using open source and paid map services



WAYPOINTS



LIVE SPEED LAYER

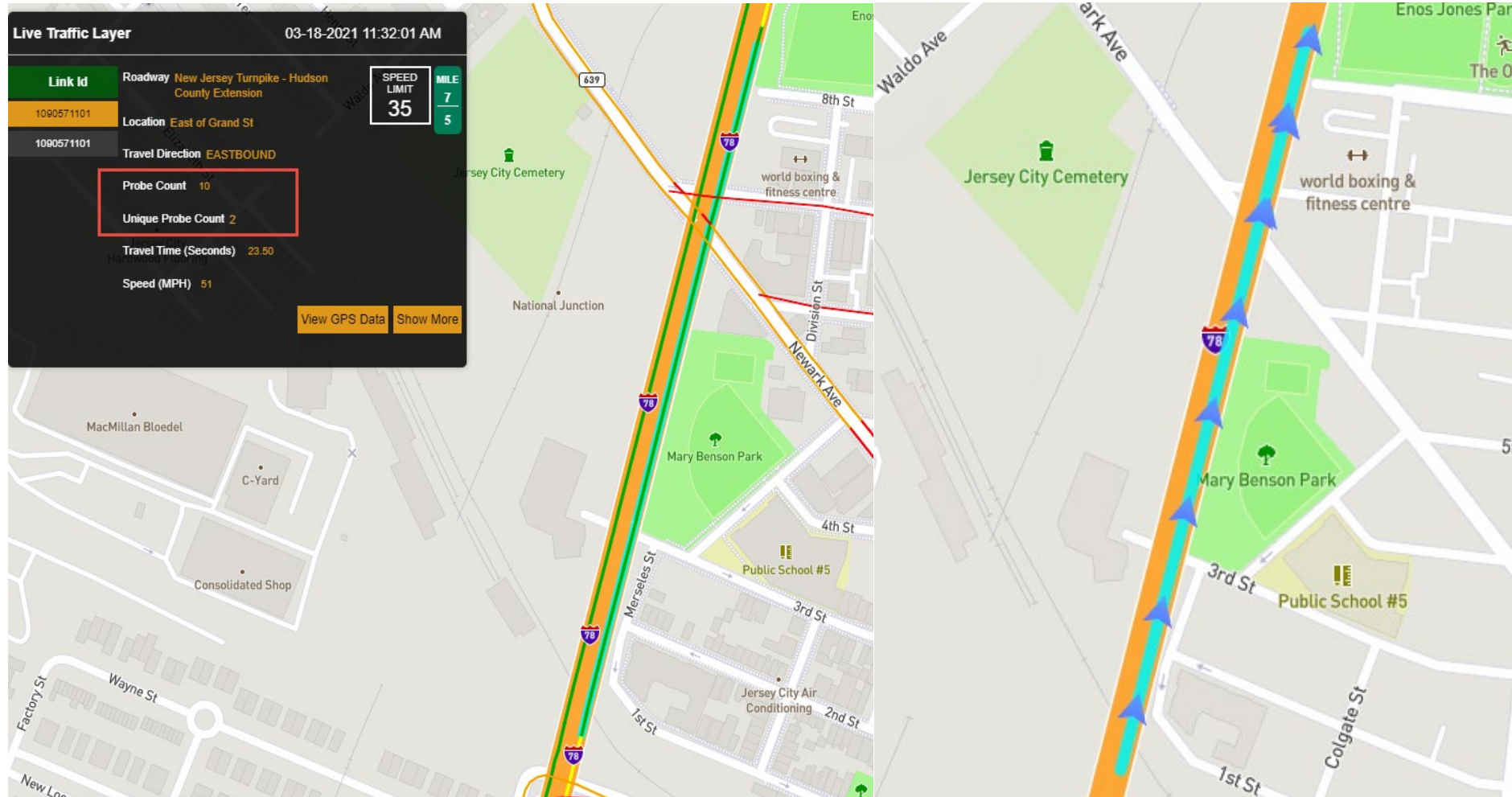
- Live Speed Layer – Refreshes every minute
- Conflating data to map segments in real-time



LIVE SPEED LAYER – CONT.

Live Speed Layer – Refreshes every minute

Conflating data to map segments in real-time

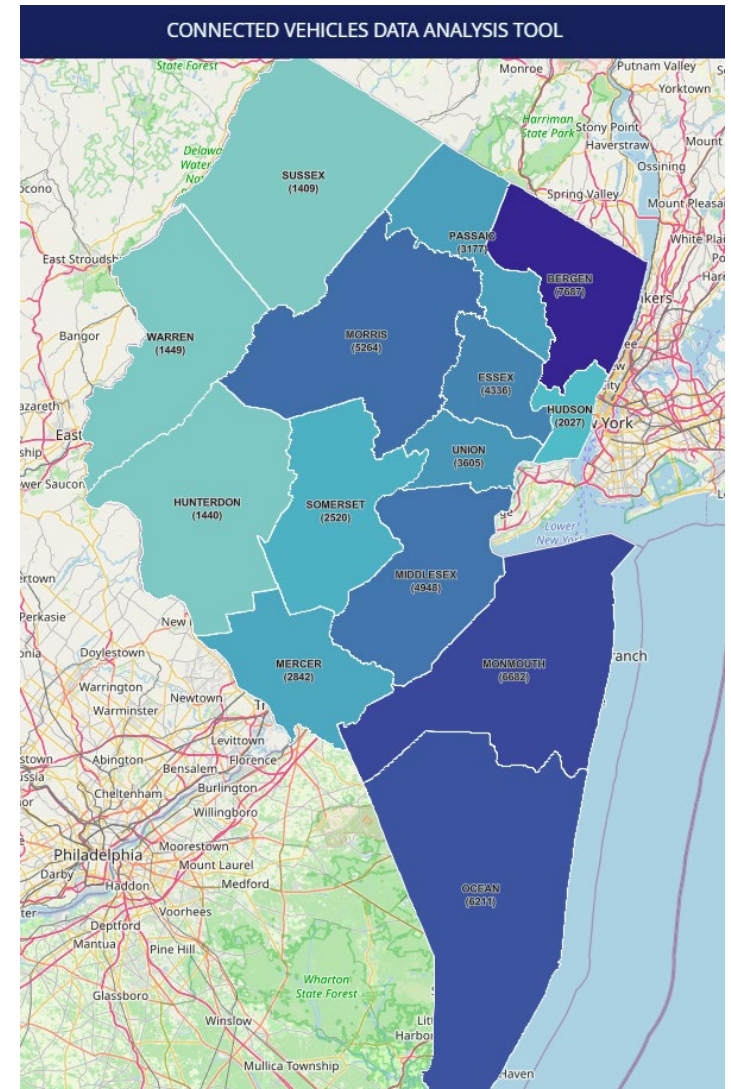


O-D ANALYSIS – TRIPS ORIGINATED ALL COUNTIES

Trips originated from counties between 3/17/2021 06:30 AM
- 3/17/2021 08:30 AM

Originated County	Trips
Bergen, NJ	7687
Essex, NJ	4336
Hudson, NJ	2027
Hunterdon, NJ	1440
Mercer, NJ	2842
Middlesex, NJ	4948
Monmouth, NJ	6682

Originated County	Trips
Morris, NJ	5264
Ocean, NJ	6211
Passaic, NJ	3177
Somerset, NJ	2520
Sussex, NJ	1409
Union, NJ	3605
Warren, NJ	1449

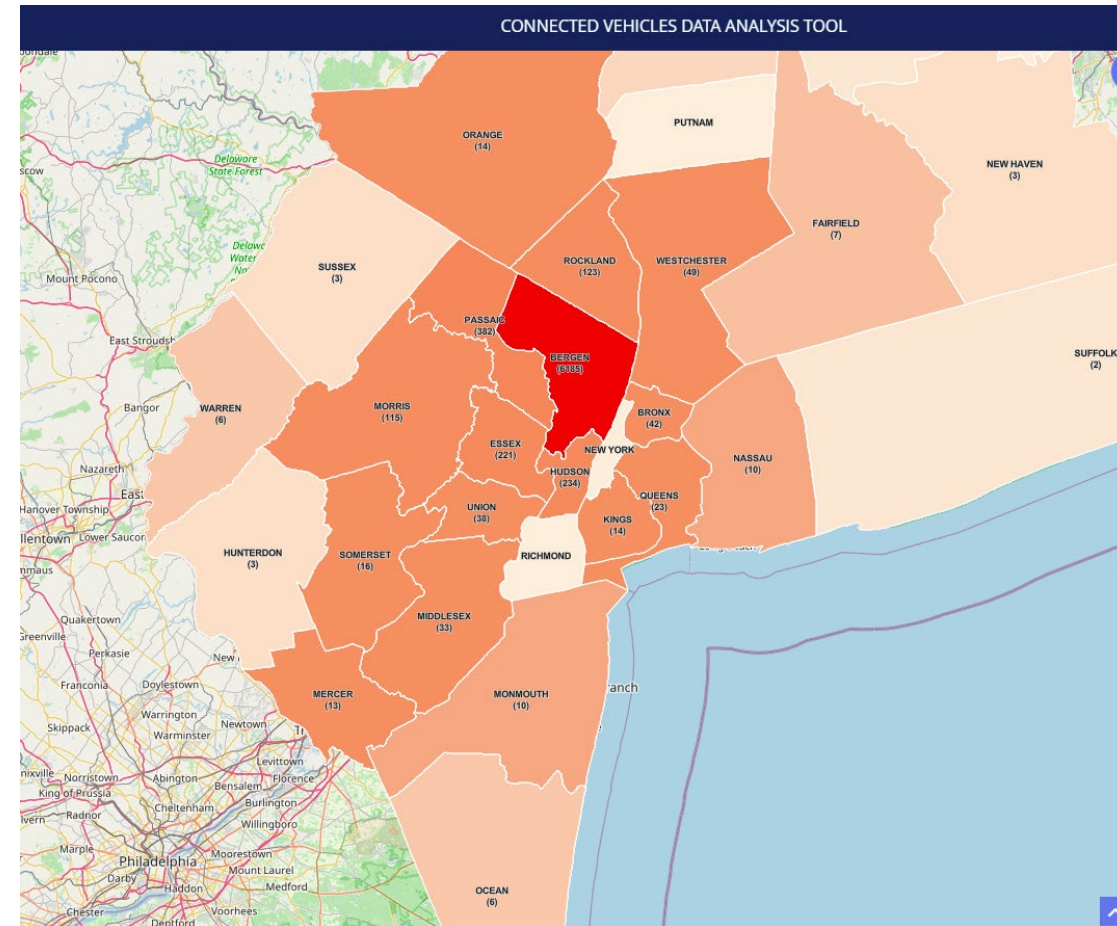


O-D ANALYSIS – BETWEEN COUNTIES (BERGEN, NJ TO ALL COUNTIES)

Trips originated from Bergen County, NJ between 3/17/2021 06:30 AM - 3/17/2021 08:30 AM

Destination County	Trips
Bergen, NJ	6185
Essex, NJ	221
Hudson, NJ	234
Hunterdon, NJ	3
Mercer, NJ	13
Middlesex, NJ	33
Monmouth, NJ	10
Morris, NJ	115
Ocean, NJ	6
Passaic, NJ	382
Somerset, NJ	16
Sussex, NJ	3
Union, NJ	38
Warren, NJ	6

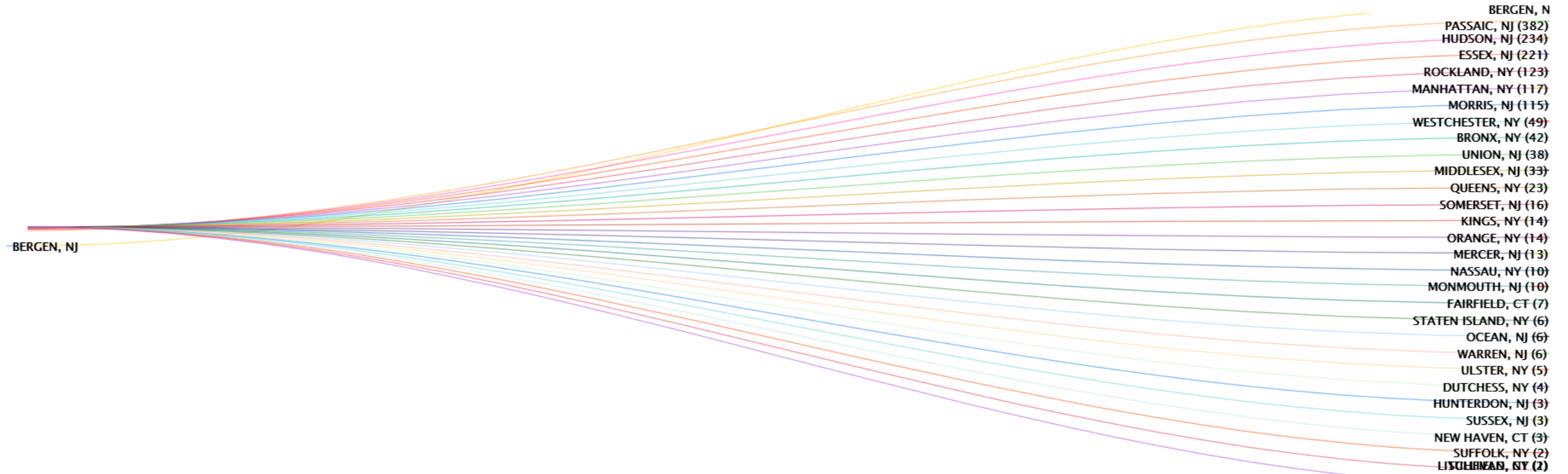
Destination County	Trips
Bronx, NY	42
Kings, NY	14
Nassau, NY	10
New York, NY	117
Orange, NY	14
Putnam, NY	-
Queens, NY	23
Richmond, NY	6
Rockland, NY	123
Suffolk, NY	2
Westchester, NY	49
Fairfield, CT	7
New Haven, CT	3



O-D ANALYSIS – BETWEEN COUNTIES (BERGEN TO ALL COUNTIES)

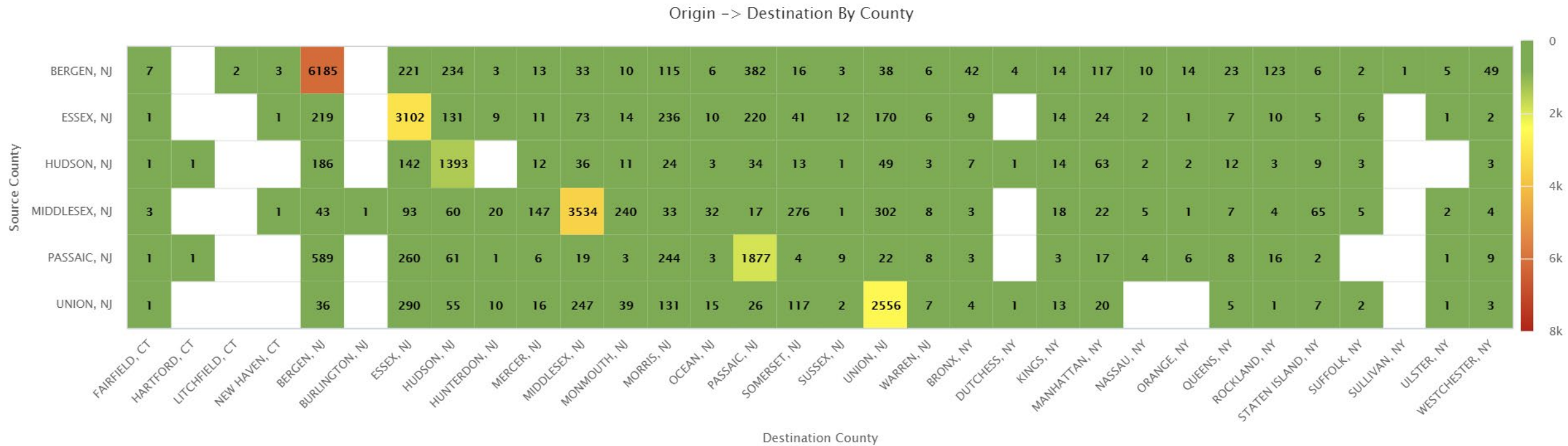
Trips originated from Bergen County , NJ between 3/17/2021 06:30 AM - 3/17/2021 08:30

Origin County: BERGEN, NJ



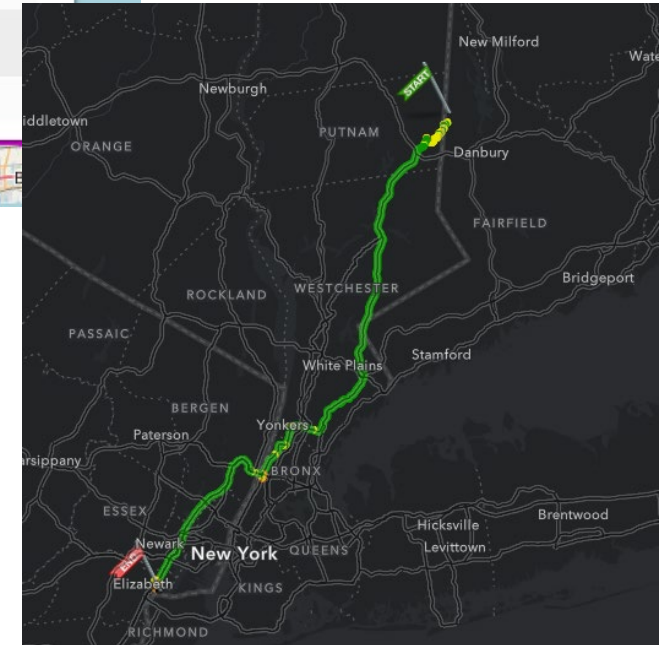
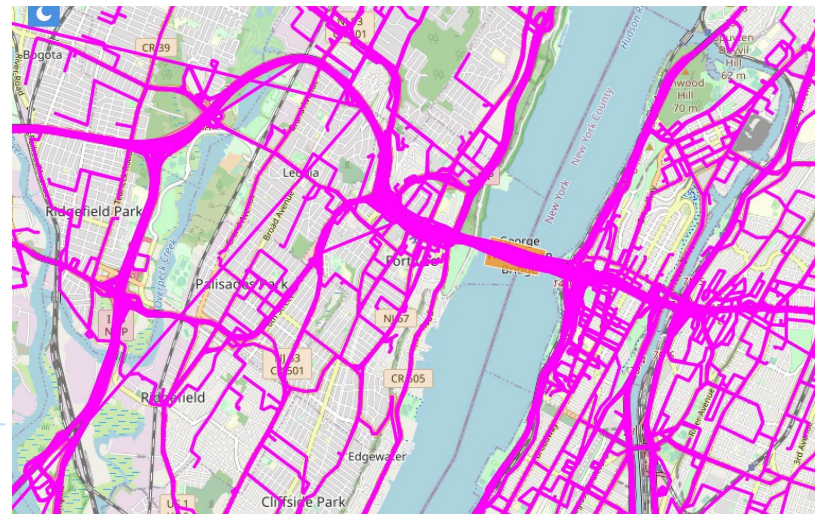
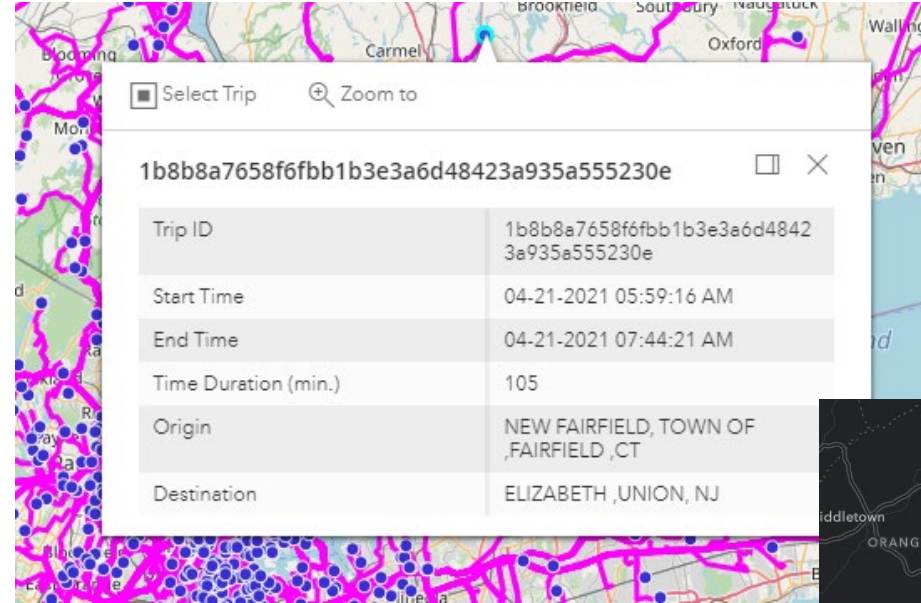
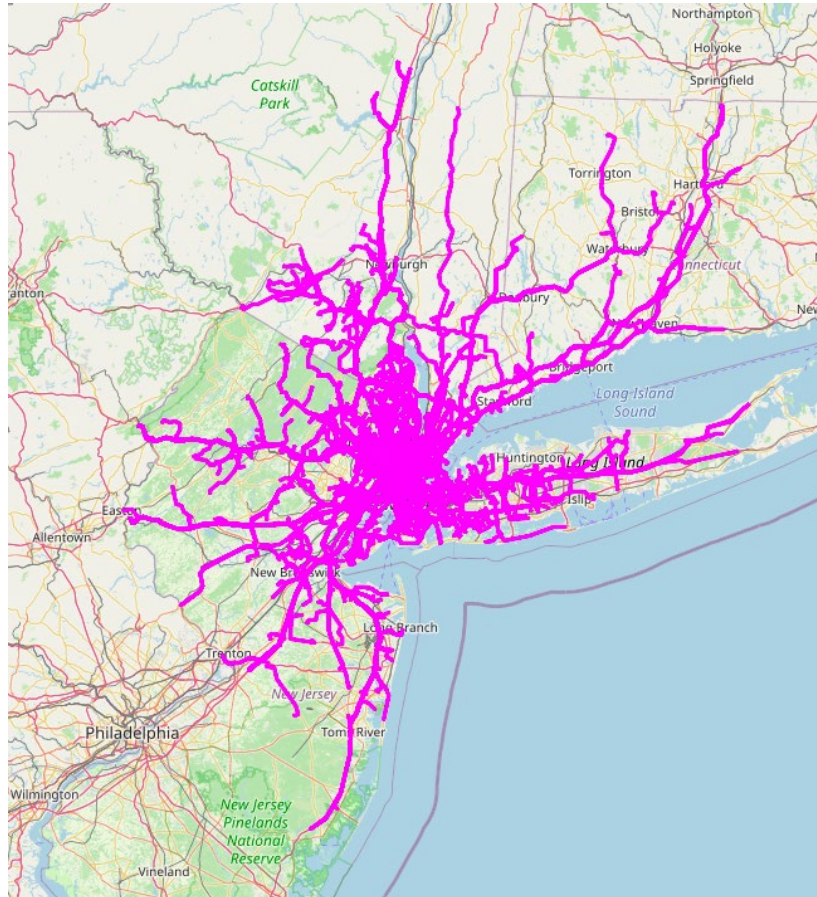
O-D ANALYSIS – BETWEEN COUNTIES

3/17/2021 06:30 AM - 3/17/2021 08:30 AM



O-D ANALYSIS – TRIPS THROUGH

Trips through George Washington Bridge 4/21/2021
07:30 AM - 4/21/2021 09:30 AM



DEMONSTRATION OF LIVE SPEED LAYER O/D AND TRIPS

POSSIBLE ADDITIONAL USES

- Traffic Volume analysis using AADT, including real-time volume
- Mobility patterns, changes and comparisons (weather events, special events, week to week, etc.)
- Impact Monitoring tool (Effects of Reduced Speed Ahead, Alternate Routes on DMS, Road Closures, etc.)
- Signalized corridor monitoring and analysis
- Parking Capacity
- Journeys to POIs (Stadiums, transit hubs, arenas, county parks, and more!)
- Integrate Driver behavior data sets with other data sources.

Contact Information

Jim Hadden: Haddenconsultingllc@gmail.com

Andrew Wollett Andrew.Wollet@wejo.com

Laukik Pachanekar Laukik.Pachanekar@infosenseglobal.com