

Regional Traffic Analysis in the D.C. Metro Area

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Dataset: Regional Traffic Count

Questions of Interest

- Which areas have the highest traffic volume?
- Which geographic areas have the highest amount of a vehicle type?
- How much does each vehicle type contribute to overall emissions?
- Where is public transportation being underutilized?



Data Preprocessing

- Remove the time information
- Gather average emission rates by vehicle type and reclassified emission categories
- Removed extraneous data outside target region from remote datasets

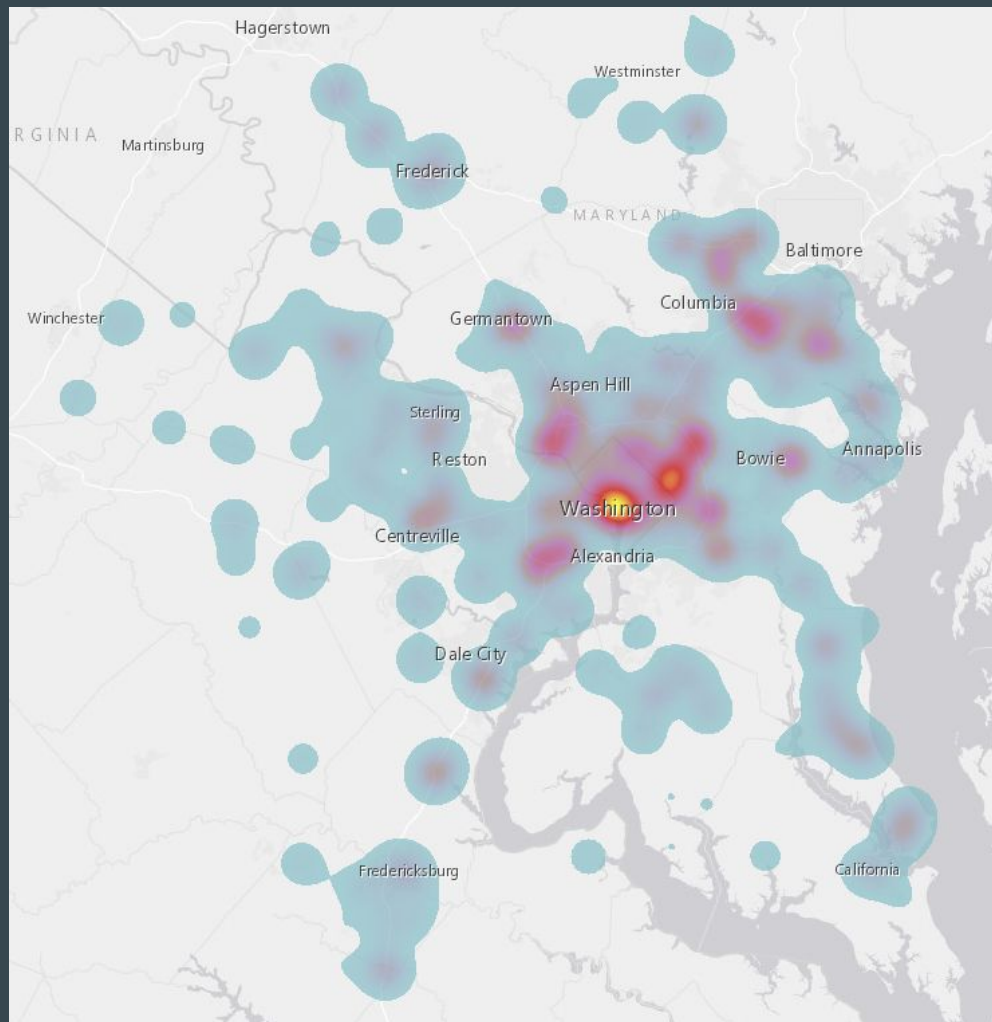


Data Limitations

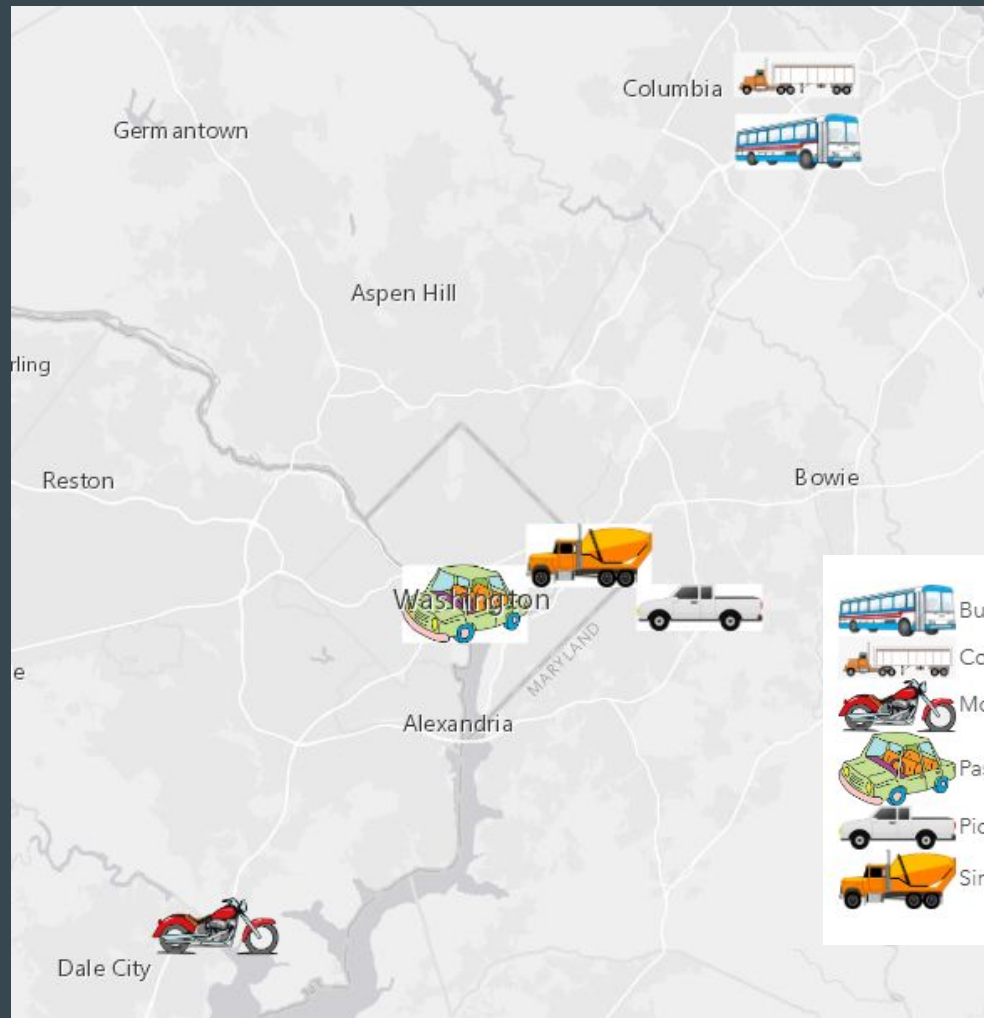
- Only volumetric data
- Limited Time Scale
- Inability to track individual vehicles between sites



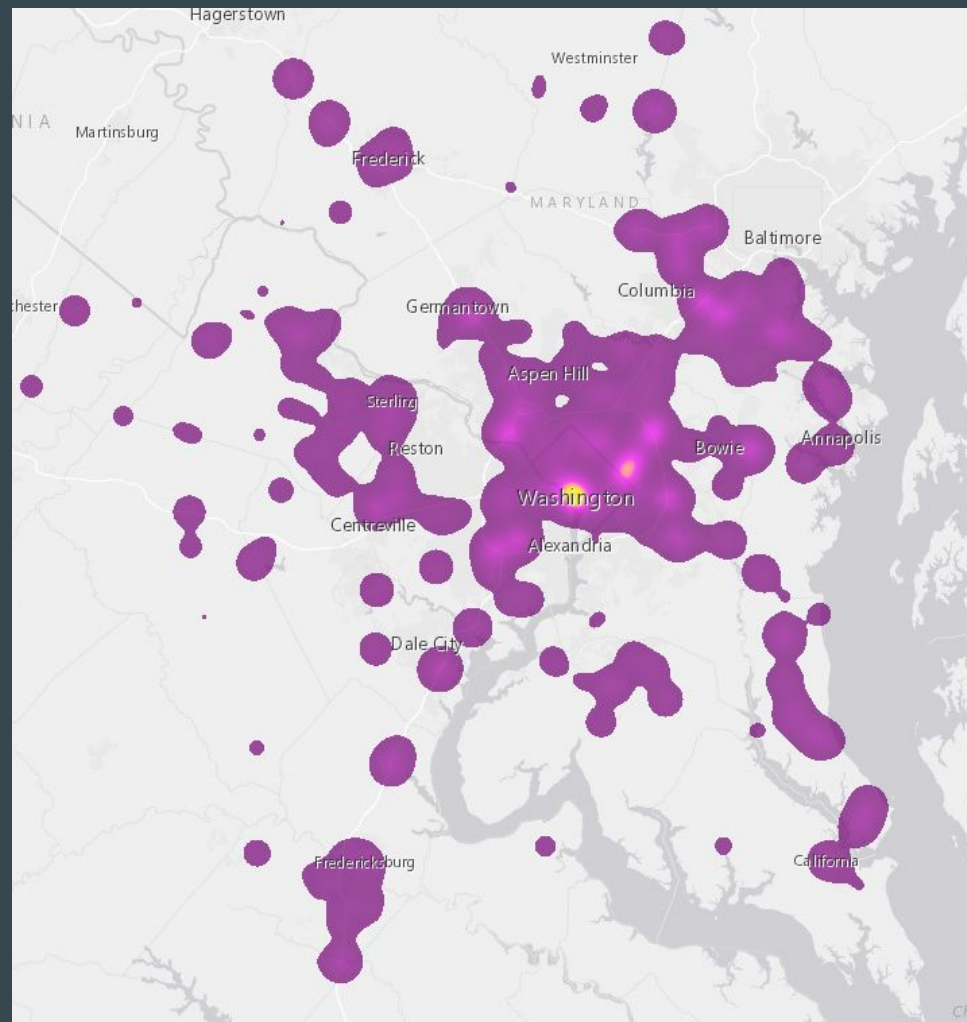
Traffic Volume



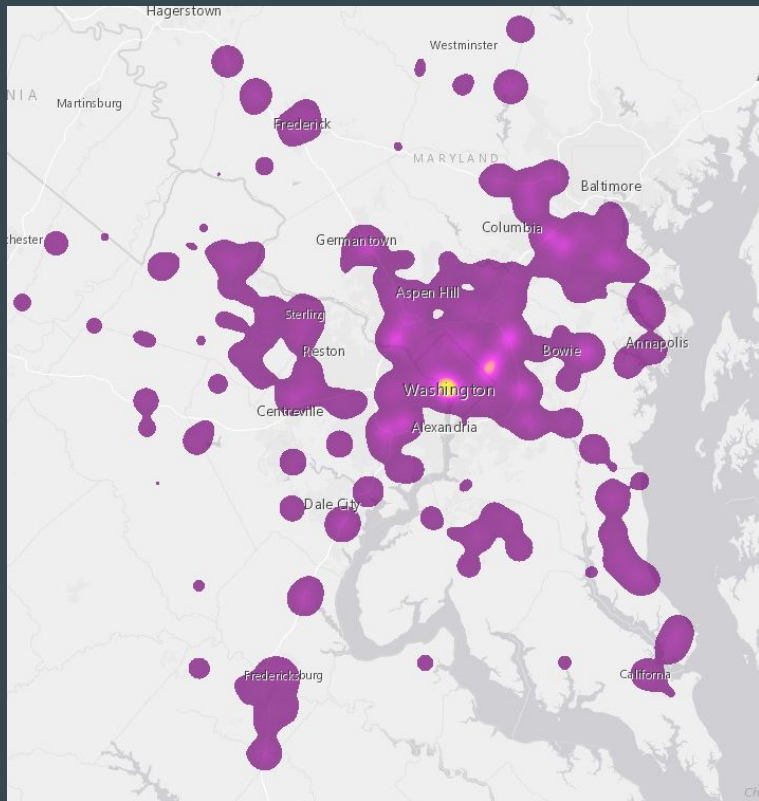
Location of Highest number of each Vehicle Type



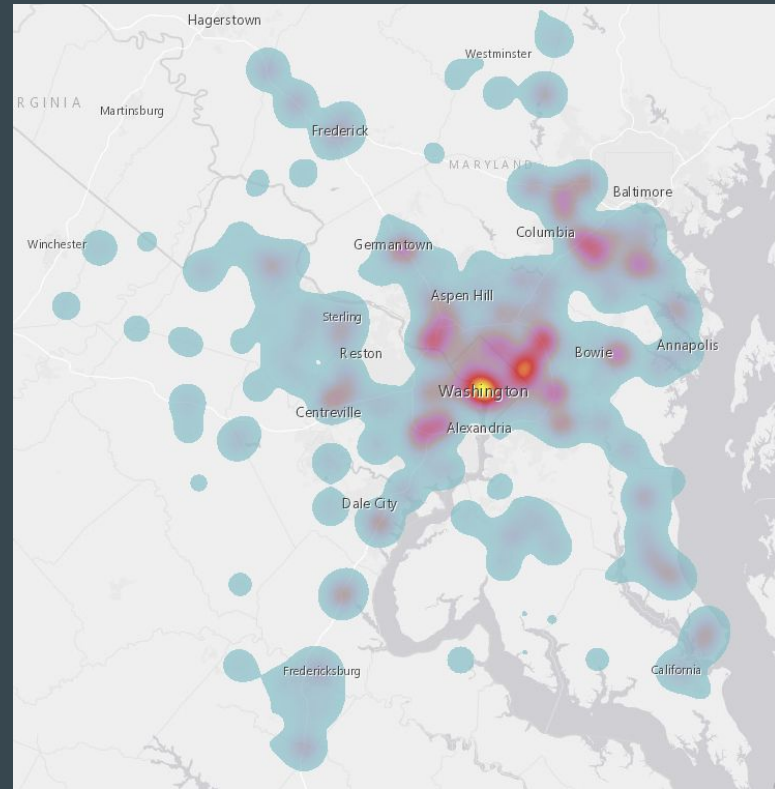
Emissions

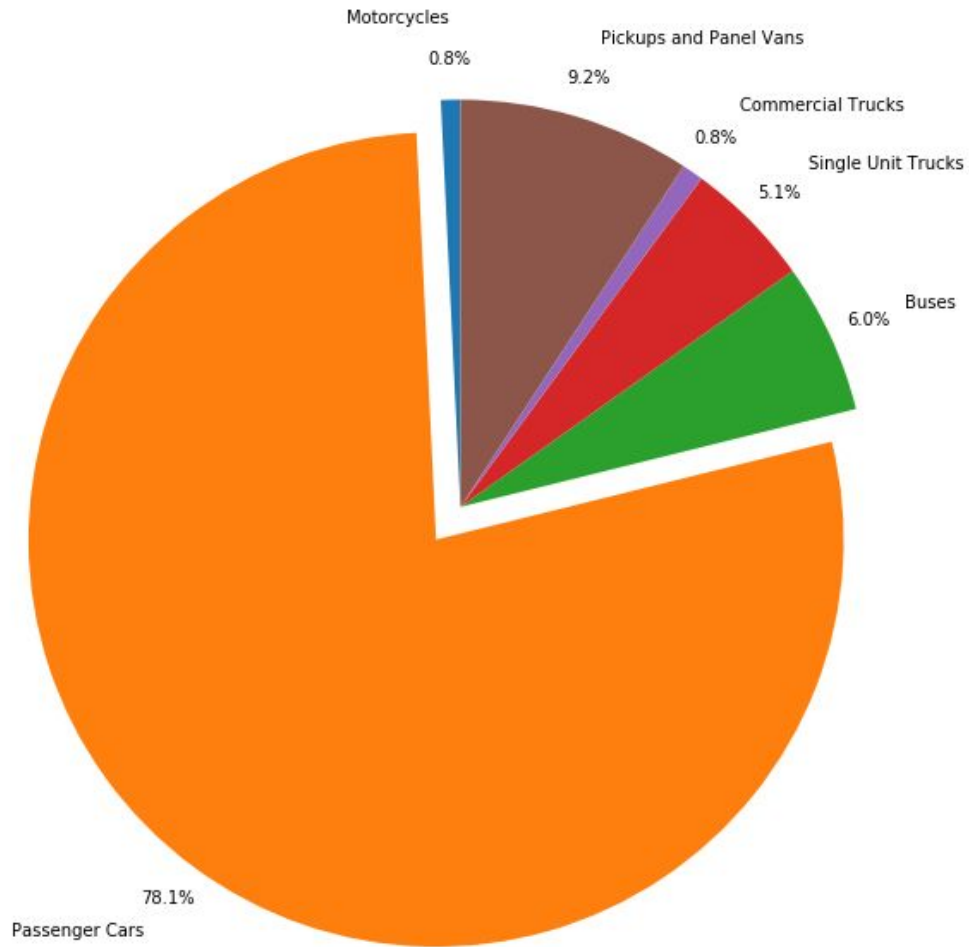


Emissions



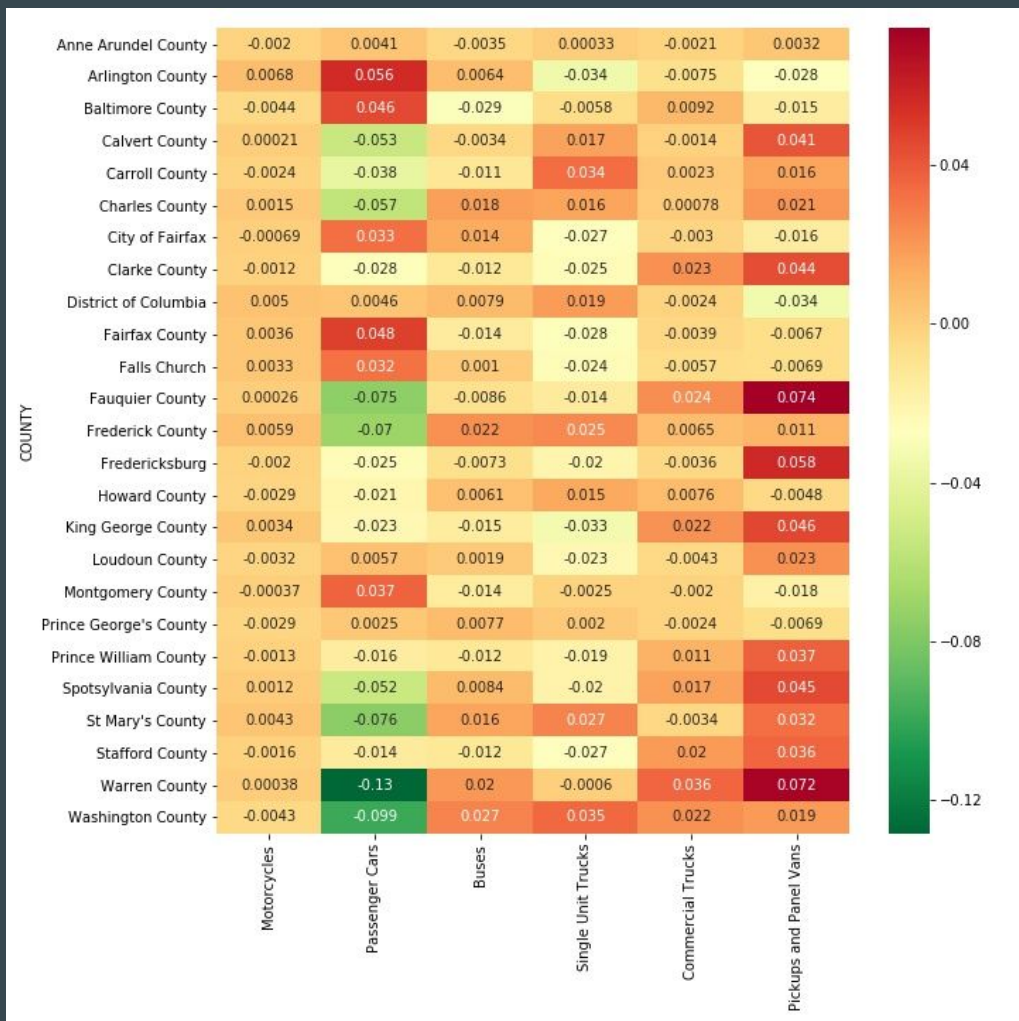
Traffic Volume

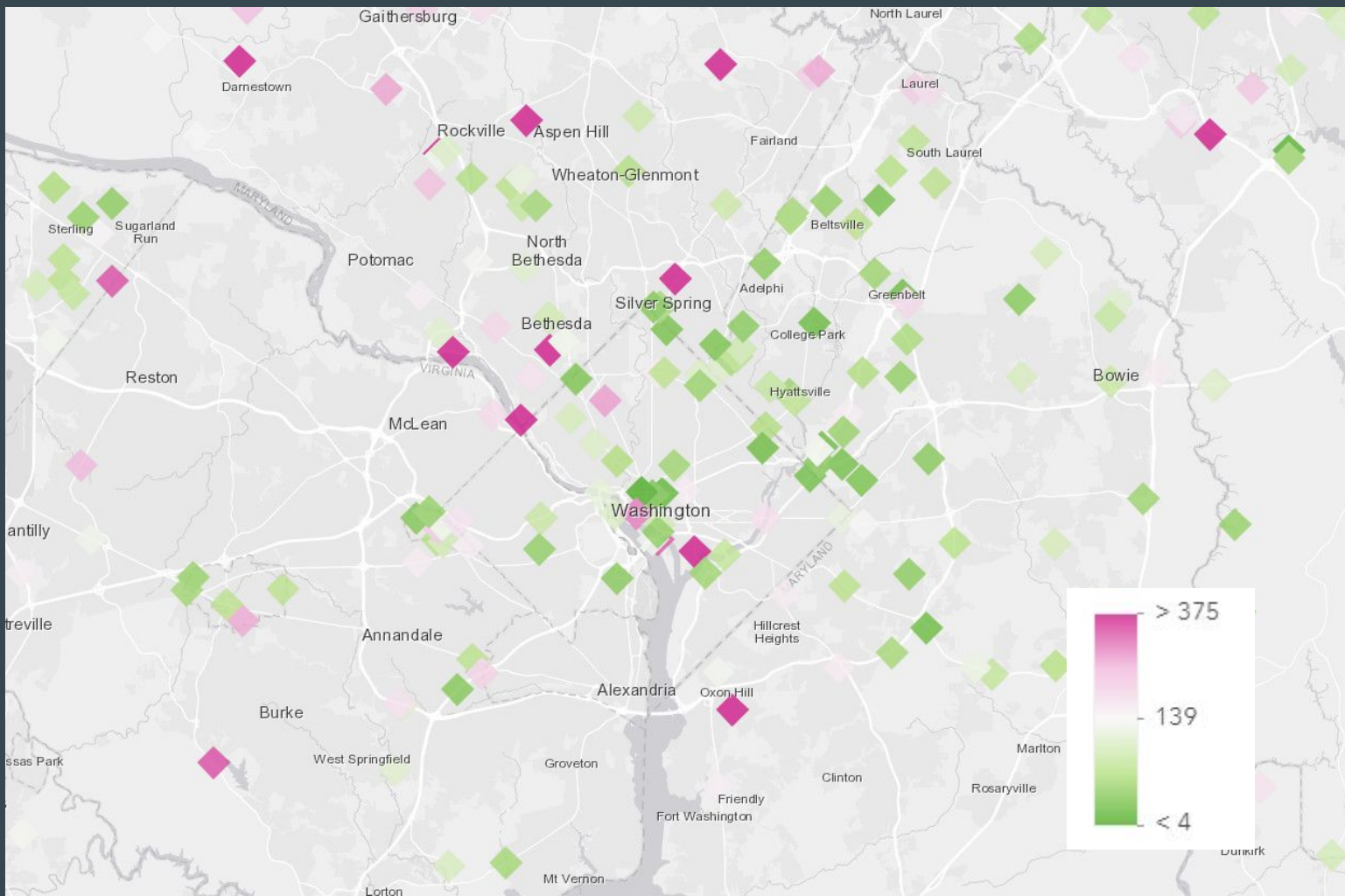




How much does the type of vehicle contribute to overall emissions?

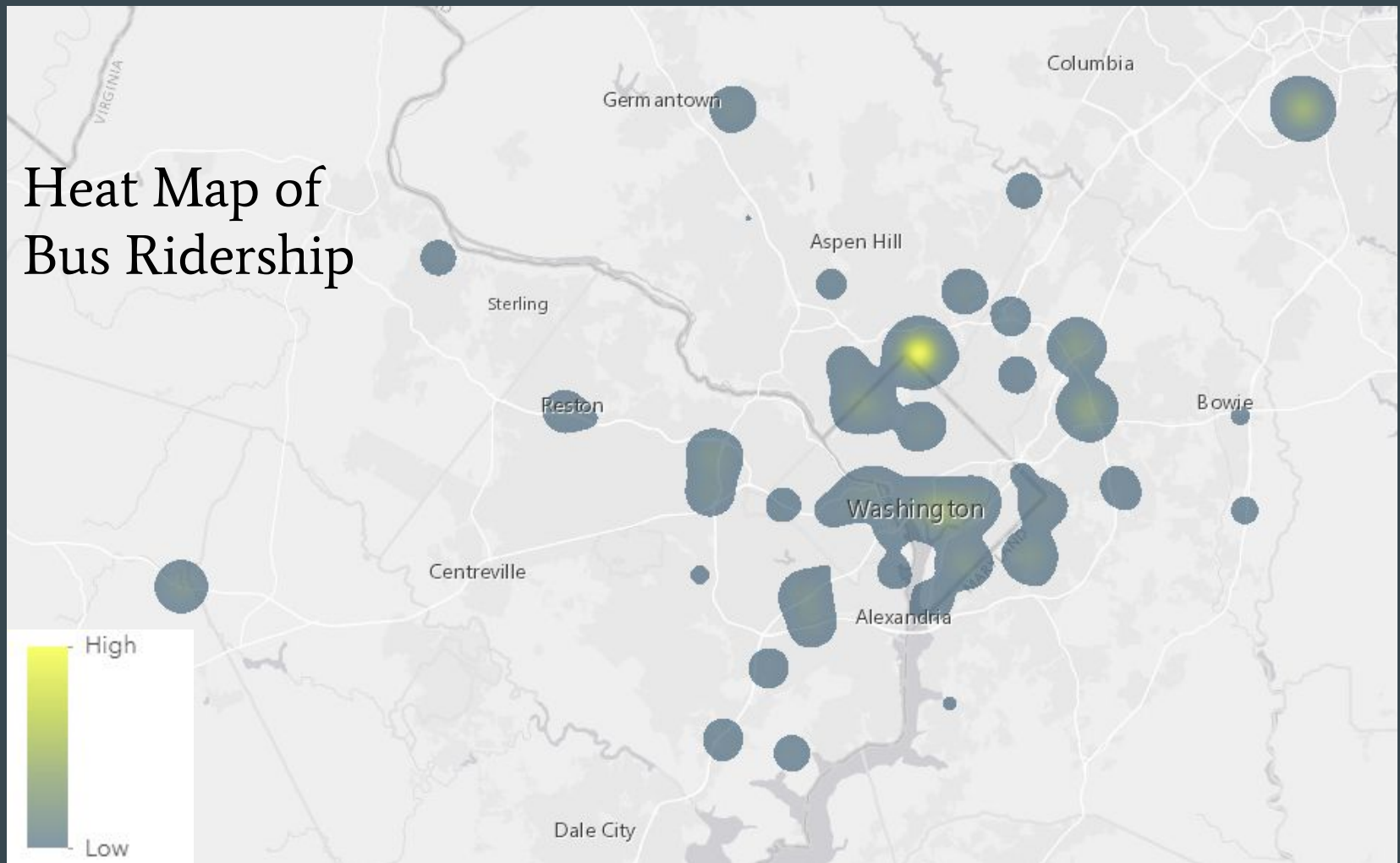
Difference in Emission Attribution per Vehicle Type



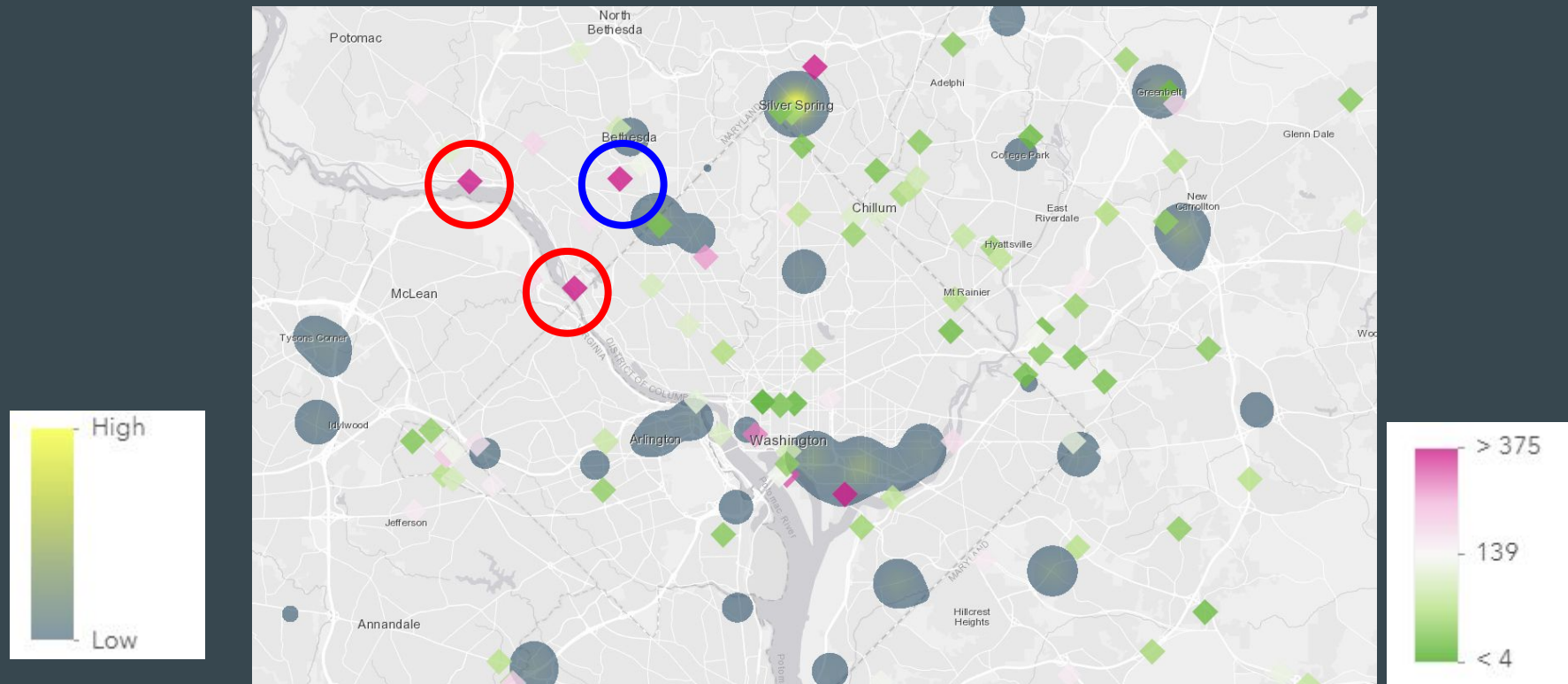


Ratio of
Passenger
Vehicles to
Buses

Heat Map of Bus Ridership



Where is there low ridership, but high numbers of passenger vehicles



Population

Metro Lines and Stations

Metro - Rail Stations



Traffic Counts

2017 Vehicle Classification -
Weekday

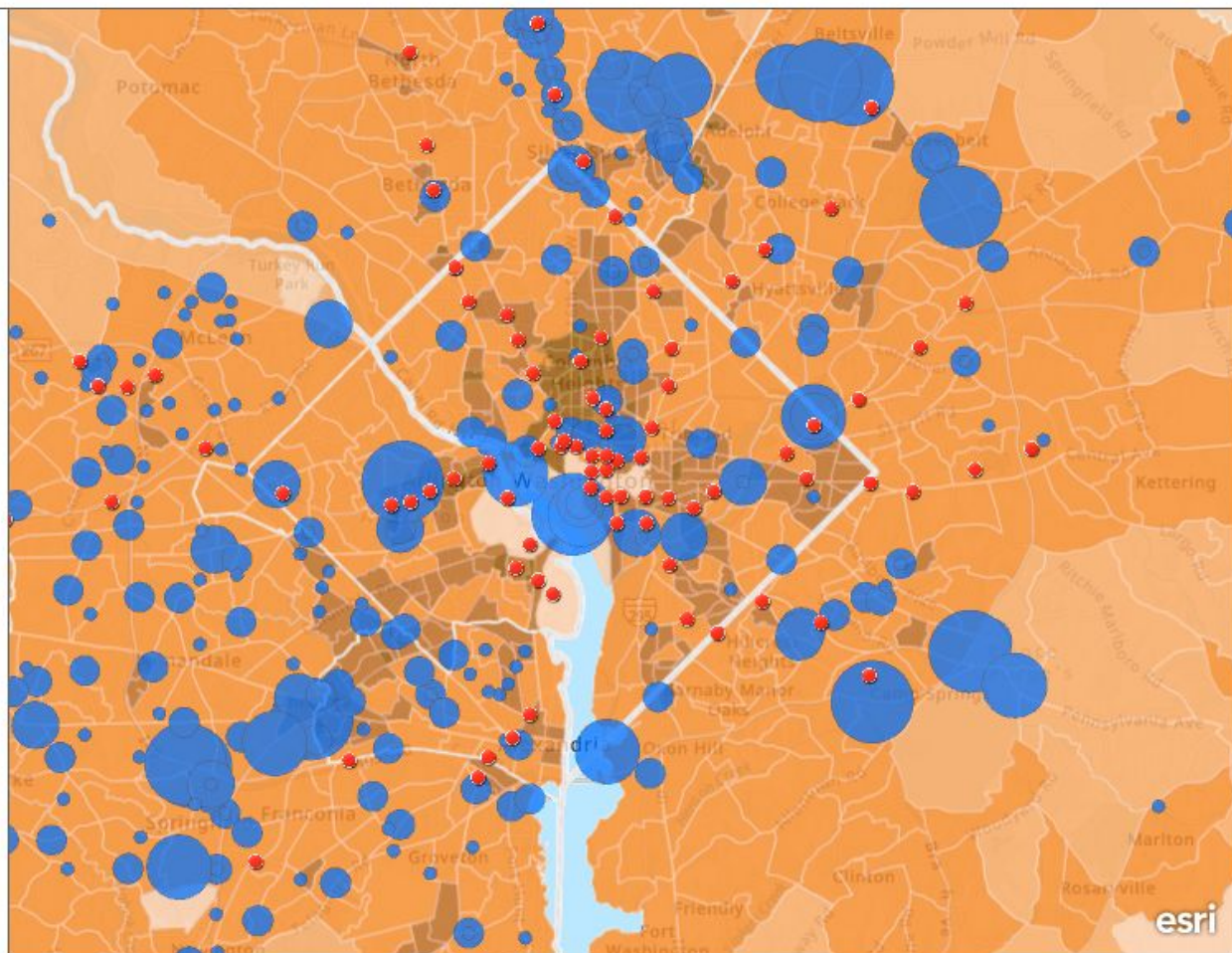
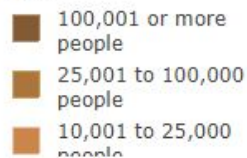
AM (6:00 AM- 8:59 AM)



2012 USA Population Density (Mature Support)

Persons per square mile

Tracts



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Population

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