

# Regional Traffic Analysis in the D.C. Metro Area

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By: Ryan Eilers, Jason Henry, and Deon Odom

Team Number: DC20080

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

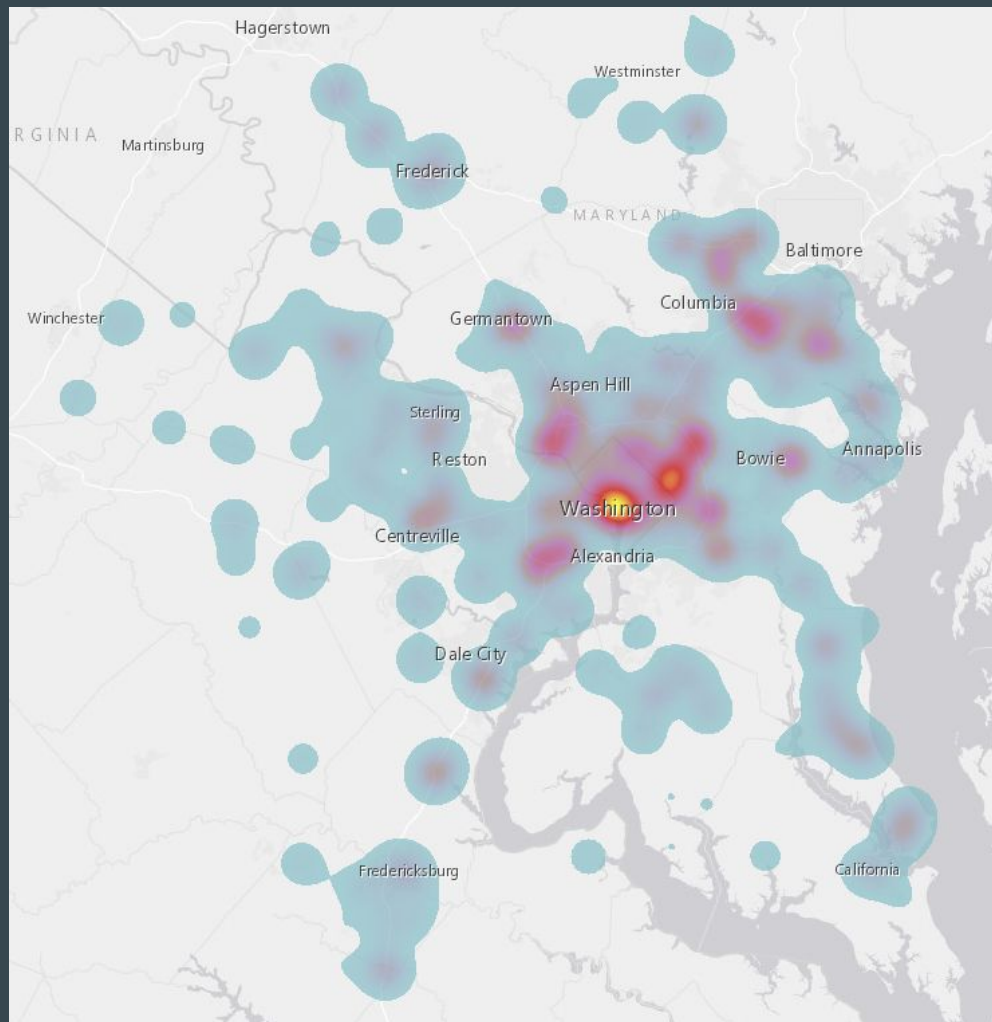


# Data Limitations

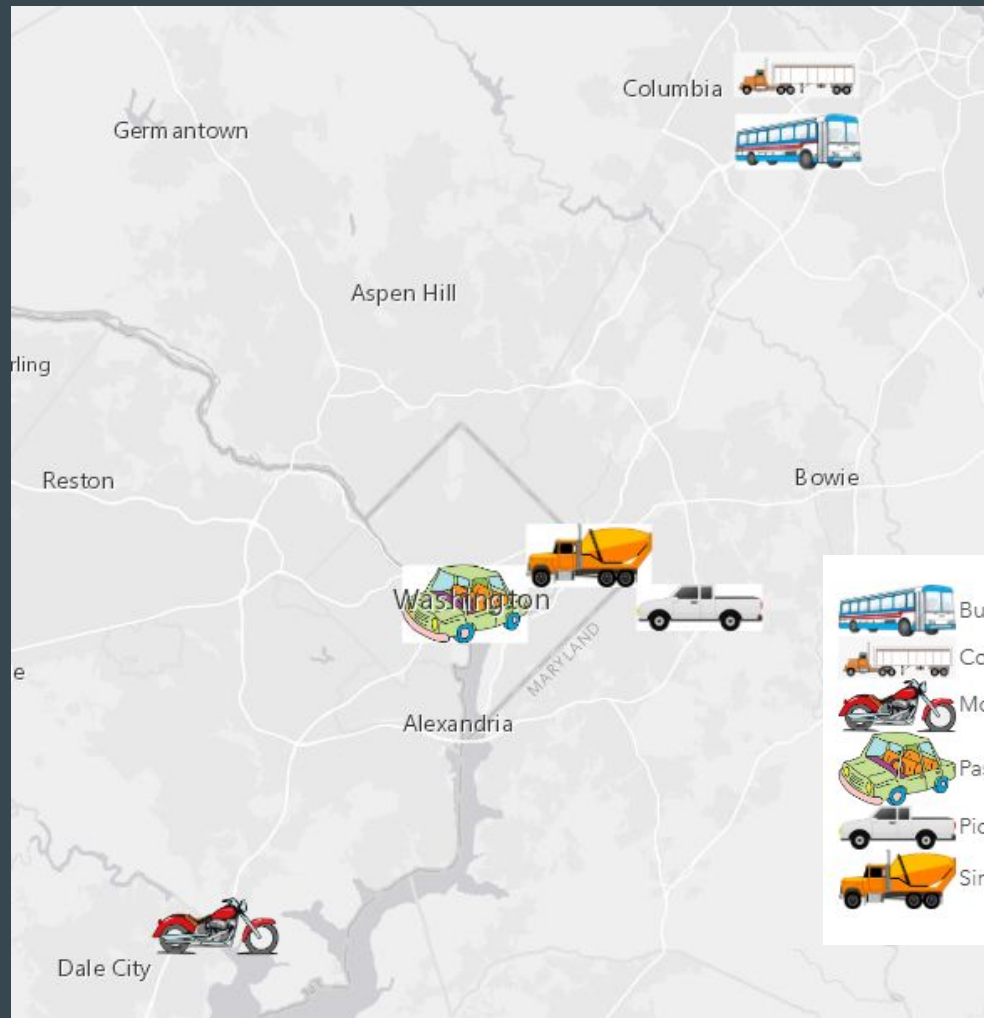
- Only volumetric data
- Limited Time Scale
- Inability to track individual vehicles between sites



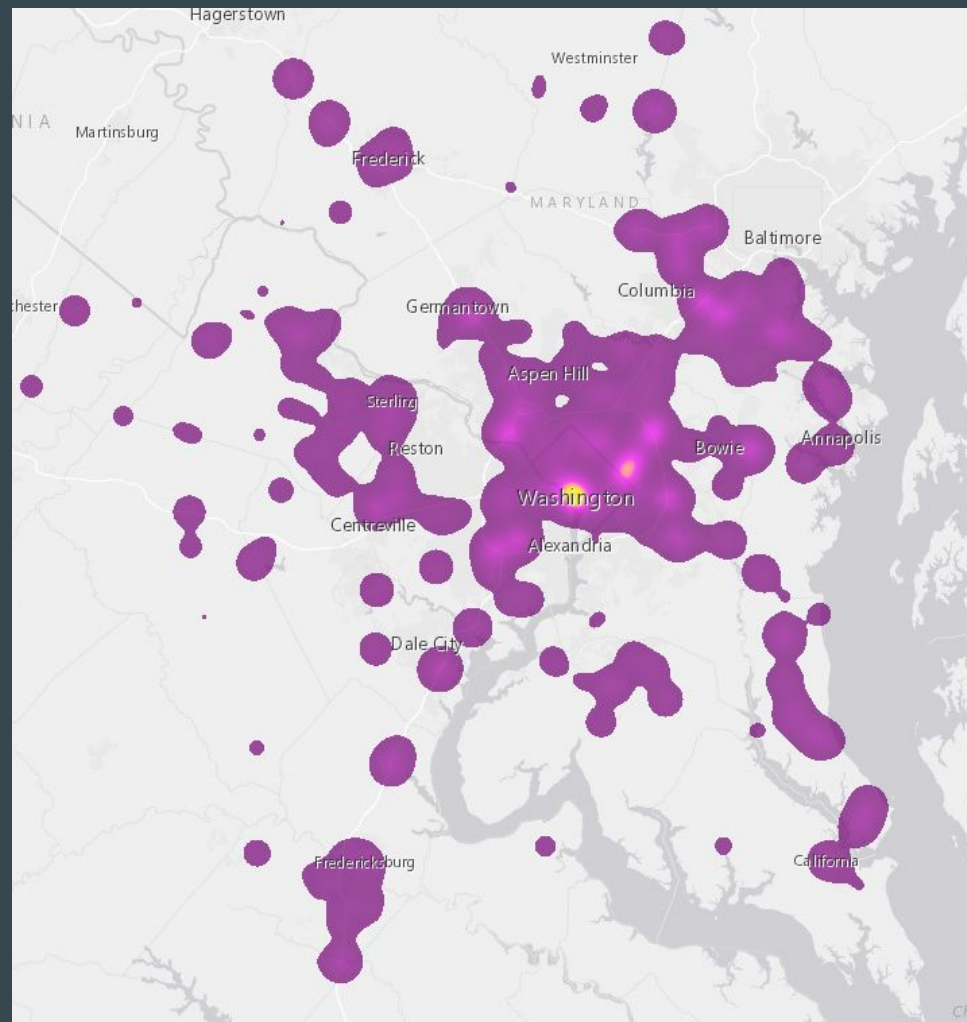
# Traffic Volume



# Location of Highest number of each Vehicle Type

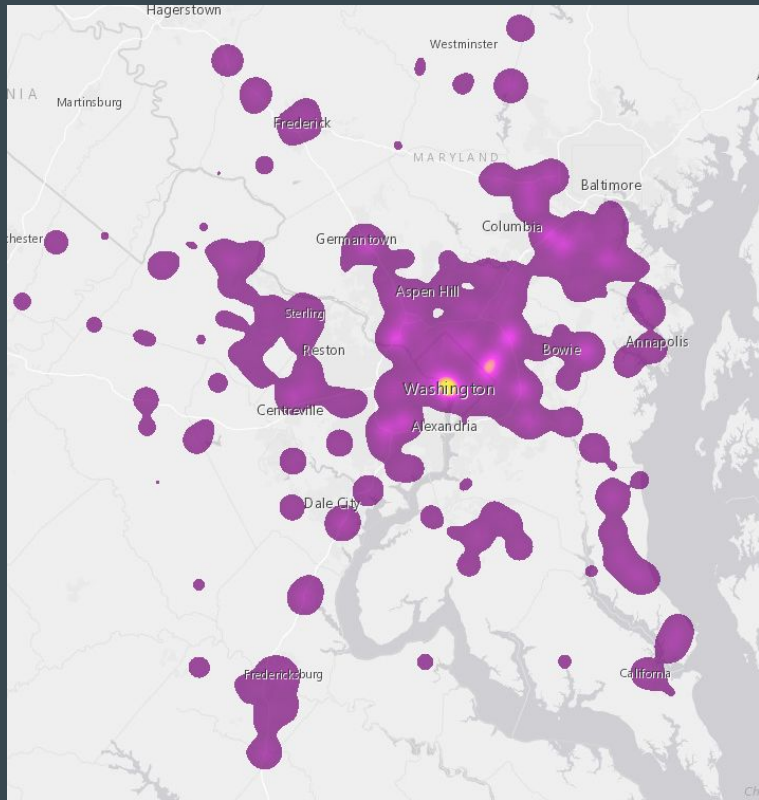


# Emissions

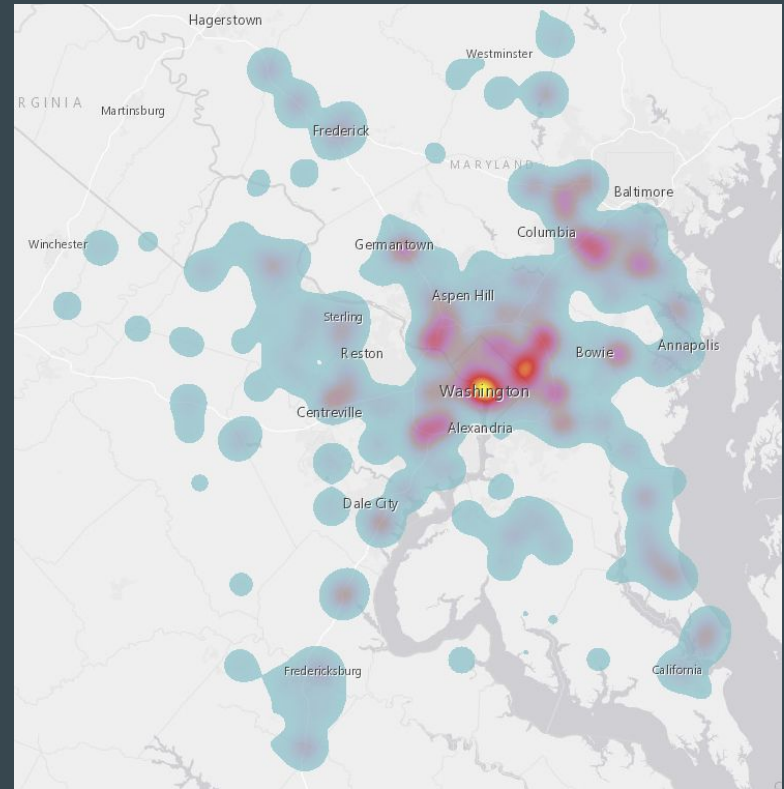




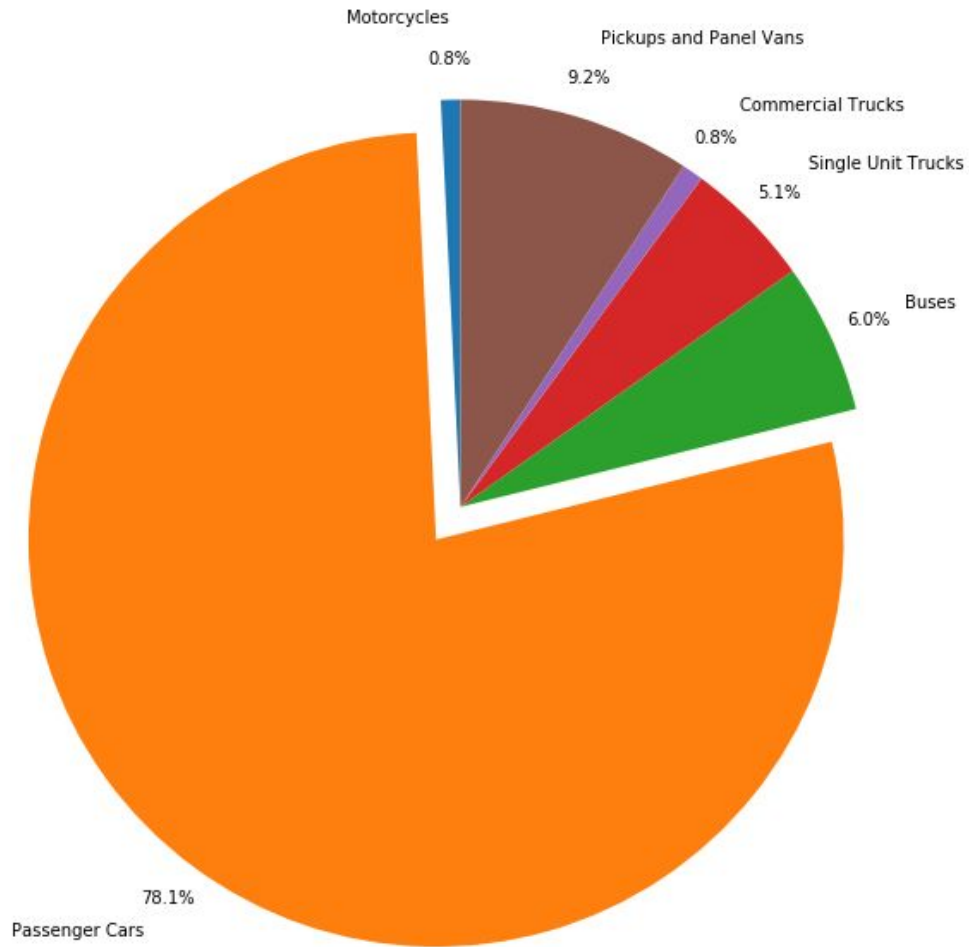
# Emissions



# Traffic Volume

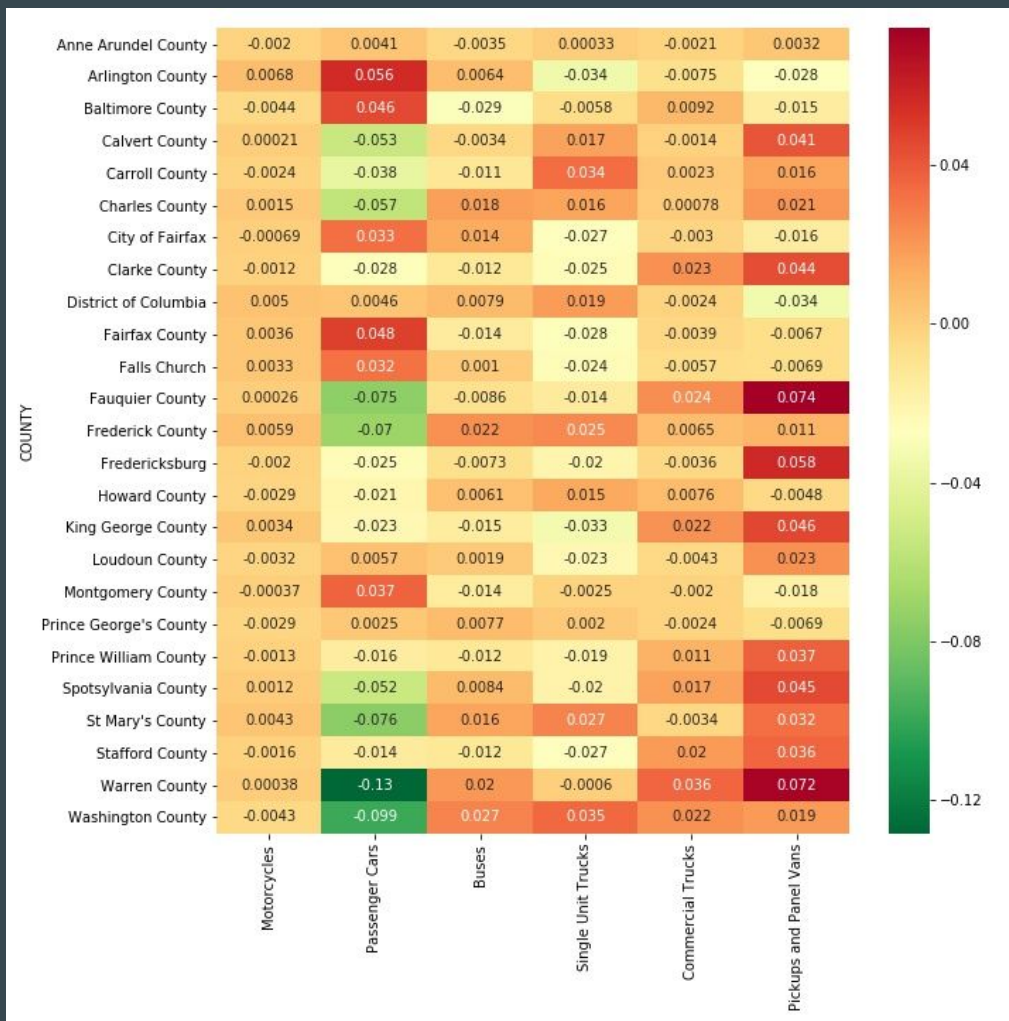


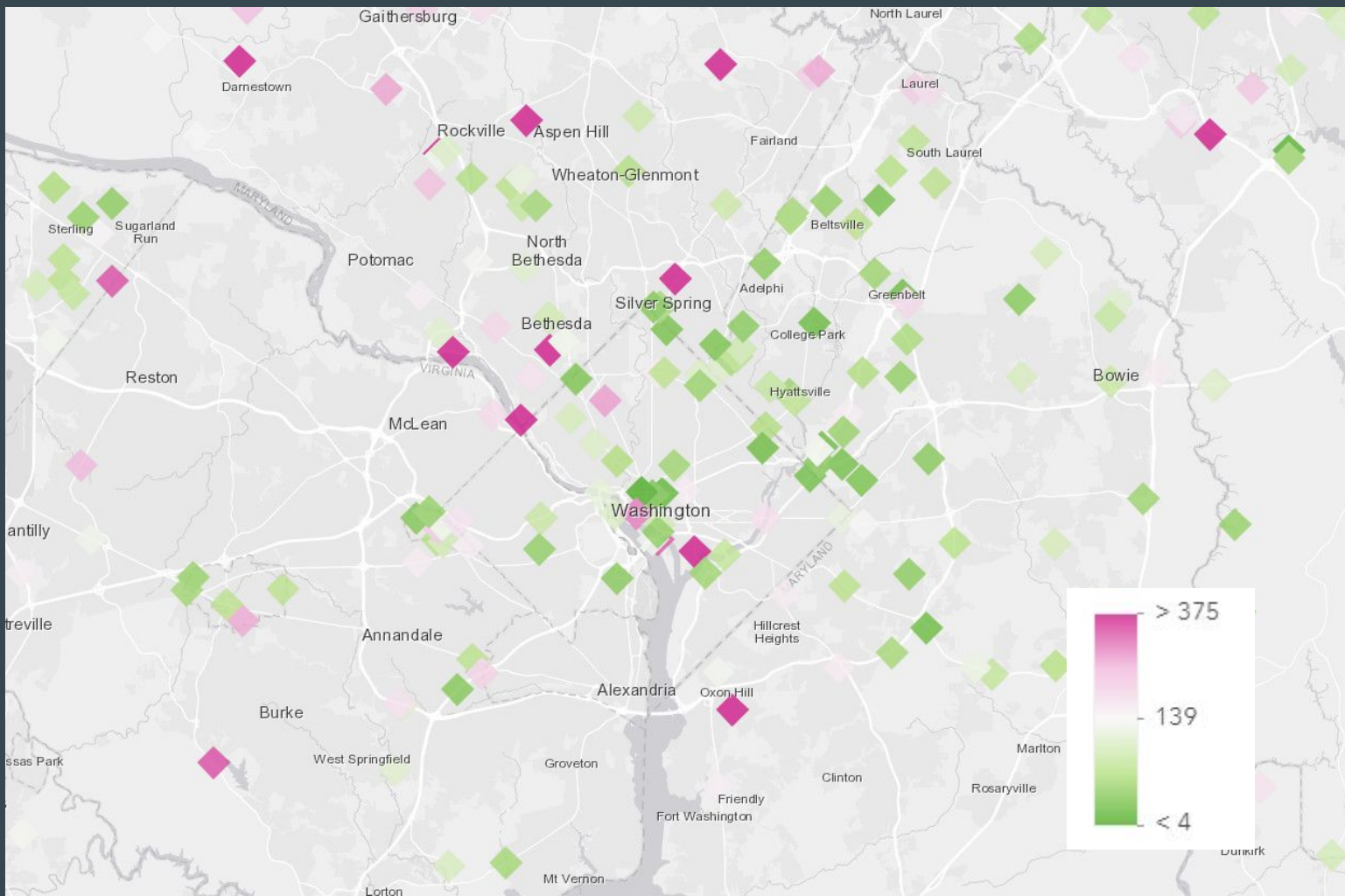




How much does the type of vehicle contribute to overall emissions?

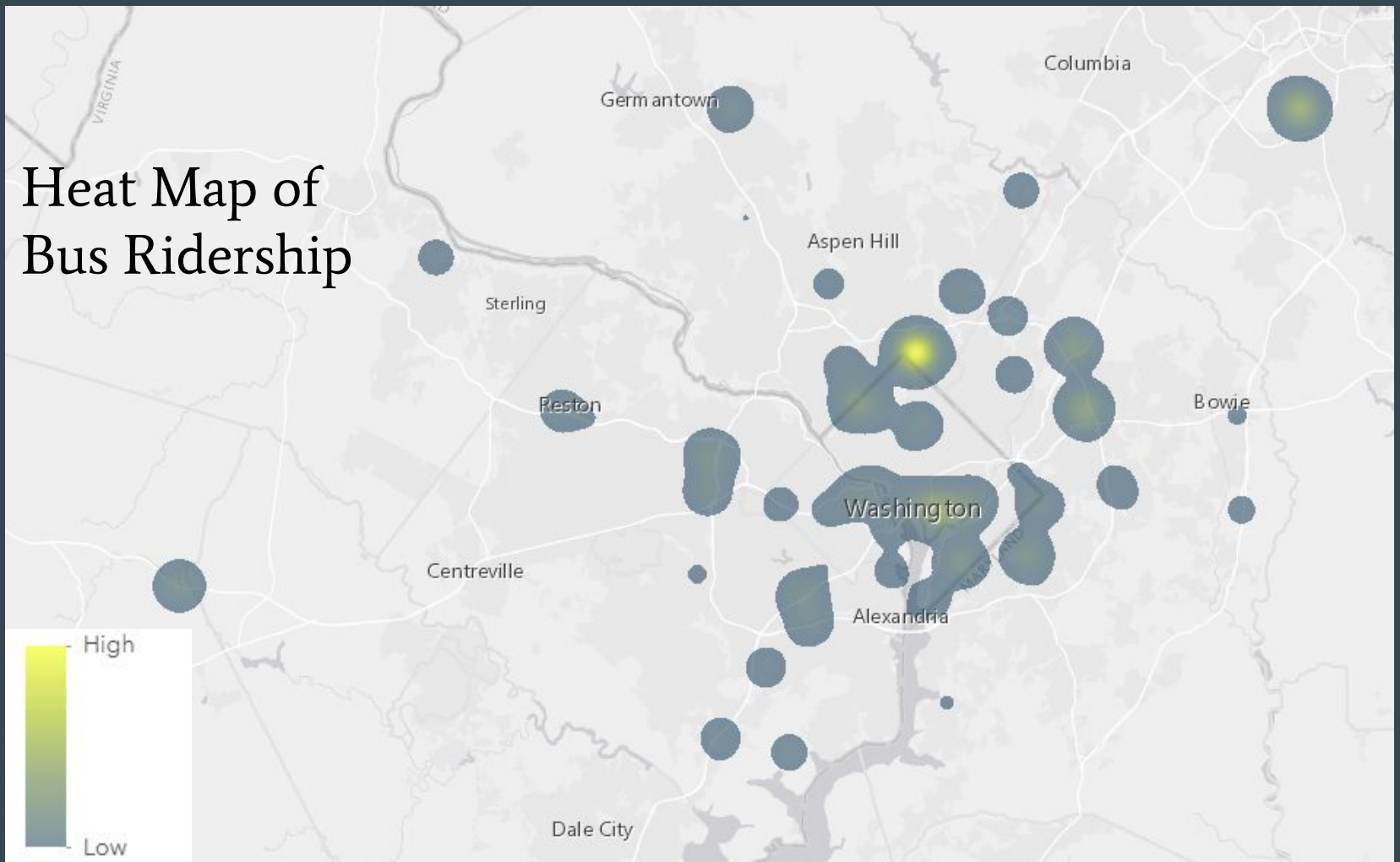
# Difference in Emission Attribution per Vehicle Type



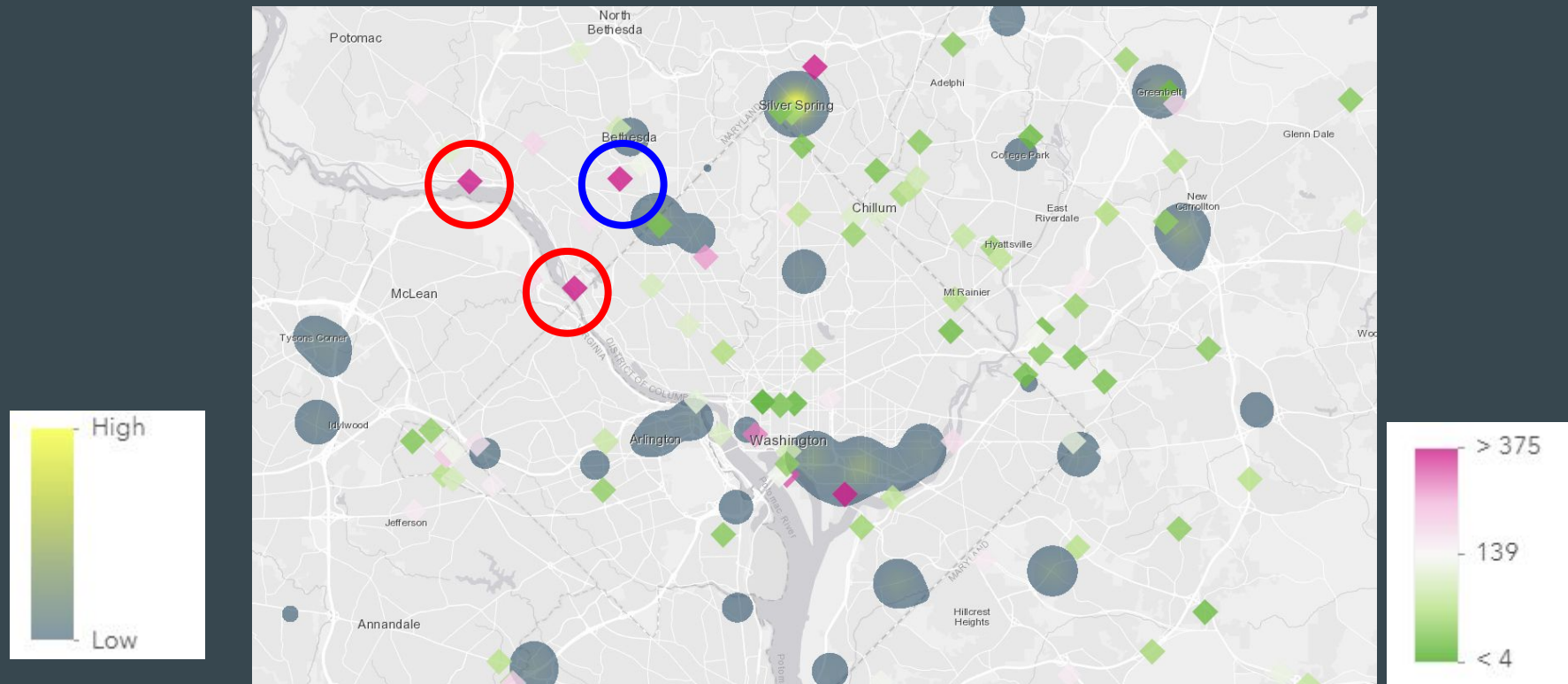


Ratio of  
Passenger  
Vehicles to  
Buses

# 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

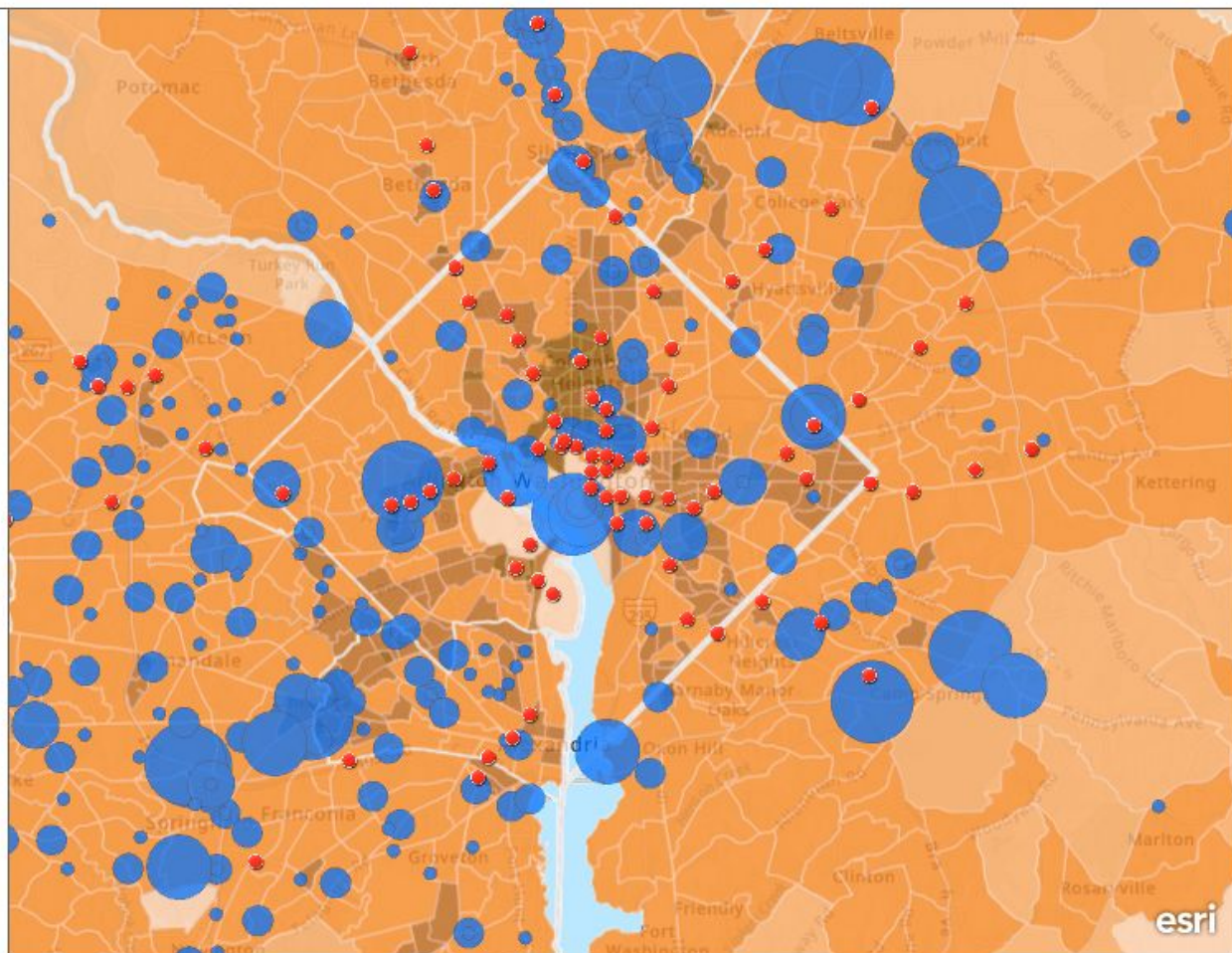
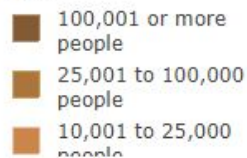
AM (6:00 AM- 8:59 AM)



### 2012 USA Population Density (Mature Support)

Persons per square mile

Tracts



esri

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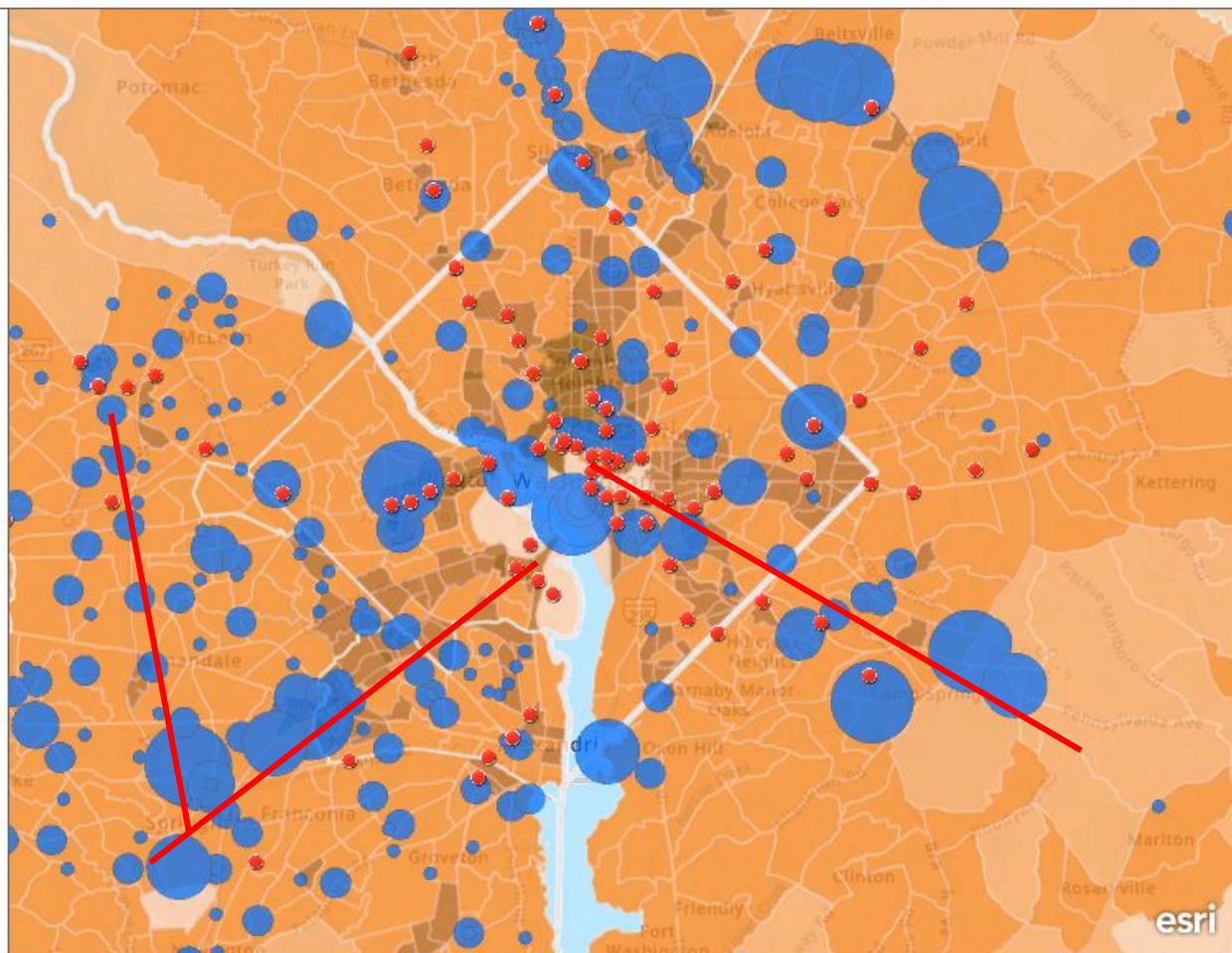
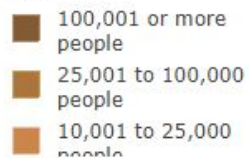
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# Questions?