

Traffic & Air Quality

Brainstation Capstone: sprint 1

Zoe Lye

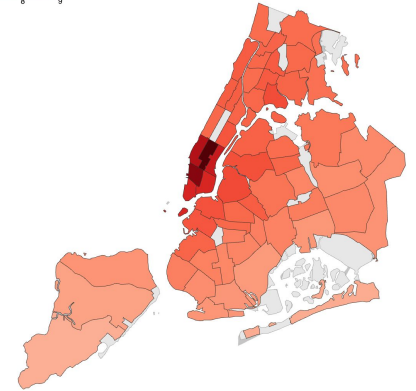
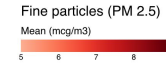
August 26, 2024

How much could reducing traffic improve air condition?



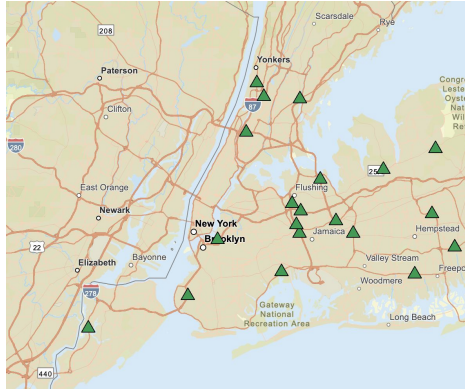
“Gov. Kathy Hochul, who has insisted that she is only temporarily pausing congestion pricing, has not committed to a new start date for the program. Credit...”

Cindy Schultz for The New York Times



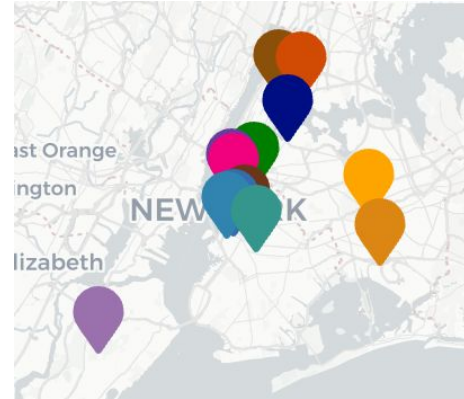
I am uniting multiple data sources

Traffic Data



NYC highway data bureau
Report of Average annual daily
traffic

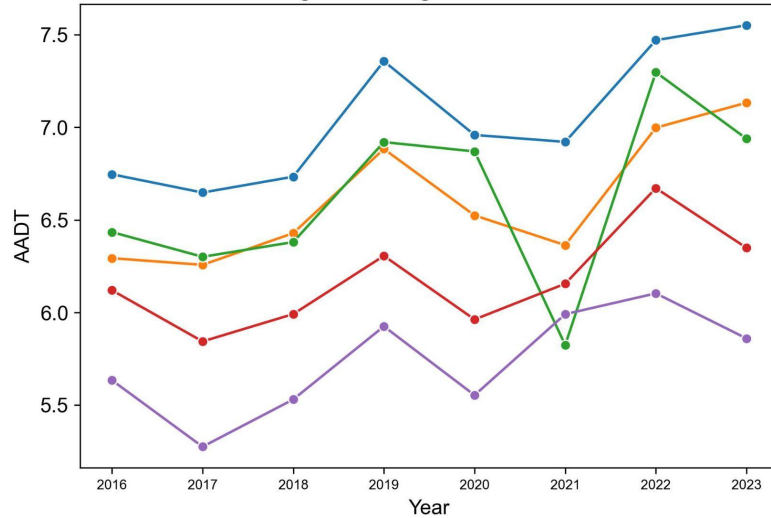
Air Quality data



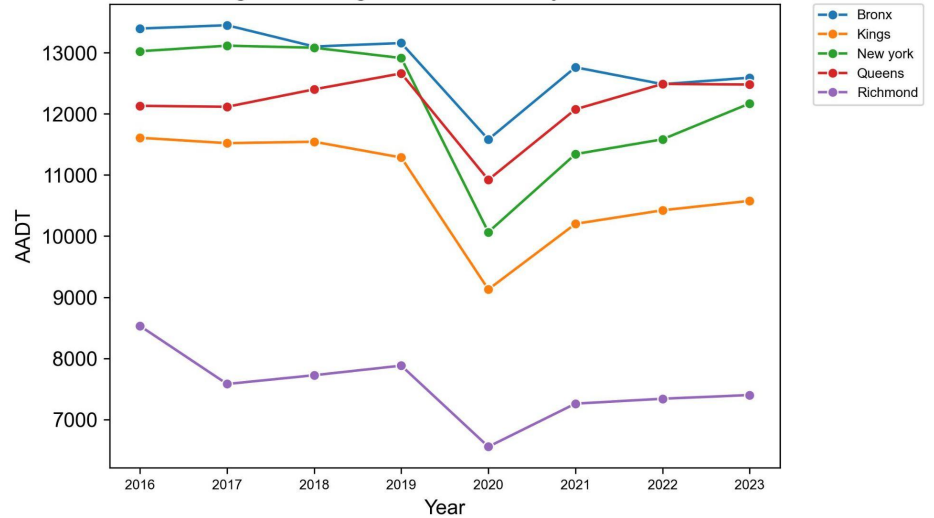
NYC.gov environment and health data
EQA - Air Quality index
PM2.5 - Particulate Matter
***BC - Black Carbon**
***NO2 - Nitrogen dioxide**
NO - Nitrous Oxide

Annual Traffic data

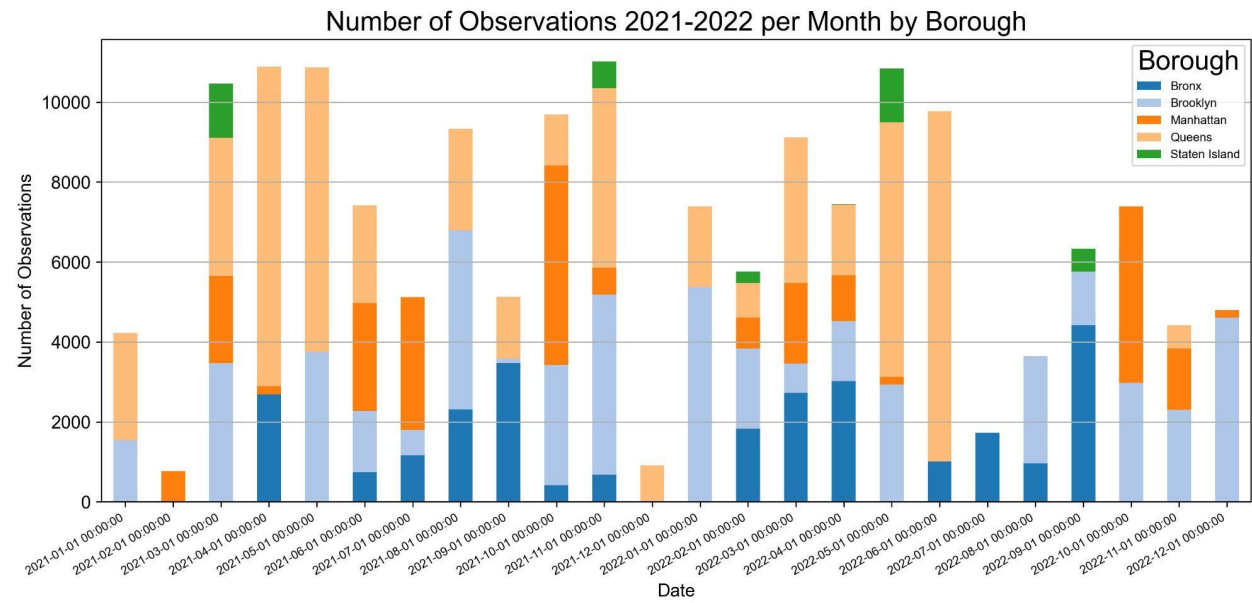
NYC Borough Average Truck% 2016-2022



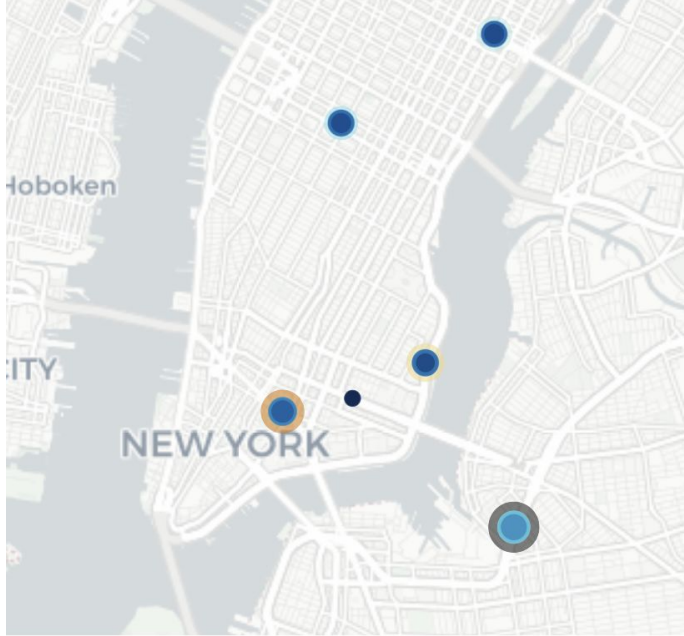
NYC Borough Average Annual Daily Traffic 2016-2022



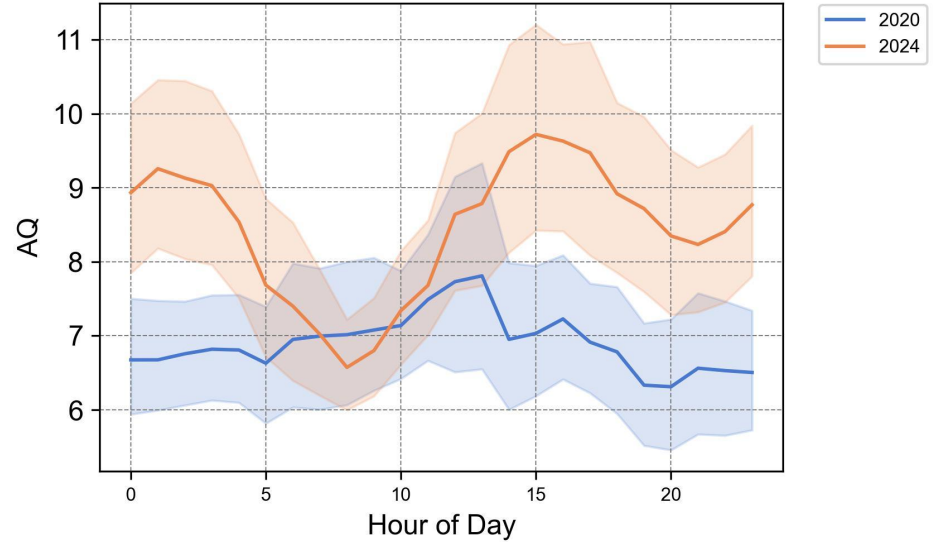
Daily Counts



Manhattan air quality changed during pandemic



Manhattan Hourly PM2.5 March 2020, 2024



Preliminary takeaways

Traffic Data

Observation density varies in time and space

Air Quality Data

Geographically restricted but densely sampled for time



Next Steps

- Subset the data
- Evaluate methods to link AQ and traffic
- Execute analysis



Impact

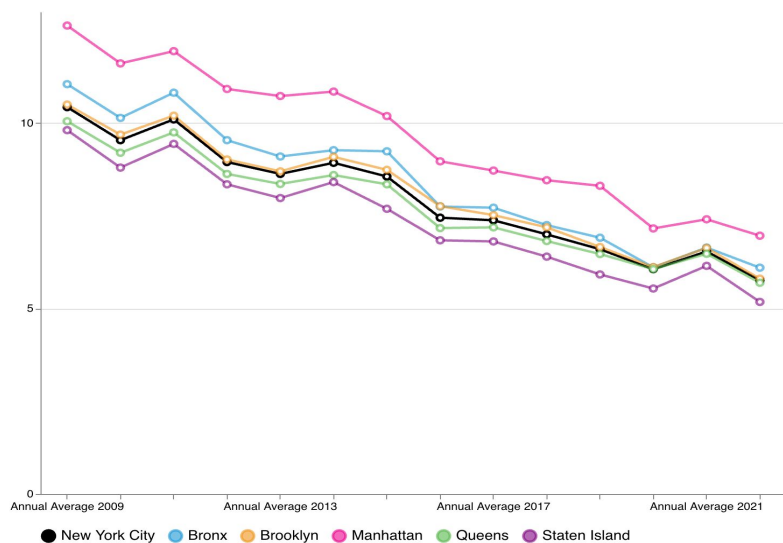
- Create a generalizable model for other cities

Appendix I. Many factors contribute to pollution in New York

Overall, air quality is improving

Fine particles (PM 2.5)

Mean (mcg/m3)



Air quality is correlated with truck traffic

Fine particles (PM 2.5)

Mean (mcg/m3) (Annual Average 2022)

