

Outreach about Community Composting at Select MTA Stations

Exploratory Data Analysis Project
Chloe Bergsma-Safar
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Introduction

Motivations

- Concerns about climate change
- Personal practice of composting at a community drop-off site in LA

Objective

- Identify a station in each borough at which to conduct outreach

Goal

- Increase awareness of and knowledge about composting in NYC

Methodology

Data

- MTA turnstile data from late April - July 2021
- MTA station location data
- Food scrap drop-off site location data

Tools

- Numpy, Pandas and SQLAlchemy for data collection and manipulation
- Matplotlib and Seaborn for plotting
- Geopandas, Math and Shapely for distance calculations and geospatial analyses

Methodology (cont).

Two criteria for selecting MTA stations:

1. Moderate station traffic flow

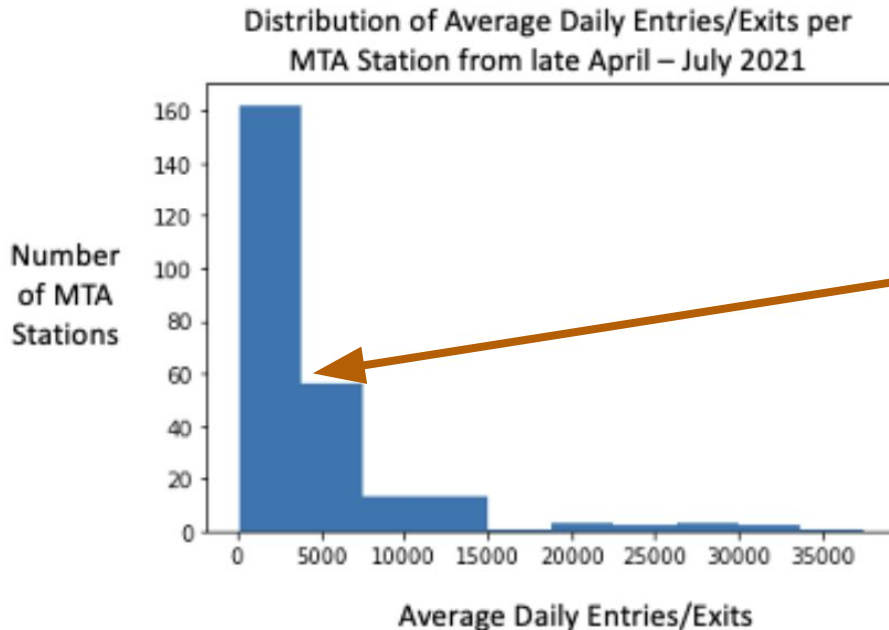
- Too few entries/exits = not enough people to reach
- Too many entries/exits = crowded station, commuters on the go

2. Close proximity to food scrap drop-off sites

- If drop-off sites are near stations – where people are already going – people might be more likely to respond positively to outreach

Methodology (cont).

How to determine *moderate* traffic flow?

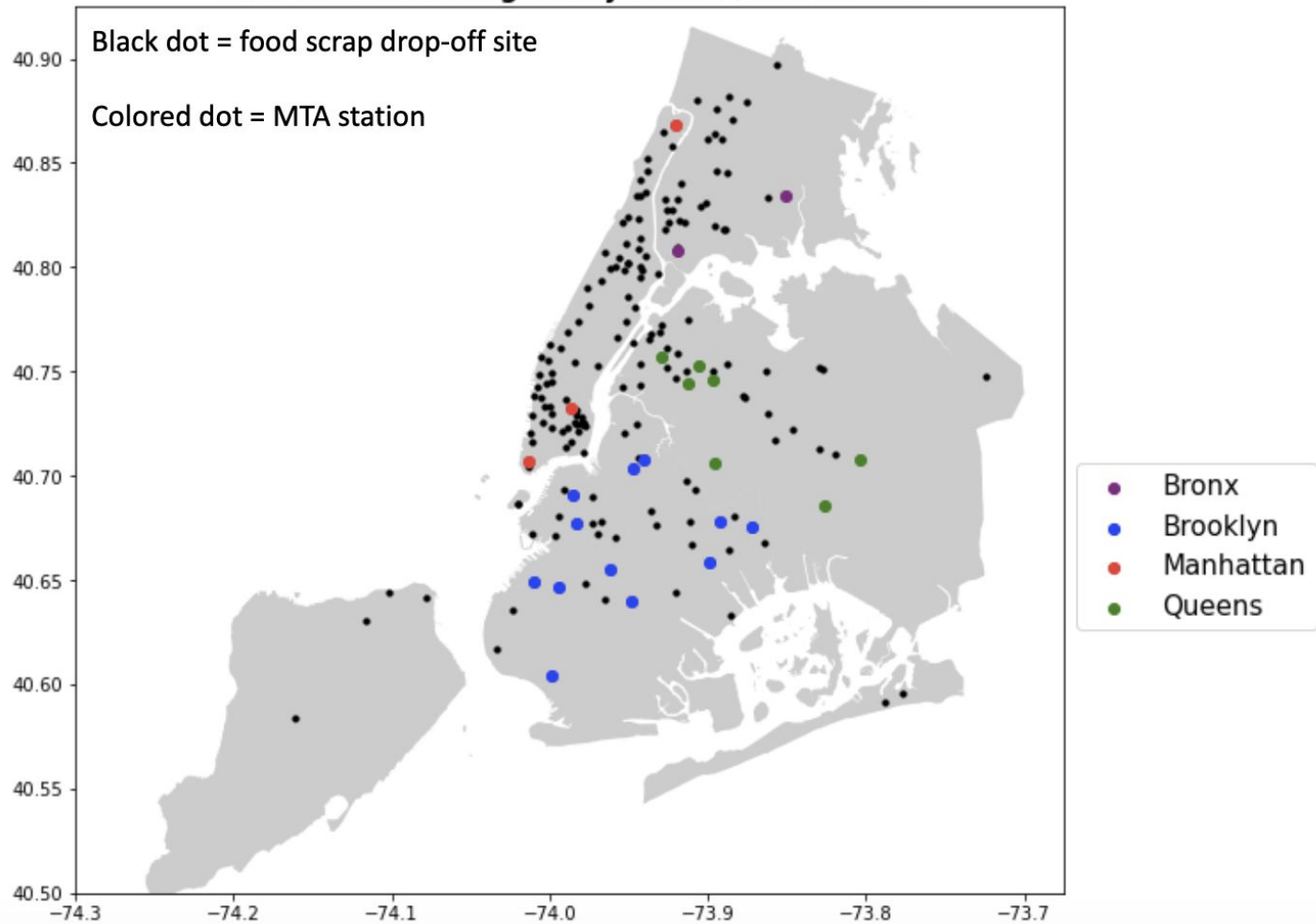


Moderate = approx. **median** # of daily average entries/exits per station

Median # of daily average entries/exits per station = approx. 2,689

Potential stations = those with between 2,500 and 3,000 daily entries/exits

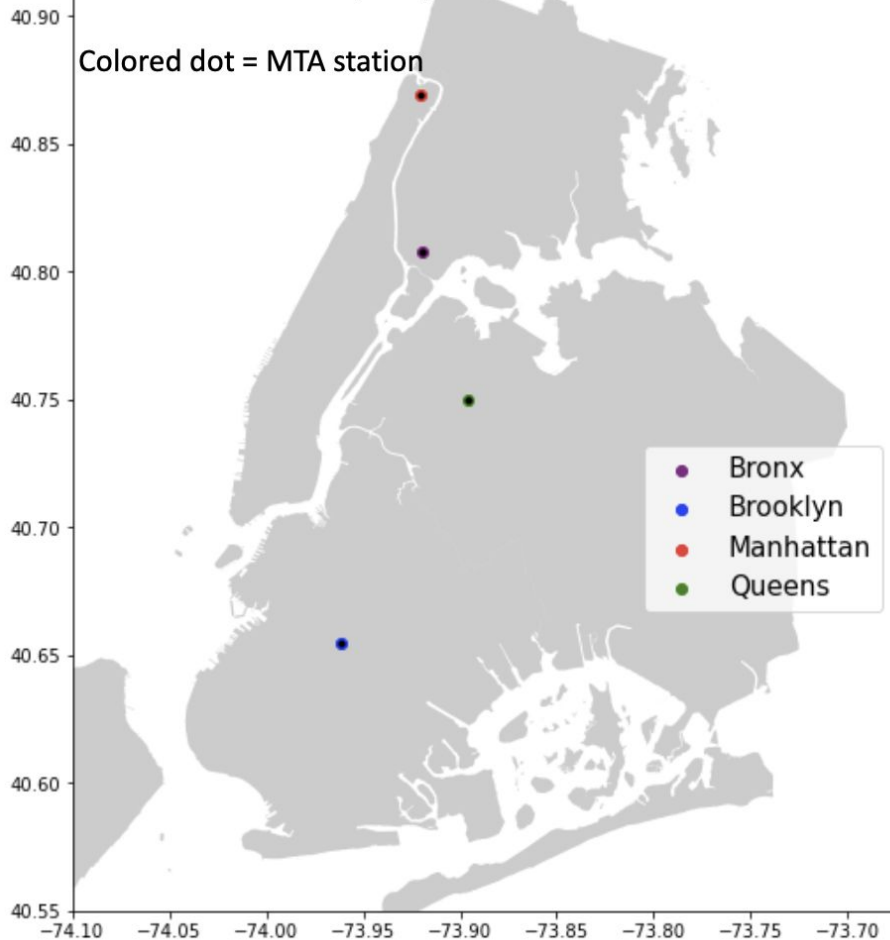
Food Scrap Drop-off Sites and MTA Stations with Median Average Daily Entries/Exits in NYC



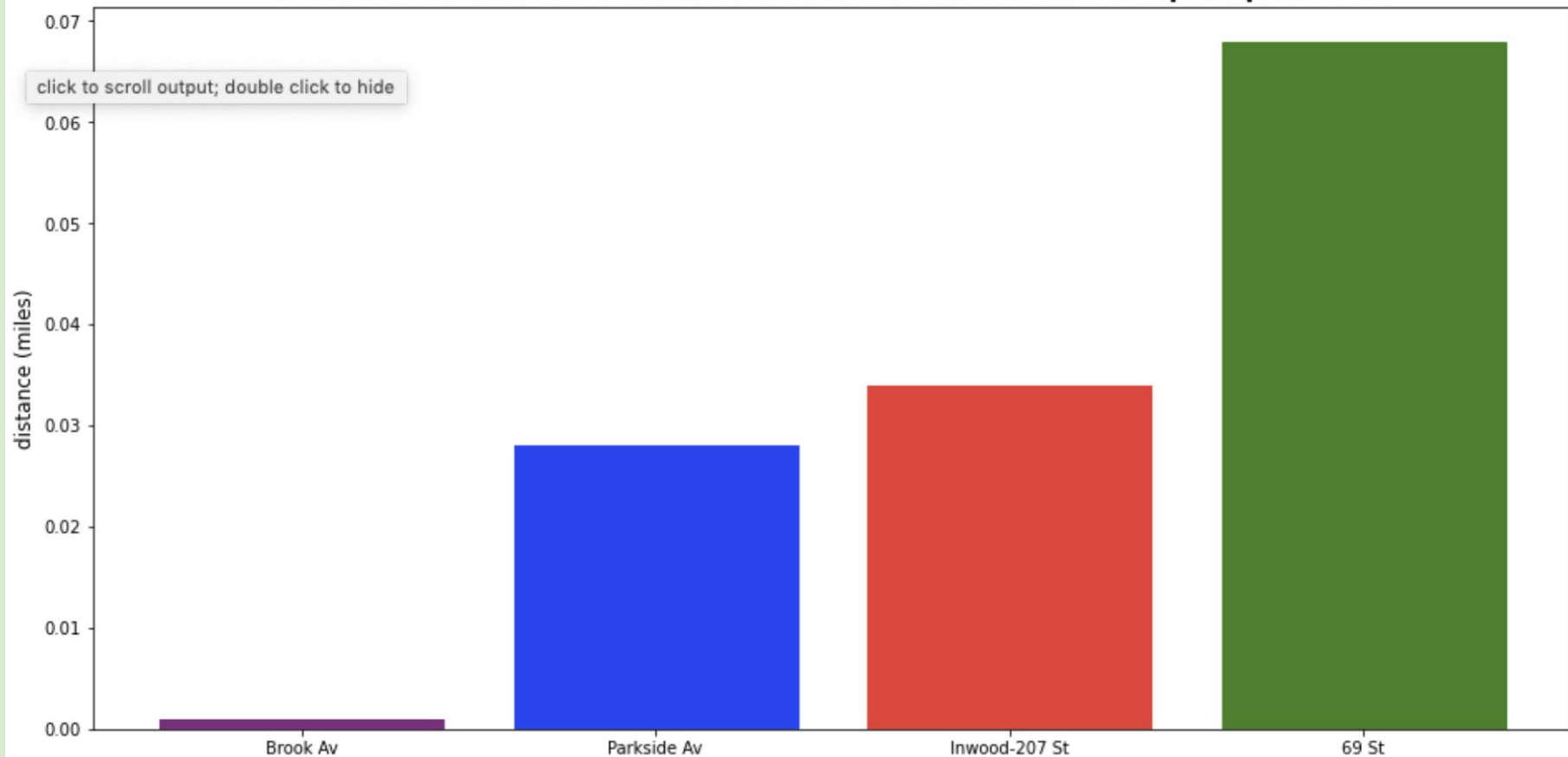
Food Scrap Drop-off Sites and MTA Compost Outreach Stations in NYC

Black dot = food scrap drop-off site

Colored dot = MTA station



Outreach Stations and their Distances to the Nearest Food Scrap Drop-off Sites



Results

- The four stations that met the selection criteria for conducting outreach:
 - Brooks Av station in the Bronx
 - Parkside Av station in Brooklyn
 - Inwood-207 St station in Manhattan
 - 69 St station in Queens
- Staten Island did not have a station that met the first selection criterion (i.e., moderate station traffic flow)

Conclusions and Future Work

Conclusions

- Most food scrap drop-off sites are located in Manhattan
 - It has almost 3x as many as the Bronx, Brooklyn and Queens
 - Staten Island has the fewest
- Some stations and food scrap drop-off sites that are extremely close

Future Work

- Explore other selection criteria
 - Food scrap drop-off sites where collection volume is low
 - Areas where residential compost service is not currently offered