

# Coursera Capstone Final Project

Finding the best places in NYC to open a BBQ  
restaurant

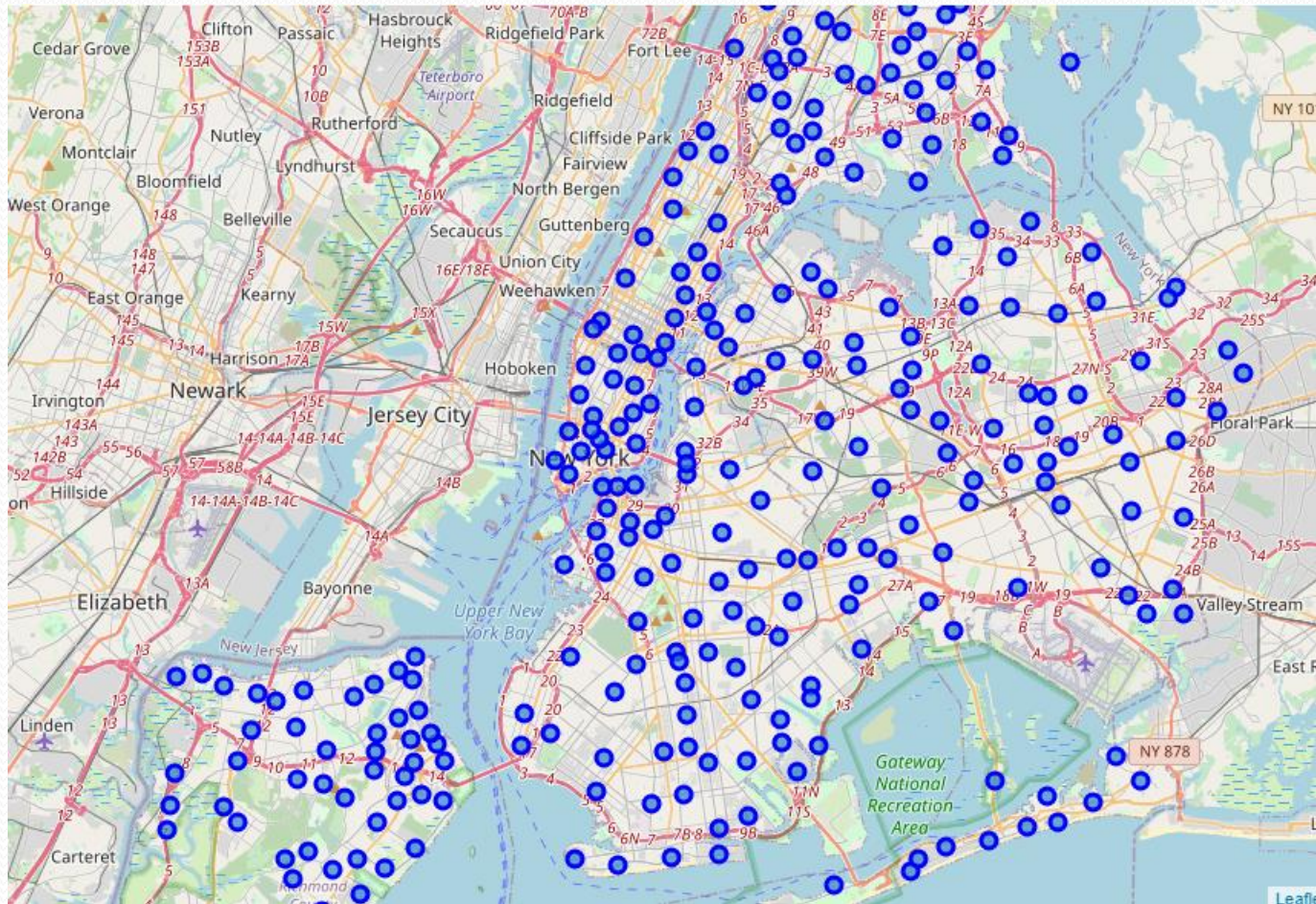
# The Problem

- New York City has over 8.4 million residents, over 65 million visitors a year... and they all have to eat!
- There is any type of cuisine available, but authentic southern American BBQ is hard to come by
- For my project I chose to pick the best neighborhoods in each of the 5 boroughs to open a BBQ restaurant

# Data / Approach

- Approach was similar to one of the Capstone labs
- Primary data source was Foursquare
  - Gather a list of all the neighborhoods, separate by borough
  - Pull top 100 venues located close to center of each neighborhood

# How do we pick from all of these neighborhoods?!



# Methodology

- Same process was conducted for each borough separately
  - Pull venue data from Foursquare, separate by venue type and frequency
  - Exclude neighborhoods that already have BBQ joints; find them by using one-hot encoding to separate venues by type & frequency
  - Find neighborhoods that have many other restaurants via conversion to new dataframe & listing top 10 venues
  - Use k-means clustering to separate the neighborhoods into more manageable sizes

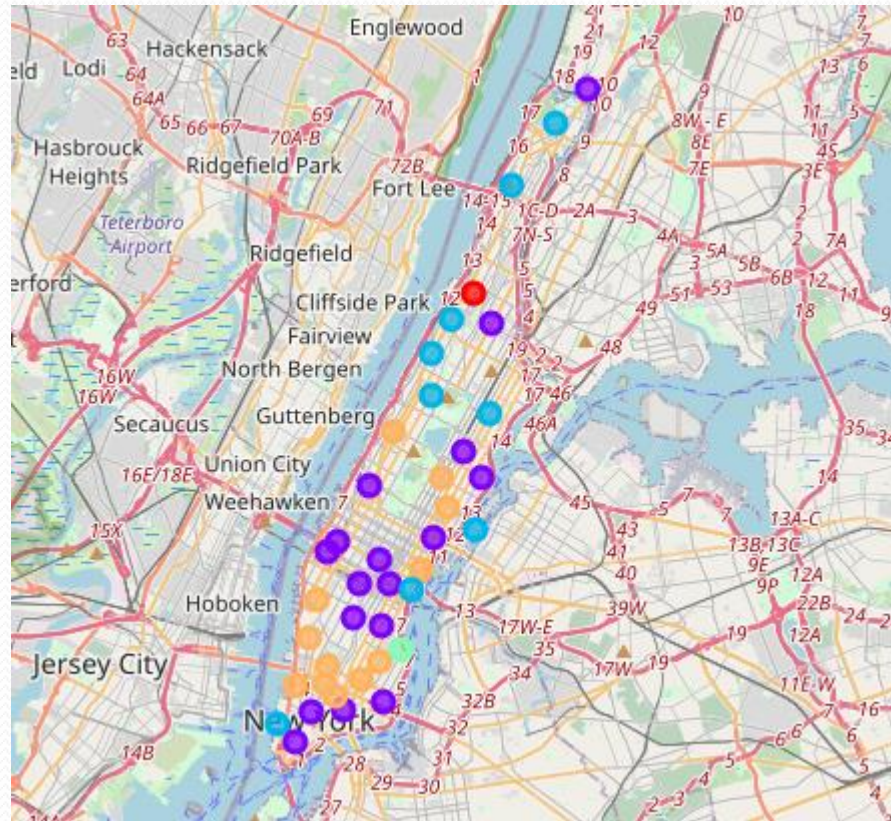
# Places where we don't want to open (already have BBQ)

Borough	Neighborhood	BBQ Frequency
Manhattan	Battery City	0.027
	Central Harlem	0.022
	Lenox Hill	0.010
	Manhattanville	0.024
The Bronx	Hunts Point	0.071
	Pelham Bay	0.024
	Van Nest	0.053
Brooklyn	Bedford Stuyvesant	0.033
	Cobble Hill	0.010
	Downtown	0.010
	East Williamsburg	0.014
	Gowanus	0.016
	North Side	0.010
	Red Hook	0.020
	South Side	0.010
	Wingate	0.045
	Astoria	0.010
Queens	Flushing	0.015
	Jamaica Center	0.021
	Murray Hill	0.021
	Rockaway Beach	0.043
	Sunnyside	0.024
Staten Island	Grant City	0.045



# Manhattan

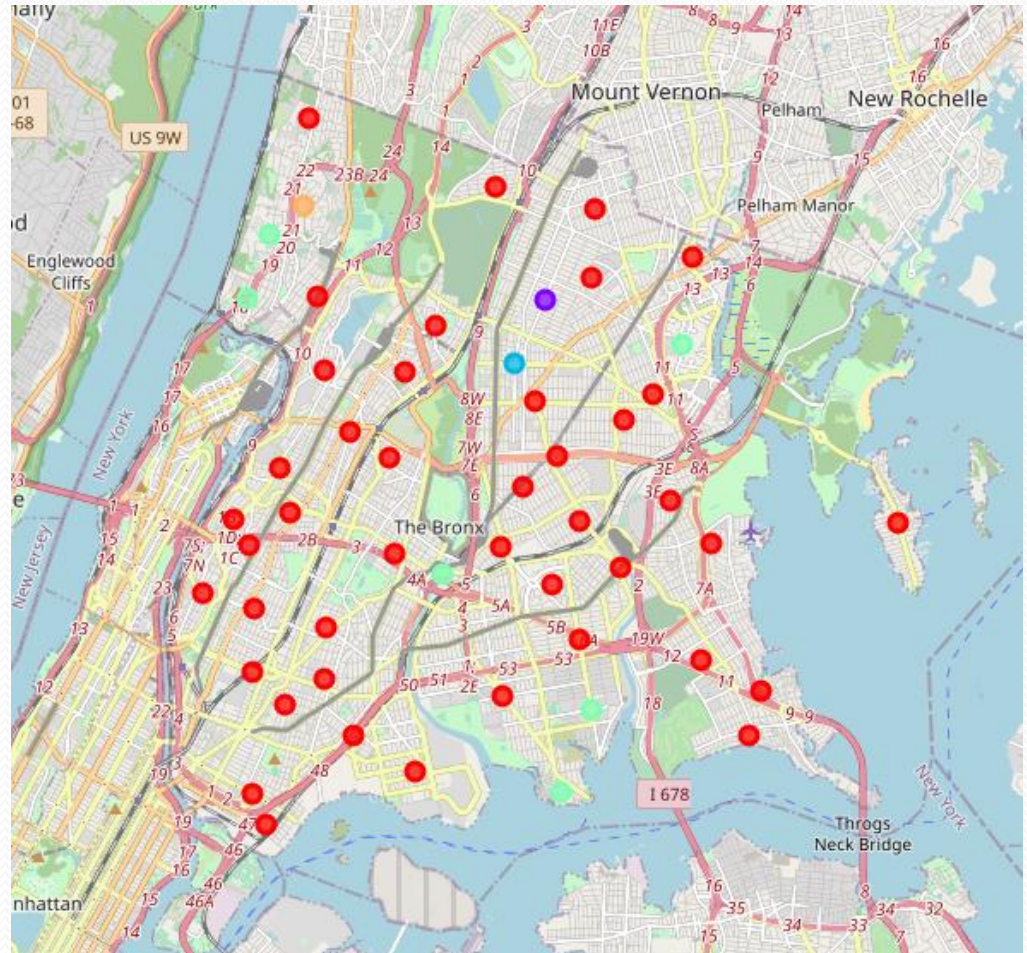
- Best neighborhood is Washington Heights
- Manhattan Valley, Morningside Heights or Tudor City also good choices



*Screenshot of Manhattan clusters*

# The Bronx

- Best neighborhood is Bedford Park
- Concourse Village or Kingsbridge Heights are also good locations

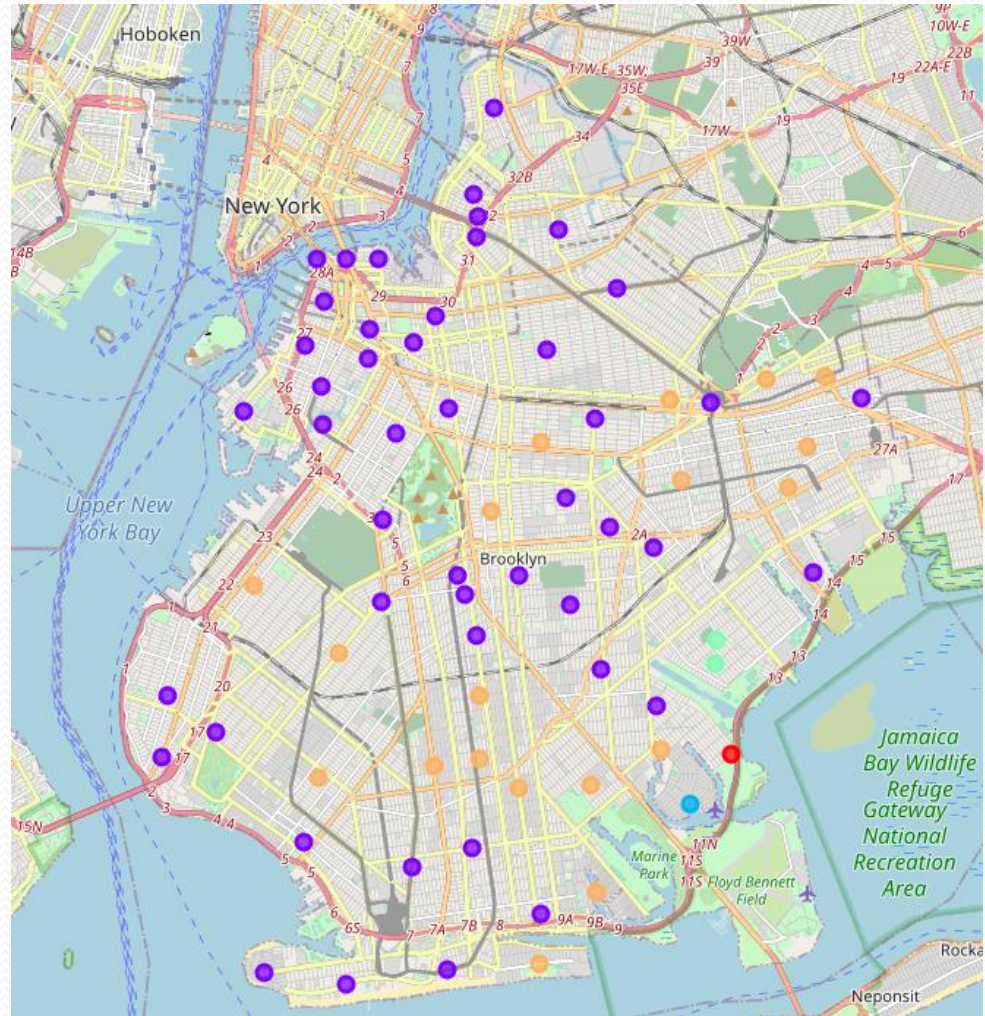


*Screenshot of Bronx clusters*



# Brooklyn

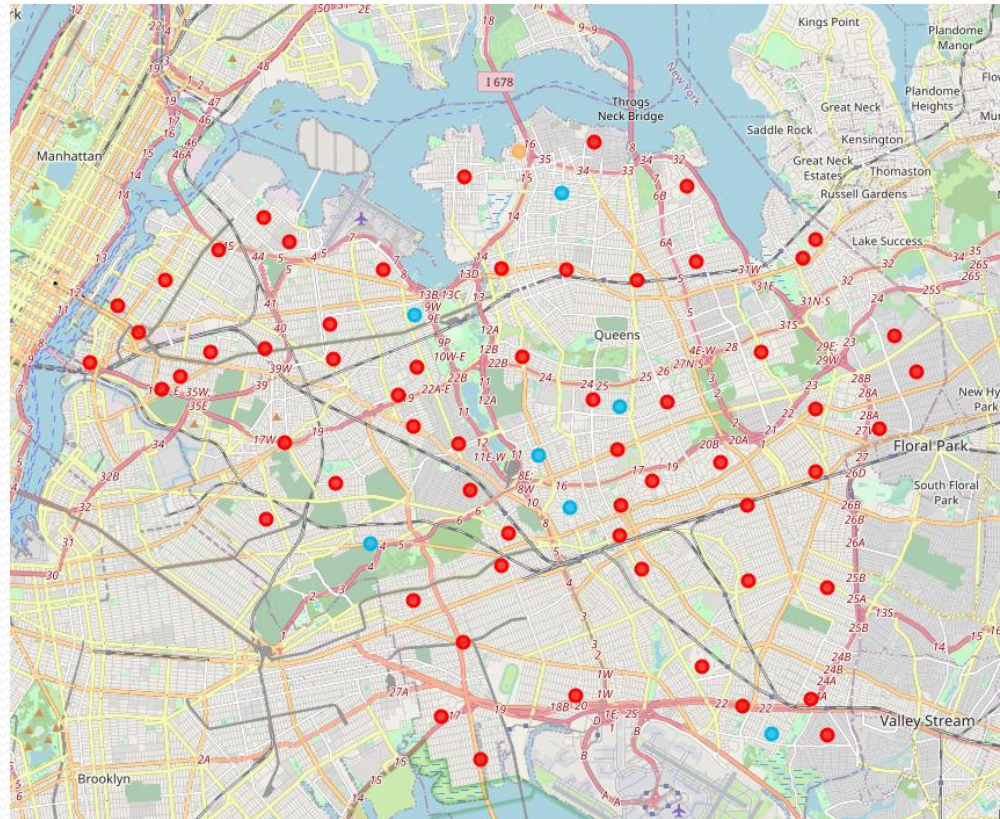
- Best neighborhood is Clinton Hill
- Prospect Lefferts Gardens and Ditmas Park are also good locations



*Screenshot of Brooklyn clusters*

# Queens

- Best neighborhood is Jackson Heights
- Elmhurst and Bayswater are also good locations

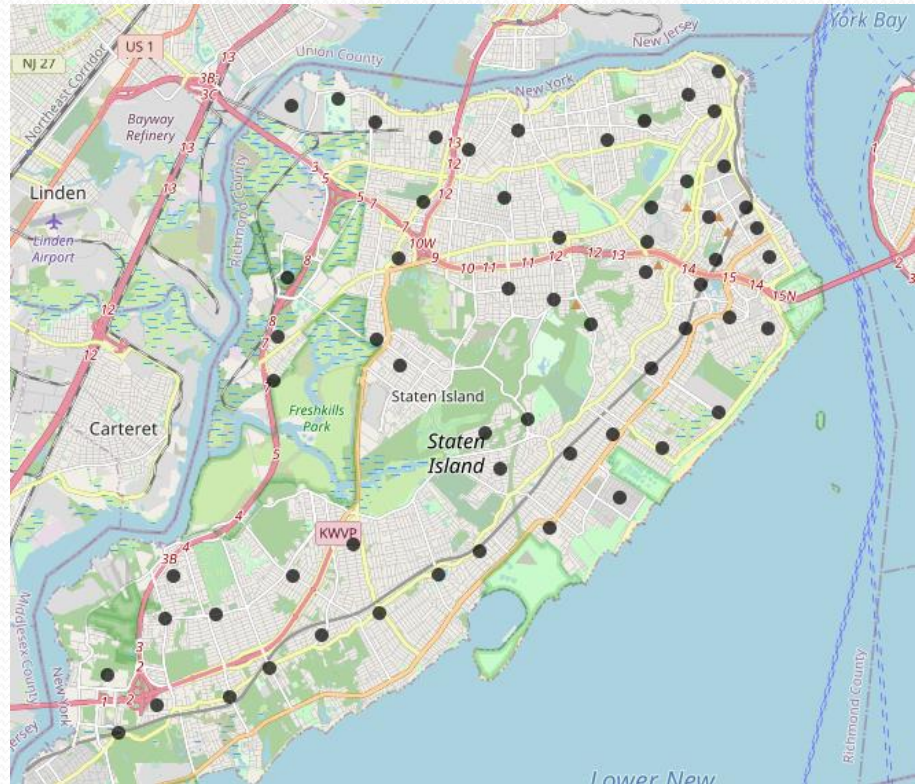


*Screenshot of Queens clusters*



# Staten Island

- Best neighborhood is Rosebank
- Grymes Hill and Tompkinsville are also good locations



*Screenshot of Staten Island neighborhoods*

# Discussion

- Results were dependent on a couple of key assumptions:
  - Choice of restaurant types were arbitrary
  - Excluding neighborhoods with BBQ joints already (to reduce competition)
  - Venues were picked based on fixed distance from neighborhood center
- Other factors (rent, available real estate, ease of access, etc. should be included in follow on studies



# Conclusions

- Best locations in each borough based on assumptions & criteria selected
  - Narrowed down from 306 neighborhoods containing 14,223 venues to compare against
- Potential additional studies identified
- Let's eat!

