

The Battle of Neighborhoods

The Prospect of a Lunch Restaurant Close to Office Areas in New York City



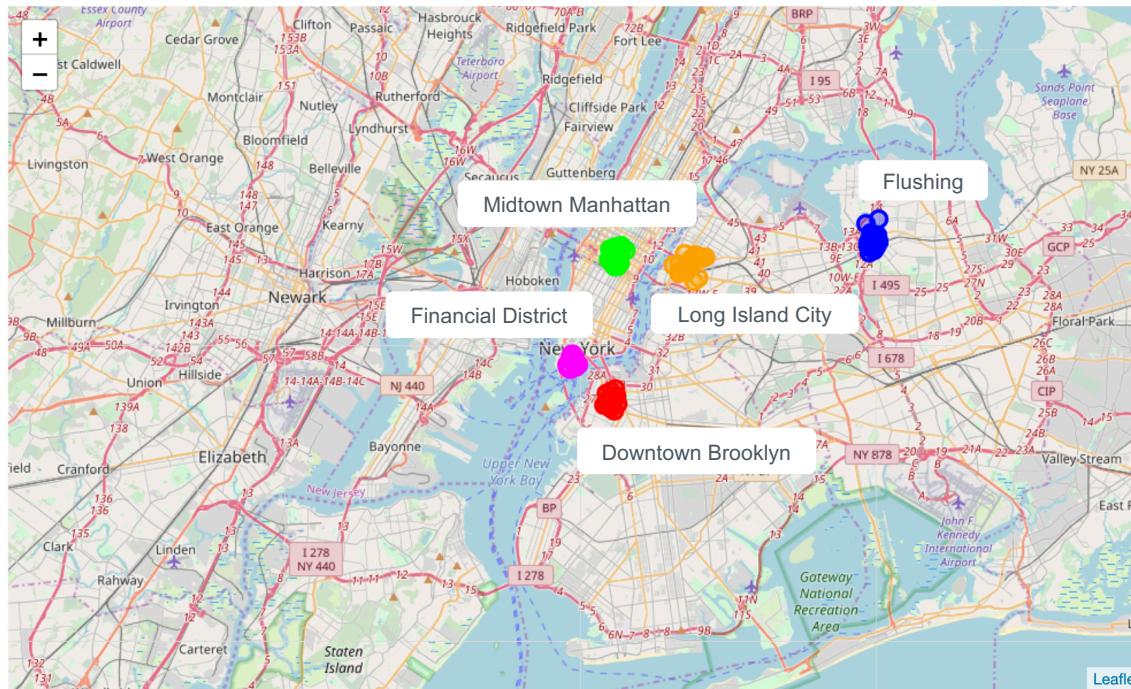
Introduction

- ▷ **New York City** is one of the world's 20 largest metropolitan areas and the financial capital of USA. It is a global hub of all kinds of businesses.
- ▷ **Restaurants** close to office areas usually get full during daytime, especially at lunch time (11am - 2pm)
- ▷ Analyzing the **prospect of opening a lunch restaurant, close to office areas in the city of New York** will be interesting for both business personal and office workers.

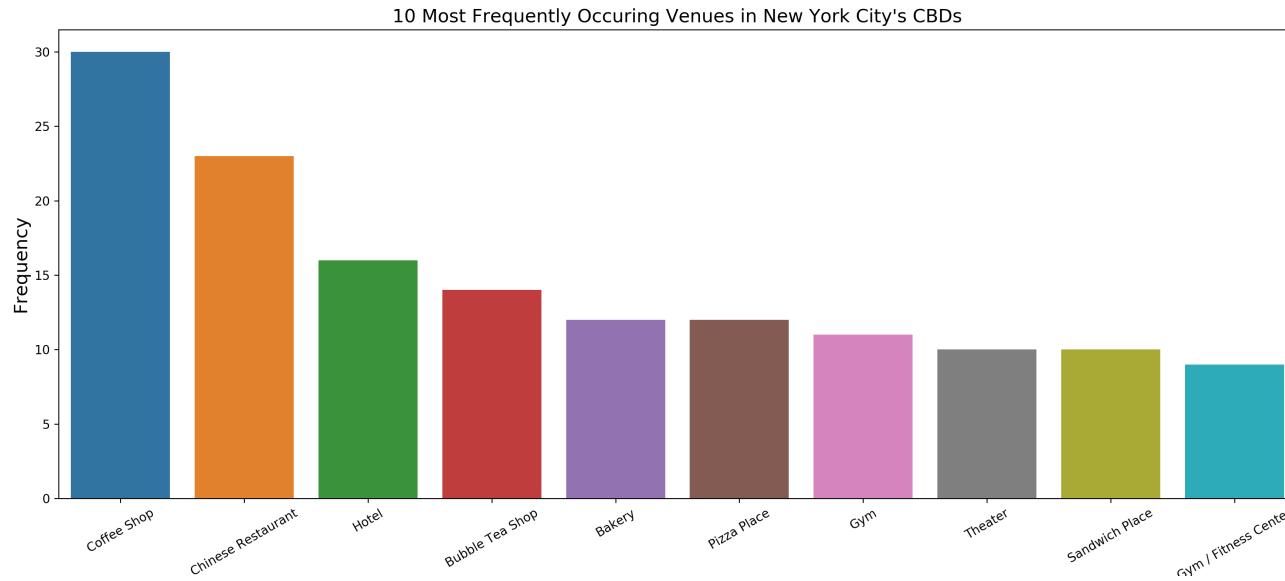
Data acquisition

- ▷ **New York City Dataset**
 - New York City neighborhoods and boroughs along with the geographical coordinates for each neighborhood, available [here](#)
 - Composed of 5 boroughs and 306 neighborhoods
- ▷ **Foursquare Data**
 - Dataset of the top 100 venues within 1 km of the center of each neighborhood.

The Most Frequently Visited Restaurants In The Five Central Business Districts Of New York City



The Ten Most Frequent Venues Among The Five Central Business Districts Of New York City



Coffee shops tops the charts in the five districts as the most frequently occurring venue type

The Ten Most Common Venues In Each District And The Frequency Of Each Venue Type

----Downtown----

| | venue | freq |
|---|-----------------------|------|
| 0 | Coffee Shop | 0.07 |
| 1 | Bakery | 0.04 |
| 2 | Bar | 0.03 |
| 3 | Sandwich Place | 0.03 |
| 4 | Gym / Fitness Center | 0.03 |
| 5 | Chinese Restaurant | 0.02 |
| 6 | Performing Arts Venue | 0.02 |
| 7 | Pizza Place | 0.02 |
| 8 | Burger Joint | 0.02 |
| 9 | Japanese Restaurant | 0.02 |

----Financial District----

| | venue | freq |
|---|----------------------|------|
| 0 | Coffee Shop | 0.08 |
| 1 | American Restaurant | 0.04 |
| 2 | Wine Shop | 0.04 |
| 3 | Pizza Place | 0.04 |
| 4 | Sandwich Place | 0.03 |
| 5 | Falafel Restaurant | 0.03 |
| 6 | Gym / Fitness Center | 0.03 |
| 7 | Cocktail Bar | 0.03 |
| 8 | Café | 0.03 |
| 9 | Event Space | 0.03 |

----Flushing----

| | venue | freq |
|---|----------------------|------|
| 0 | Chinese Restaurant | 0.18 |
| 1 | Bubble Tea Shop | 0.12 |
| 2 | Hotpot Restaurant | 0.07 |
| 3 | Korean Restaurant | 0.06 |
| 4 | Dumpling Restaurant | 0.05 |
| 5 | Bakery | 0.05 |
| 6 | Asian Restaurant | 0.04 |
| 7 | Cantonese Restaurant | 0.03 |
| 8 | Pizza Place | 0.02 |
| 9 | Food Court | 0.02 |

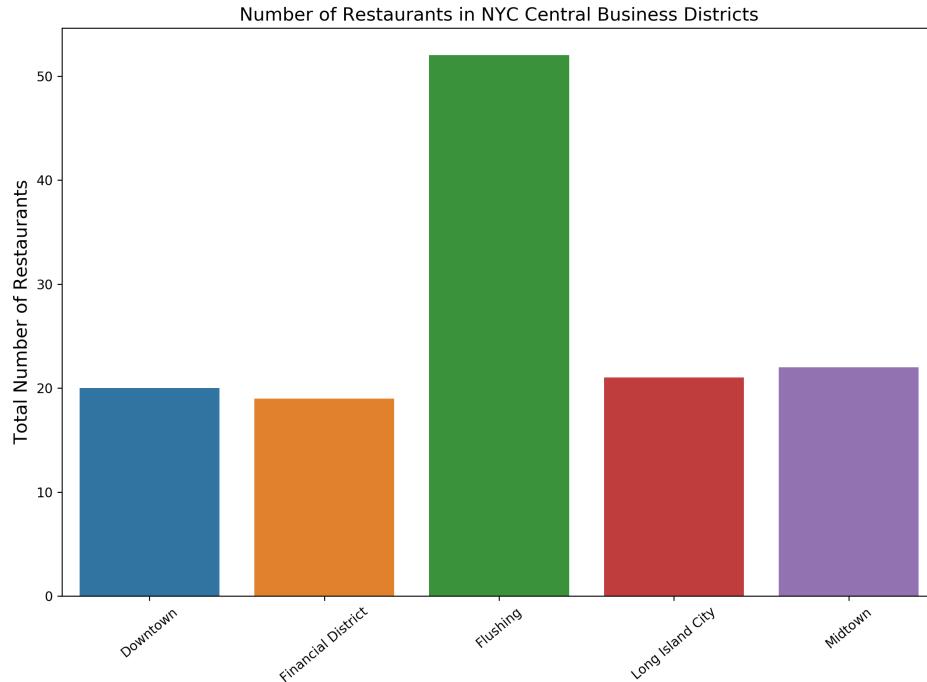
----Midtown----

| | venue | freq |
|---|---------------------|------|
| 0 | Theater | 0.08 |
| 1 | Coffee Shop | 0.04 |
| 2 | Gym | 0.04 |
| 3 | Hotel | 0.04 |
| 4 | Plaza | 0.03 |
| 5 | Sandwich Place | 0.03 |
| 6 | Cuban Restaurant | 0.03 |
| 7 | American Restaurant | 0.02 |
| 8 | Clothing Store | 0.02 |
| 9 | Chinese Restaurant | 0.02 |

----Long Island City----

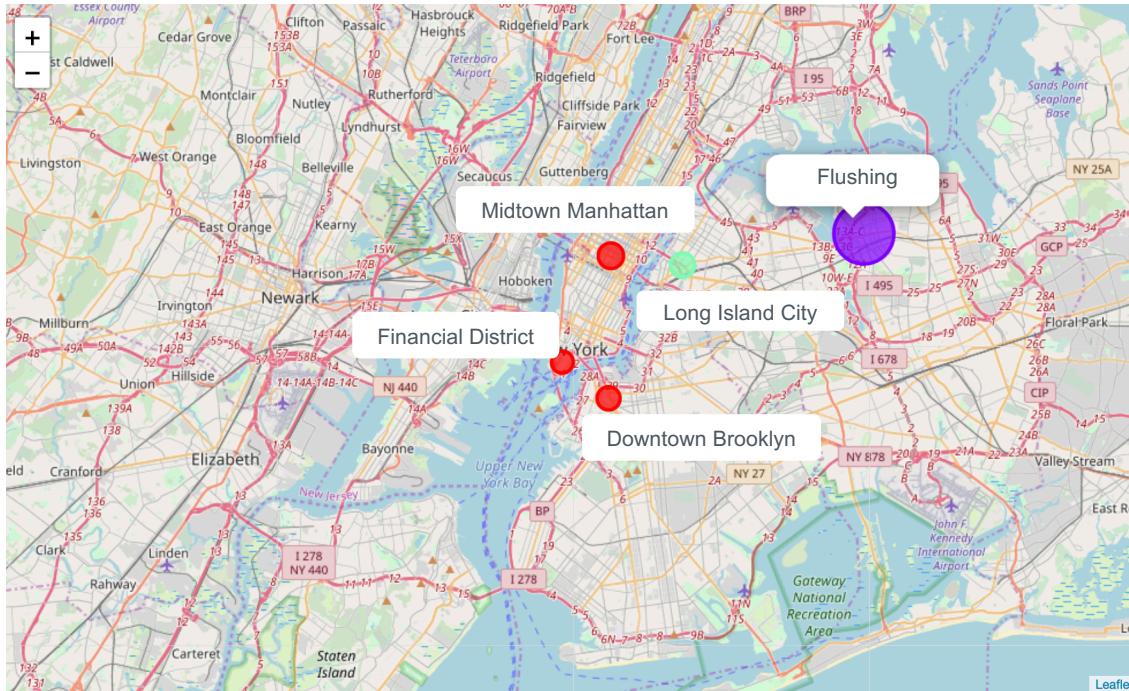
| | venue | freq |
|---|---------------------|------|
| 0 | Coffee Shop | 0.10 |
| 1 | Hotel | 0.09 |
| 2 | Mexican Restaurant | 0.04 |
| 3 | Indian Restaurant | 0.03 |
| 4 | Pizza Place | 0.03 |
| 5 | Italian Restaurant | 0.03 |
| 6 | Café | 0.03 |
| 7 | American Restaurant | 0.02 |
| 8 | Dessert Shop | 0.02 |
| 9 | Donut Shop | 0.02 |

Which District Has The Highest Number Of Restaurants As The Most Common Venue Type ?



- **Flushing District** located in the northern part of Queens borough, scored the highest number of restaurants (52).
- Whereas the **Financial District** at the lower part on Manhattan has the lowest number of restaurants (19).

Clustering: The Final Map Of 3 Clusters With Radius Of The Clusters Representing The Number Of Restaurants In Each Neighborhood



- **Midtown Manhattan, Financial District and Downtown Brooklyn** are dominated by coffee shops, gyms/ fitness centers and sandwich place, fall under the red cluster.
- **Flushing District** dominated by Chinese restaurants stands alone under the purple circle.
- Lastly, **Long Island** district dominated by hotels is also in a separated cluster (green circle).

Conclusion

- ▷ Flushing district will provide the most competition for an upcoming lunch restaurant (has the **highest** number of restaurants among the five districts).
- ▷ Midtown Manhattan, Financial district, Long Island City and Downtown Brooklyn have quite similar number of restaurants (22, 19, 20 and 21 respectively).
- ▷ In general, the **cost of spaces** in Manhattan are comparatively high, whereas Downtown Brooklyn has lower cost of rents
- ▷ Therefore, **Downtown Brooklyn** will be the most suitable district for an upcoming lunch restaurant (Coffee shop is the most common venue type and the frequency of restaurants is very low compared to the remaining districts)

Further Analysis

- ▷ **Different factors** that could play a major role should be considered in order to make a better decision:
 - Average price per square foot
 - Distance of the venues from the closest station
 - Number of potential customers
 - Ingredients suppliers
- ▷ **Other clustering techniques** could be used such as DBSCAN.