



The Battle of the Neighborhoods -Week 2



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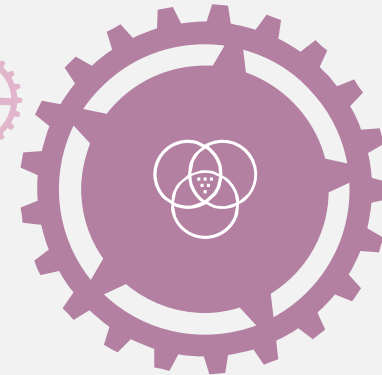
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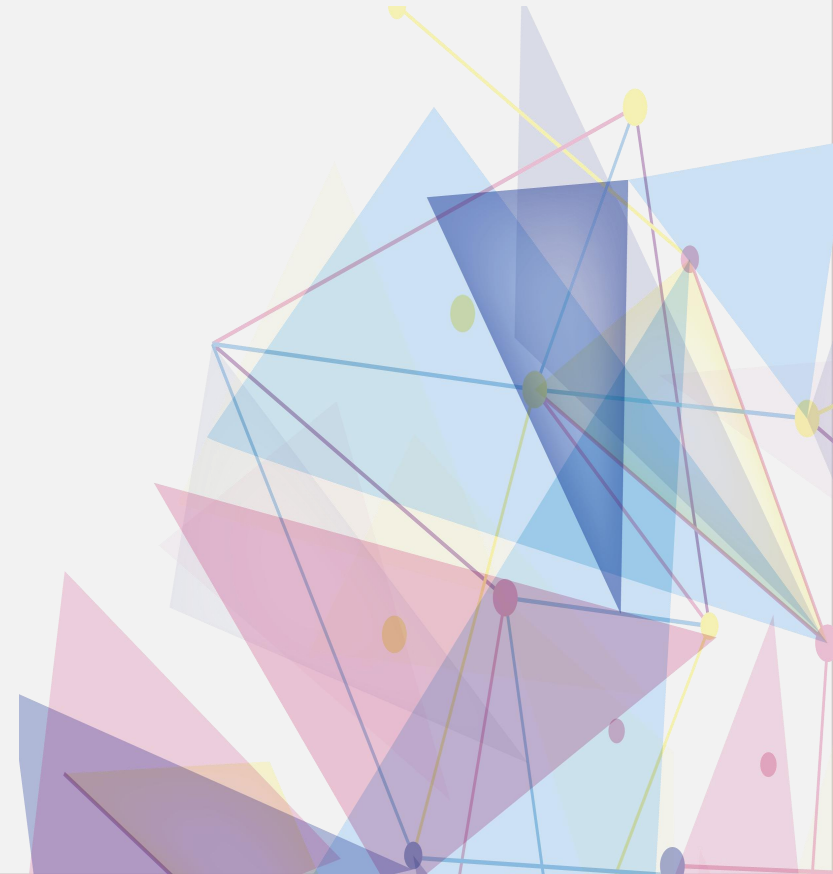


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Introduction



Background



New York City is the most populous city in the United States, the heart of the New York metropolitan area, and one of the largest cities in the world. It is a cosmopolitan city with great influence on global economics, business, finance, media, politics, education and entertainment. New York is also home to the United Nations headquarters and is therefore considered the center of world diplomacy. New York is also known as the "cultural capital of the United States" and is one of the top three cosmopolitan "Newports" in the world.

With 55 million visitors coming to New York each year, many areas and landmarks are well known. New York has also been chosen by different media as the most photographed city in the world. Times Square is one of the most pedestrianized pedestrian locations in the world and one of the centers of the world's entertainment industry. New York's financial district, led by Wall Street in lower Manhattan, is known as the world's financial center. New York is also home to many institutions of higher learning.

It is for this reason that New York City attracts a large number of investors who choose to open businesses here every year.

Problem

Since New York is very big, the abundance of site selection creates a huge confusion for everyone who wants to start a business here. If someone wants to open a restaurant in New York, where should they choose?

Data

a) Latitude, Longitude

b) Neighborhoods

c) General Information: https://en.wikipedia.org/wiki/New_York_City

d) DEMOGRAPHICS DATA:

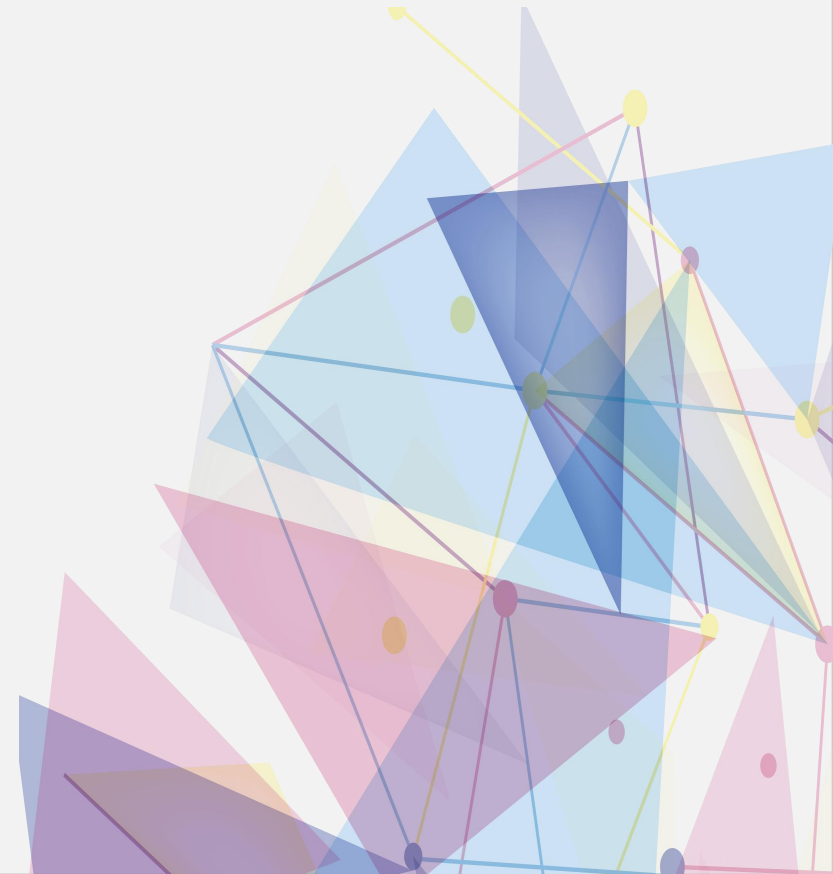
https://en.wikipedia.org/wiki/Demographics_of_New_York_City

e) Population

f) Farmers Market dataset:

<https://data.cityofnewyork.us/dataset/DOHMH-Farmers-Markets-and-Food-Boxes/8vwk-6iz2>

Methodology section



Business Understanding :

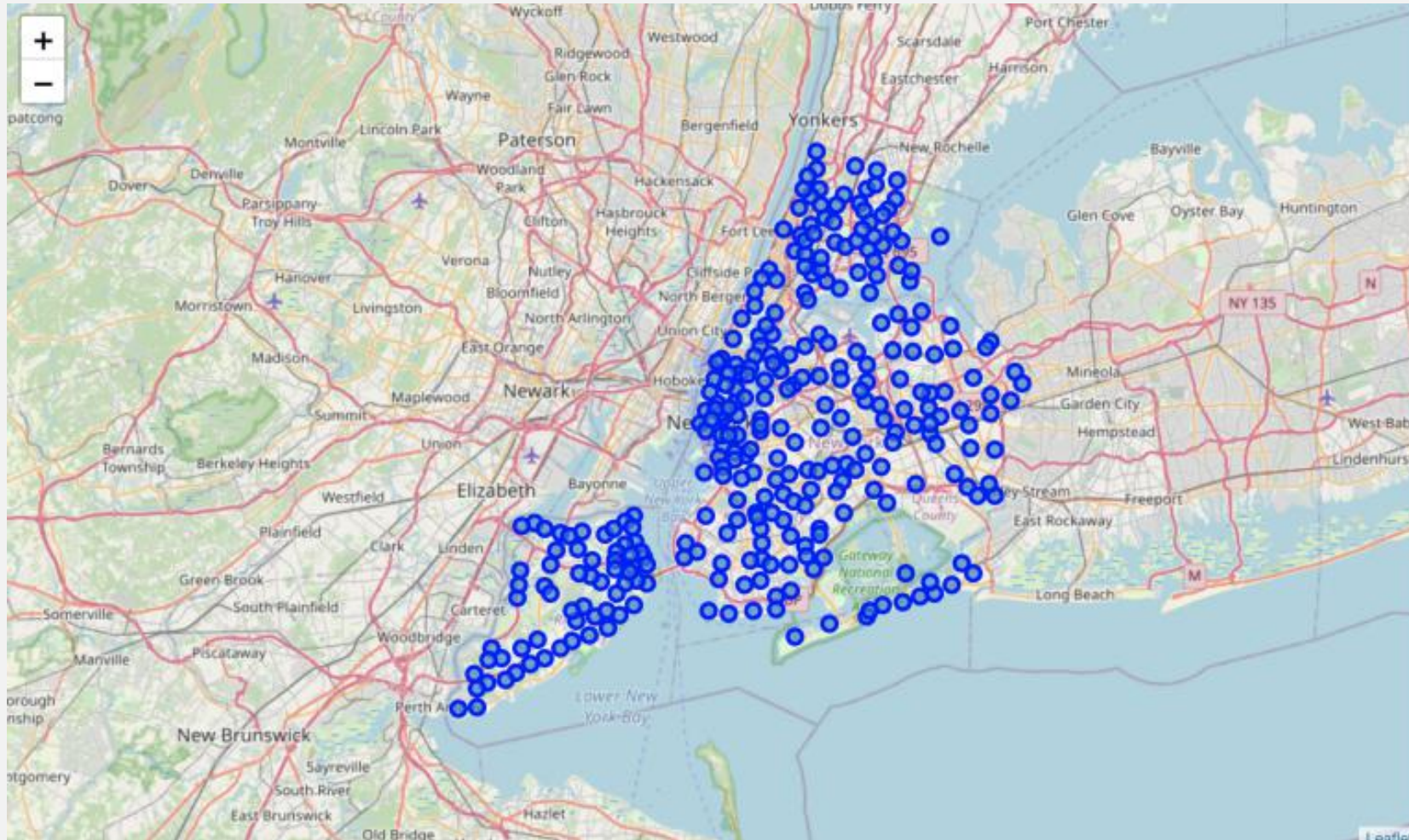
The goal is to find the optimal location for a restaurant.

Analytic Approach :

1. We visualized the neighborhoods in each borough to determine the diversity of sites as well as the likely foot traffic size and population density.
2. Comparison of the number of neighborhoods in each borough to select borough with more neighborhoods
3. Compare the economic trends and population growth of each borough to determine the long-term growth potential of the area.
4. From this venues data we filtered and used only the restaurant data for Brooklyn & Manhattan clustering and Bronx, Queens and Staten Island clustering. As we focussed only on restaurants business.

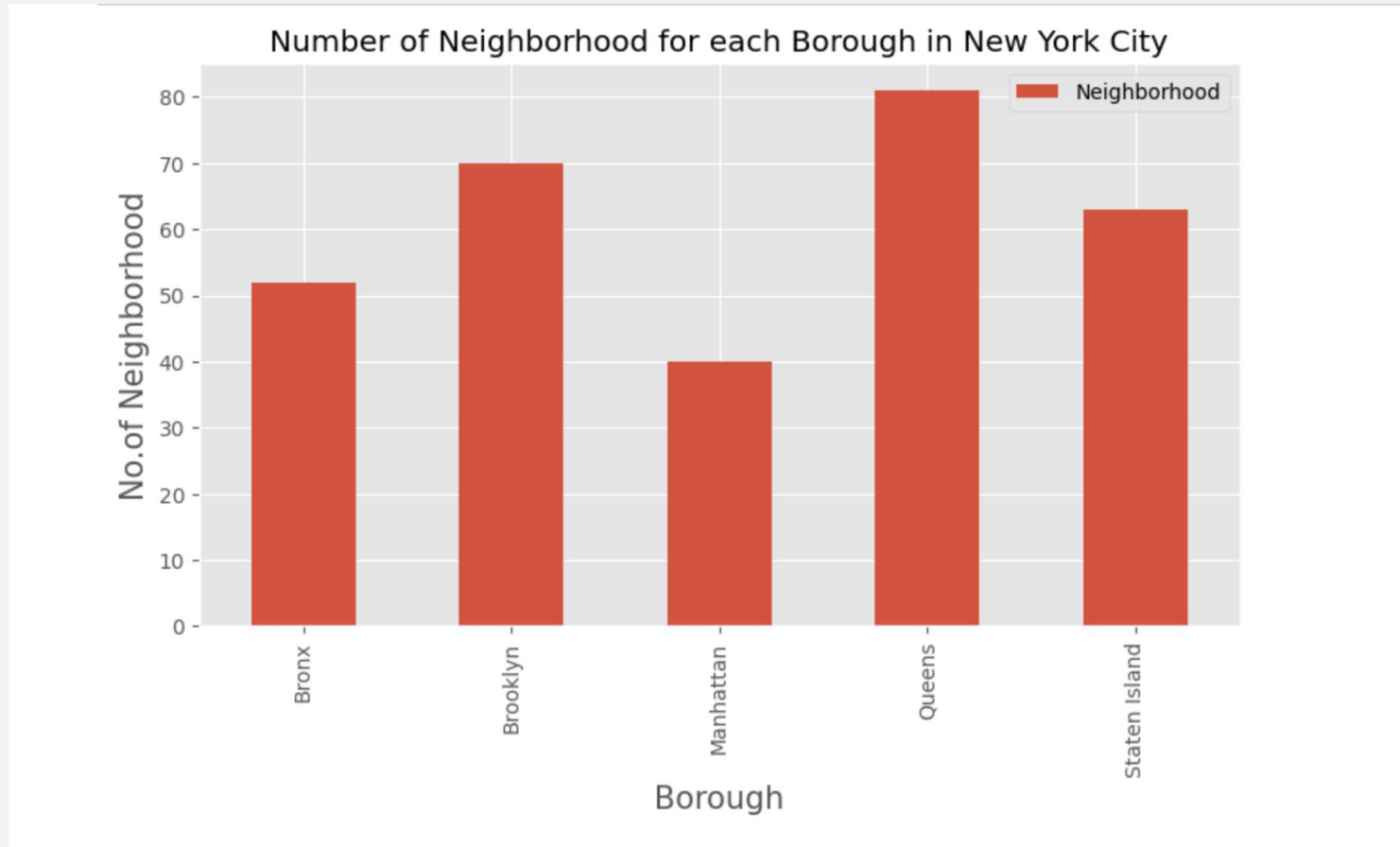
Results:

1. New York city neighbourhood has a total of 5 boroughs and 306 neighborhoods. We can see Figure a)



Results:

2. Queens has the most neighbourhoods, followed by Booklyn. We can see Figure



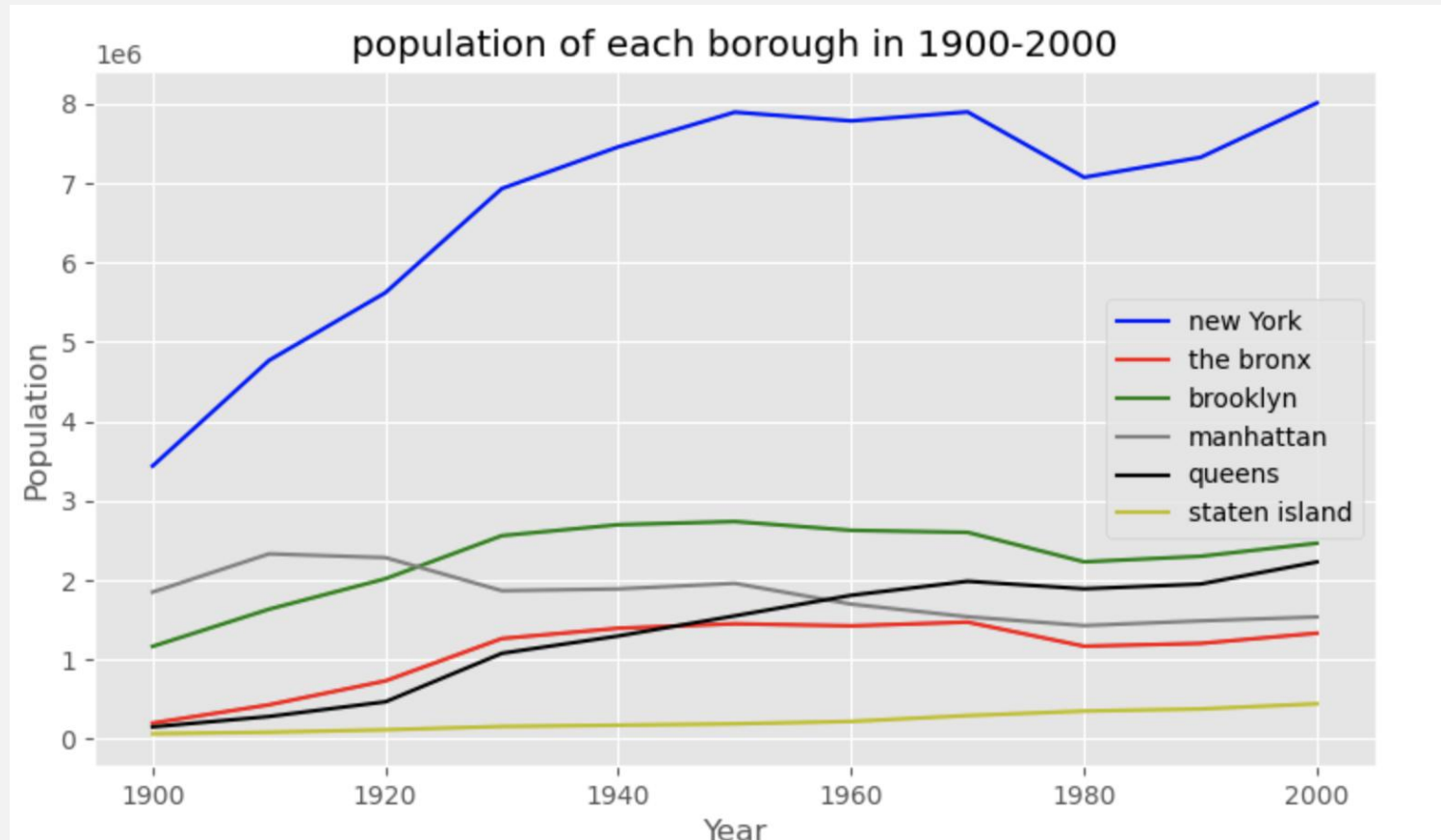
Results:

3. Manhattan had most GDP in 2012 and has the highest population density. We can see Figure c)

	Borough	County	population_2019	GDP_2012	square_miles	square_km	person_mi2
0	The Bronx	Bronx	1,418,207	42.695	42.10	109.04	33,867
1	Brooklyn	Kings	2,559,903	91.559	70.82	183.42	36,147
2	Manhattan	New York	1,628,706	600.244	22.83	59.13	71,341
3	Queens	Queens	2,253,858	93.310	108.53	281.09	20,767
4	Staten Island	Richmond	476,143	14.514	58.37	151.18	8,157

Results:

4. Between 1900 and 2000, the population growth trend of Queens was more stable than that of other regions, showing a steady growth overall.



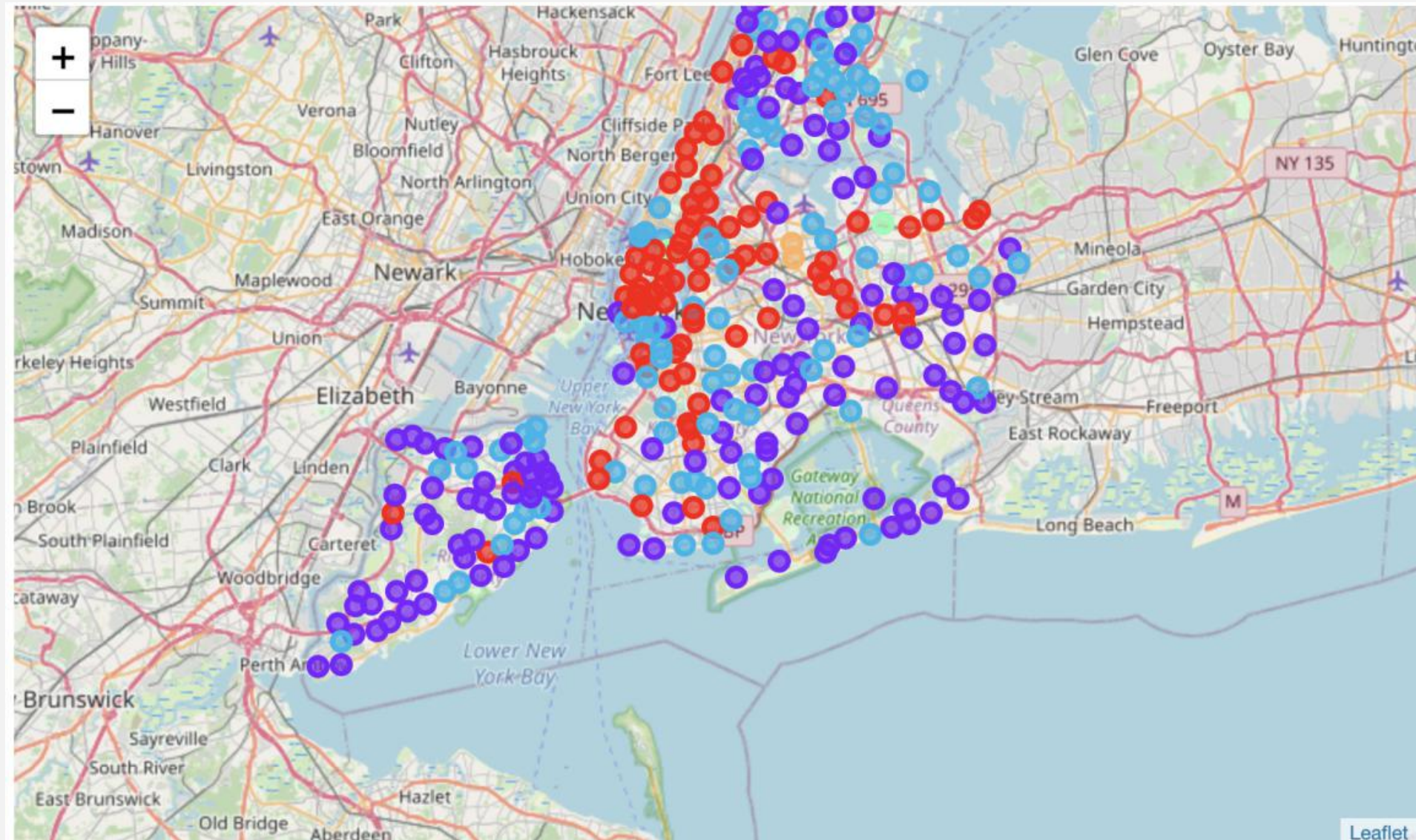
Results:

5.The Total and Total Sum of cluster1 has smallest value. It shows that the market is not saturated. There are untapped neighborhoods. List is as given below. The Total and Total Sum of cluster5 has highest value. It shows that the markets are saturated. Number of restaurants are very high. saturated. Number of restaurants are very high.

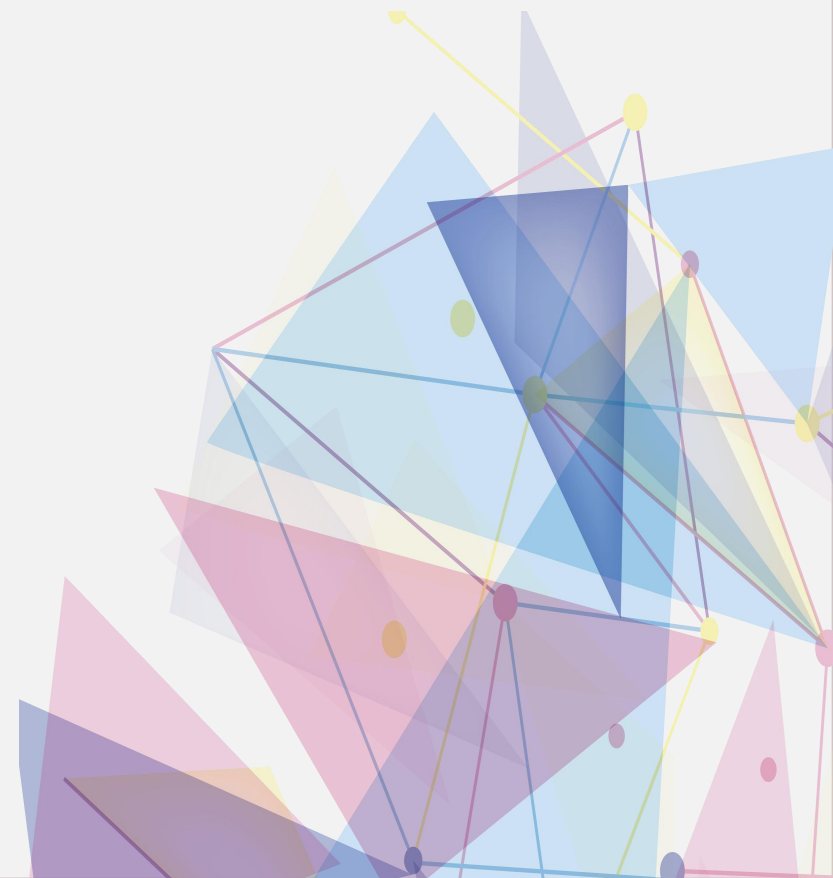
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136]: print(NY_results[['Total', 'Total Sum']])
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	Total	Total Sum
cluster0	28.129870	56.259740
cluster1	5.466165	10.932331
cluster3	15.258427	30.516854
cluster5	77.000000	154.000000
cluster5	56.000000	112.000000

Results:



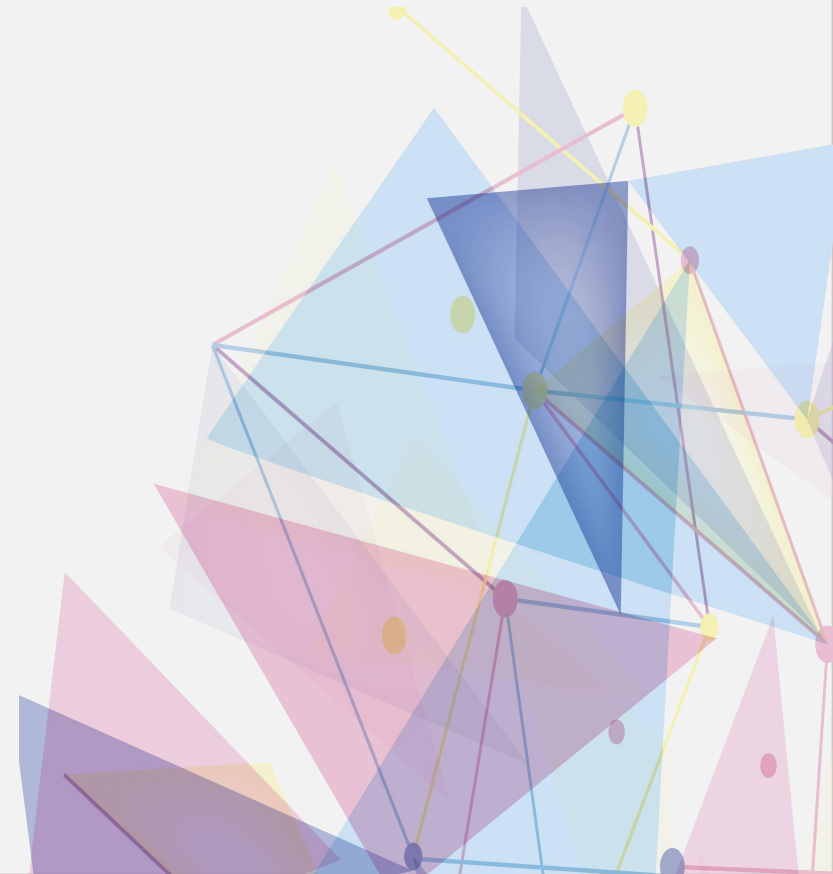
Discussion section



Discussion section

1. Manhattan has a large population base and a stable population growth trend and had the highest GDP in 2012 relative to its Borough and the largest population size as well as population density in 2019.
2. Brooklyn has the largest number of people in 2019, smaller population density, clustering results show not a bad number of visits, relatively unsaturated. gdp ranking tends to be third.
3. Queens has the second largest population size in 2019, relatively small population density, and the second highest GDP ranking

Conclusion section



Conclusion section

The final choice depends on the theme, type and size of the restaurant. If the restaurant itself is very competitive, then Manhattan is a better choice, with a larger footfall and population density.

If the restaurant itself is not very competitive, Brooklyn and Queens is a better choice, taking into account the number of people, population density and restaurant saturation, with relatively less competitive pressure and a higher probability of stable revenue for the restaurant.



THANK YOU

