



FINAL PROJECT

“The Battle of Neighborhoods”



INDEX

Introduction

Data

Methodology

Results

Discussion.

Conclusion

INTRODUCTION

Citizen insecurity in New York State has increased notably in the last year, because in 2019, it put the authorities on alert, since there has been a 55% increase in murders, despite that crime in general continues to decline, and last January there was a decrease of 8%, murders have increased so far this year, and as of last Sunday the New York Police Department (NYPD) had registered 48 cases, compared to the 31 in the same period in 2018, with the boroughs of Brooklyn and Queens being one of the most unsafe.





Regarding the districts of New York, it is shown that most of the murders have occurred in North Brooklyn, where it is evident that there is a sector that is covered by 10 police stations, in whose neighborhoods the highest number of cases have been registered . According to studies, the Crime Index in Brooklyn is 37.38 and the Safety Index is 62.62. It is also important to understand that Brooklyn is the most populous city in New York, where more than 2 and a half million people live in it, many more than in an average Spanish city.

The streets with the most homicides are in or around housing projects in Fort Greene, Brooklyn; Osborn Street in Brownsville, Brooklyn; and Rochdale Village Houses, between 130th Avenue and 166th Place, below Bedell Street in Queens.

DATA



The streets with the most homicides are in or around housing projects in Fort Greene, Brooklyn; Osborn Street in Brownsville, Brooklyn; In other words, the highest levels of this type of crime have been identified in this district. Brooklyn has the highest number of crashes in the city and the worst intersections are at Flatbush Avenue and Avenue H, and Saint Johns Place and Utica Avenue. Broadway Junction Station, Fulton Street, Brooklyn, is one of the main stations with increasing levels of violence. Prospect Park Station, Lincoln Road, Brooklyn. NYPD data reports this subway station has suffered many robbery incidents over the past five years, making it one of the most dangerous stations in the subway system

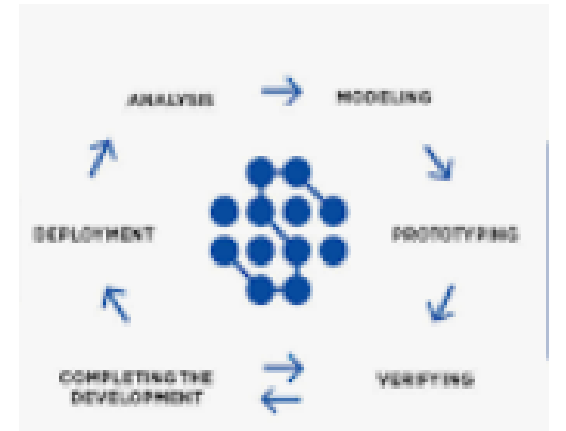
DATA



Regarding the county of Queens, it is a territory with the most important ethnic enclaves of New York, the most problematic areas of Queens are in the north, specifically in the southern area of La Guardia Airport, which is known as East Elmhurst and Jackson Heights . The other focus of conflict is the South Jamaica area, a working-class residential area with high crime rates and gang fighting. The Rockaway Peninsula, with Arverne and Edgemere leading the way, is also advisable to avoid. In Queens, the section with the highest concentration of gangs is in the Jackson Heights, Elmhurst and Corona neighborhoods. the famous Boulevard of Death for pedestrians is Queens Blvd. In Queens County, the area between Corona, Elmhurst and Jackson Heights is plagued by the presence of criminal gangs.

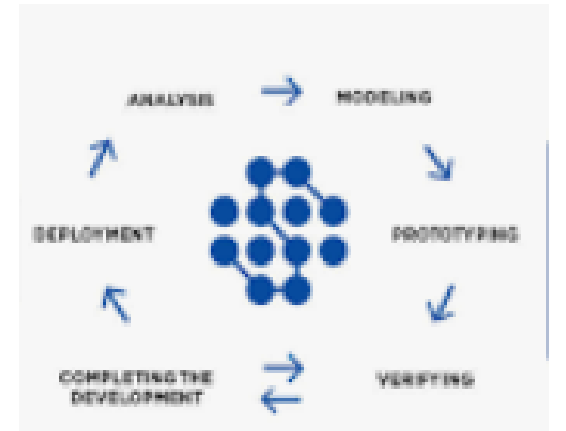
Therefore, it suggests the need to understand which are the sectors with the greatest influx of people to reinforce security in these sectors and improve the security condition of the inhabitants.

METHODOLOGY



- For this work we do segment and cluster only the neighborhoods, analyzing the 100 most common locations within a radius of 500 meters.
- Subsequently, the most important localities are applied to dataframes through a cluster study, to know how the localities are concentrated. It is important to understand that Clusters have the following methodology:
- Understanding that the clusters are:

METHODOLOGY



A group of interrelated companies and institutions, geographically concentrated, competing in the same business. They generally include:

- Companies located at various levels of the value chain
- Companies producing complementary goods and services
- Related institutions and organizations: universities, research centers, government agencies etc,

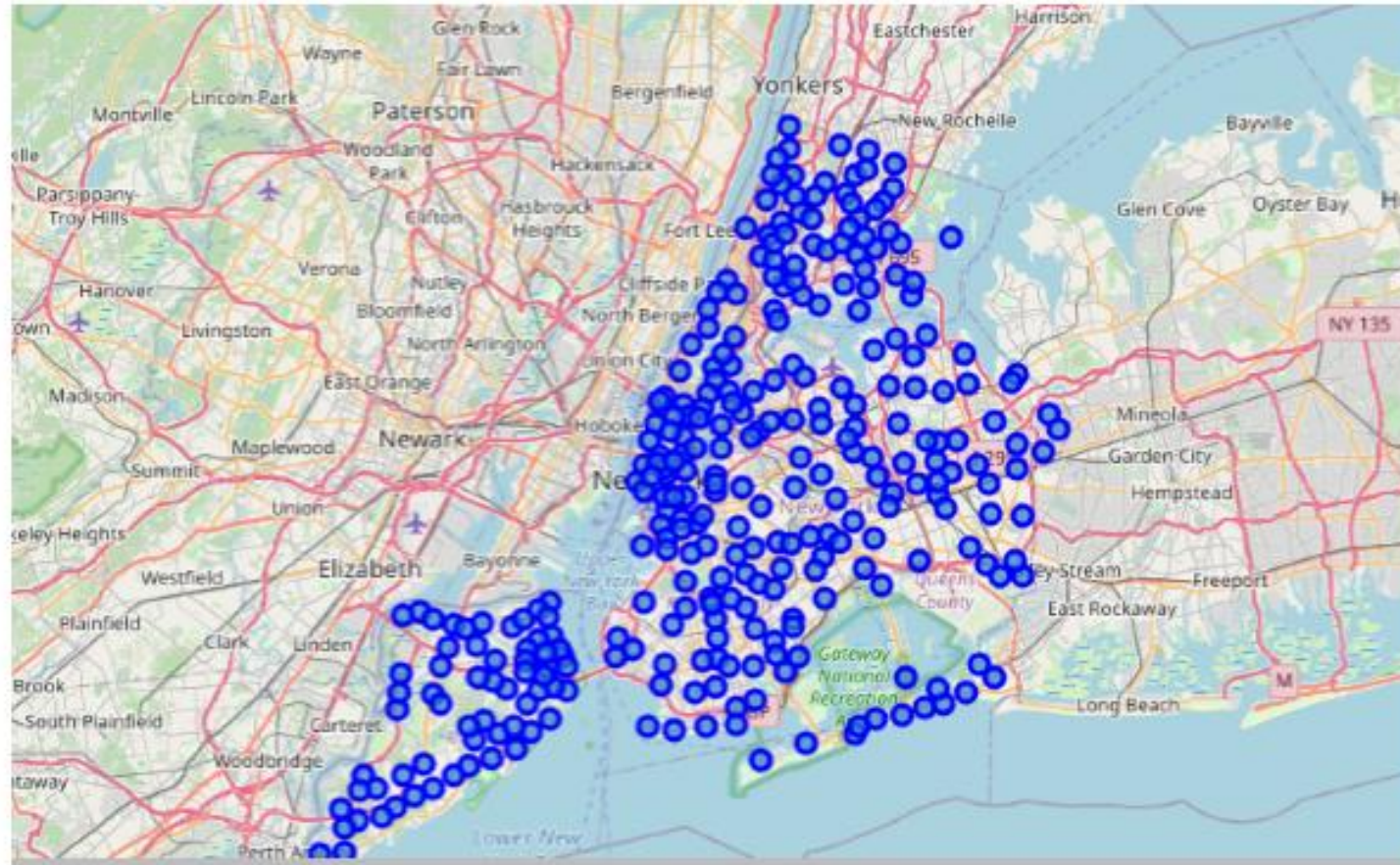
Concept coined by Michael Porter by observing reality converted "a posteriori" into a regional development tool. It is a sectorial economic development mode of the territory, also known as Innovative Group, Industrial District or Pole of Competitiveness.

Topic Clusters



RESULTS

First we obtain the map corresponding to the city of New York



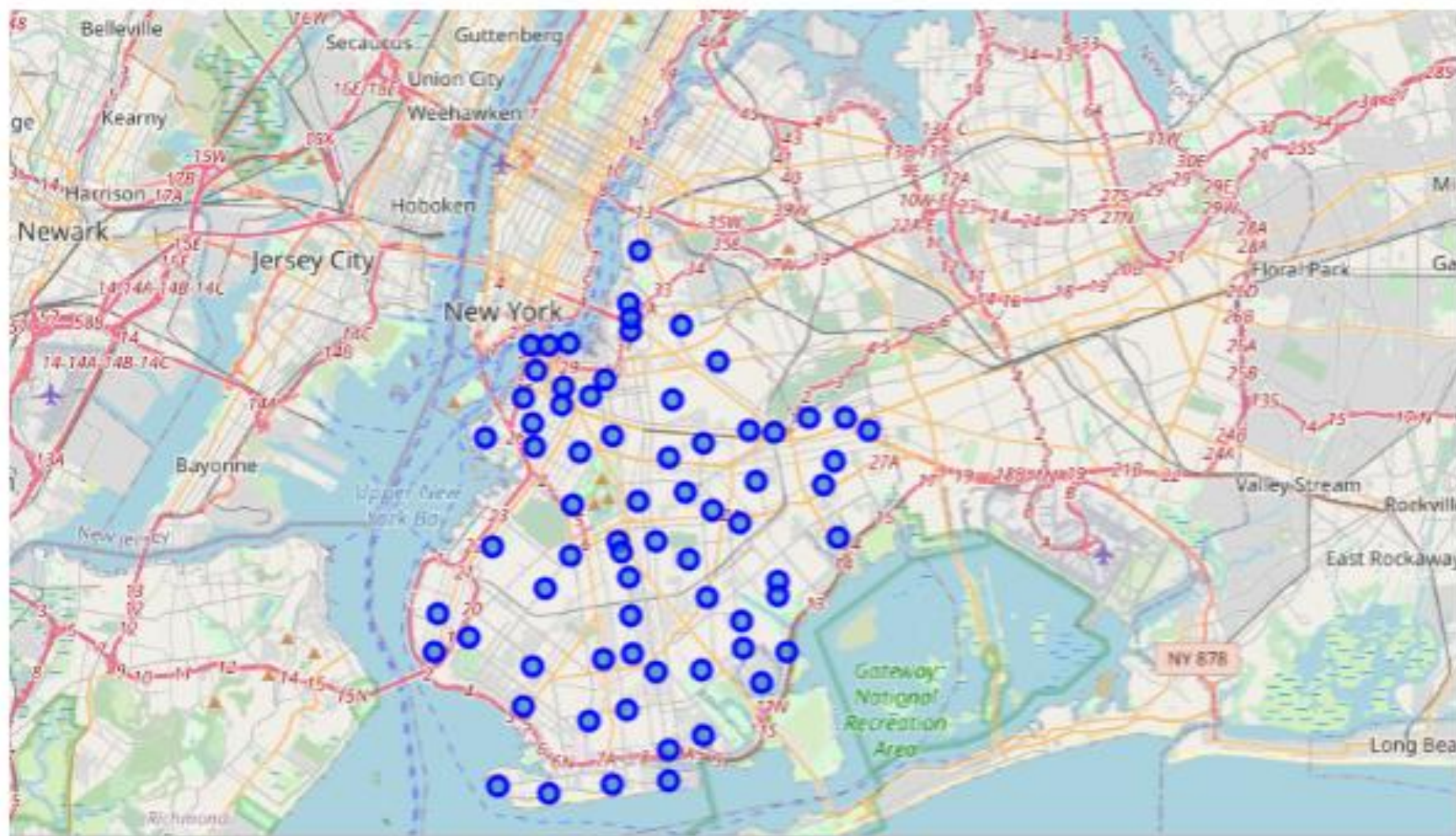
RESULTS

We check the head of the New York neighborhoods with their respective latitudes and longitudes.

	Borough	Neighborhood	Latitude	Longitude
0	Bronx	Wakefield	40.894705	-73.847201
1	Bronx	Co-op City	40.874294	-73.829939
2	Bronx	Eastchester	40.887556	-73.827806
3	Bronx	Fieldston	40.895437	-73.905643
4	Bronx	Riverdale	40.890834	-73.912585

Later we add the map of the two cities to compare, Brooklyn and Queens.

➤ Brooklyn.



Later we disaggregate by cities of analysis.

BROOKLYN

	Borough	Neighborhood	Latitude	Longitude
0	Brooklyn	Bay Ridge	40.625801	-74.030621
1	Brooklyn	Bensonhurst	40.611009	-73.995180
2	Brooklyn	Sunset Park	40.645103	-74.010316
3	Brooklyn	Greenpoint	40.730201	-73.954241
4	Brooklyn	Gravesend	40.595260	-73.973471

- ✓ Bay Ridge
- ✓ Bensonhurst
- ✓ Sunset Park
- ✓ Greenpoint
- ✓ Gravesend
- ✓ Brighton Beach
- ✓ Sheepshead Bay
- ✓ Manhattan Terrace
- ✓ Flatbush
- ✓ Crown Heights
- ✓ East Flatbush
- ✓ Kensington
- ✓ Windsor Terrace
- ✓ Prospect Heights
- ✓ Brownsville

BROOKLYN

(2762, 7)							
	Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
0	Bay Ridge	40.625801	-74.030621	Pilo Arts Day Spa and Salon	40.624748	-74.030591	Spa
1	Bay Ridge	40.625801	-74.030621	Bagel Boy	40.627896	-74.029335	Bagel Shop
2	Bay Ridge	40.625801	-74.030621	Georgian Dream Cafe and Bakery	40.625586	-74.030196	Caucasian Restaurant
3	Bay Ridge	40.625801	-74.030621	Leo's Casa Calamari	40.624200	-74.030931	Pizza Place
4	Bay Ridge	40.625801	-74.030621	Pegasus Cafe	40.623168	-74.031186	Breakfast Spot

When finding how many avenues intervene in each neighborhood, where Bath Beach, bay bridge, Bedford Stuyvesant, and more

The frequencies are:

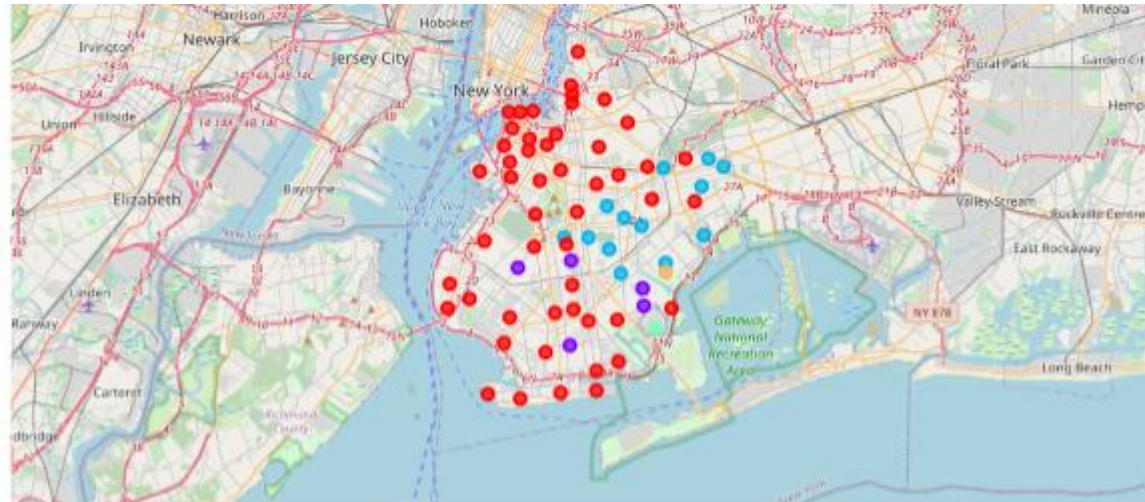
	Neighborhood	Yoga Studio	Accessories Store	African Restaurant	American Restaurant	Antique Shop	Arepa Restaurant	Argentinian Restaurant	Art Gallery	Arts & Crafts Store	Arts & Entertainment	Asian Restaurant	Athletics & Sports	G
0	Bath Beach	0.000000	0.000000	0.000000	0.000000	0.000000	0.00	0.000000	0.000000	0.000000	0.000000	0.021739	0.000000	
1	Bay Ridge	0.012346	0.000000	0.000000	0.037037	0.000000	0.00	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	
2	Bedford Stuyvesant	0.000000	0.000000	0.000000	0.000000	0.000000	0.00	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	
3	Bensonhurst	0.000000	0.000000	0.000000	0.000000	0.000000	0.00	0.000000	0.000000	0.000000	0.000000	0.027778	0.000000	
4	Bergen Beach	0.000000	0.000000	0.000000	0.000000	0.000000	0.00	0.000000	0.000000	0.000000	0.000000	0.000000	0.142857	
5	Boerum Hill	0.022222	0.000000	0.000000	0.011111	0.011111	0.00	0.000000	0.000000	0.033333	0.000000	0.000000	0.011111	
6	Borough Park	0.000000	0.000000	0.000000	0.043455	0.000000	0.00	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	
7	Brighton Beach	0.000000	0.000000	0.000000	0.000000	0.000000	0.00	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	
8	Broadway Junction	0.000000	0.000000	0.000000	0.000000	0.000000	0.00	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	
9	Brooklyn Heights	0.040000	0.000000	0.000000	0.010000	0.000000	0.00	0.000000	0.000000	0.000000	0.000000	0.020000	0.010000	
10	Brownsville	0.000000	0.000000	0.000000	0.000000	0.000000	0.00	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	
11	Bushwick	0.000000	0.000000	0.000000	0.014286	0.000000	0.00	0.000000	0.014286	0.000000	0.000000	0.000000	0.000000	
12	Canarsie	0.000000	0.000000	0.000000	0.000000	0.000000	0.00	0.000000	0.000000	0.000000	0.000000	0.166667	0.000000	

Restaurants in general are very commons en each place, specialy american, italian restaurants.

BROOKLYN

	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
0	Bath Beach	Bubble Tea Shop	Pharmacy	Italian Restaurant	Gas Station	Chinese Restaurant	Donut Shop	Dessert Shop	Fast Food Restaurant	Pizza Place	Cantonese Restaurant
1	Bay Ridge	Italian Restaurant	Spa	Pizza Place	Bar	American Restaurant	Greek Restaurant	Hookah Bar	Thai Restaurant	Bagel Shop	Pharmacy
2	Bedford Stuyvesant	Coffee Shop	Café	Pizza Place	Bar	Discount Store	Tiki Bar	Fried Chicken Joint	New American Restaurant	Boutique	Gift Shop
3	Bensonhurst	Chinese Restaurant	Italian Restaurant	Donut Shop	Sushi Restaurant	Park	Pizza Place	Ice Cream Shop	Smoke Shop	Bar	Noodle House
4	Bergen Beach	Harbor / Marina	Baseball Field	Hockey Field	Athletics & Sports	Playground	Park	Food	Flower Shop	Food & Drink Shop	Food Court

In the table above we have the venue most common in each place, for example the most common are restaurants as Italian, coffee shop, and Spa too.



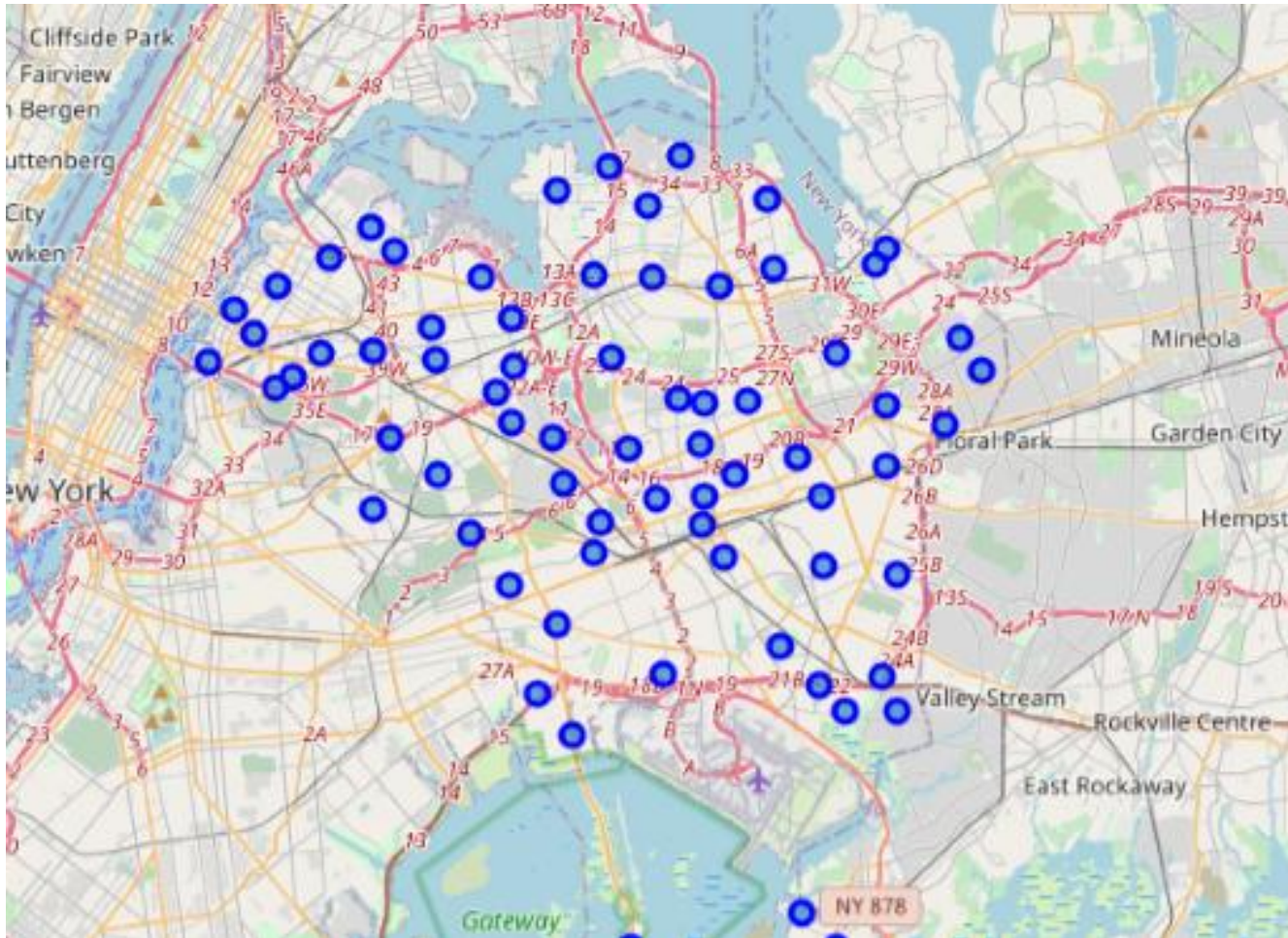
Queens



For the Queens sector, the city's neighborhoods have been analyzed, adding their latitude and longitude:

	Borough	Neighborhood	Latitude	Longitude
0	Queens	Astoria	40.768509	-73.915654

QUEENS



Astoria
Woodside
Jackson Heights
Elmhurst
Howard Beach
Corona
Forest Hills
Kew Gardens
Richmond Hill
Flushing
Long Island City
Sunnyside
East Elmhurst

QUEENS

----Arverne----

	venue	freq
0	Surf Spot	0.20
1	Metro Station	0.10
2	Sandwich Place	0.10
3	Burrito Place	0.05
4	Pizza Place	0.05
5	Café	0.05
6	Board Shop	0.05
7	Coffee Shop	0.05
8	Beach	0.05
9	Bus Stop	0.05

----Astoria----

	venue	freq
0	Middle Eastern Restaurant	0.06
1	Bar	0.06
2	Hookah Bar	0.05
3	Pizza Place	0.04
4	Seafood Restaurant	0.04
5	Greek Restaurant	0.03
6	Café	0.03
7	Mediterranean Restaurant	0.03
8	Indian Restaurant	0.03
9	Bakery	0.03

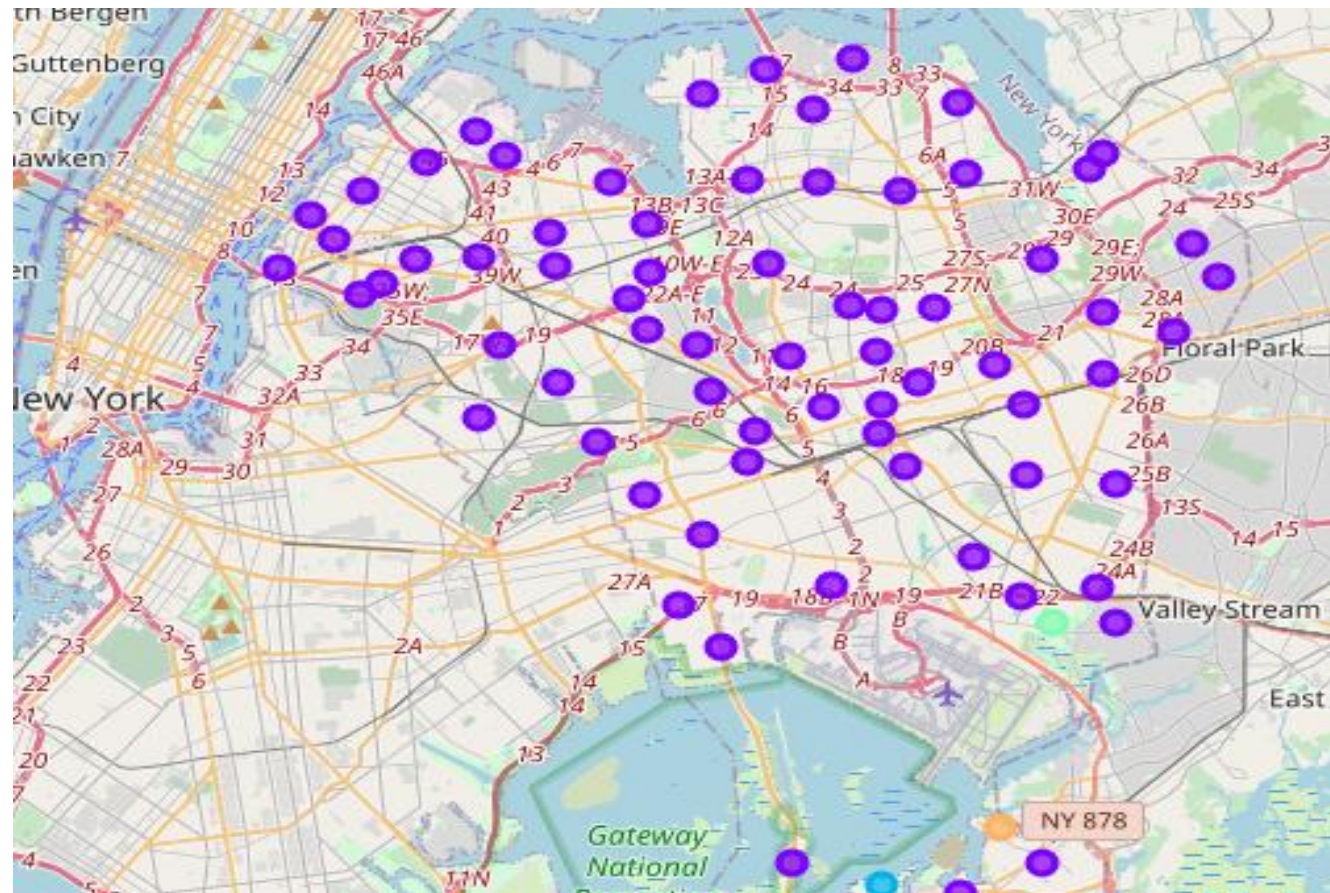
QUEENS

You get the top of towns for each neighborhood:



	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
0	Arverne	Surf Spot	Metro Station	Sandwich Place	Burrito Place	Board Shop
1	Astoria	Middle Eastern Restaurant	Bar	Hookah Bar	Seafood Restaurant	Pizza Place
2	Astoria Heights	Playground	Bakery	Bus Station	Plaza	Food
3	Auburndale	Italian Restaurant	Korean Restaurant	Miscellaneous Shop	Mattress Store	Fast Food Restaurant
4	Bay Terrace	Clothing Store	Shoe Store	Cosmetics Shop	Mobile Phone Shop	Kids Store

QUEENS



Discussion and conclusions



- It is evident that tourist areas such as hotels, restaurants and more are concentrated in territories such as Queen and Brooklyn, which is why there is a need to adjust security in these locations, in addition to strengthening policies around 500 meters around the clusters especially intended for restaurant venues as mentioned above.
- Security has taken on an unprecedented dimension; with quality factors and ways of life, linked to urban design, known as “geoprevention”. "Crime prevention" has proven to be a useful and effective strategy to prevent as a consequence of different sociocultural, economic or political situations. Therefore, a natural access control, reinforcement of the territory, maintenance of public spaces and community participation could be added.