

# Capstone Project The Battle of Neighbourhoods



BY  
SATYAJEET DAS

# Problem Description:



1. With advent globalisation, people from varied background tend to settle across diverse destinations of the world. We are considering the case of New York City, the most diverse community of the world. Being the economic hub, it attracts people from a varied background. A city with such diversity needs to be explored in detail, this will be done in the first part.
2. For the second part, we will analyse three types of restaurants (Italian, Chinese and Indian) across NYC. The ability to eat and the enjoyment of eating are important aspects of a good quality of life. In other words, "being able to eat what I want, when I want" makes us feel good. Hence restaurants are a major factor while selecting a neighbourhood. Apart from that, the major events of life, personal and professional, are celebrated in restaurants. Acquaintances become friends around a table in the safe and controlled environment of a restaurant. Individuals become lovers across a restaurant table, sometimes. The aforementioned facts are some of the major inspiration for analysing restaurants.
3. For the third part, we will be analysing the ease of commute across NYC in a simple way. We are assuming the person will use public transport. We will analyse the number of Bus Stops and Metro Stations in the neighbourhood of NYC. The case of cabs is excluded as their service can be acquired in even remote location. But the fact that they are about three to four times costlier as compared to metros and buses, leads us to believe that a normal person will prefer a metro or bus compared to a taxi. It's an inherent tendency of human to save money. And for daily commute buses and metros far too economical compared to their counterpart taxis. Who likes a spendthrift, right!! Nobody will be willing to pay more if other economical and convenient methods are available.



**This project will be divided into three parts:**

1. We will be exploring New York City
2. Exploring Restaurants around New York City (Italian, Chinese and Indian)
3. Exploring the ease of commute across New York City (Metros and Buses)



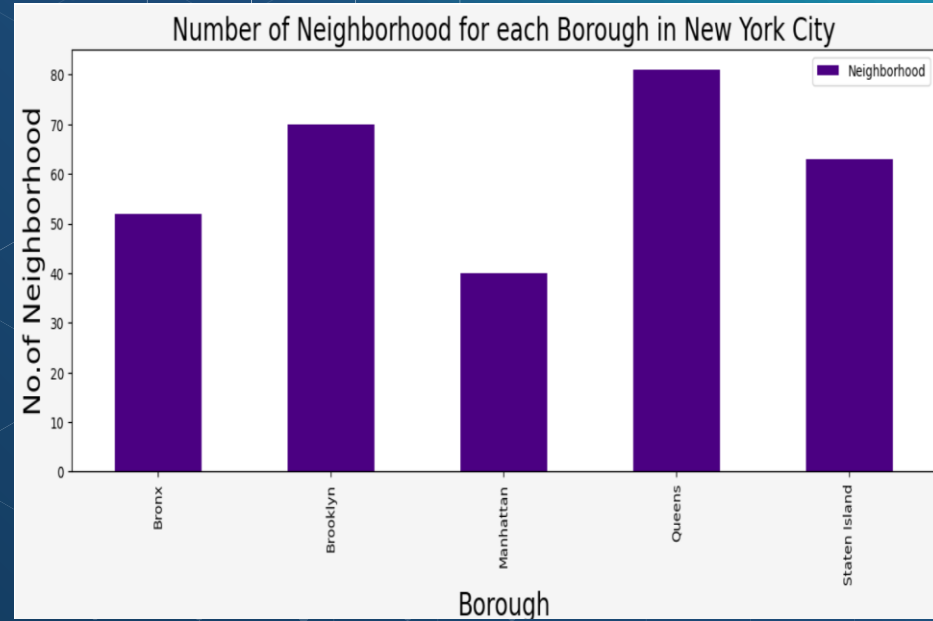
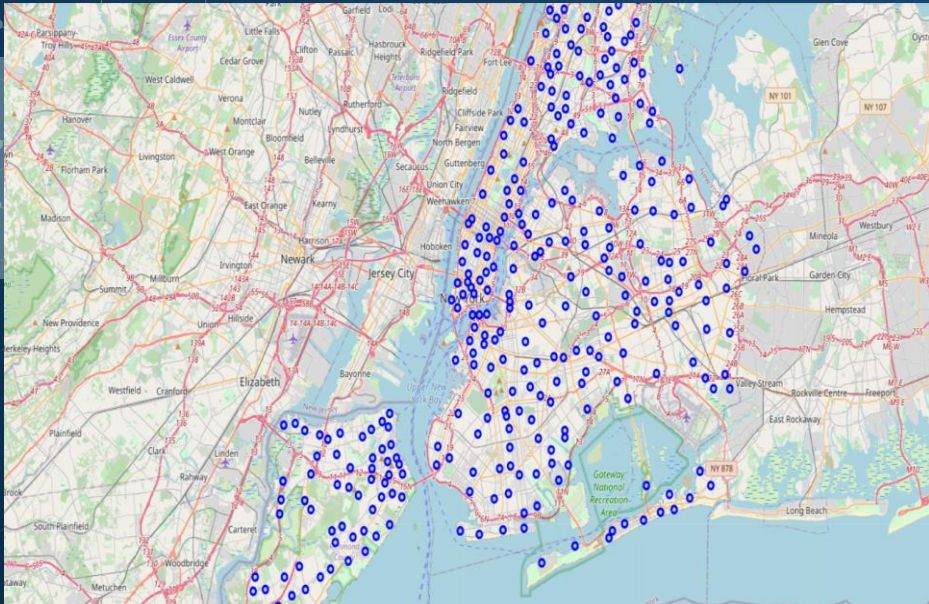
# PART-1





# NEW YORK CITY

306 neighborhood in NYC.



# VENUES

	Neighbourhood	Neighborhood	Latitude	Neighborhood	Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
0	Wakefield		40.894705		-73.847201	Lollipops Gelato	40.894123	-73.845892	Dessert Shop
1	Wakefield		40.894705		-73.847201	Carvel Ice Cream	40.890487	-73.848568	Ice Cream Shop
2	Wakefield		40.894705		-73.847201	Jackie's West Indian Bakery	40.889283	-73.843310	Caribbean Restaurant
3	Wakefield		40.894705		-73.847201	Walgreens	40.896528	-73.844700	Pharmacy
4	Wakefield		40.894705		-73.847201	Rite Aid	40.889062	-73.842993	Pharmacy

```
[ ] NYC_venues.shape
```

```
[ ] (15598, 7)
```

We found 15598 venues in the neighbourhood of NYC

```
[ ] print('There are {} uniques categories.'.format(len(NYC_venues['Venue Category'].unique())))
```

```
[ ] There are 458 uniques categories.
```

```
[ ] NYC_venues['Venue Category'].unique()
```

```
[ ] array(['Dessert Shop', 'Ice Cream Shop', 'Caribbean Restaurant',  
'Pharmacy', 'Donut Shop', 'Gas Station', 'Sandwich Place',  
'Supermarket', 'Fried Chicken Joint', 'Deli / Bodega',  
'Pizza Place', 'Fast Food Restaurant', 'Bakery', 'Food Truck',  
'Gift Shop', 'Bagel Shop', 'Dumpling Restaurant',  
'Spanish Restaurant', 'Discount Store', 'Seafood Restaurant',  
'Mexican Restaurant', 'Post Office', 'Shopping Mall',  
'Mobile Phone Shop', 'Department Store', 'Grocery Store',  
'Convenience Store', 'Mattress Store',  
'Paper / Office Supplies Store', 'Restaurant', 'Bus Station',  
'Chinese Restaurant', 'Hotel', 'Basketball Court', 'Men's Store',  
'Baseball Field', 'Park', 'Harbor / Marina', 'Accessories Store',  
'Electronics Store', 'Laundromat', 'Music Venue',  
'Other Great Outdoors', 'Print Shop', 'Diner',  
'Furniture / Home Store', 'Historic Site', 'Burger Joint',  
'Bowling Alley', 'Breakfast Spot', 'Cocktail Bar',  
'Asian Restaurant', 'Nightclub', 'Women's Store',  
'Food & Drink Shop', 'Sporting Goods Shop', 'Plaza', 'Coffee Shop',  
'River', 'Art Gallery', 'Playground', 'Athletics & Sports',  
'Japanese Restaurant', 'Tapas Restaurant', 'Greek Restaurant',  
'Bar', 'Café', 'Bank', 'Health & Beauty Service',  
'Thai Restaurant', 'Italian Restaurant', 'Wine Shop',  
'Frozen Yogurt Shop', 'Medical Supply Store', 'Gourmet Shop',  
'Latin American Restaurant', 'Pub', 'Beer Bar', 'Warehouse Store',  
'Trail', 'Wings Joint', 'Yoga Studio', 'Thrift / Vintage Store',  
'Candy Store', 'Gym', 'Rental Car Location', 'Supplement Shop',  
'Miscellaneous Shop', 'American Restaurant', 'Pet Store',  
'Steakhouse', 'Shopping Plaza', 'Metro Station', 'Jewelry Store',  
'Outdoor Sculpture', 'Bus Stop', 'Scenic Lookout',  
'Tennis Stadium', 'Video Game Store', 'Big Box Store',  
'Kids Store', 'College Stadium', 'Tennis Court']
```

# COMMON VENUES

	Neighbourhood	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	11th Most Common Venue	12th Most Common Venue	13th Most Common Venue	14th Most Common Venue	15th Most Common Venue
0	Allerton	Pizza Place	Donut Shop	Sandwich Place	Supermarket	Bar	Pharmacy	Fast Food Restaurant	Discount Store	Fried Chicken Joint	Mobile Phone Shop	Bike Trail	Clothing Store	Mexican Restaurant	Bus Station	Caribbean Restaurant
1	Annadale	Restaurant	Pizza Place	Sushi Restaurant	Diner	Liquor Store	Home Service	Park	Food	Train Station	American Restaurant	Cosmetics Shop	Deli / Bodega	Farmers Market	Financial or Legal Service	Fast Food Restaurant
2	Arden Heights	Spa	Food	Coffee Shop	Pizza Place	Liquor Store	Mexican Restaurant	Sandwich Place	Pharmacy	Bus Stop	Optical Shop	Flower Shop	Event Space	Exhibit	Factory	Falafel Restaurant
3	Arlington	Bus Stop	Deli / Bodega	Juice Bar	Coffee Shop	Construction & Landscaping	American Restaurant	Snack Place	Farmers Market	Farm	Fish Market	Fast Food Restaurant	Falafel Restaurant	Field	Filipino Restaurant	Film Studio
4	Arrochar	Baseball Field	Italian Restaurant	Liquor Store	Beach	Deli / Bodega	Bus Stop	Pizza Place	Sandwich Place	Sculpture Garden	Park	Outdoors & Recreation	Food Truck	Supermarket	Playground	Middle Eastern Restaurant



# CLUSTER



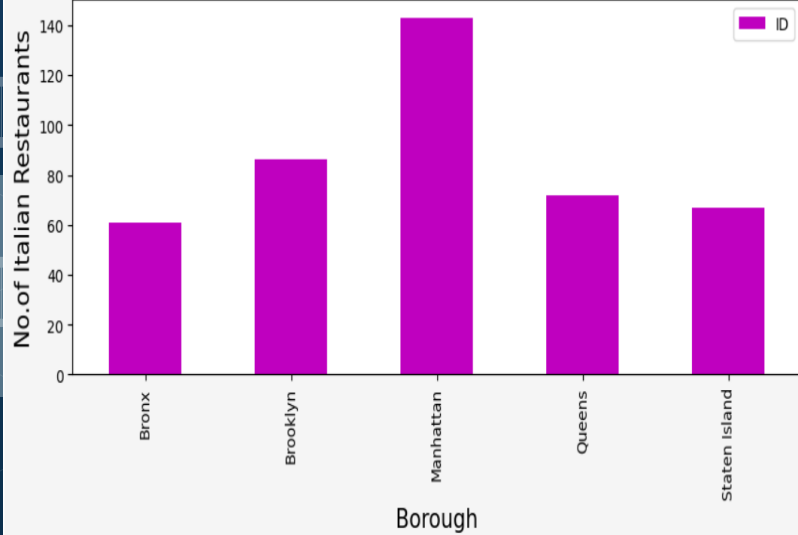


# PART-2

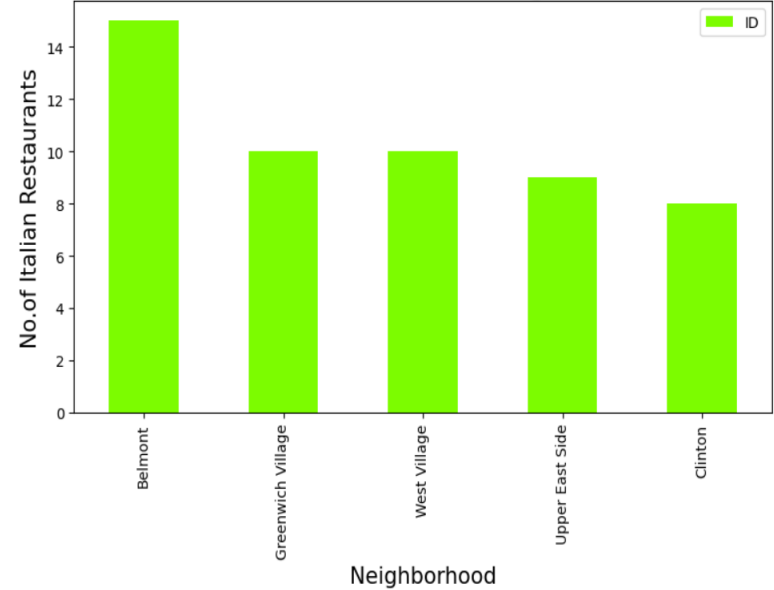


# ITALIAN RESTAURANTS

Number of Italian Restaurants for each Borough in New York City



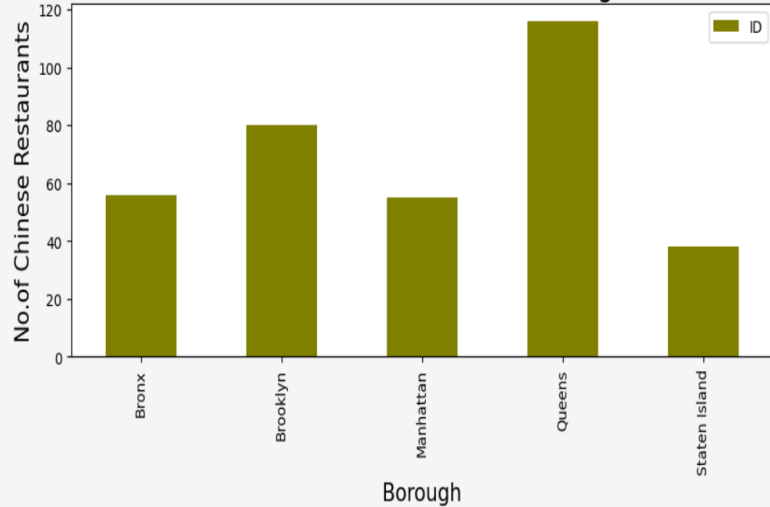
Number of Italian Restaurants for each Neighborhood in New York City



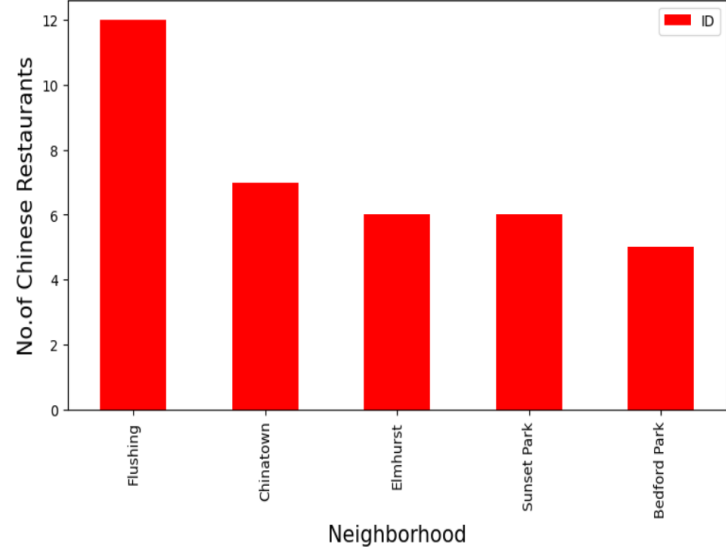
429 Italian Restaurants in NYC. Belmont in Bronx has the highest number of Italian Restaurants with total of 15. Hence this area can be considered the ideal location for Italian Cuisine.

# CHINESE RESTAURANTS

Number of Chinese Restaurants for each Borough in New York City



Number of Chinese Restaurants for each Neighborhood in New York City

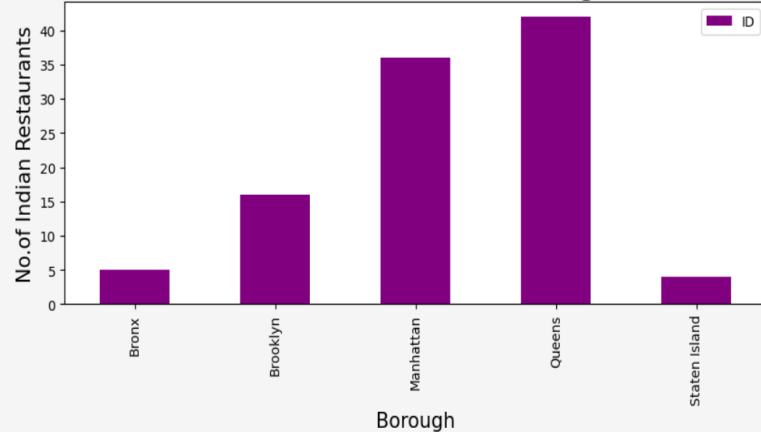


345 Chinese Restaurants in NYC. Flushing in Queens has the highest number of Chinese Restaurants with total of 12. Hence this area can be considered the ideal location for Chinese Cuisine.

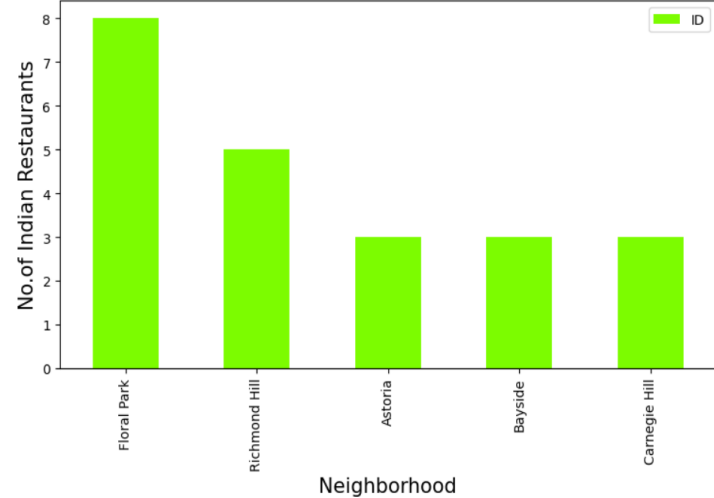


# INDIAN RESTAURANTS

Number of Indian Restaurants for each Borough in New York City



Number of Indian Restaurants for each Neighborhood in New York City



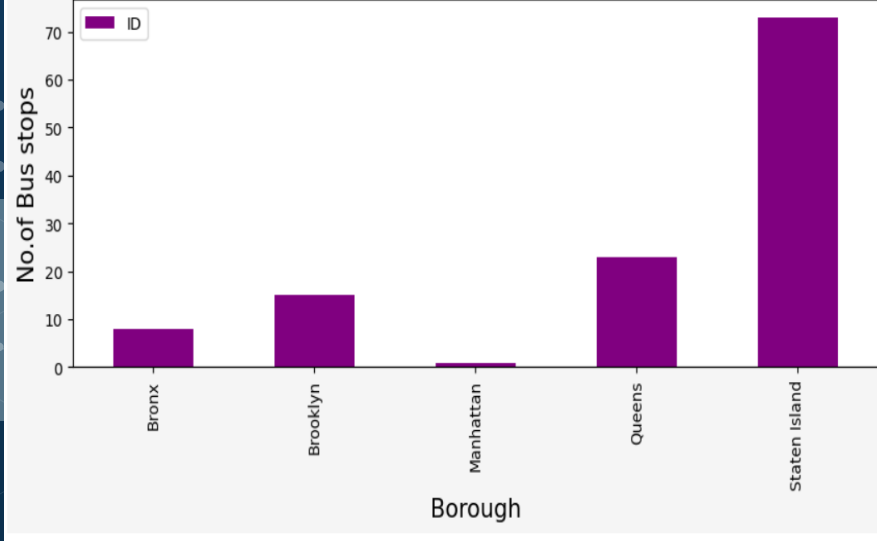
103 Indian Restaurants in NYC. Floral Park in Queens has the highest number of Indian Restaurants with total of 8. Hence this area can be considered the ideal location for Indian Cuisine.

# PART-3

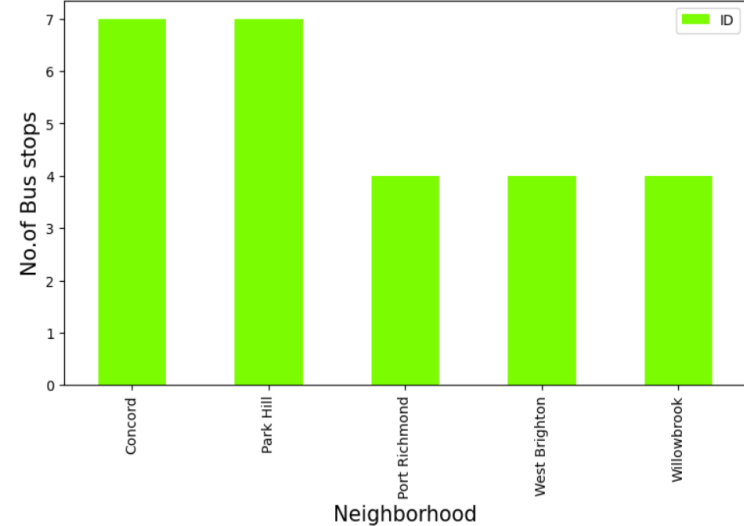


# BUS STOPS

Number of Bus stops for each Borough in New York City



Number of Bus stops for each Neighborhood in New York City

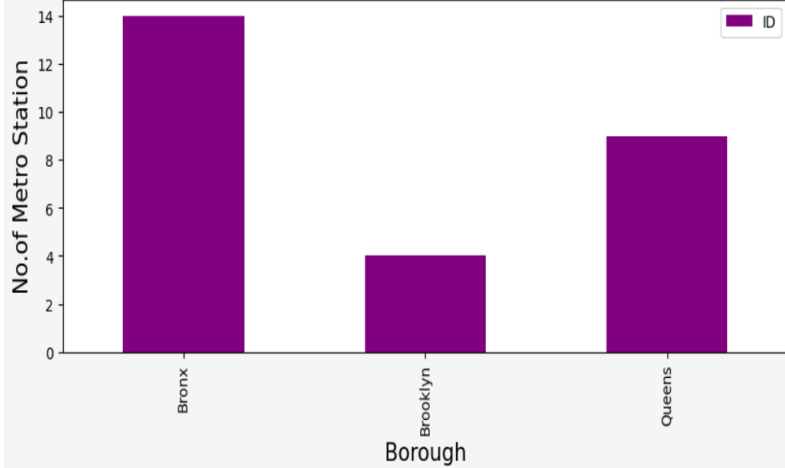


Concord and Park Hill neighbourhood of Staten Island has highest number of Bus stop each having 7 bus stops. Hence these areas can be considered the ideal location if our search is based on bus stops.

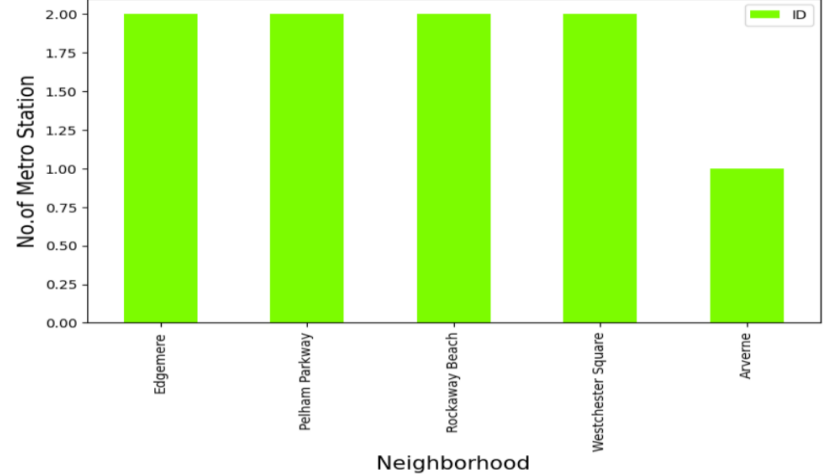


# METRO STATIONS

Number of Metro Station for each Borough in New York City



Number of Metro Station for each Neighborhood in New York City



Edgemere, Pelham Parkway, Rockaway Beach and Westchester Square, all have 2 metro station each.

# THANKS!

By Satyajeeet Das

