

# New apartment project

TORONTO VS NEW YORK

# Problem statement

- ▶ Identify the best location in Toronto or New York to build 500 unit luxury apartment
- ▶ Identify specific borough in which this apartment complex should be built
- ▶ Identify venues and amenities that renters can enjoy in the area

# Data Used

- ▶ Toronto data - [https://en.wikipedia.org/wiki/List\\_of\\_postal\\_codes\\_of\\_Canada:\\_M](https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M)
- ▶ New York data - [https://geo.nyu.edu/catalog/nyu\\_2451\\_34572](https://geo.nyu.edu/catalog/nyu_2451_34572)
- ▶ Foursquare API data
- ▶ Longitude and Latitude - [http://cocl.us/Geospatial\\_data](http://cocl.us/Geospatial_data)

# methodology

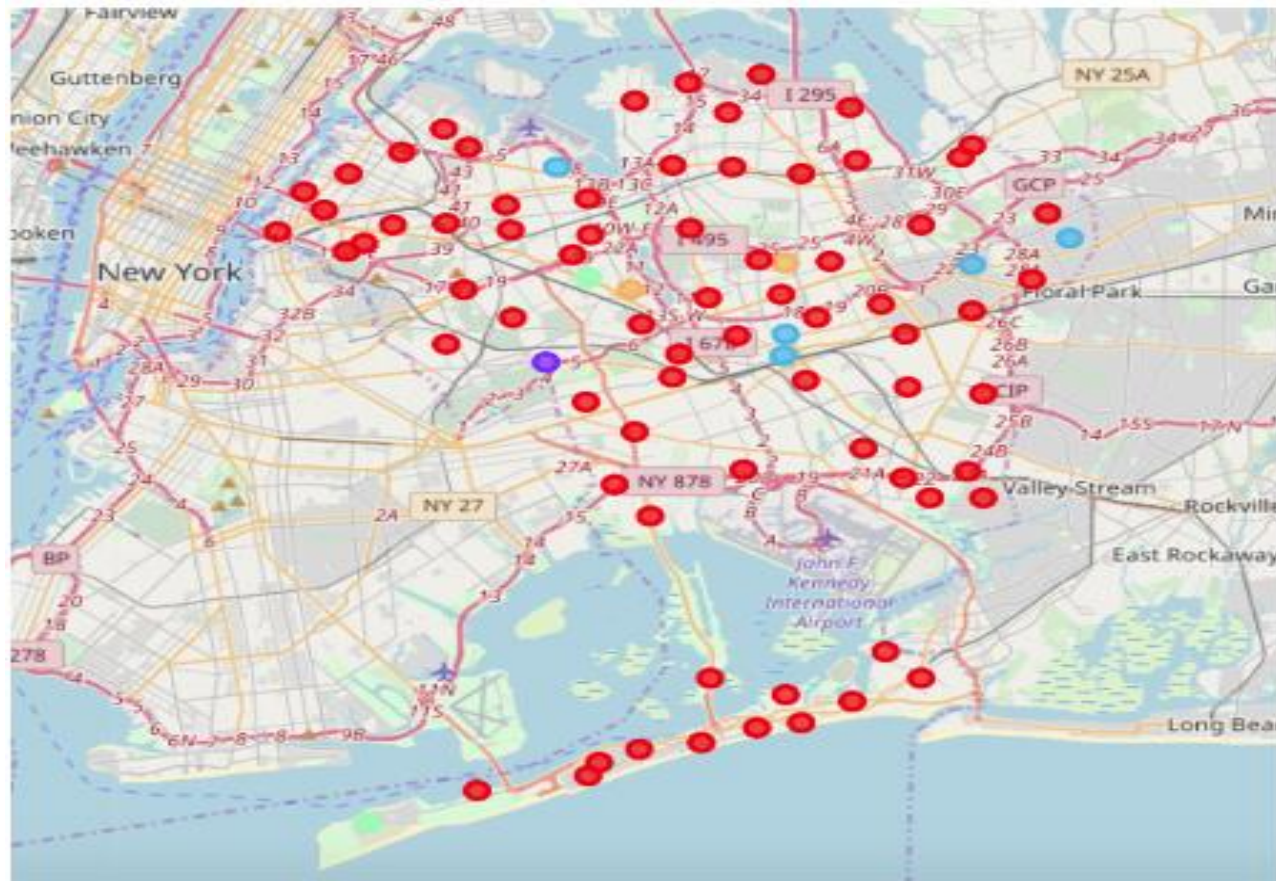
## ► **Foursquare API**

- The Foursquare API will be used to pull in data for both Queens and Scarborough neighborhoods using the same methodology that we did in the previous lab.
- Foursquare API search feature would be enabled to collect the nearby places of the neighborhoods. Due to http request limitations the number of places per neighborhood parameter would reasonably be set to 100 and the radius parameter would be set to 700.

## ► **K-Means Clustering**

- Extensive comparative analysis of two randomly picked neighborhoods would be carried out to derive the desirable insights from the outcomes using python's scientific libraries Pandas, NumPy and Scikit-learn.
- Unsupervised machine learning algorithm K-mean clustering would be applied to form the clusters of different categories of places residing in and around the neighborhoods. These clusters from each of those two chosen neighborhoods would be analyzed individually collectively and comparatively to derive the conclusions.

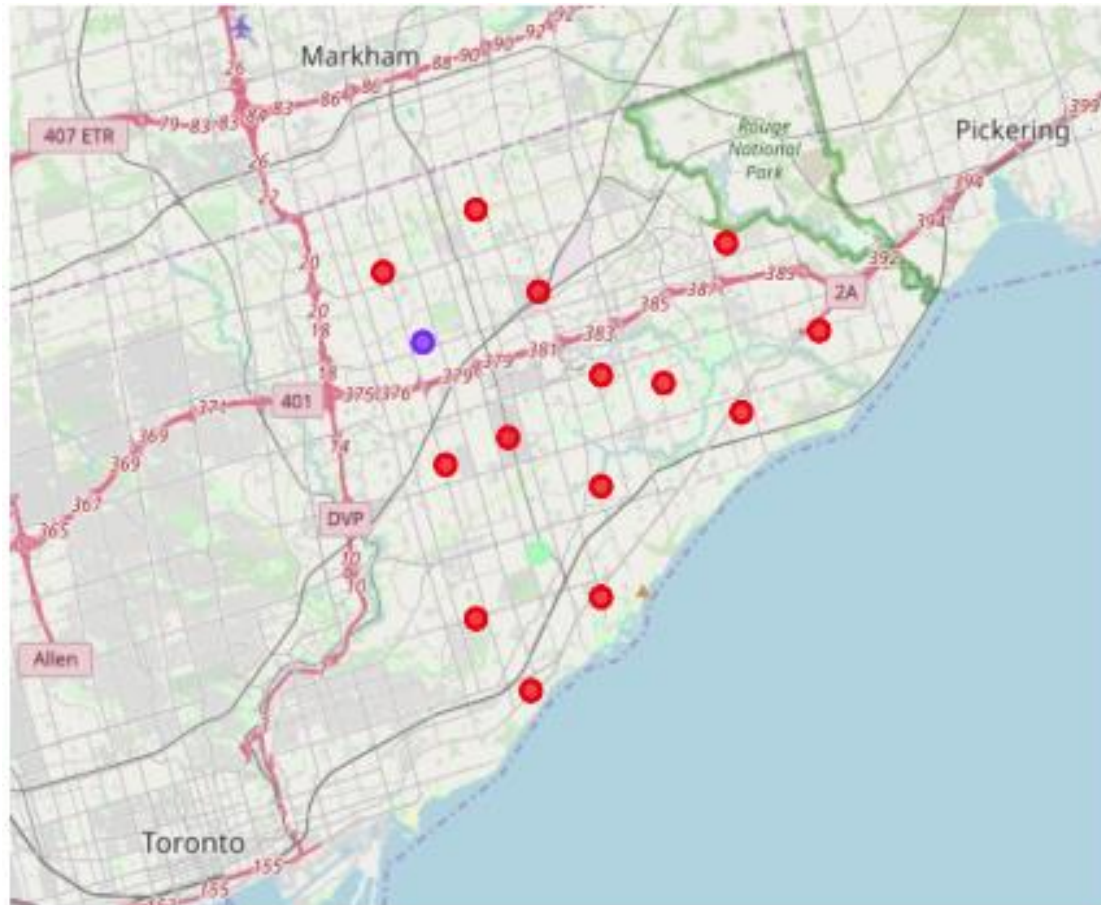
# Results – Queens- NY



# Queens - NY

CLUSTER	NEIGHBORHOODS	MOST COMMONG VENUES
Cluster_0	81	Pizza / Delis / International Cuisines
Cluster_1	1	Dance Studio
Cluster_2	5	Doughnuts / International Cuisine
Cluster_3	2	Bakery / Beach
Cluster_4	2	Gyms

# Scarborough – Toronto



# Scarborough - Toronto

CLUSTER	NEIGHBORHOODS	MOST COMMONG VENUES
Cluster_0	15	Skating Rig / International Cuisine
Cluster_1	1	Pizza / Noodles
Cluster_2	1	Chinese <u>restuarant</u> / Discount stores



# Comparison of number of venues

Scarborough – 17 neighborhoods – 85 places of interest for potential renters to enjoy. However, outside of the skating rig there isn't much that brings appeal to the area from an extracurricular standpoint.

Queens has 81 neighborhoods and a whopping 2108 places of interest that renters can enjoy. This along with its proximity to the ocean makes it an outstanding place to build luxury apartments.

# Conclusion

- ▶ Queens NY is the logical destination for an apartment complex
- ▶ all depends on the cost of the build and how soon the company can break even – there may be a second analysis warranted to figure that out.