BATTLE OF NEIGHBOURHOODS

INTRODUCTION

- A chain of restaurant owners in Ontario want to expand their business. Currently they have their restaurants open in cities like Vancouver, Stratford and Hamilton.
- They figured out that they would make more profit by opening up a restaurant in Toronto as Toronto is the largest city of Canada.
- They are having trouble figuring out which place to chose within Toronto to open their new restaurant.
- This project aims to figure out few places where there business will be good and have a competitive advantage.

DATA ACQUISITION

- **First Dataset : List of neighbourhoods in Toronto**
  - Data source: https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M

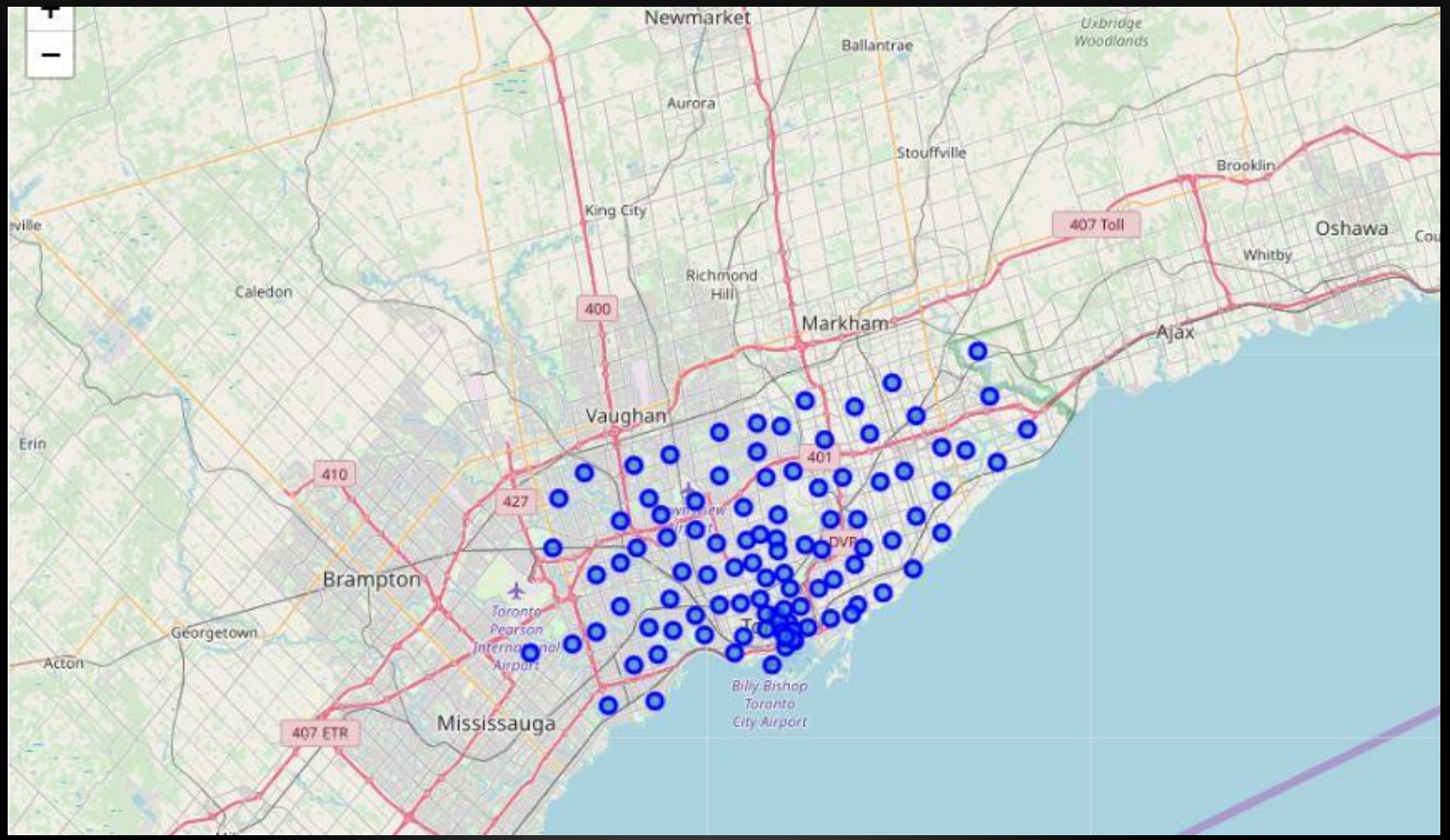
    Geospatial_Coordinates.csv file
  - The final Data Set contains 5 columns: Post Code, Borough, Neighbourhood, Latitude, Longitude and 103 rows having 103 unique neighbourhoods of Toronto and 5 unique Boroughs.

- **Second Dataset : List of different venues in the neighbourhoods of Toronto**
  - Used Foursquare location data to explore different venues in each neighbourhood of Toronto
  - Use the geographical coordinates from above dataset to generate this location dataset.

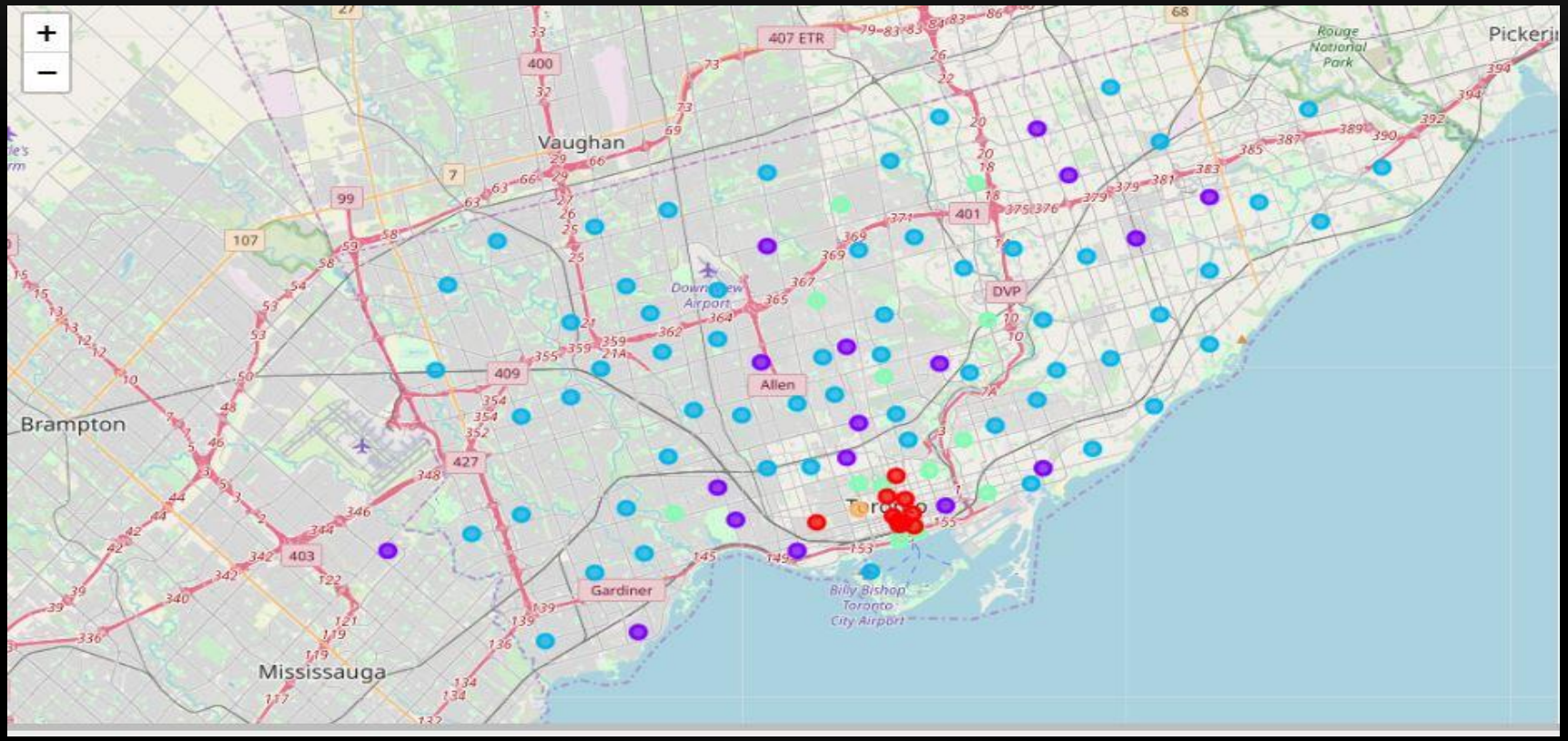
METHODOLOGY AND ANALYSIS

- Used K-means clustering algorithm to make clusters of the Neighbourhood dataset so that the analysis of all the neighbourhoods is easy,
- 5 clusters were created out of which only one was to be selected for further analysis.
- Cluster with label 3 was selected as it had lowest Neighbourhood/Restaurant ratio.
- After further analysis, only 8 neighbourhood remained which were perfect for opening a new restaurant

MAP OF TORONTO CITY WITH ALL ITS NEIGHBOURHOOD MARKED

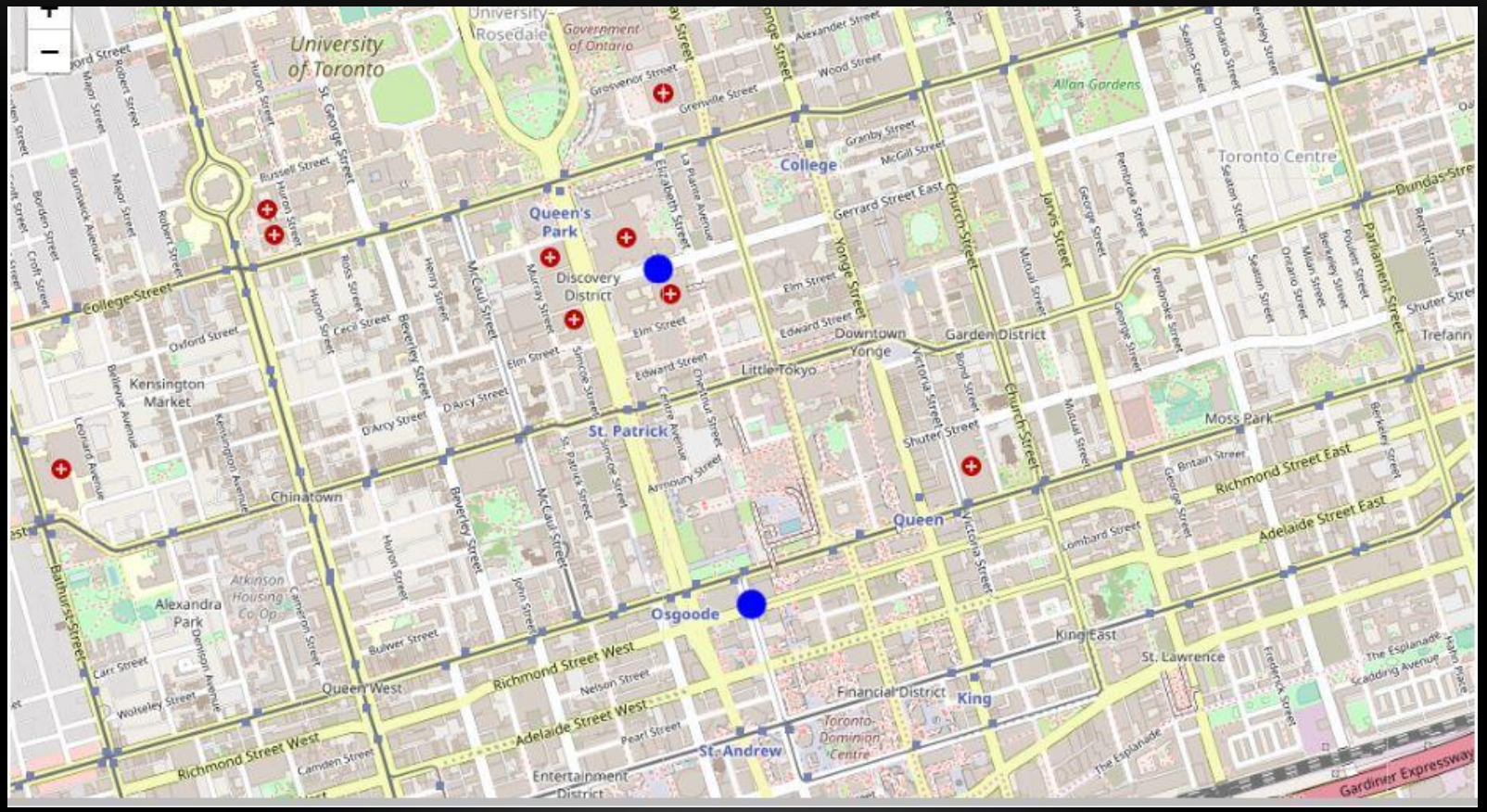


MAP AFTER ASSIGNING CLUSTER TO EACH NEIGHBOURHOOD



*** Different colours represent neighbourhoods belonging to different cluster ***

MAPS REPRESENTING 2 NEIGHBOURHOODS SUITABLE FOR OPENING RESTAURANT



CONCLUSION

- Purpose of this project was to identify neighbourhoods in Toronto which have low number of restaurants in order to aid stakeholders in narrowing down the search for optimal location for a new restaurant.
- By calculating restaurant density distribution from Foursquare data we have first identified the most common nearby venues of each neighbourhood.
- Then with the help of clustering techniques and further analysis we were able to narrow down our analysis to 2 neighbourhoods which were good for opening up a new restaurant.
- This concludes this project of Battle of Neighbourhoods.

THANK YOU