Finding The Desire Locations for New Office

Locating the right place for new office is important for business

- Saves Budget without spending too much on leasing office

- Enough public transit to allow employees to arrive faster

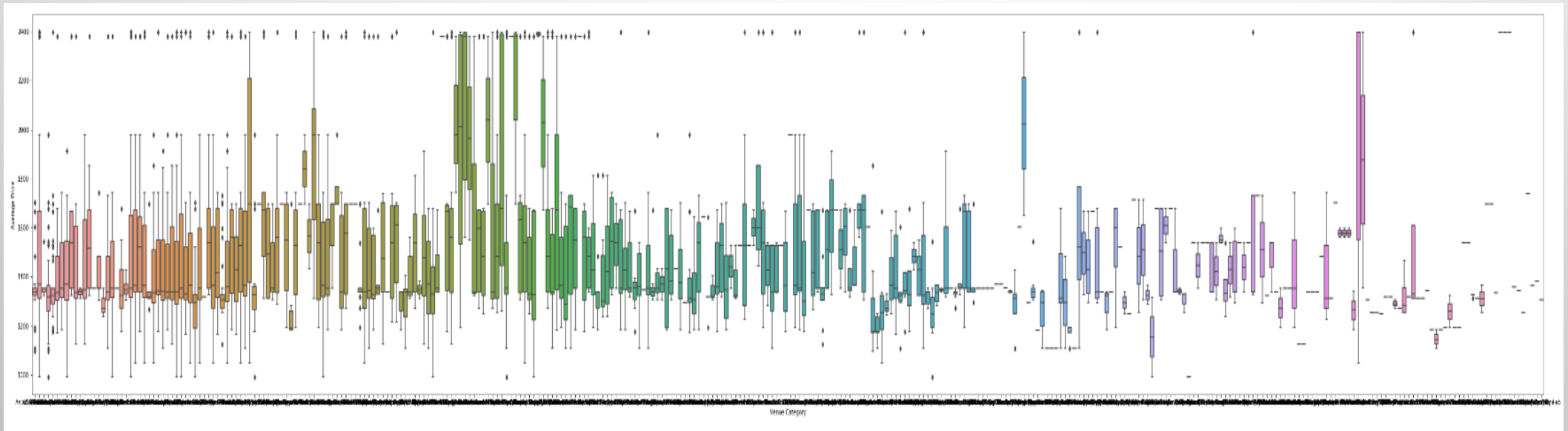- Sufficient restaurant for eatery convenience without wasting too many work hours.

Data acquisition and cleaning

- Greater Toronto Area neighbourhoods average house rental prices data from Canada Mortgage and Housing Corporation, 2019 dataset from https://www.cmhc-schl.gc.ca/en/data-and-research/data-tables/urban-rental-market-survey-data-average-rents-urban-centres

- Self-created new dataset base on dataset from Canada Mortgage and Housing Corporation with some neighbourhoods changed and coordinates added. Uploaded to personal Github repository https://github.com/yuanchengzhou-web/Coursera_Capstone/blob/master/scripts/House_Leasing_Price_%26_Location_with_coordinates.xlsx

- Neighbourhoods outside Greater Toronto Area and rows with empty value were dropped

- Kept only the total dwelling type and total bedroom sizes average price for study.

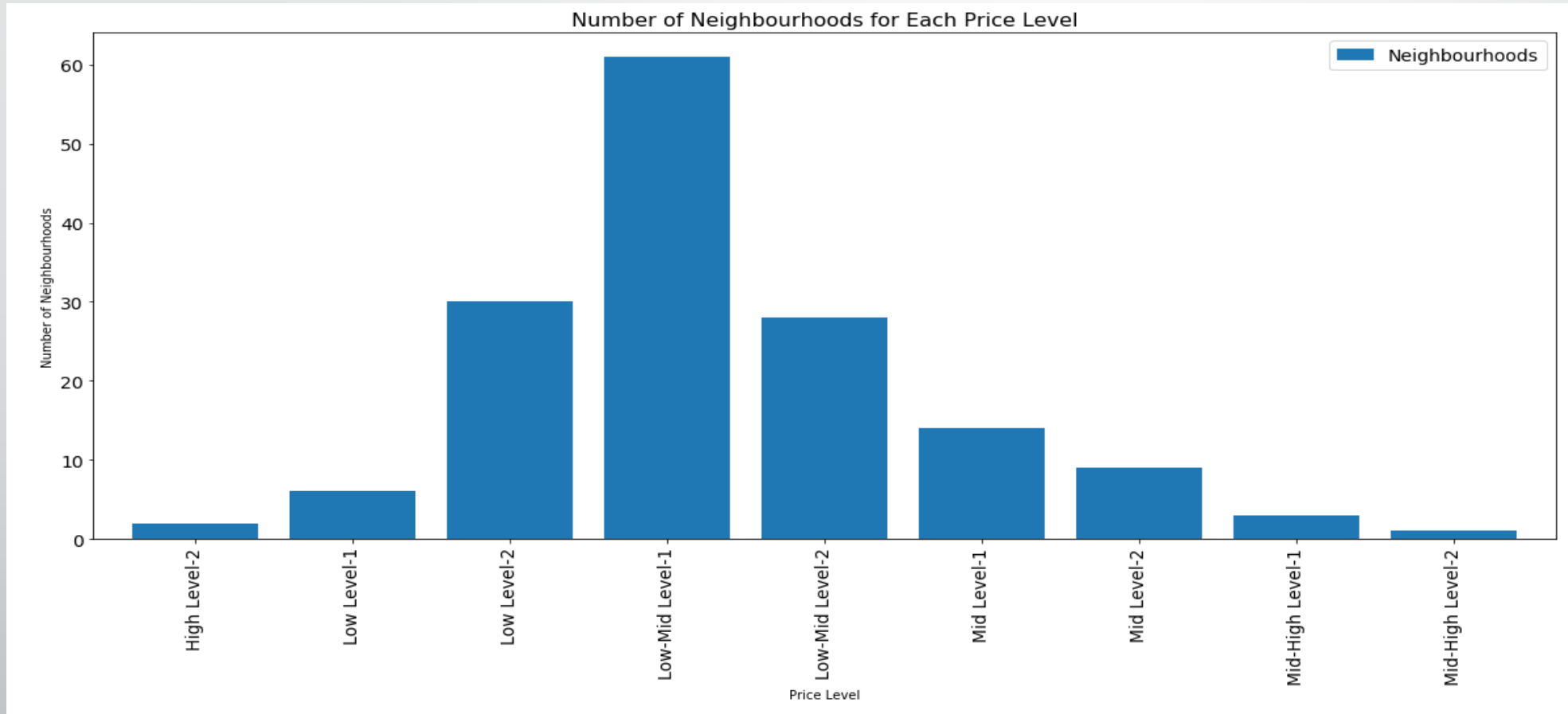- Cleaned data contains 5 features and 155 neighbourhoods

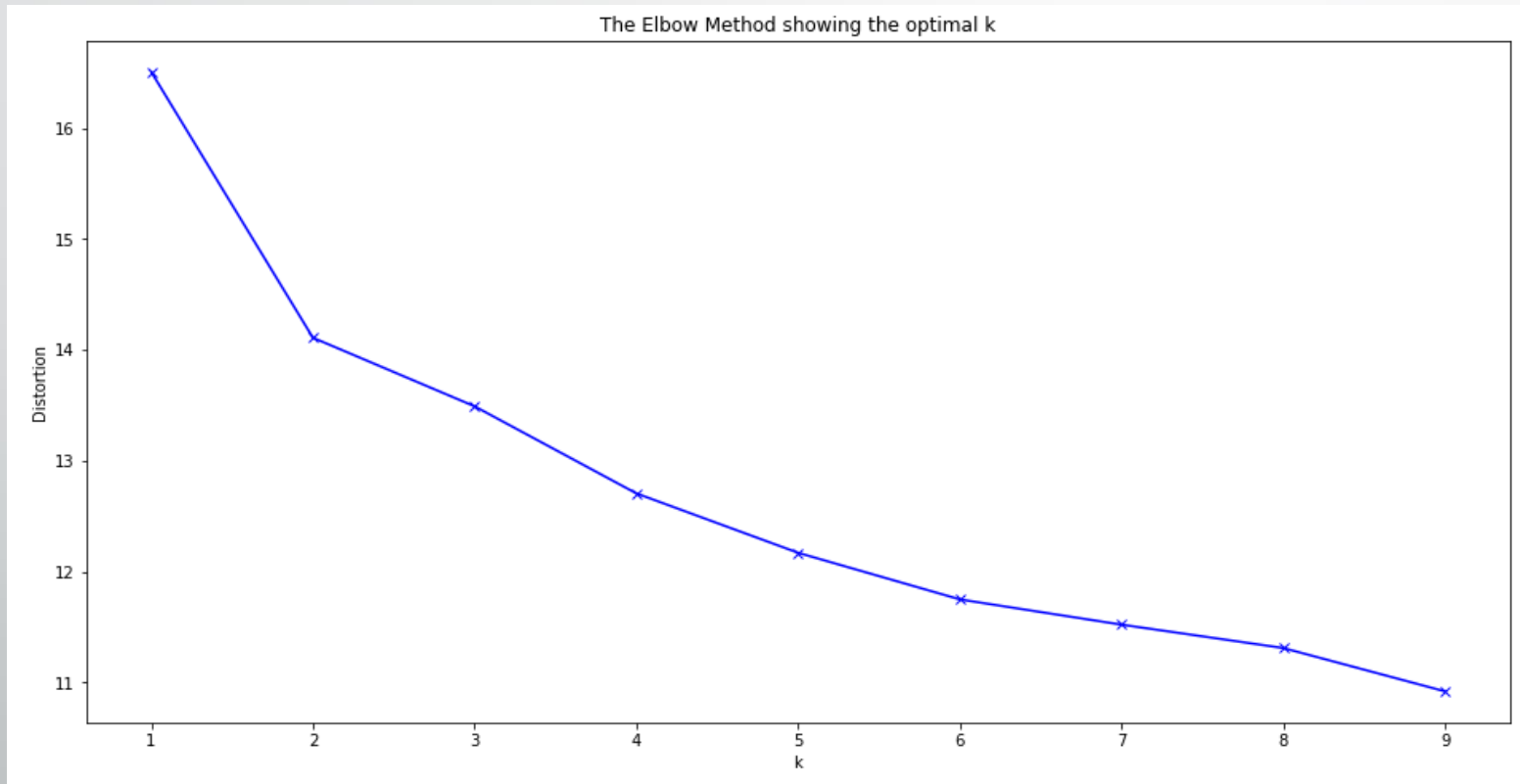# Average House Rental Price VS. Venue Category

- Average House Rental Price of different venue category were different from each other.
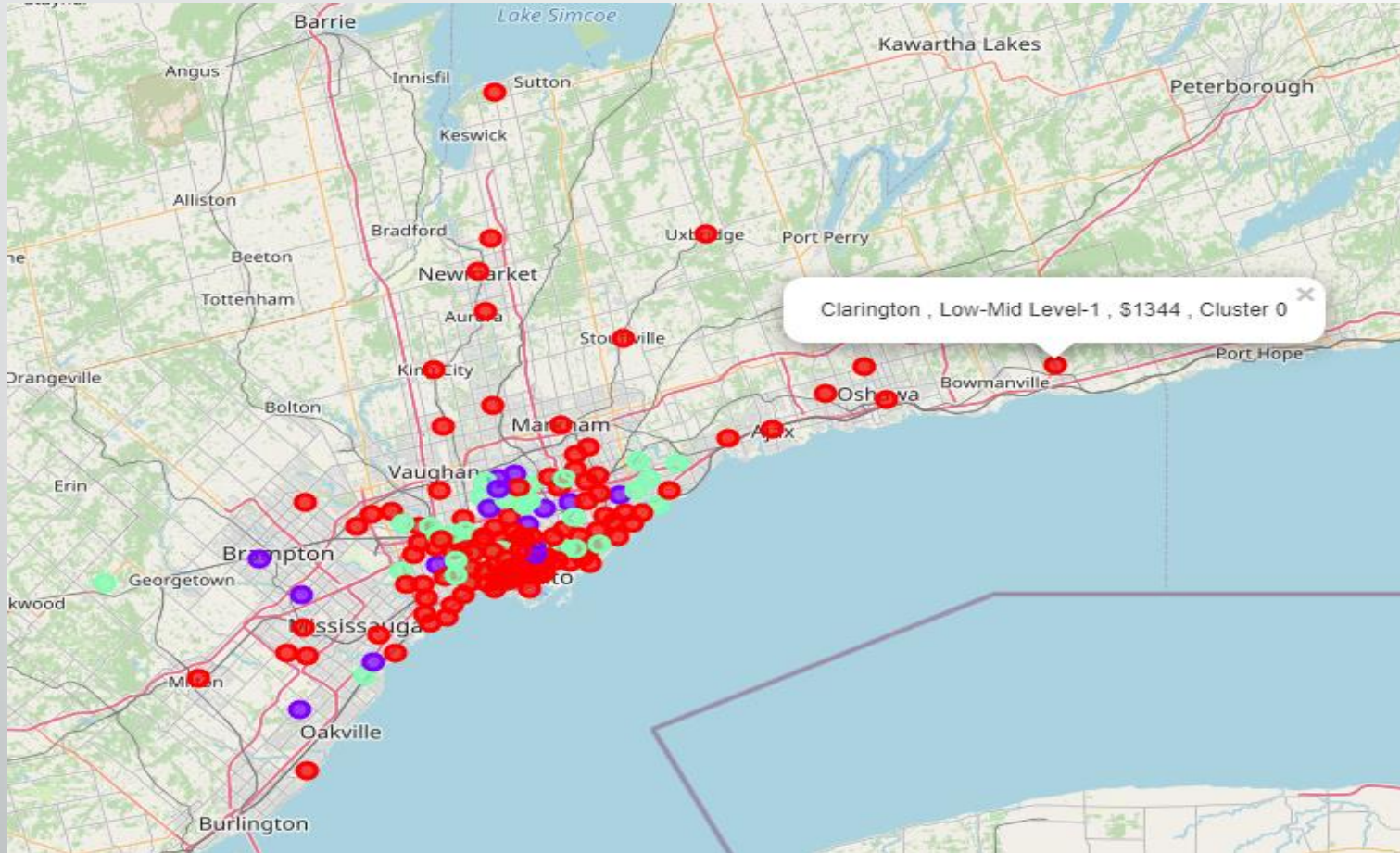
Setup Price Range as comparing measure

Visualized The Elbow Method for optimal number of group cluster

The turning point at 2 indicates 2 cluster is the optimal cluster number, however add one more cluster to increase diversity since there are 330 unique venue category.
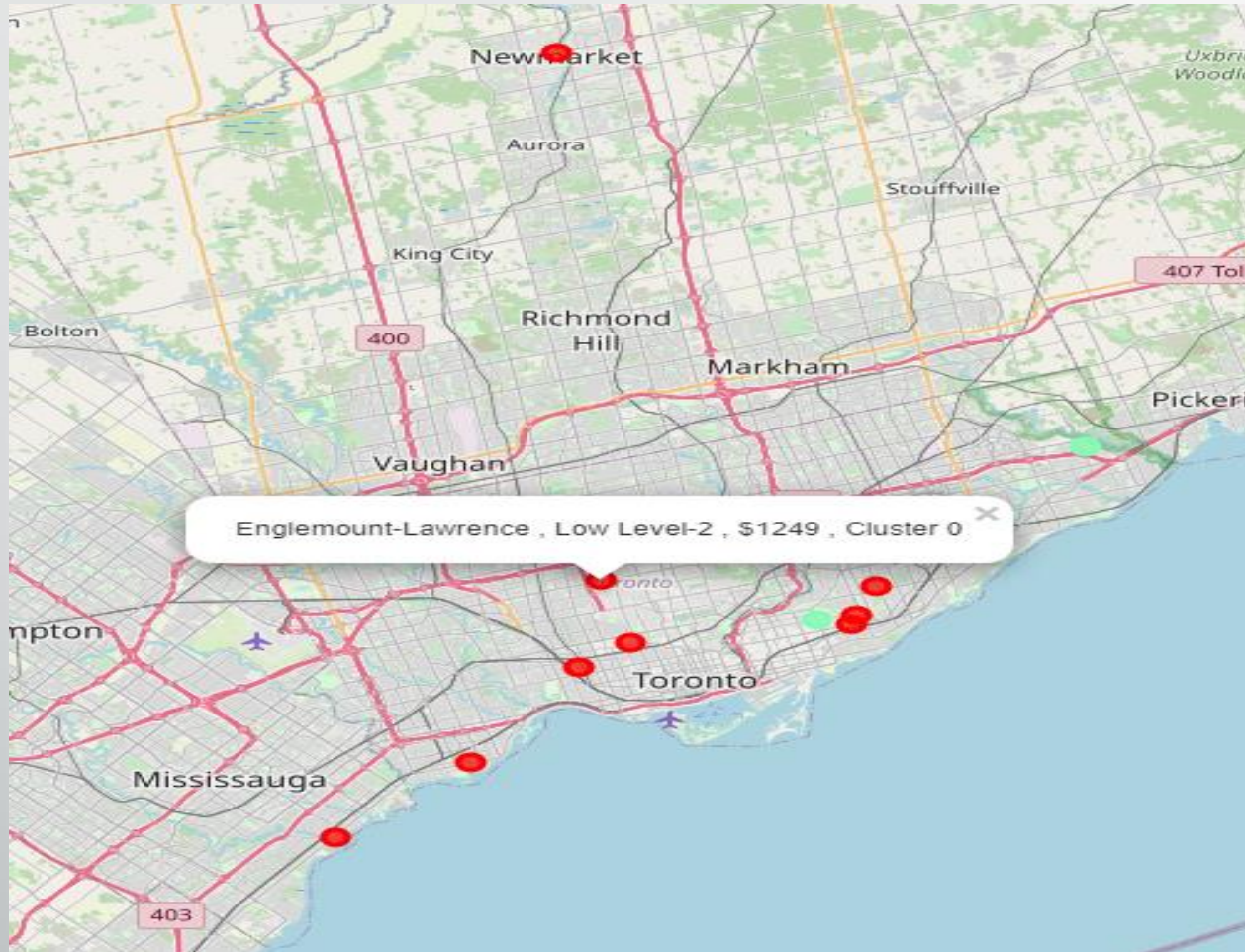
The Cluster Map

- Red Dot: Cluster 0 of Coffee Shops & Pizza Places

- Purple Dot: Cluster 1 of Parks

- Light Green Dot: Cluster 2 of Convenience Stores & Parks

Conclusion

Englemount-Lawrence , Low Level-2 , $1249 , Cluster 0

- Most of the desire locations are cluster 0 of Coffee Shops & Pizza Places

- Places that has plenty of public transit and eatery are located at the city center meaning that city center has the most suitable area to setup office

Future Directions

- Accuracy of the model can be significantly improved by data of detailed prices on each building instead of average neighbourhood rental price and proper geojson file of Greater Toronto Area.

- This project might evolve into an useful business analysis tool for the house leasing service industry, if the data mentioned above are provided.