The Mover’s Guide: Toronto to New York

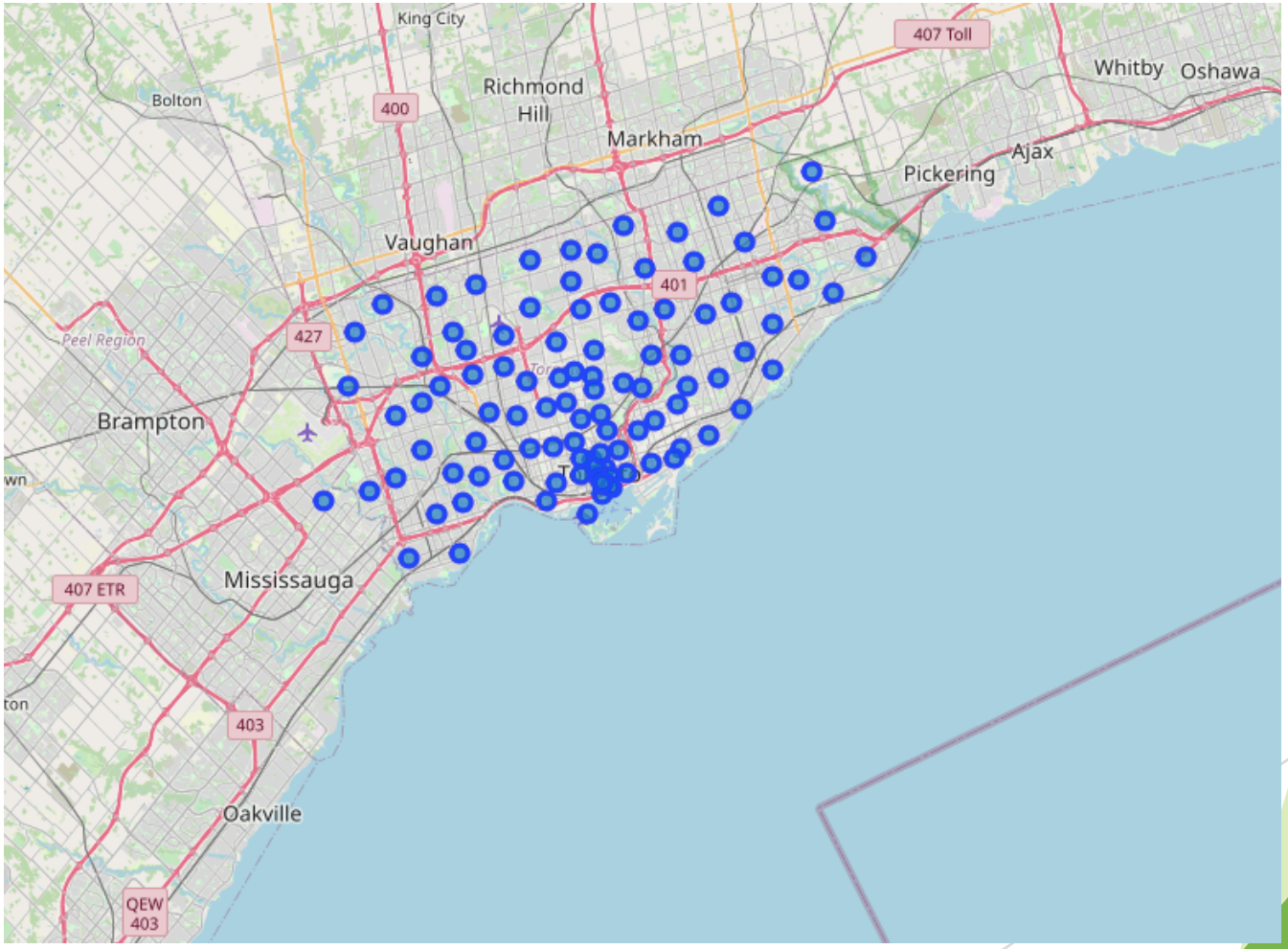
A Guide for Relocation

- In the age of globalization, migration of people is common between metropoles for employment, education and recreation.
- Toronto and New York are the two most populous cities of Canada and USA respectively.
- A guide provides the convenience of choosing neighbourhoods when moving between Toronto and New York.

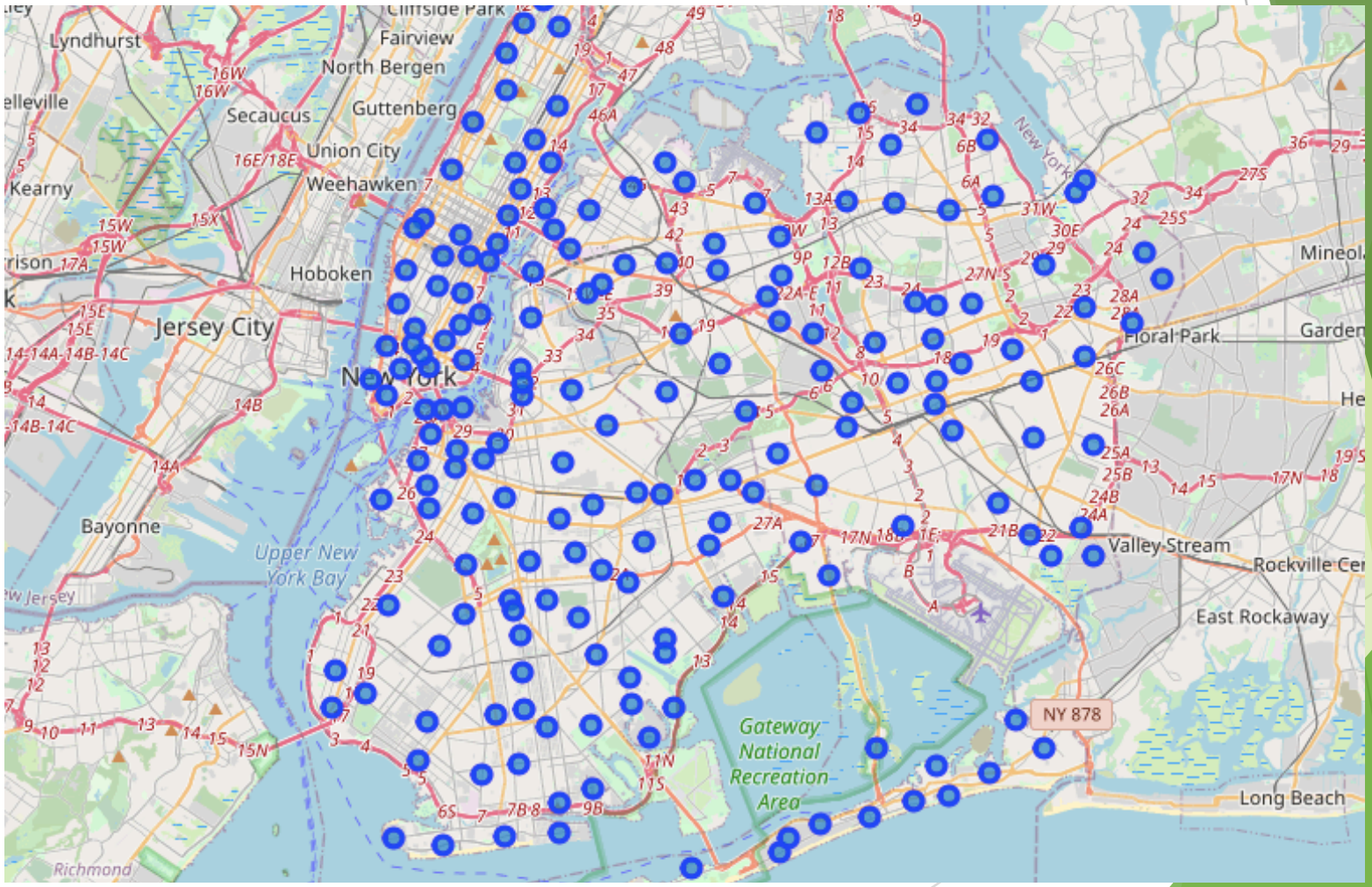
Data Acquisition

- Geographical data for the neighbourhoods in Toronto and New York can be obtained online, from websites such as Wikipedia.
- Close to 300 neighbourhoods were compared in this guide, including all neighbourhoods of Toronto and the three most populous boroughs of New York.
- Foursquare API data was used to extract upto 485 different attributes of each neighbourhood.

Neighbourhoods of Toronto



Neighbourhoods of New York



Common Attributes of Neighbourhoods

	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	Agincourt	Latin American Restaurant	Breakfast Spot	Lounge	Skating Rink	Health Food Store	Historic Site	History Museum	Hobby Shop	Hockey Arena	Hookah Bar
1	Alderwood, Long Branch	Pizza Place	Pub	Sandwich Place	Gym	Pool	Coffee Shop	Hookah Bar	Hotel	Hostel	Hospital
2	Arverne	Surf Spot	Metro Station	Sandwich Place	Restaurant	Playground	Wine Shop	Café	Bus Stop	Thai Restaurant	Board Shop
3	Astoria	Bar	Middle Eastern Restaurant	Hookah Bar	Greek Restaurant	Indian Restaurant	Seafood Restaurant	Café	Mediterranean Restaurant	Bakery	Deli / Bodega
4	Astoria Heights	Bowling Alley	Laundromat	Burger Joint	Bakery	Pizza Place	Playground	Plaza	Bus Station	Supermarket	Italian Restaurant

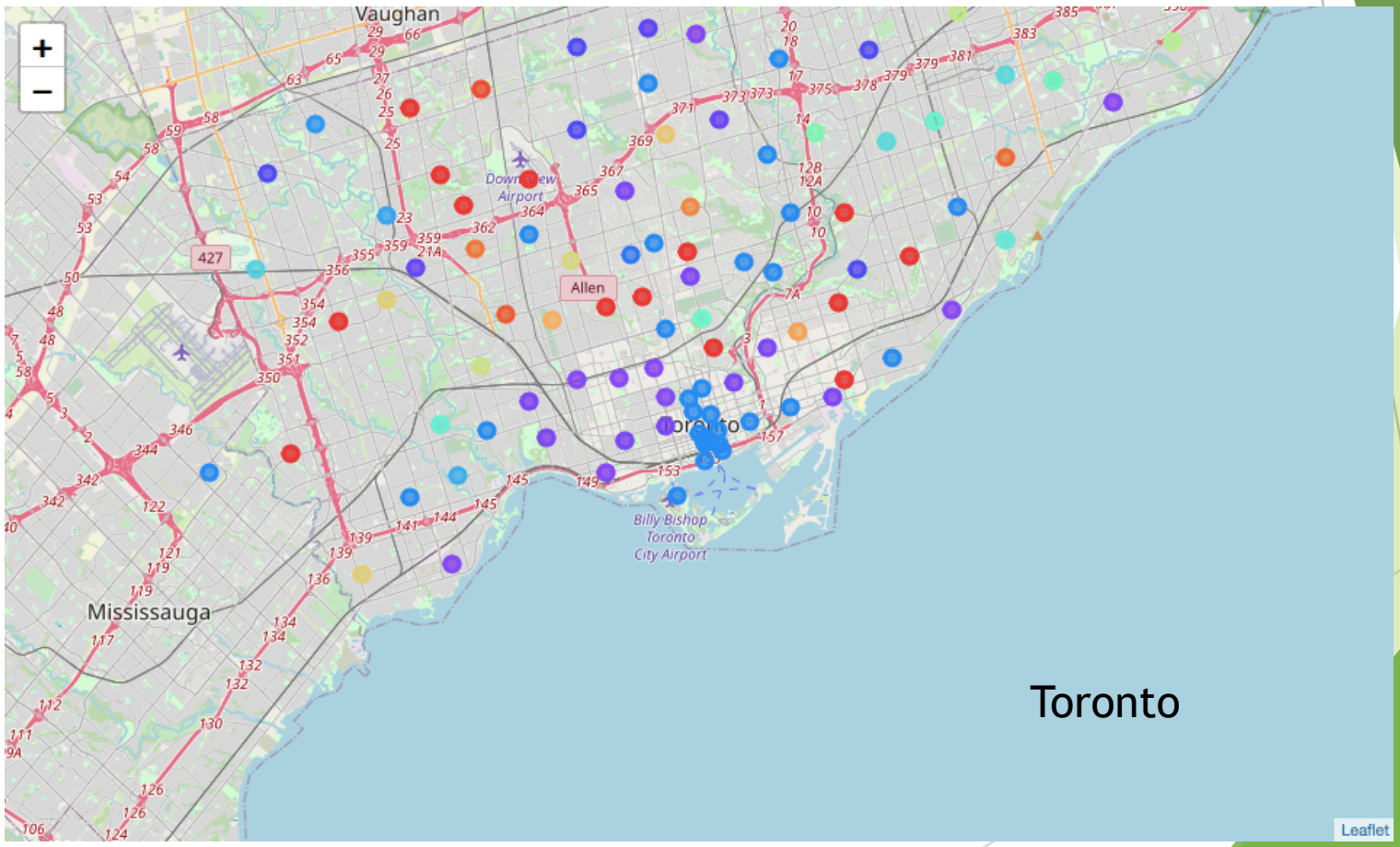
- Data from Foursquare can be used to obtain occurrences of various establishments in each neighbourhood.

Clustering

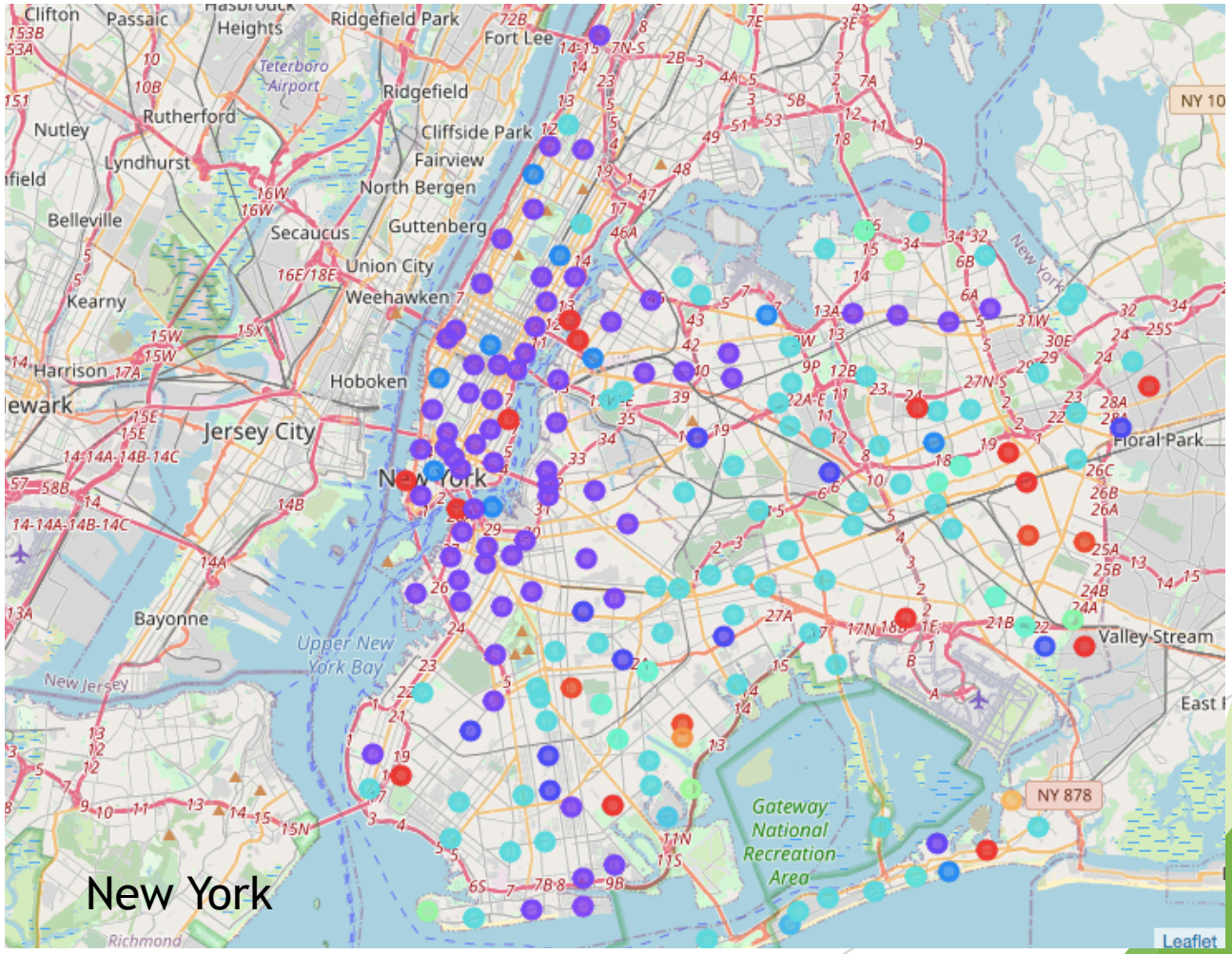
- A machine learning technique used to group the dataset into clusters based on similarity of features.
- The number of clusters is chosen by hand and the machine picks the best grouping possible.

- In our case, clustering can be used to group neighbourhoods based on their similarity.
- Ideal for users looking to move to similar neighbourhoods, but in different cities.

Similar Neighbourhoods in Toronto and NY - 1

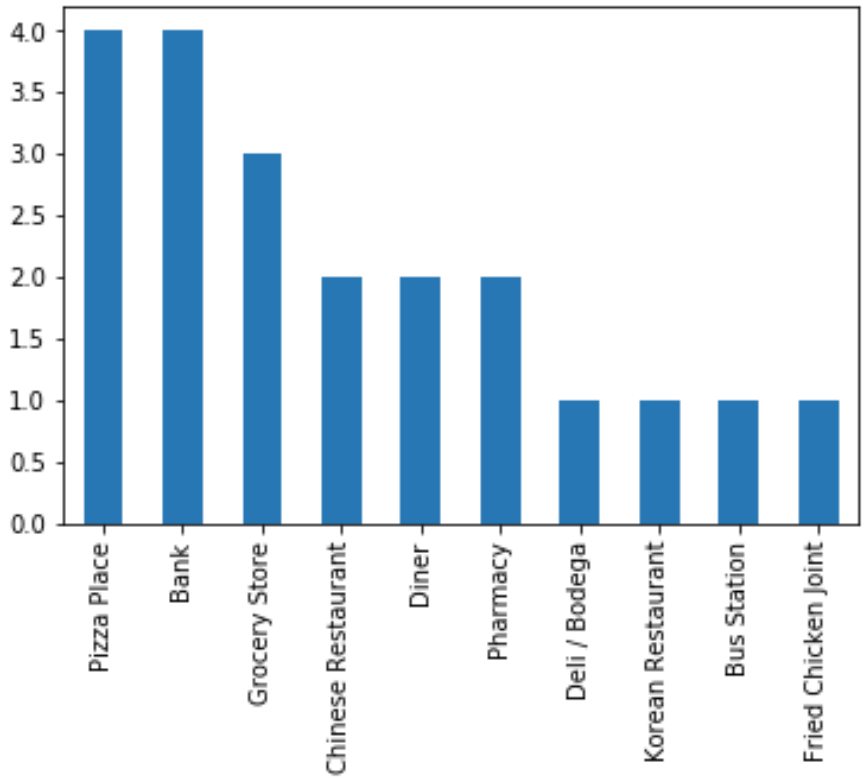


Similar Neighbourhoods in Toronto and NY - 2



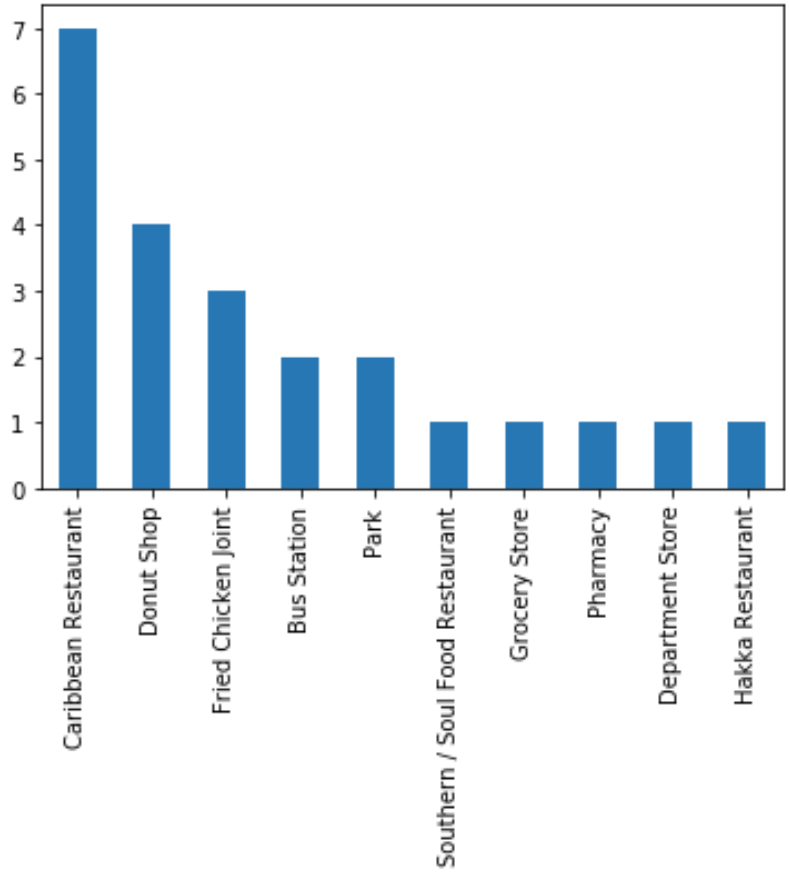
Detailed Make-Up of Clusters

- The attributes identifying a particular cluster of interest can be probed in detail by looking at bar plots belong to that cluster. For example, (cluster 19),



Detailed Make-Up of Clusters

- Another example, shows the defining attribute of cluster 18.



Conclusion

- Versatile guide for people moving between Toronto and New York as well as within either city.
- Recommendations can be made directly by visualization provided by the Folium maps.
- Details can be obtained from bar plots listing the most common attributes.

- Future improvements could include comparison between any two cities, as long as the geographical coordinates and Foursquare data for those locations are available.