

# **IBM DATA SCIENCE PROFESSIONAL CERTIFICATE CAPSTONE PROJECT**

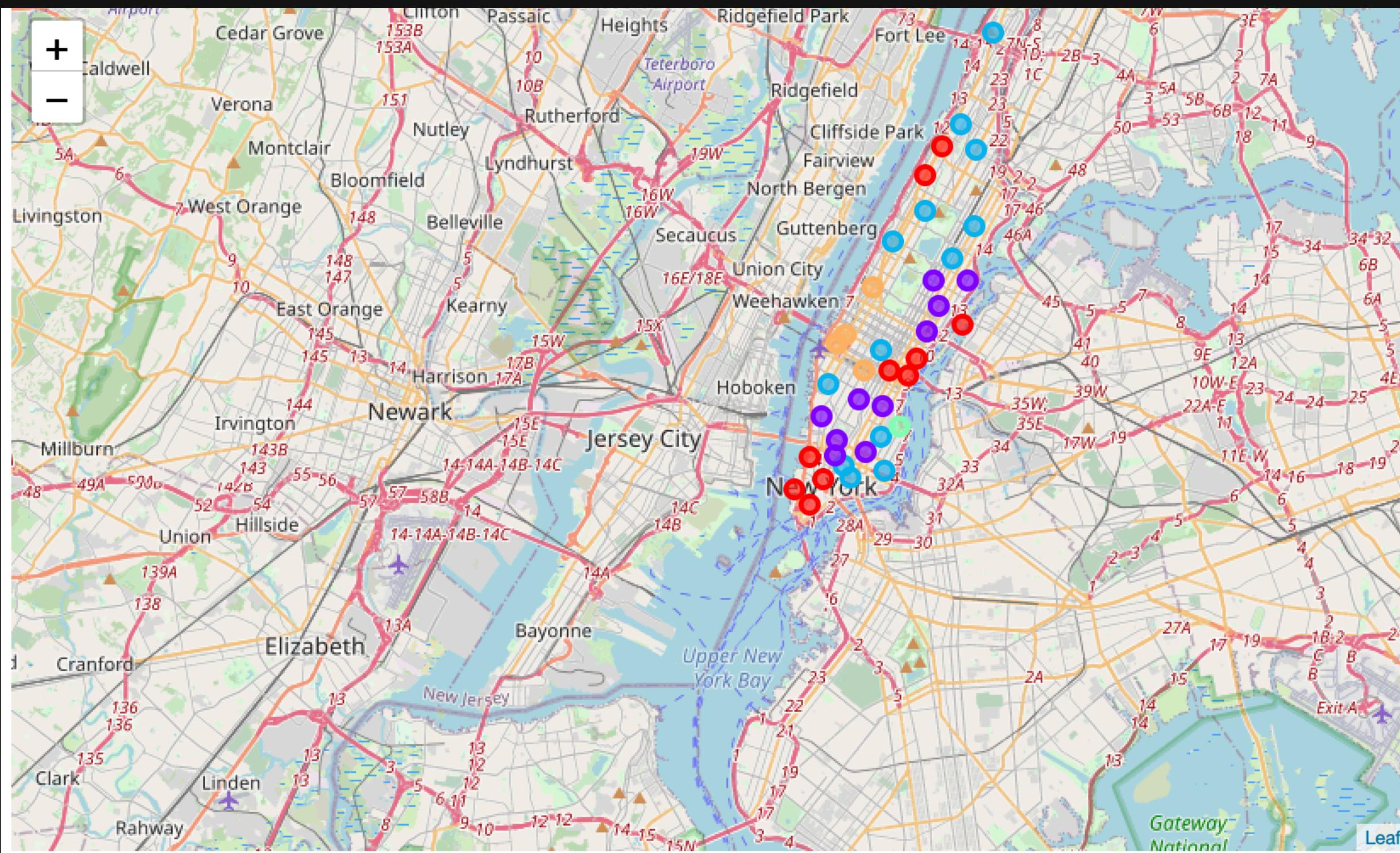
**A COMPARISON OF THE MOST COMMON VENUES AROUND  
NEIGHBORHOODS IN MANHATTAN AND TORONTO - BEST BUSINESSES TO  
OPEN IN THE CITIES**

**OLUWASEUN MESELE, 02/02/2020**

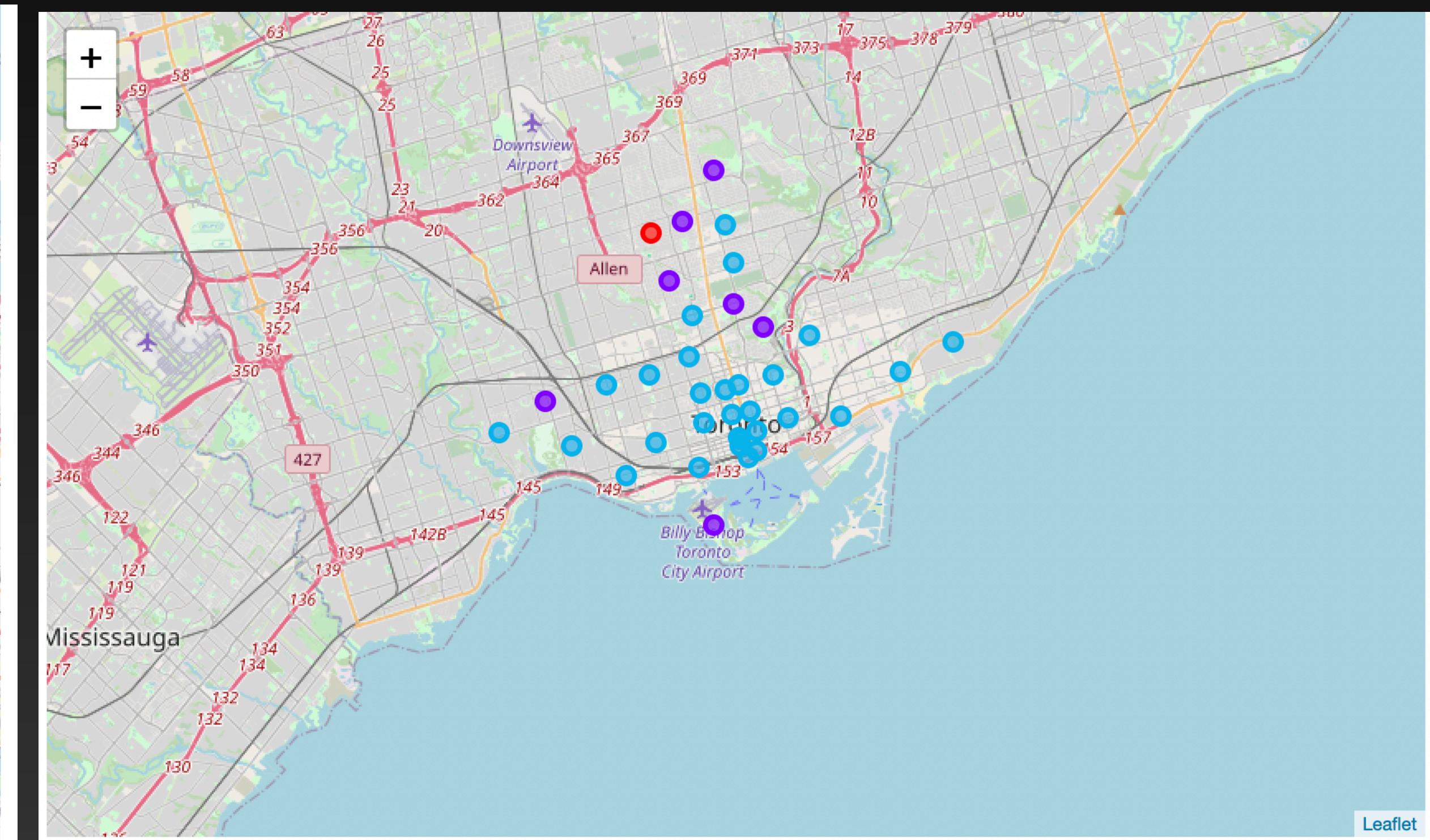
# K - MEANS CLUSTERING

## MAP OF THE CLUSTERS RESULTING FROM MODEL

Manhattan is seen to have a more diverse cluster of venues compared to those in the Toronto named boroughs



Five cluster of venues around  
Manhattan neighborhoods from k-  
means



Three cluster of venues around  
Toronto named boroughs from k-  
means

# WORD CLOUDS AND COMMON VENUES

## SHOWING THE TEN MOST COMMON VENUES IN EACH MANHATTAN CLUSTER

All clusters but cluster 3 have a high frequency of restaurants. Cluster label 1 has a lot of Italian restaurants.

Neighborhoods around cluster label four have a lot of Cafe, Gym/fitness center, Theater.



## Word Cloud for Manhattan Vanues, Cluster Label 3



Word Cloud for Manhattan Vanues, Cluster Label 4



Word Cloud for Manhattan Vanues, Cluster Label 2



Word Cloud for Manhattan Vanues, Cluster Label 0



## Word Cloud for Manhattan Venues, Cluster Label 1

# WORD CLOUDS AND COMMON VENUES

## SHOWING THE TEN MOST COMMON VENUES IN EACH TORONTO CLUSTER

Even though there are a few restaurants in the neighborhood around these Toronto boroughs, they do not usually rank in the three most common venues. Coffee shops, Cafes, and Park rank in the most common venues



Word Cloud for Toronto Venues, Cluster Label 0



Word Cloud for Toronto Venues, Cluster Label 1



# BUSINESS RECOMMENDATION

Despite the fact that these cities are the financial capitals of their respective countries, there is a huge difference in common venues in boroughs considered in these cities.

For a small business trying to open a restaurant, downtown Toronto borough will be the best to go because of the less number of competitors compared to New York City.

If a restaurant needs to be opened in NYC, consider neighborhoods around Murray Hill, Financial district, Civic Center and Turtle bay