

To start up a business, it is essential to do marketing search before developing the business plan and having some general ideas on business locations and categories.

It seems a tedious process for preparation on opening a shop or a restaurant in local area. However, understanding the operating system of local business will allow business owners to launch their businesses and compete with others with less disadvantages.

Today, we will explore downtown area of city Toronto and New York (Manhattan). Finding some useful business information for new competitors who are eager to challenge with local business in those two cities.



## Top 5 venue business types within in 2000 meters of geographical coordination of Toronto and Manhattan

Toronto	
1	Coffee shop
2	Cafe
3	Park
4	Gym
5	Hotel

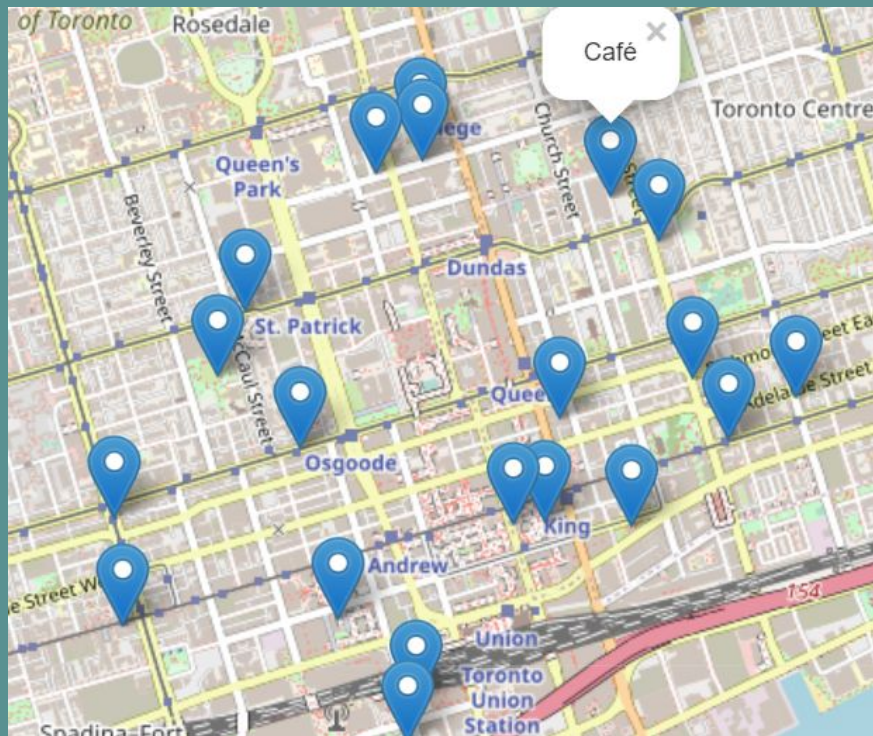
Manhattan	
1	Asian Restaurant
2	Hotel
3	Pizza Place
4	Bakery
5	BookStore

Bottom 5 venue business types within in 2000 meters of geographical coordination of Toronto and Manhattan

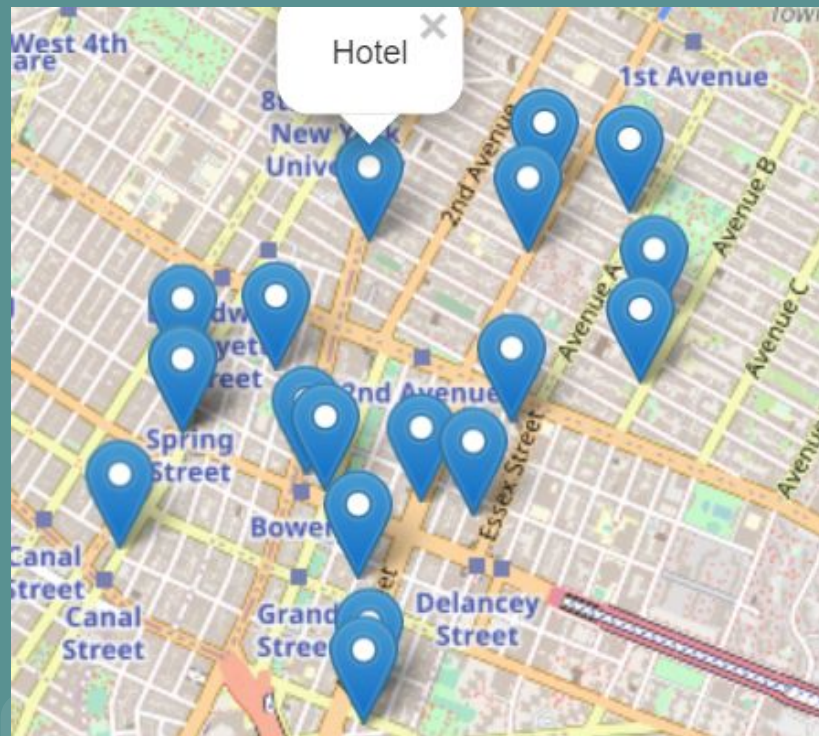
Toronto	
1	American Restaurant
2	Arts & Crafts Store
3	Baseball Stadium
4	Basketball Stadium
5	Beer Bar

Manhattan	
1	Argentinian Restaurant
2	Austrian Restaurant
3	Bar
4	Boxing Gym
5	Breakfast spot

Toronto downtown top 5 venue categories  
distribution map

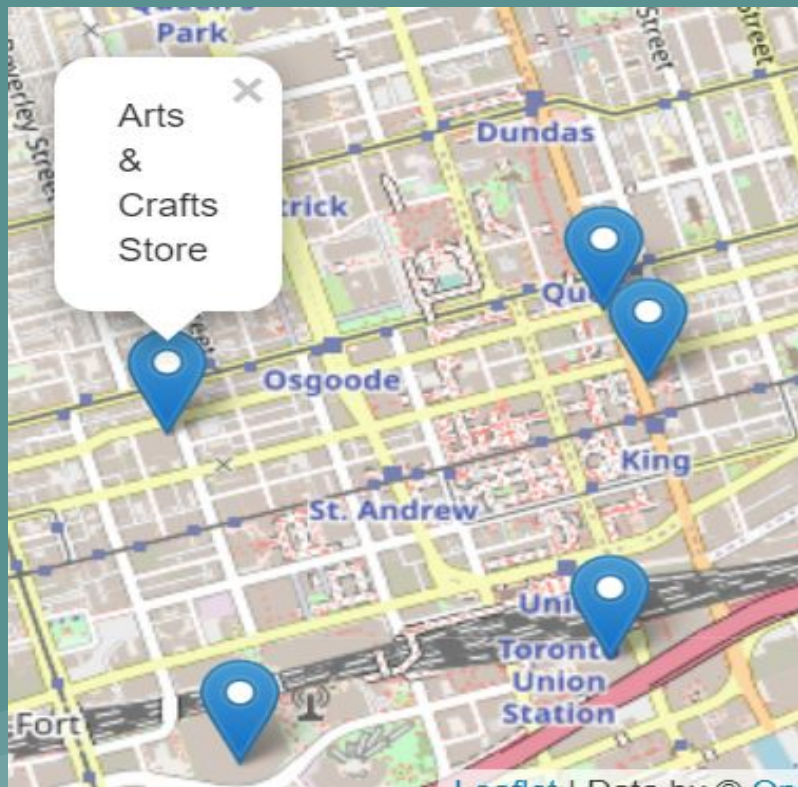


New York downtown (Manhattan) top 5 venue categories  
distribution map

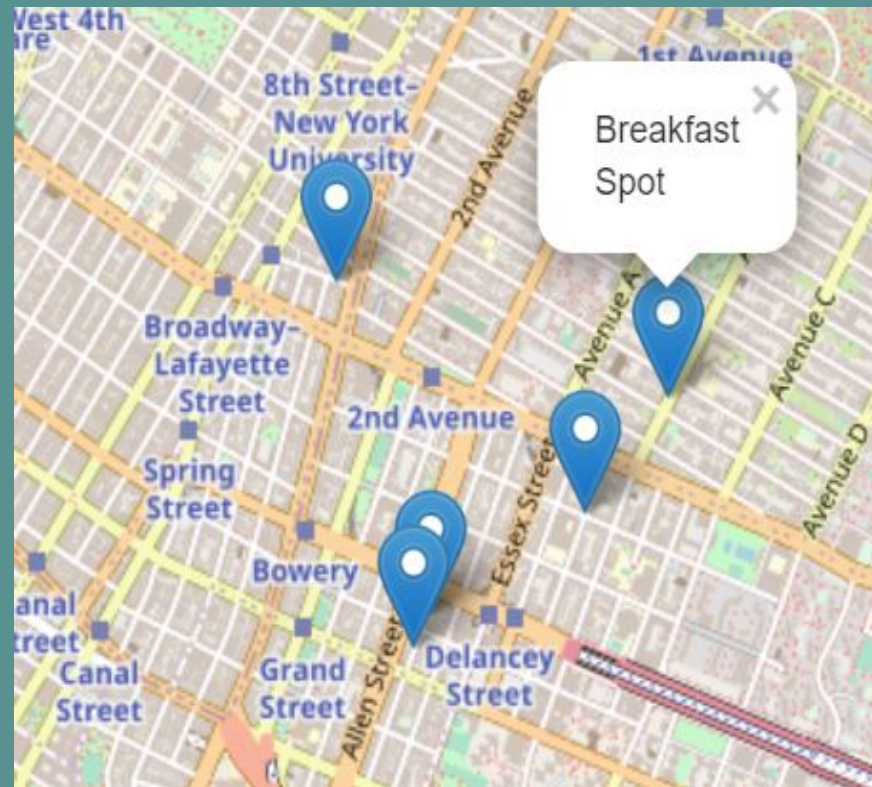




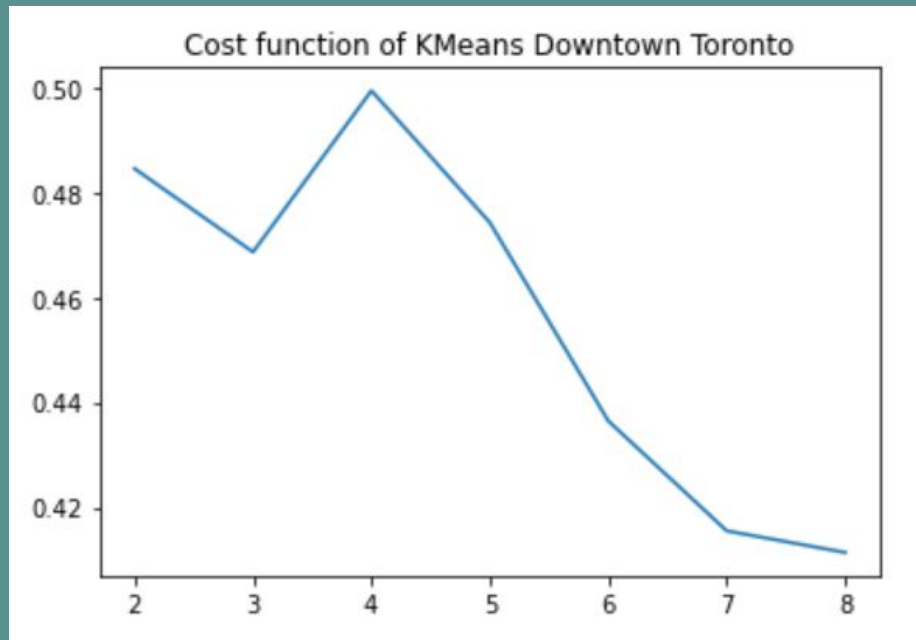
Toronto downtown the least favorite 5 venue categories distribution map



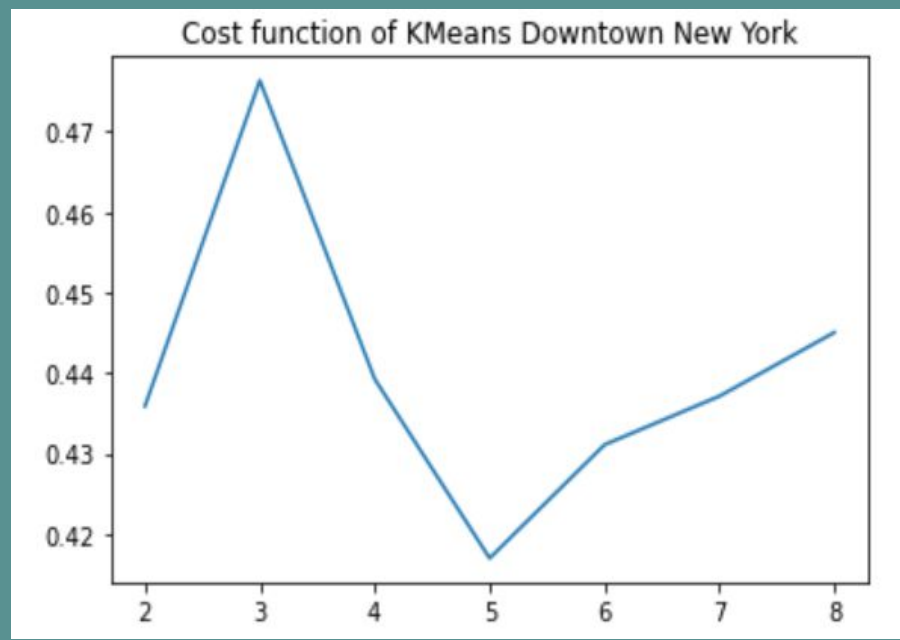
New York downtown (Manhattan) the least favorite 5 venue categories distribution map



Applying Silhouette Coefficient to find the best K value for each of two cities based on geographical coordination distribution for all selected venue points from FourSquare KPI



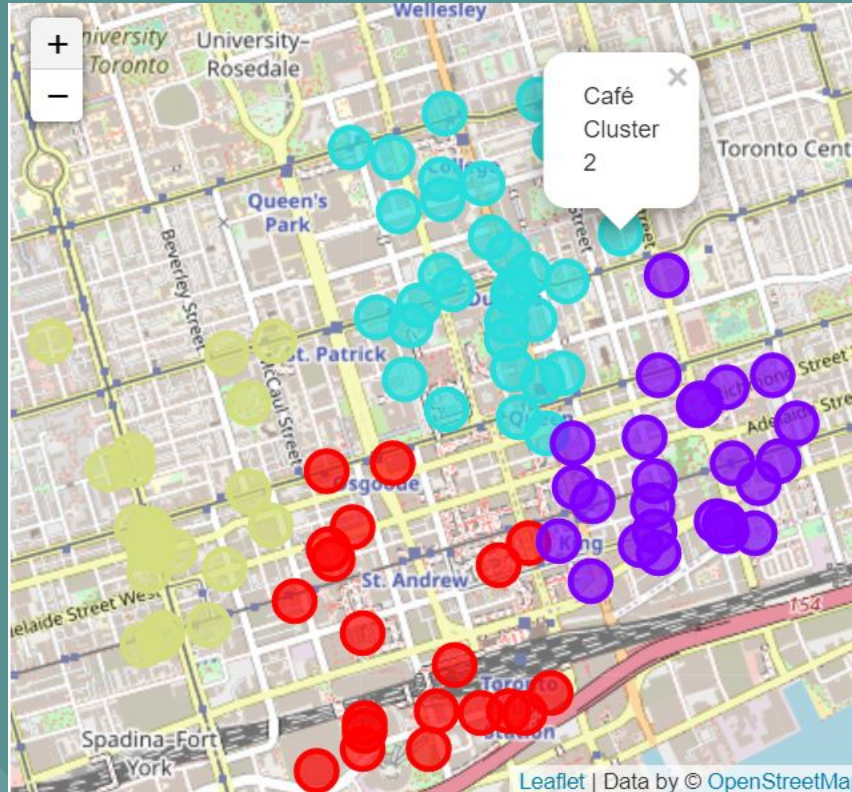
The best K is 4 for Downtown Toronto



The best K is 3 for Downtown New York (Manhattan)



## KMean distribution of data visualization on the map for each of two cities



Downtown Toronto



Downtown New York (Manhattan)

## Reference:

1. <https://www.expowest.com/en/register/business-categories.html>
2. <https://towardsdatascience.com/silhouette-coefficient-validating-clustering-techniques-e976bb81d10c>
3. <https://developer.foursquare.com/>
4. <https://scikit-learn.org/stable/modules/generated/sklearn.cluster.KMeans.html>

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