

Toronto for tourism

Introduction:

Toronto is the capital city of the Canadian province of Ontario. With a recorded population of 2,731,571 in 2016, it is the most populous city in Canada and the fourth most populous city in North America. The city is the anchor of the Golden Horseshoe, an urban agglomeration of 9,245,438 people (as of 2016) surrounding the western end of Lake Ontario, while the Greater Toronto Area (GTA) proper had a 2016 population of 6,417,516.

Toronto is an international center of business, finance, arts, and culture, and is recognized as one of the most multicultural and cosmopolitan cities in the world.

The diverse population of Toronto reflects its current and historical role as an important destination for Canada. More than 50 percent of residents belong to a visible minority population group, and over 200 distinct ethnic origins are represented among its inhabitants. While the majority of Torontonians speak English as their primary language, over 160 languages are spoken in the city. The mayor of Toronto is elected by direct popular vote to serve as the chief executive of the city.

The Toronto City Council is a unicameral legislative body, comprising 25 councilors, since the 2018 municipal election, representing geographical wards throughout the city.

Toronto is a prominent centre for music, theatre, motion picture production, and television production, and is home to the headquarters of Canada's major national broadcast networks and media outlets. Its varied cultural institutions, which include numerous museums and galleries, festivals and public events, entertainment districts, national historic sites, and sports activities, attract over 43 million tourists each year. Toronto is known for its many skyscrapers and high-rise buildings, in particular the tallest free-standing structure in the Western Hemisphere, the CN Tower.

The city is home to the Toronto Stock Exchange, the headquarters of Canada's five largest banks, and the headquarters of many large Canadian and multinational corporations. Its economy is highly diversified with strengths in technology, design, financial services, life sciences, education, arts, fashion, aerospace, environmental innovation, food services, and tourism.

Toronto has a diverse array of public spaces, from city squares to public parks overlooking ravines. Nathan Phillips Square is the city's main square in downtown, contains the 3D Toronto sign, and forms the entrance to City Hall. Yonge–Dundas Square, near City Hall, has also gained attention in recent years as one of the busiest gathering spots in the city.

ABOUT TOURISM TORONTO:

Tourism Toronto is the official destination marketing organization for the region, "Canada's Downtown" encompassing Toronto, Mississauga and Brampton. With sales and marketing programs in key markets around the world, Tourism Toronto promotes the Toronto region as a remarkable destination for tourists, convention delegates and business travelers

Problem:

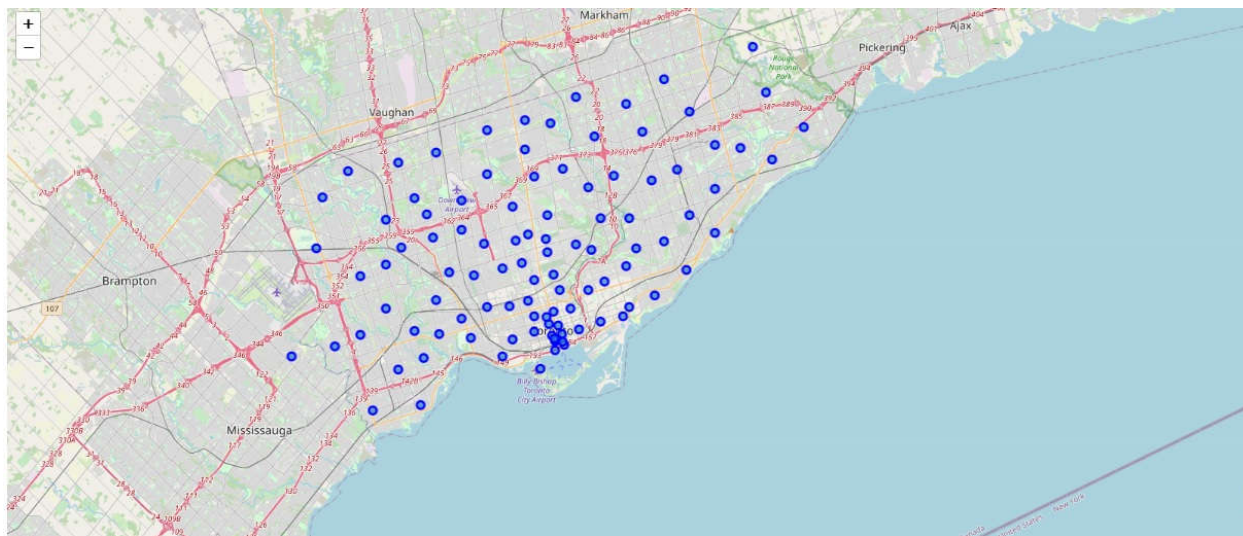
Tourism company is looking to expand the visit-able and suitable places for tourists

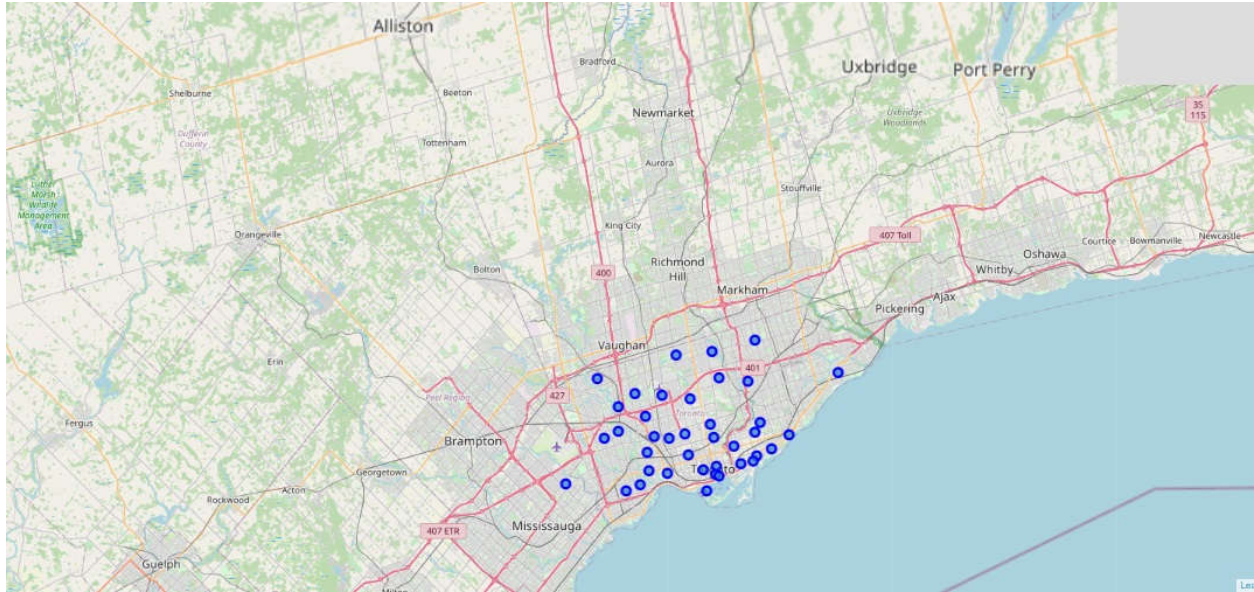
Outcome:

Provide information and recommendation for an informed decision where they could find their destinations

Toronto, Canada Information

- One of the largest cities in Canada has a population of over 6 million people.
- The City is broken down into 103 postal codes





Methodology:

First, we scrape the data using BeautifulSoup.

Second, we find the latitudes and longitudes of the given addresses(using Gmaps geocoding API)

Third, we will plot those coordinates using the folium map.

Fourth, We will find the number of collisions in the given dataset.

Fifth, Using the dataset, we will use FourSquare API for finding the places resided near to those pin codes and merge with the original dataset

Sixth, To use this dataset for predicting the most common venue, we have to use one-hot encoding for K-means Clustering algorithm.

Seventh, Using the silhouette score, we will find the best K-value for our most common venue prediction.

At last, Using the K-value, we will find the cluster labels for each an every place and last we will plot the map and find the most common venue point in the selective district.

Discussion and Results:

Borough names containing Toronto

Postal code	Borough	Neighborhood
M5A	Downtown Toronto	Regent Park, Harbourfront
M5B	Downtown Toronto	Garden District, Ryerson
M5C	Downtown Toronto	St. James Town
M4E	East Toronto	The Beaches
M5E	Downtown Toronto	Berczy Park

Tourism halls in Toronto

Row	tourism Halls
1	Brockton, Parkdale Village, Exhibition Place-
2	CN Tower, King and Spadina, Railway Lands, Harbourfront West, Bathurst Quay, South Niagara, Island airport-
3	Central Bay Street
4	Christie
5	Church and Wellesley
6	Commerce Court, Victoria Hotel
7	Davisville
8	Davisville North
9	Dufferin, Dovercourt Village
10	Enclave of M4L
11	Enclave of M5E
12	First Canadian Place, Underground city
13	Forest Hill North & West
14	Garden District, Ryerson
15	Harbourfront East, Union Station, Toronto Islands
16	High Park, The Junction South
17	India Bazaar, The Beaches West
18	Kensington Market, Chinatown, Grange Park
19	Lawrence Park
20	Little Portugal, Trinity
21	Moore Park, Summerhill East
22	North Toronto West
23	Parkdale, Roncesvalles
24	Regent Park, Harbourfront
25	Richmond, Adelaide, King
26	Rosedale
27	Roselawn
28	Runnymede, Swansea
29	St. James Town
30	Studio District
31	Summerhill West, Rathfriland, South Hill, Forest Hill SE, Deer Park
32	The Annex, North Midtown, Yorkville
33	The Beaches
34	The Danforth East
35	The Danforth West, Riverdale
36	Toronto Dominion Centre, Design Exchange
37	University of Toronto, Harbord

15 boroughs has found with Toronto name

From mapping done ,Toronto has several existing general and entertainment Venus like :Coffee Shop ,Brewery ,Café ,Bakery ,American Restaurant, Light Rail Station, Yoga Studio, Skate Park, Garden Center ,Fast Food, Restaurant ,Pizza Place, Butcher ,Pharmacy, Supermarket, Park , Food & Drink Shop ,Movie Theater ,Medical Center ,Middle Eastern Restaurant , Sandwich Place ,Intersection ,Tennis Court ,Mediterranean Restaurant ,Construction & Landscaping , Basketball Court , Vietnamese Restaurant , Vegetarian / Vegan Restaurant , Grocery Store, Shopping Mall , Bank ,Monument / Landmark , Mobile Phone Shop , Sandwich Place, Gym , Thrift / Vintage Store , Burrito Place , Baseball Field ,Airport Service ,Airport Terminal , Airport , Bar ,Skating Rink , Farm , College Stadium , General Entertainment ,Athletics & Sports , Spa , Beer Store , Bus Stop ,Italian Restaurant , Hotel , Gym , Cocktail Bar ,Dessert Shop ,Sushi Restaurant , Pub , Health Food Store , Trail ,Breakfast Spot , Gift Shop , Bookstore ,Field , Hockey Arena , Lounge , Grocery Store Candy Store Baby Store , Rental Car Location, Electronics Store , Donut Shop ,Construction & Landscaping, Pool ,Indian Restaurant , Museum ,Convenience Store , Bus Line ,Burger Joint, Mexican Restaurant ,Clothing Store , Cosmetics Shop , Women's Store, Chinese Restaurant , Japanese Restaurant ,Gastropub ,Pet Store ,Greek Restaurant , Burrito Place, Ice Cream Shop , Italian Restaurant , Furniture / Home Store, Discount Store , Turkish Restaurant

Row	Toronto general places
1	Coffee Shop
2	Brewery
3	Café
4	Bakery
5	American Restaurant
6	Light Rail Station
7	Yoga Studio
8	Skate Park
9	Garden Center
10	Fast Food Restaurant
11	Pizza Place
12	Butcher
13	Pharmacy
14	Supermarket
15	Park
16	Food & Drink Shop
17	Movie Theater
18	Medical Center
19	Middle Eastern Restaurant
20	Sandwich Place
21	Intersection
22	Tennis Court
23	Mediterranean Restaurant
24	Construction & Landscaping

25	Basketball Court
26	Vietnamese Restaurant
27	Vegetarian / Vegan Restaurant
28	Grocery Store
29	Shopping Mall
30	Bank
31	Monument / Landmark
32	Mobile Phone Shop
33	Sandwich Place
34	Gym
35	Thrift / Vintage Store
36	Burrito Place
37	Baseball Field
38	Airport Service
39	Airport Terminal
40	Airport
41	Bar
42	Skating Rink
43	Farm
44	College Stadium
45	General Entertainment
46	Athletics & Sports
47	Spa
48	Beer Store
49	Bus Stop
50	Italian Restaurant
51	Hotel
52	Gym
53	Cocktail Bar
54	Dessert Shop
55	Sushi Restaurant
56	Pub
57	Health Food Store
58	Trail
59	Breakfast Spot
60	Gift Shop
61	Bookstore
62	Field
63	Hockey Arena
64	Lounge
65	Grocery Store

66	Candy Store
67	Baby Store
68	Rental Car Location
69	Electronics Store
70	Donut Shop
71	Construction & Landscaping
72	Pool
73	Indian Restaurant
74	Museum
75	Convenience Store
76	Bus Line
77	Burger Joint
78	Mexican Restaurant
79	Clothing Store
80	Cosmetics Shop
81	Women's Store
82	Chinese Restaurant
83	Japanese Restaurant
84	Gastropub
85	Pet Store
86	Greek Restaurant
87	Burrito Place
88	Ice Cream Shop
89	Italian Restaurant
90	Furniture / Home Store
91	Discount Store
92	Turkish Restaurant

	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	Brockton, Parkdale Village, Exhibition Place	Coffee Shop	Brewery	Café	Bakery	American Restaurant	Gastropub	Stationery Store	Bookstore	Diner	Middle Eastern Restaurant
1	CN Tower, King and Spadina, Railway Lands, Har...	Light Rail Station	Yoga Studio	Skate Park	Garden Center	Fast Food Restaurant	Farmers Market	Park	Pizza Place	Comic Shop	Restaurant
2	Central Bay Street	Pizza Place	Butcher	Pharmacy	Coffee Shop	Supermarket	Discount Store	Mexican Restaurant	Middle Eastern Restaurant	Miscellaneous Shop	Mobile Phone Shop
3	Christie	Fast Food Restaurant	Park	Food & Drink Shop	Movie Theater	Medical Center	Mediterranean Restaurant	Mexican Restaurant	Middle Eastern Restaurant	Miscellaneous Shop	Mobile Phone Shop
4	Church and Wellesley	Pizza Place	Coffee Shop	Middle Eastern Restaurant	Sandwich Place	Intersection	Chinese Restaurant	Playground	Discount Store	Optical Shop	Mexican Restaurant

Conclusion:

Restaurant / fast food /coffee shops can find in each tourism hall.

Informing about Venus distribution help tourism industry /company, guide to manage their time, cost, recourses.

Some neighbors like:

- Brockton, Parkdale Village, Exhibition Place-
- CN Tower, King and Spadina, Railway Lands, Harbourfront West, Bathurst Quay, South Niagara, Island airport-
- Central Bay Street
- Christie
- Church and Wellesley

Can play tourism hall role which are hub for most of places.