Battle of the Neighborhoods:

Mount Pleasant West

Vladimirs Vents

May 24th, 2020

1. Introduction

1.1. Background

Toronto is a multi-cultural city, that is a financial capital of Canada. It is a vibrant business and activity hub that attracts people from all around the world. Every year millions of people visit this iconic city for business and tourism reasons. One of the most important things for every visitor is the accomodation options in the city, which is affordable, safe and has something to offer to its guests.

There are many hotels that are located right in the Toronto Downtown. These are not only the 4- or 5-star hotels, but even cheaper ones. But the overall situation is the following: due to high real estate prices, the hotel rates are not affordable to the most of the tourists. These rates are forcing visitors to look for a cheaper accomodation options on the outskirts of the Toronto city. This results with lower impression of the city due to:

- Accesibility: some hotels on the outskirts have poor public transit coverage;
- Private car is not being welcomed in the Toronto Downtown area – difficult to esplore the sights;
- Takes too much time to get around the city;

In this Capstone project I will be exploring the Toronto Midtown (particularily the Mount Pleasant West neighborhood) as the place for a potential hotel development for international guests. Toronto Midtown is a green and vibrant area right outside the Downtown area that has a lot of the entartainment options as well.

I will conduct a research of the neighborhoods in this area to understand their attractiveness. Using the Foursquare data will allow me to explore the local places of

interest (such as restaurants, parks, cinemas) and the availability of the vital aspects such as nearby located subway stations, pharmacies, grocery shops, etc.

1.2. Data Description

To consider the problem we can list the following data sources:

- I used the Neighborhood Spatial Data provided by the City of Toronto.

- Using the Foursquare data allowed me to explore the local places of interest (such as restaurants, parks, cinemas) and the availability of the vital aspects such as nearby located subway stations, pharmacies, grocery shops, etc.

- I used Forsquare API to get the most common venues of Toronto neighborhoods.

- Google Maps were used, particularily 'Search Nearby' option to get the center coordinates of the each neighborhood.

2. Methodology

My master data which has the main components such as Name, Latitude and Longitude that describe each Neighborhood of the city of Toronto.

	AREA_CODE	Neighborhood	Longitude	Latitude
0	94	Wychwood	-79.425515	43.676919
1	100	Yonge-Eglinton	-79.403590	43.704689
2	97	Yonge-St.Clair	-79.397871	43.687859
3	27	York University Heights	-79.488883	43.765736
4	31	Yorkdale-Glen Park	-79.457108	43.714672

I used python folium library to visualize the geographic details of the Toronto city so that there would be the undarstanding of its structure.

Based on the information provided by the City of Toronto, that icluded also each neighboorhood coordinates, it was possible to create a map that show each neighborhood location. Please see the map below.
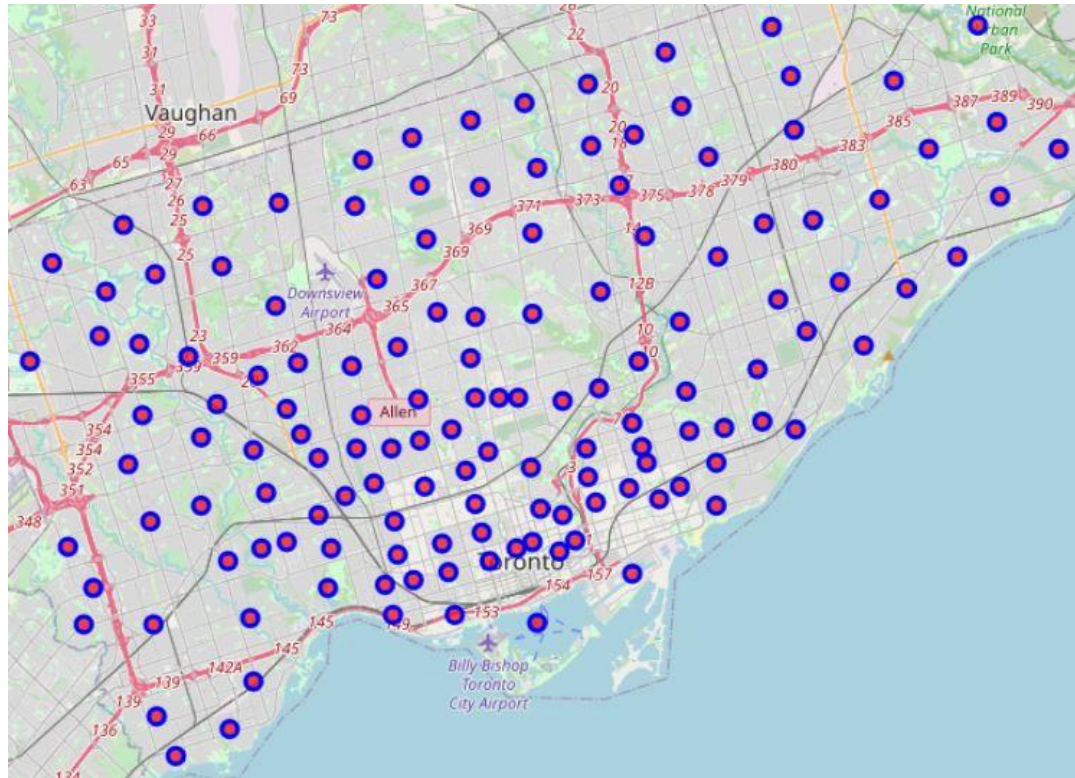
Using the Foursquare I have explored the neighborhoods and later on divided them into clusters.

For initial analysis, following limits were defined per each neighborhood:

- Maximum of 50 venues;
- Within 800 meters from the neighborhood center.

Please see below sample of the output:

	Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
0	Wychwood	43.676919	-79.425515	Wychwood Barns Farmers' Market	43.680010	-79.423849	Farmers Market
1	Wychwood	43.676919	-79.425515	Wychwood Barns	43.680028	-79.423810	Event Space
2	Wychwood	43.676919	-79.425515	Pukka Restaurant	43.681055	-79.429187	Indian Restaurant
3	Wychwood	43.676919	-79.425515	Hillcrest Park	43.676012	-79.424787	Park
4	Wychwood	43.676919	-79.425515	Ferro Bar Cafe	43.681080	-79.428570	Italian Restaurant

The result was **3387 venues** in total that were splitted into the **306 unique categories**.

Many neighborhoods have reached the selected maximum of 50 venues.

	venue_count
Leaside-Bennington	50
The Beaches	50
Moss Park	50
Niagara	50
Mount Pleasant West	50
Playter Estates-Danforth	50
Blake-Jones	50
Church-Yonge Corridor	50
Trinity-Bellwoods	50
Dufferin Grove	50

Most of these neighborhoods are located in the dense Downtown area, where high concentration of business activity leads to a necessity of creating additional dining facilities.

I have created a table which shows list of top 10 venue categories for each neighborhood.

	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 North	Bank	Chinese Restaurant	Discount Store	Fast Food Restaurant	Sporting Goods Shop	Sandwich Place	Fried Chicken Joint	Frozen Yogurt Shop	Movie Theater	Beer Store
1	Agincourt South-Malvern West	Chinese Restaurant	Cantonese Restaurant	Breakfast Spot	Restaurant	Japanese Restaurant	Sandwich Place	Bank	Bakery	Badminton Court	Latin American Restaurant
2	Alderwood	Convenience Store	Pizza Place	Discount Store	Park	Shopping Mall	Skating Rink	Coffee Shop	Athletics & Sports	Sandwich Place	Gym
3	Annex	Italian Restaurant	Café	Pizza Place	Bookstore	Vegetarian / Vegan Restaurant	Grocery Store	Coffee Shop	Middle Eastern Restaurant	Japanese Restaurant	Bike Shop
4	Banbury-Don Mills	Coffee Shop	Restaurant	Pizza Place	Bank	Café	Sandwich Place	Intersection	Shopping Mall	Italian Restaurant	Liquor Store

Next step was to do a neighborhood clusteting. The process was performed based on the 5-cluster scenario. Please see below the result table, where each neighborhood's cluster is listed.

	AREA_CODE	Neighborhood	Longitude	Latitude	Cluster Labels	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	94	Wychwood	-79.425515	43.676919	3	Italian Restaurant	Bakery	Coffee Shop	Mexican Restaurant	Sushi Restaurant	Bar	Café	Indian Restaurant	Grocery Store	Ice Cream Shop
1	100	Yonge-Eglinton	-79.403590	43.704689	3	Italian Restaurant	Coffee Shop	Bakery	Deli / Bodega	Restaurant	Japanese Restaurant	Sushi Restaurant	Bookstore	Movie Theater	Middle Eastern Restaurant
2	97	Yonge-St.Clair	-79.397871	43.687859	3	Coffee Shop	Italian Restaurant	Sushi Restaurant	Café	Grocery Store	Restaurant	Pub	Spa	Gym	Sandwich Place
3	27	York University Heights	-79.488883	43.765736	0	Furniture / Home Store	Pizza Place	Bar	Coffee Shop	Japanese Restaurant	Caribbean Restaurant	Fast Food Restaurant	Massage Studio	Miscellaneous Shop	Market
4	31	Yorkdale-Glen Park	-79.457108	43.714672	3	Restaurant	Fast Food Restaurant	Furniture / Home Store	Dessert Shop	Italian Restaurant	Grocery Store	Bowling Alley	Event Space	Cheese Shop	Bank

As part of the project, Mount Pleasant West neighborhood to be explored for a possible future hotel development project. First step in exploring the neighborhood

was to get the list of venues using the Foursquare API. Conditions were slightly changed as follows:

- Limit: 100 venues
- Radius of 1000 meters;

Here is the sample of the output venue list:

	name	categories	lat	lng
0	Bar Buca	Italian Restaurant	43.706961	-79.394808
1	Jules Cafe Patisserie	Dessert Shop	43.704138	-79.388413
2	Loblaws	Supermarket	43.707244	-79.394701
3	Istanbul Cafe & Espresso Bar	Café	43.707891	-79.393049
4	Thobors Boulangerie Patisserie Café	Café	43.704514	-79.388616

For convenience, venues vere splitted into the categories and results were surprising:

|	venue_count
Italian Restaurant	6
Coffee Shop	3
Restaurant	3
Bookstore	2
Dessert Shop	2
Deli / Bodega	2
Pizza Place	2
Café	2
Gym	2
Park	2
Indonesian Restaurant	1
Bakery	1
Ramen Restaurant	1
Supermarket	1
Skating Rink	1
Movie Theater	1
Irish Pub	1
Seafood Restaurant	1
Pharmacy	1
Vegetarian / Vegan Restaurant	1
Yoga Studio	1

It turned out that this neighborhood can offer not only diverse cuisine restaurants, but also various activity options for future hotel guests.

Toronto is a megapolis that is very dence in the Downtown area. This leads to a various limitations that are applied to a usage of a private automobile in the Downtown core. So to have a great access to a commercial district as well as the local sights (CN Tower, Waterfront), let's see, whether there is a rapid transit access nearby.

Toronto Transit Commision (TTC) provides the public transit services in the City of Toronto. Third query via Foursquare API was performed searching for the TTC Subway station within 500 meters. It turned out that there is an Eglinton Subway Station only 481 meters away, which makes this neighborhood an easy accessible location.

3. Results and Discussion

Mount Pleasant West and other neighborhoods that are included included into the Cluster #3 have the highest amount of the venues.
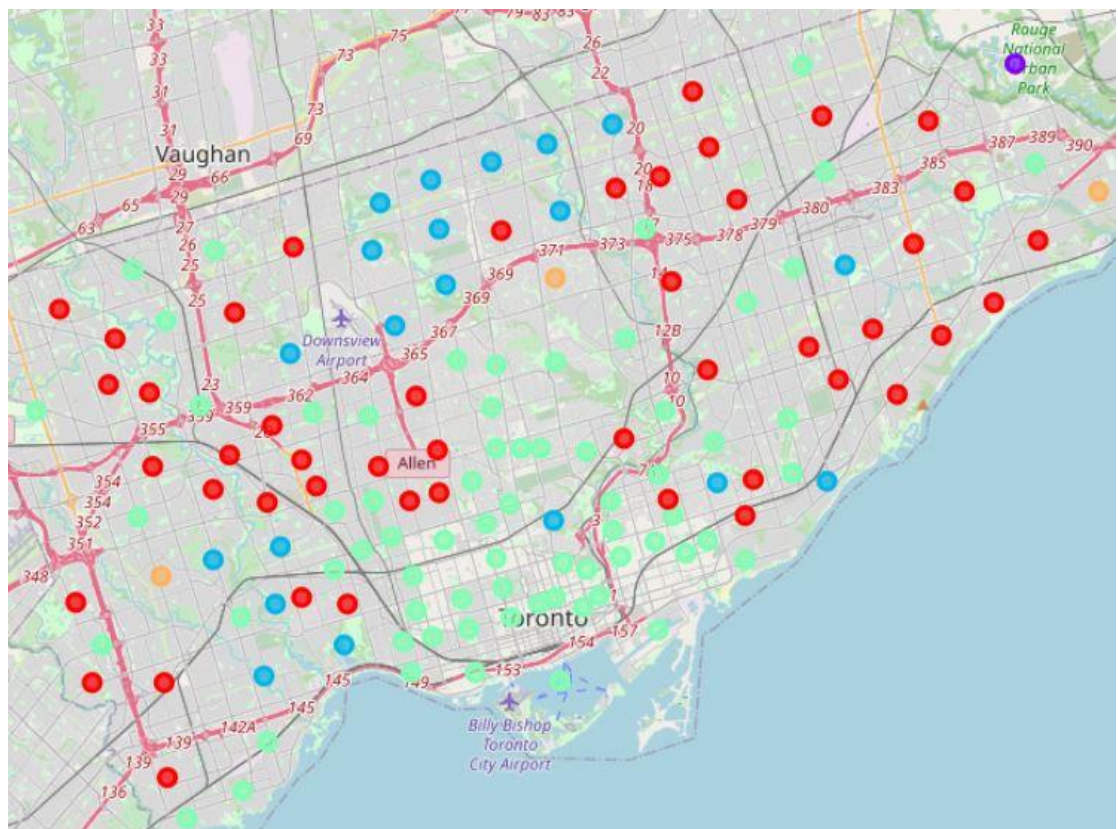

As we can see on the map, most of this cluster member neighborhoods are located in the Downtown area. As mentioned at the beginning, the price of a real estate in the Downtown is very high, which would result in the high accommodation

fees. This is not the best scenario, so we will stick to initial plan to consider Mount Pleasant West neighborhood for a future hotel site.

Foursquare API helped me to get to explore the neighborhood venues. Hotel guests can access the local gym for the indoor sports activities. But this is not the only option - there is also a park nearby, that enables to take a deep breath and enjoy the great outdoors.

Here is the bar chart showing the venue categories presented in the neighborhood.
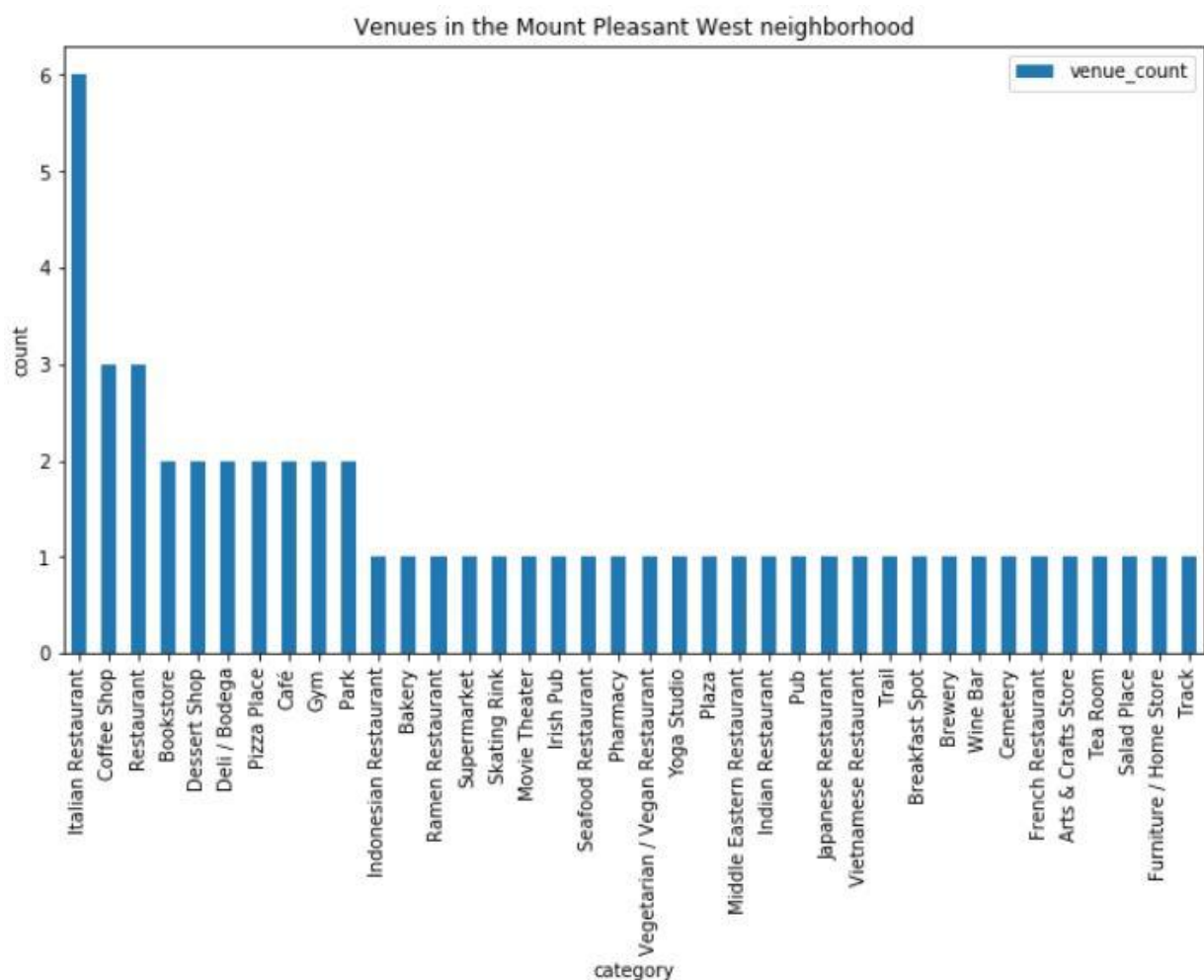
Toronto is a megapolis and using the private automobile in the Downtown area is complicated. So, to have the direct, easy and reliable access, TTC subway is a great option. Having a rapid transit station in the neighborhood makes the are more attractive.

4. Conclusion

Purpose of this project was to identify the Mount Pleasant West neighborhood of the City of Toronto as a suitable location for a future Hotel location. There are various venues located in the area that can serve as recreation places. Future hotel guest can benefit not only from everything that neighborhood has to offer, but also from the convenient rapid transit link to the Downtown core of Toronto.

Final hotel location depends on the various factors, such as real estate availability and the stakeholders decision.

5. References

- City of Toronto - https://open.toronto.ca/dataset/neighbourhoods/
- Foursquare API
- Google Maps