Capstone Project

Opening an apparel shop in Toronto

Retail stores and ease of access

There is a popular belief that the retails stores should be opened where there is enough customer traffic.

Does this mean that **high traffic = more stores** ?

Let's find out if this is true, and suggest a location in which one should open a new apparel store.

Data Collected

City government of Toronto : TTC Ridership – Subway/Scarborough RT Station Usage

We Saw a Chicken : Toronto Subway Station GPS Locations

Foursquare : Venue Categories API calls

Methodology

1. Calculate ridership per store ratio
2. Heatmap comparison
3. Scatter plot : Ridership vs Number of stores

Create a listing of all stations in Toronto.

Add GPS locations and Ridership information for each of the stations.

Run Foursquare API and find out the number of Apparel Stores near the stations.

Compare the Heatmap of Store concentration vs Heatmap of Ridership

Calculations : Ridership per store ratio

The listing of Top 5 stations looks like this. Those with zero store nearby was separated from the rest as one cannot divide a number with zero.

	Latitude	Longitude	Station	Totals	Stores
0	43.781490	-79.415673	Finch	100819	0
1	43.638020	-79.536388	Kipling	52925	0
2	43.645950	-79.523948	Islington	37412	0
3	43.662663	-79.426157	Ossington	31614	0
4	43.660665	-79.435956	Dufferin	29937	0

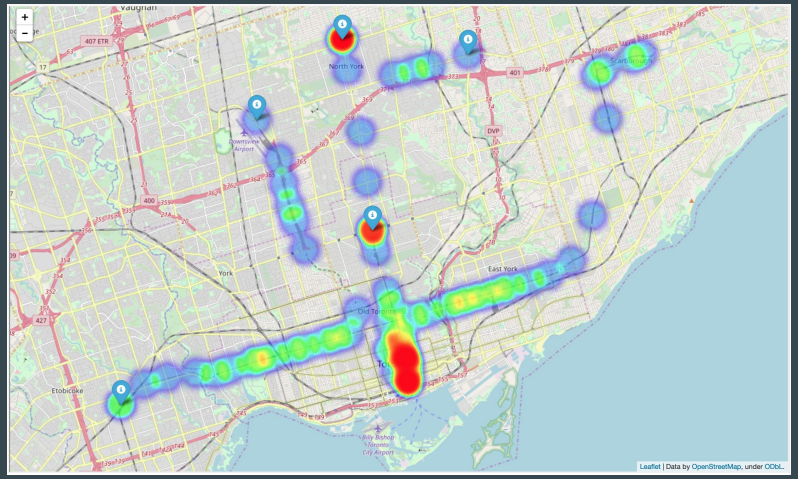
0 store table

	Latitude	Longitude	Station	Totals	Stores	People per Store
0	43.750054	-79.462343	Downsview	37670	1	37670
1	43.775565	-79.346936	Don Mills	33756	1	33756
2	43.657142	-79.452678	Dundas West	29617	1	29617
3	43.698123	-79.397331	Davisville	25328	1	25328
4	43.725422	-79.401878	Lawrence	24555	1	24555

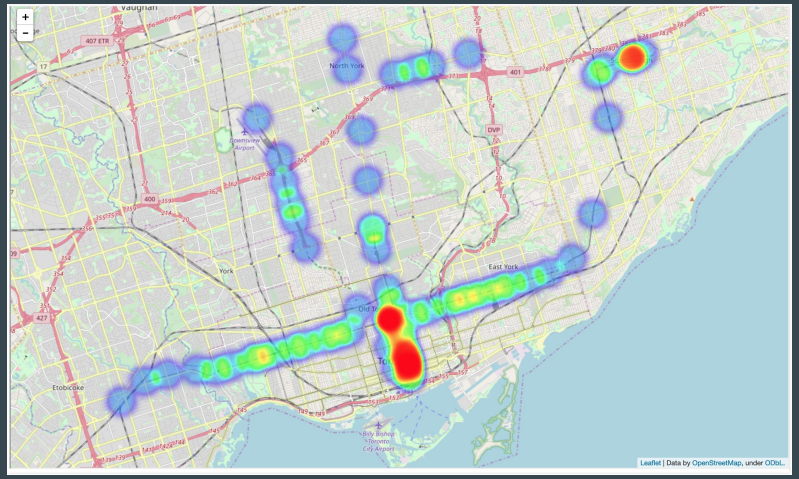
non-zero store table

Heatmap

The heatmap comparison indicates that some stations with high ridership does not have any stores nearby



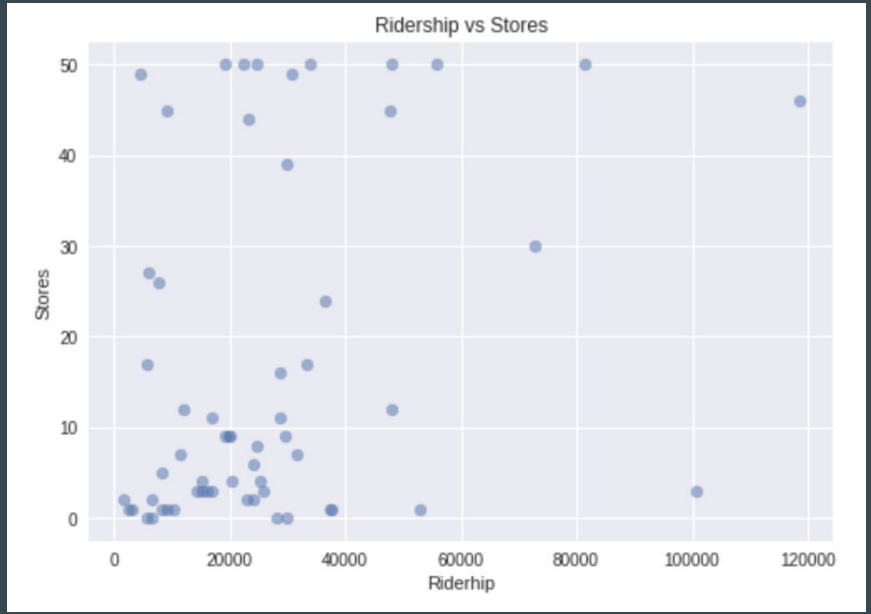
Ridership Heatmap



Store concentration Heatmap

Scatter Plot

The scatter plot shows that there is no clear correlation between the ridership and the store concentration, which explains what is shown in the heatmap.



Results

1. The Downtown Toronto area has both high ridership and the high concentration of stores
2. Finch and Kipling seems like a good place to open stores, with zero competing stores nearby
3. Eglinton also seems like a good place for its large ridership (72,746), though there are 30 or so competing stores.

Conclusion

In contrary to popular belief that high ridership = high store concentration, there are some exceptions.

Finch and Kipling seems like a good option for opening a new store.

Future directions

This research does not contain how much it would cost to rent a store space.

In future research, one should also take in account about how much it would cost per square footage, and make decision based on that cost as well.