

# Opening a Bike Shop in North York, Toronto

By Sarah Moakler on Jan 25, 2021

## Introduction/Business Problem

The owners of a bike shop are looking to expand their business and open up another location. They are interested in opening up their next location in a neighbourhood within Toronto's borough of North York. They would like to know which North York neighbourhood would be an ideal location for their next bike shop.

They owners interested in neighbourhoods where their target customer lives and where the neighbourhood isn't already saturated with bike shops. Their target customer are people who are active and live a healthy lifestyle, meaning they go to the park, play sports and/or go the gym

## Data

In order to recommend a neighbourhood in Toronto's borough of North York where the residents are active and living a healthy lifestyle, I will need the following:

1. Data that identifies the boroughs within North York. I will obtain this from the Wikipedia page, [https://en.wikipedia.org/wiki/List\\_of\\_postal\\_codes\\_of\\_Canada:\\_M](https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M). This will provide me with the postal codes and boroughs within Toronto as well as the neighbourhoods within each borough. I will use this to identify the neighbourhoods within North York. For example, postal code M2H is a North York borough that is for the Hillcrest Village neighbourhood.
2. Location data that identifies the different types of venues already in the boroughs of North York. I will use the Foursquare location data to identify these venues. For example, which neighbourhoods in North York are already populated with bike shops and which neighbourhoods have residents that are active meaning there are other venues such as gyms, parks and sports in the neighbourhood that would likely be used by bicycle riders.

## Methodology

I will focus on identifying neighbourhoods in North York that don't already have a bike shop but have venues that support an active and healthy lifestyle.

After importing and structuring the data, I will identify the neighbourhoods within North York. I will then incorporate the venues within these neighbourhoods and classify the venues to determine which venues would be used by people who are living an active and healthy lifestyle.

Upon assessing the venues in the North York neighbourhoods, the following venues were identified as supporting an active and healthy lifestyle: Park, Gym, Juice Bar, Baseball Field, Athletics & Sports,

Sporting Goods Shop, Playground, Pool, Supplement Shop, Trail, Basketball Court, Dog Run, and Hockey Arena. These are venues that the bike shop should be near. On the other spectrum, any other Bike Shop venues should be avoided. This leaves us with 1 venue to avoid and 28 venues that the bike shop should be near as per figure 1.1

**Figure 1.1**

	Venue Supportability	Venue
2	Indifferent Venue	214
1	Be Near Venue	28
0	Avoid Venue	1

I will remove neighbourhoods that already have bike shops and/or do not have any venues that support an active and healthy lifestyle. This results in removing neighbourhoods labelled as 0, 1, 3, 6, 10, 12, and 17 as per figure 1.2.

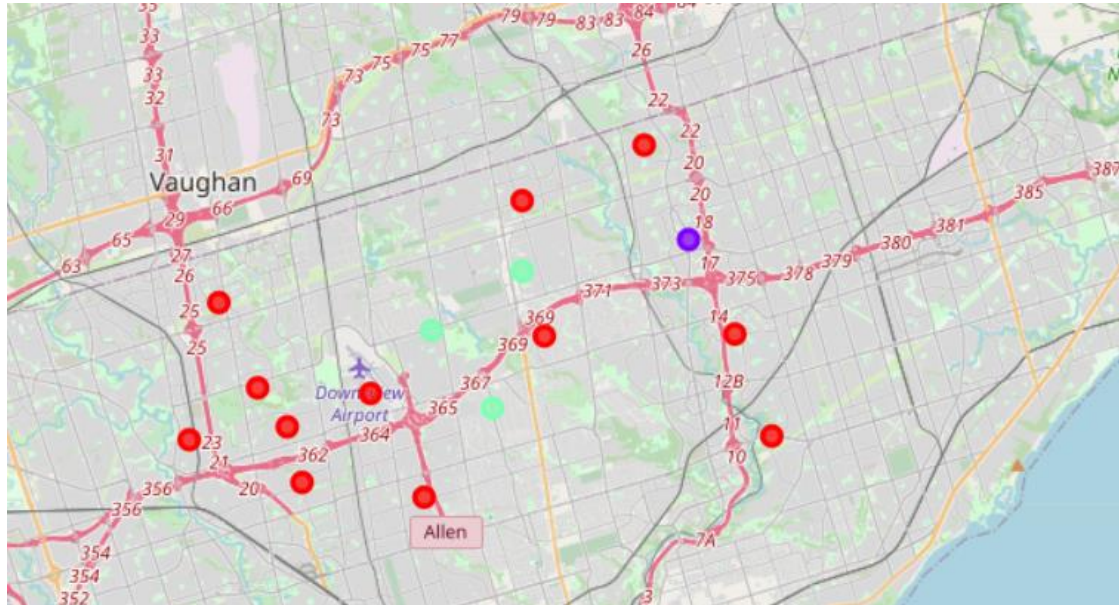
**Figure 1.2**

	Neighbourhood	Avoid Venue	Be Near Venue	Indifferent Venue
0	Bathurst Manor, Wilson Heights, Downsview North	0	0	20
1	Bayview Village	0	0	4
2	Bedford Park, Lawrence Manor East	0	1	22
3	Don Mills	1	4	19
4	Downsview	0	5	11
5	Fairview, Henry Farm, Oriole	0	5	62
6	Glencairn	0	0	5
7	Hillcrest Village	0	3	3
8	Humber Summit	0	1	2
9	Humberlea, Emery	0	1	0
10	Lawrence Manor, Lawrence Heights	0	0	12
11	North Park, Maple Leaf Park, Upwood Park	0	3	2
12	Northwood Park, York University	0	0	7
13	Parkwoods	0	1	1
14	Victoria Village	0	1	3
15	Willowdale, Newtonbrook	0	1	0
16	Willowdale, Willowdale East	0	1	33
17	Willowdale, Willowdale West	0	0	5
18	York Mills West	0	1	3

I will then take the remaining neighbourhoods and cluster them to see which neighbourhoods have the potential to support a bike shop as per the owner's requirements of looking for neighbourhood where the market is not already saturated. Meaning, the neighbourhood has enough venues that is established but not too many venues that the neighbourhood is already overrun with venues.

Clustering the remaining neighbourhoods into 3 clusters, results in the following 3 clusters as depicted in Figure 1.3. The proportion of venues that the bike shop should be near out of the total venues in the neighbourhood was calculated to identify which neighbourhoods are saturated, refer to Figure 1.4.

**Figure 1.3**



**Figure 1.4**

	Neighbourhood	% Be Near Venues of Total Venues	Latitude	Longitude	Cluster Labels	Avoid Venue	Be Near Venue	Indifferent Venue
6	Humberlea, Emery	100%	43.724766	-79.532242	0	0	1	0
10	Willowdale, Newtonbrook	100%	43.789053	-79.408493	0	0	1	0
5	Hillcrest Village	50%	43.803762	-79.363452	0	0	3	3
7	North Park, Maple Leaf Park, Upwood Park	50%	43.713756	-79.490074	0	0	2	2
8	Parkwoods	33%	43.753259	-79.329656	0	0	1	2
12	York Mills West	33%	43.752758	-79.400049	0	0	1	2
2	Downsview	27%	43.741654	-79.497101	0	0	4	11
4	Glencairn	25%	43.709577	-79.445073	0	0	1	3
9	Victoria Village	25%	43.725882	-79.315572	0	0	1	3
3	Fairview, Henry Farm, Oriole	8%	43.778517	-79.346556	1	0	6	65
0	Bathurst Manor, Wilson Heights, Downsview North	5%	43.754328	-79.442259	2	0	1	19
1	Bedford Park, Lawrence Manor East	4%	43.733283	-79.419750	2	0	1	23
11	Willowdale, Willowdale East	3%	43.770120	-79.408493	2	0	1	33

## Results

Cluster 1 contains one neighbourhood, "Fairview, Henry Farm, Oriole", which is a neighbourhood which has the maximum number of "Be Near Venues" but there are a lot of venues which means the market is saturated.

Cluster 2 has three neighbourhoods that have the minimum number of "Be Near Venues" but there are a significant number of other venues saturating the market in these neighbourhoods, so the market is still saturated in these neighbourhoods.

Cluster 0 contains neighbourhoods where the majority of the venues in the neighbourhood are those that support an active and healthy lifestyle. Any of these neighbourhoods would be sufficient.

## Discussion

My analysis shows that there are 13 possible neighbourhoods within North York's 19 neighbourhoods that meet the bike owner's criteria for their next bike shop location. These 13 neighbourhoods do not currently contain a bike shop and they all contain venues that support an active and healthy lifestyle they include venues such as a Park, Gym, Juice Bar, Baseball Field, Athletics & Sports, Sporting Goods Shop, Playground, Pool, Supplement Shop, Trail, Basketball Court, Dog Run, and Hockey Arena. These venues are used by their target customer and thus indicate their customers live close to their potential new location.

Of the 13 possible neighbourhoods meeting the criteria for the bike shop, there are only 9 that don't exist in saturated markets. The 9 neighbourhoods in cluster 0 meet all selection criteria provided by the bike shop owners and are neighbourhoods that aren't saturated with too many venues yet.

Of the 9 neighbourhoods, I would recommend the neighbourhood "Downsview" for the next bike shop location as this neighbourhood has the maximum number of potential venues that support the active and healthy lifestyle, there are no other bike shops in this neighbourhood and the market is not saturated with venues already.

## Conclusion

The objective of this report was to identify neighbourhoods in Toronto's borough of North York that could support a bicycle shop. By calculating the percentage of venues that already support an active and healthy lifestyle of all the venues in a neighbourhood, I have identified general neighbourhoods that have residents that are likely to become customers of a bicycle shop. Clustering these neighbourhoods helps to determine which neighbourhoods can support another business from neighbourhoods that already contain a lot of businesses and thus the bicycle shop would have a more difficult time standing out amongst all the other businesses in the neighbourhood.

There are other factors to still consider when picking the neighbourhood, such as do the roads in the neighbourhood contain bicycle lanes, and which exact location within the neighbourhood can easily be accessed and found by customers.