

# Analyzing the public transport usage and improvement

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## Introduction:

### 1.1 Background:

Public transport health is important for good city traffic flow and better environment.

### 1.2 Problem:

How to make people use more public transport

## Data acquisition and cleaning:

### Data sources

Foursquare site which give bus line, bus stop, Train Station neighborhood details

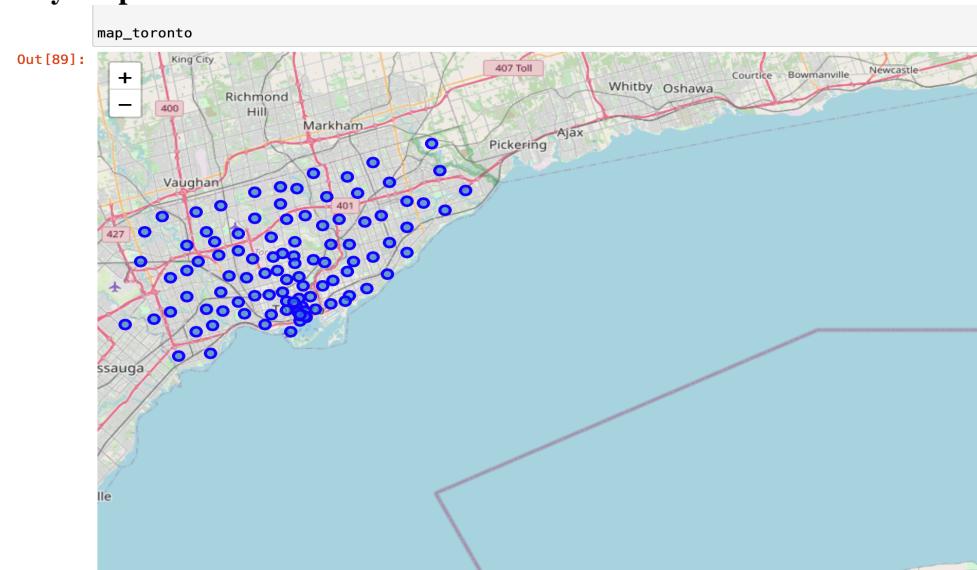
### Data cleaning

Unwanted data removed from data frame index

### Audience:

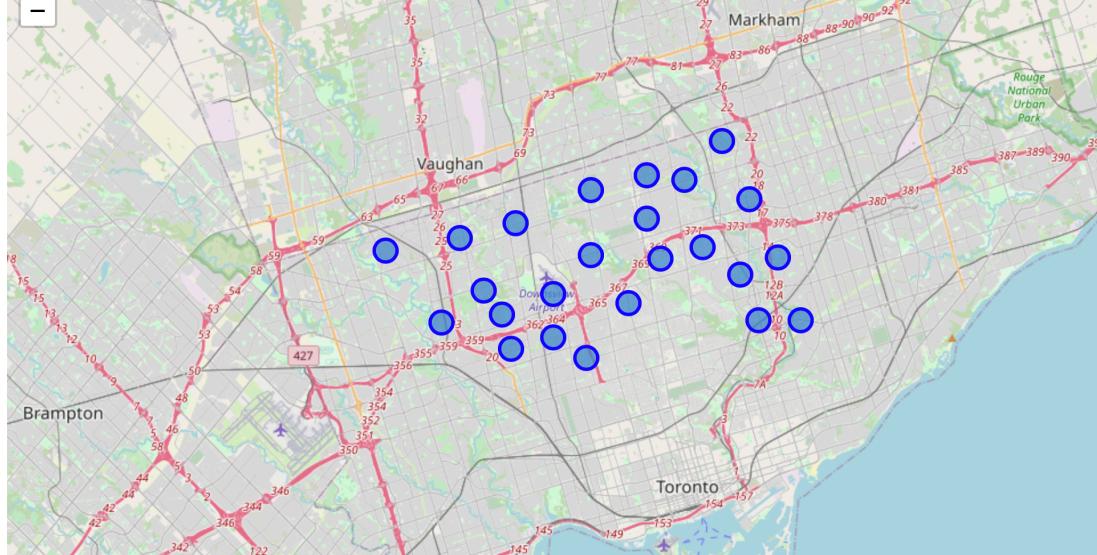
Resident of city and city counselor

## City Map:



Can see most of neighborhood and not within bus lane





Most of Venue is popular spot

ny_onehot.head()							
	prefix = , prefix_sep = , columns						
[181]:							
0	Unnamed: 0	Postal Code	Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue	Venue Summary
1	0	M2H	Hillcrest Village	43.803762	-79.363452	Tastee	This spot is popular
2	1	M2H	Hillcrest Village	43.803762	-79.363452	Galati	This spot is popular
3	2	M2H	Hillcrest Village	43.803762	-79.363452	Cummer Park	This spot is popular
						고려삼계탕	
						Korean Ginseng Chicken Soup & Bibimbap	
4	3	M2H	Hillcrest Village	43.803762	-79.363452	Tim Hortons	This spot is popular
click to scroll output; double click to hide							

Bus stop and Tran station is not available , it's only is one neighborhood  
Based on KNN it's available only in one segment

KNN , can get only 2 bus stop and 1 station

```
n [191]: means_df = pd.DataFrame(kmeans.cluster_centers_)
means_df.columns = ny_onehot.columns
means_df.index = ['G1','G2']
means_df['Total Sum'] = means_df.sum(axis = 1)
means_df.sort_values(axis = 0, by = ['Total Sum'], ascending=False)
```

ut[191]:

	Bus Stop	Train Station	Total Sum
G2	2.000000e+00	1.000000	3.000000
G1	4.163336e-17	0.055556	0.055556

In [ ]:

```
print(ny_onehot)
```

Neighborhood	Bus Stop	Train Station
Bathurst Manor / Wilson Heights / Downsview North	0	0
Bayview Village	0	0

Neighborhood	Bus Stop	Train Station
Bathurst Manor / Wilson Heights / Downsview North	0	0
Bayview Village	0	0
Bedford Park / Lawrence Manor East	0	0
Don Mills	0	0
Downsvie	0	0
Fairview / Henry Farm / Oriole	0	0
Glencairn	0	0
Hillcrest Village	0	0
Humber Summit	0	0
Humberlea / Emery	0	0
Lawrence Manor / Lawrence Heights	0	0
North Park / Maple Leaf Park / Upwood Park	0	0
Northwood Park / York University	0	0
Parkwoods	2	1
Victoria Village	0	0
Willowdale	0	0
Willowdale / Newtonbrook	0	1
York Mills / Silver Hills	0	0
York Mills West	0	0

### Conclusion:

Based on analysis and data set but stop and station seems very less based on popularity of neighborhood and venues

City need more public transport and station which will be good for environment and traffic control