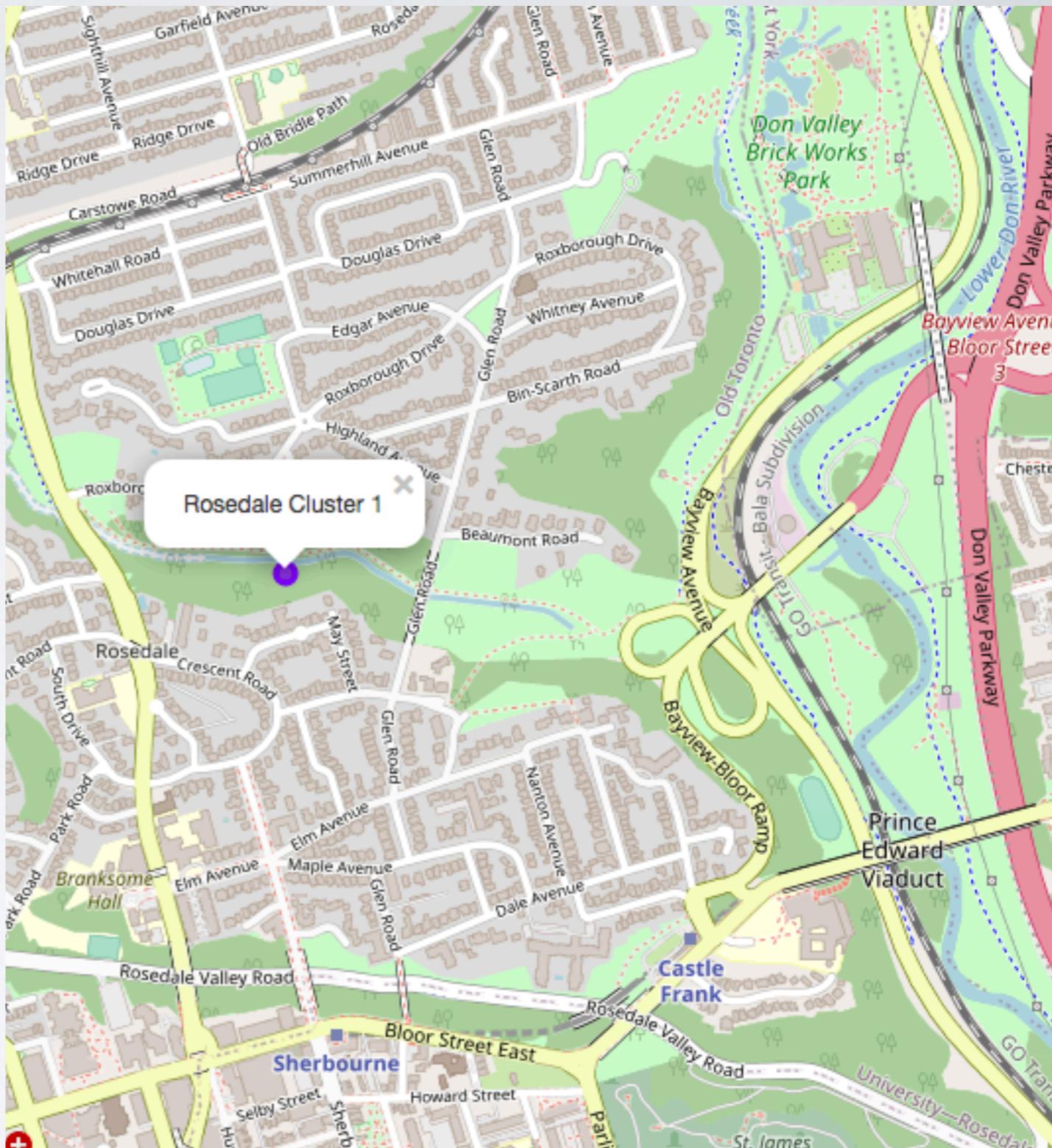


HEALTHZONE RESTAURANT NYC LOCATION SEARCH

Presentation By David Skoff
July 12th, 2020

INTRODUCTION

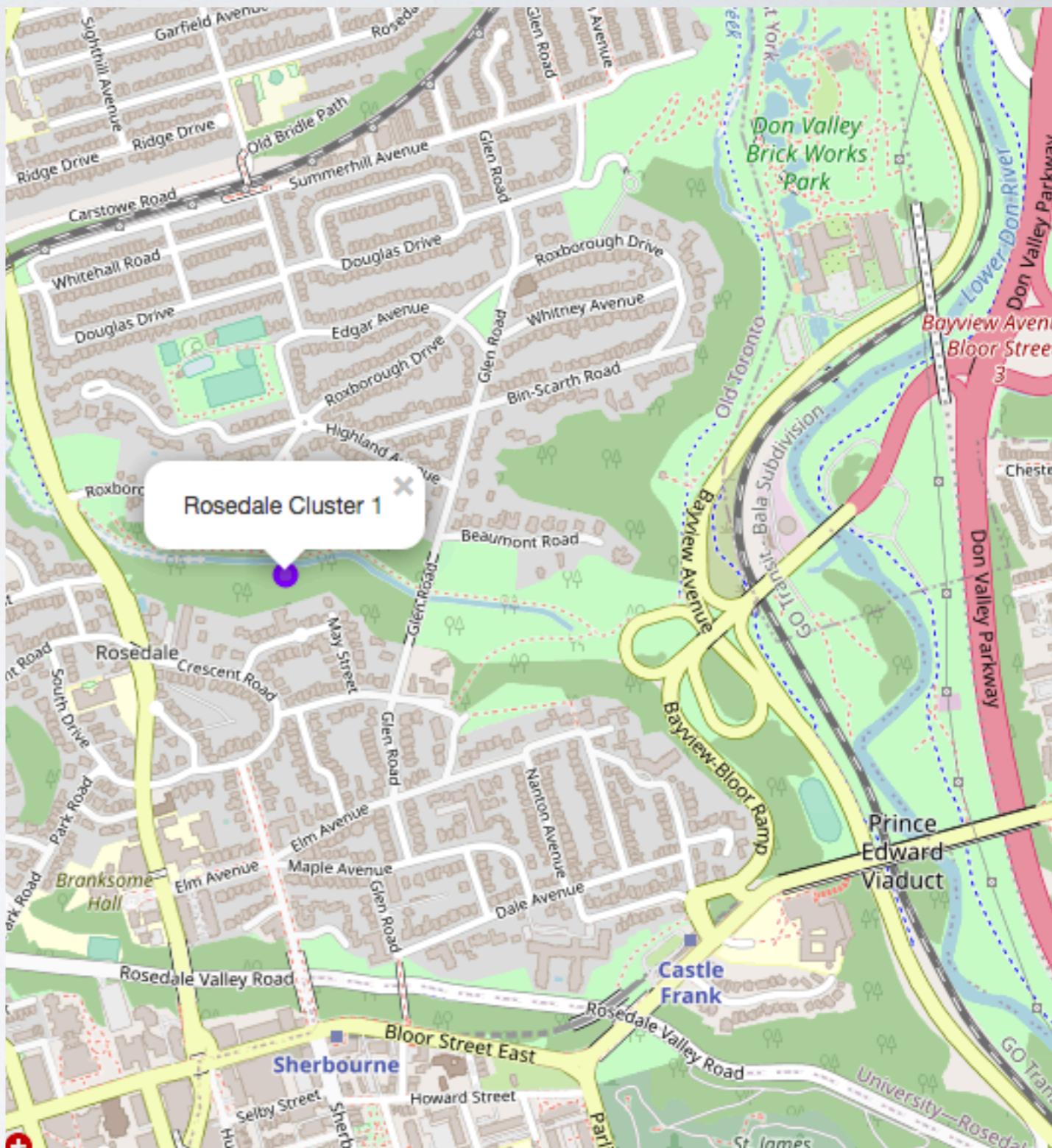
- HealthZone restaurant has been operating in Rosedale (Toronto) for 6 years.
- The owners are looking to expand to a second location in NYC.
- The owners have hired DataBeGood analytics firm to analyze 306 NYC neighborhoods to find those similar to Rosedale.



INTRODUCTION

Successful Characteristics of Rosedale Neighborhood:

- Parks, trails and playgrounds
- Residents that value health, exercise and healthy food
- Exercisers and athletes that visit the area frequently and look for health food options



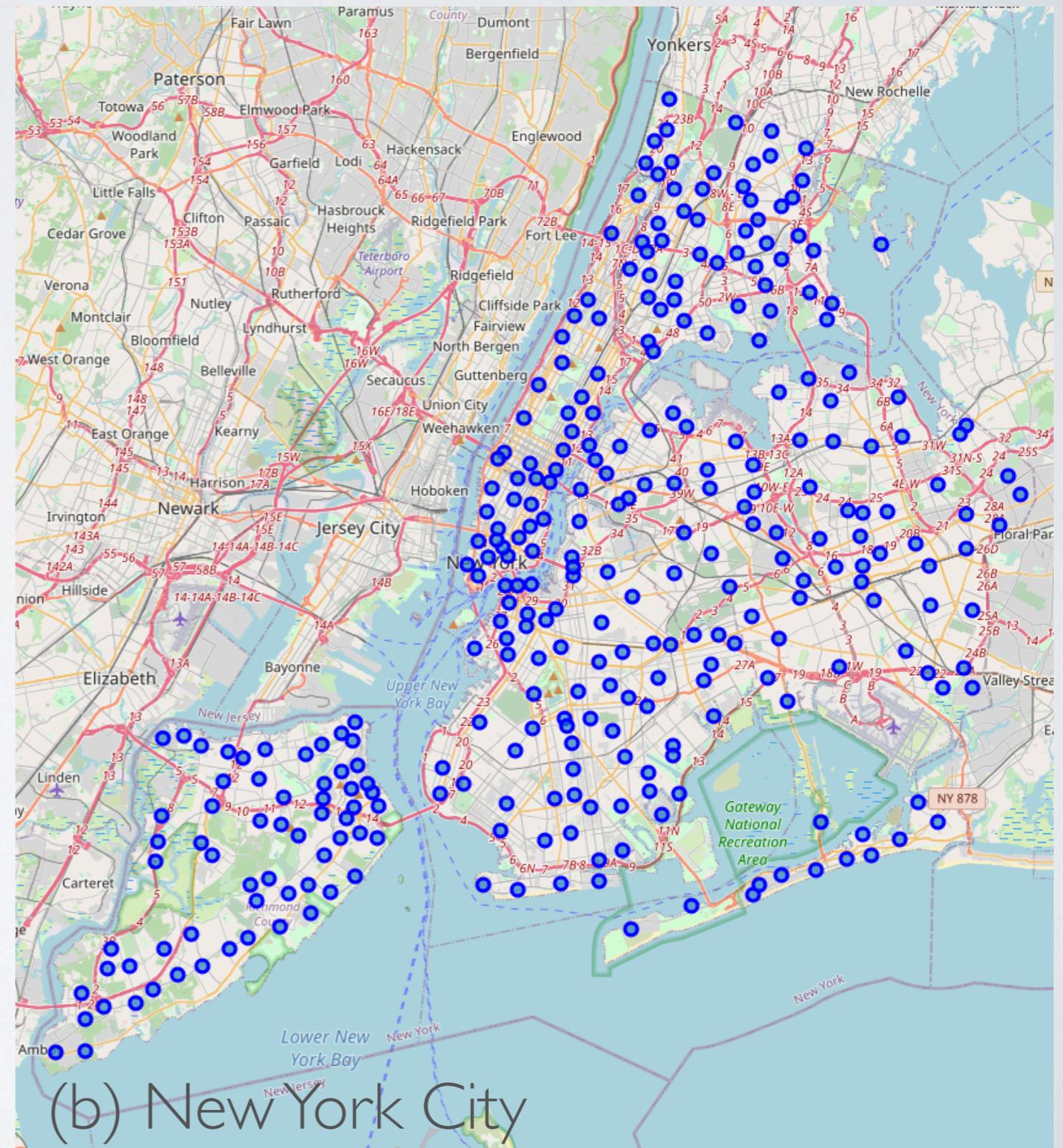
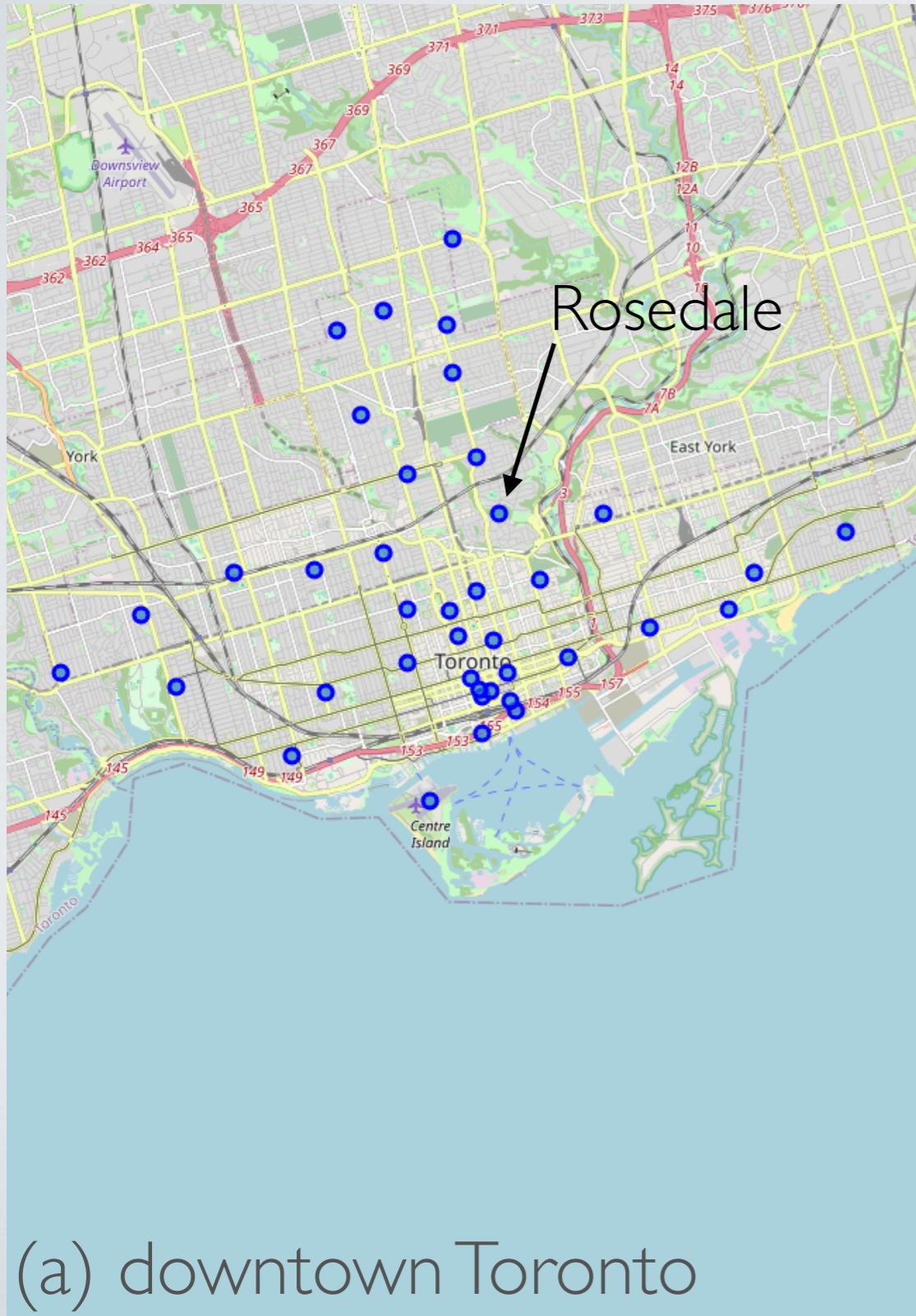
DATA

Data types and sources:

- 39 Toronto neighborhood latitude/longitude coordinates (scraped from Wikipedia)
- 306 NYC neighborhood latitude/longitude coordinates (sourced GeoJSON from <https://geo.nyu.edu/>)
- 11,715 venue categories within 500 meters of each neighborhood (sourced from Foursquare API - <https://developer.foursquare.com>)

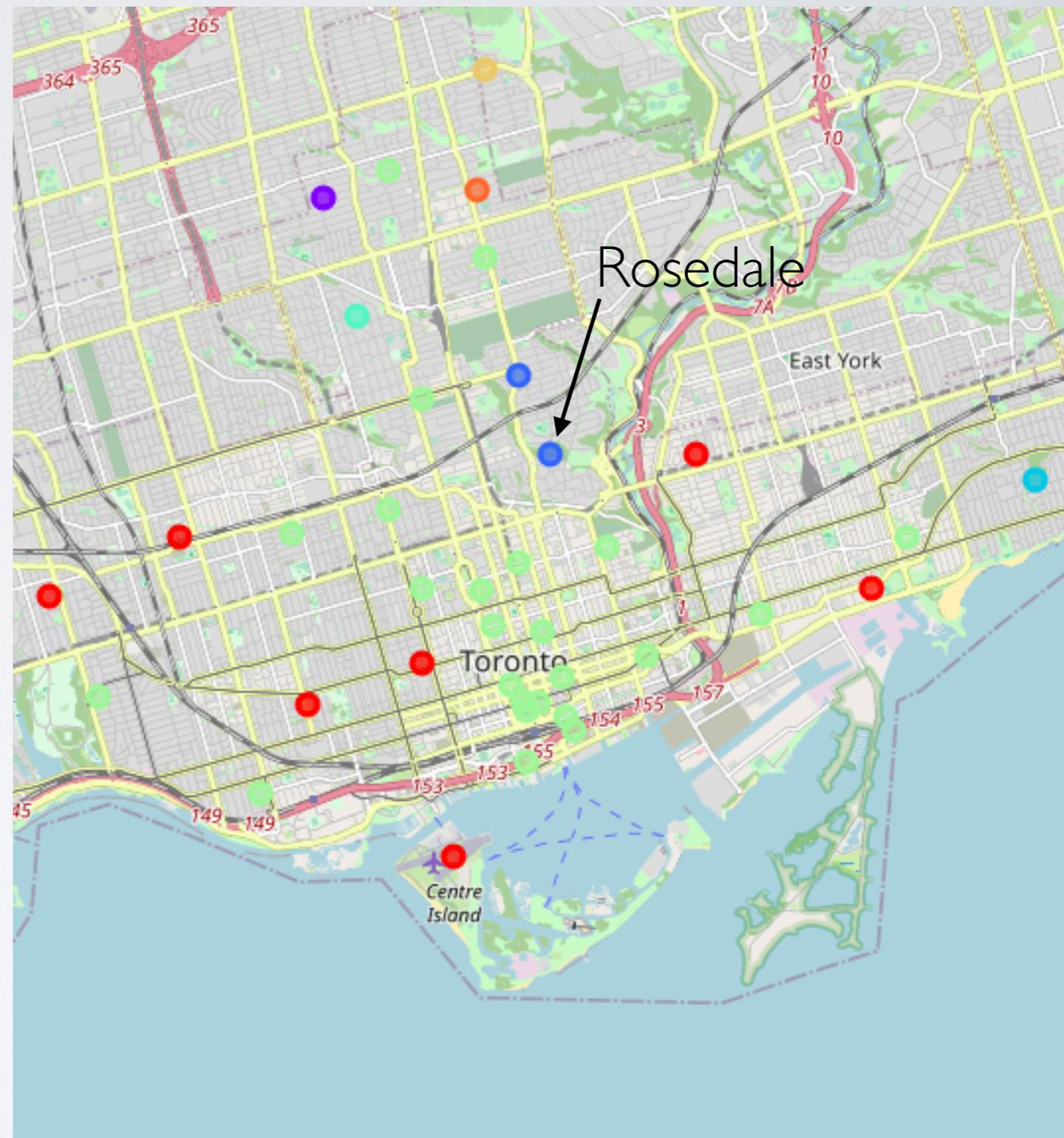
DATA

Maps of neighborhoods considered in this analysis:



METHODOLOGY

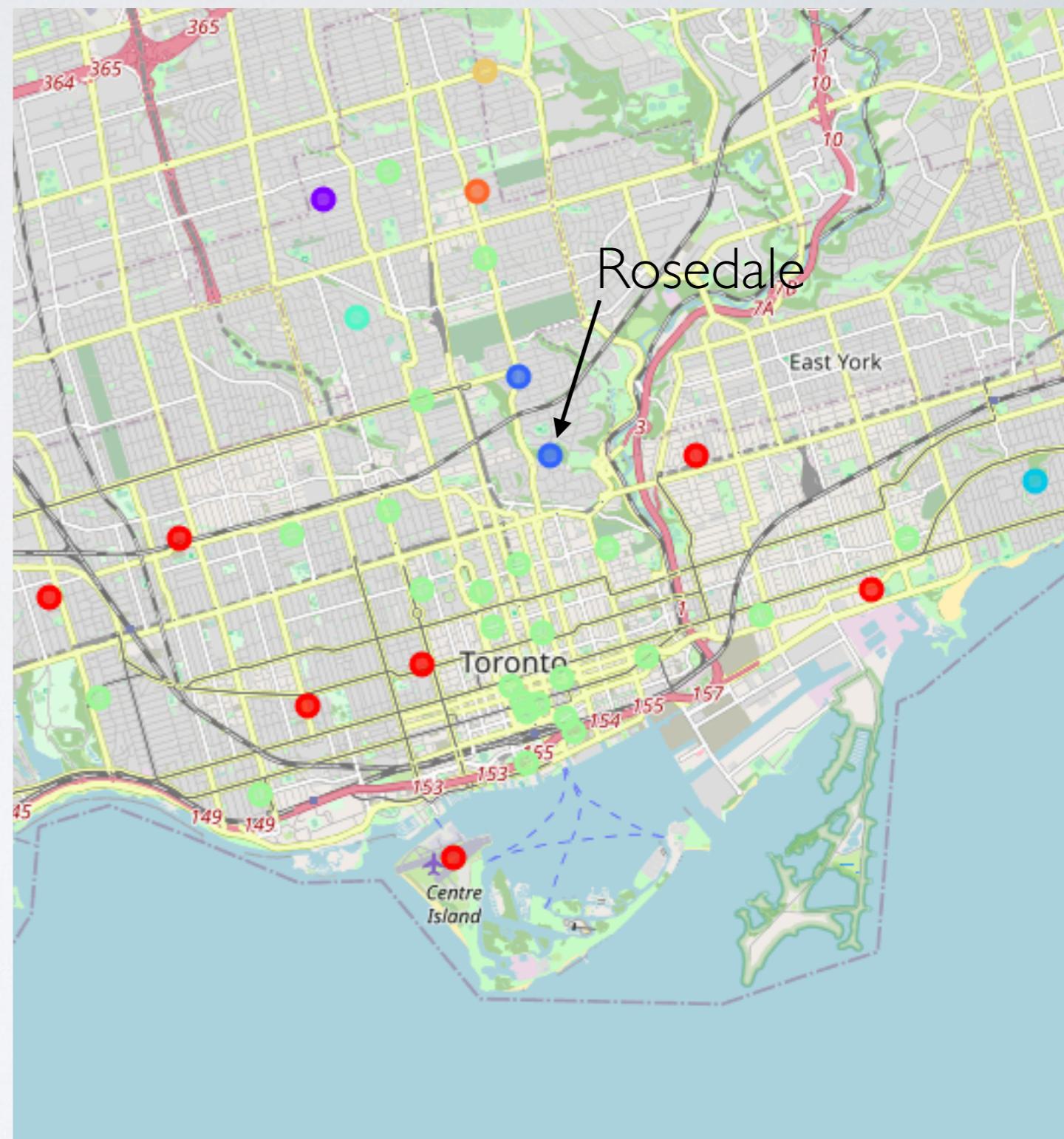
- For each neighborhood, determine which venue categories have highest frequency (e.g. coffee shops, parks, yoga studios, etc.)
- Use machine learning to determine which neighborhoods in NYC are similar to Rosedale
- k-means clustering (ML algorithm) chosen because within a cluster the neighborhoods are similar



METHODOLOGY

Exploratory analysis of Toronto with k-means clustering showed:

- Rosedale is a unique neighborhood in Toronto
- It has many parks, trails and playgrounds
- Less coffee shops, restaurants and bars to compete with compared to nearer downtown (green dots in map)



RESULTS

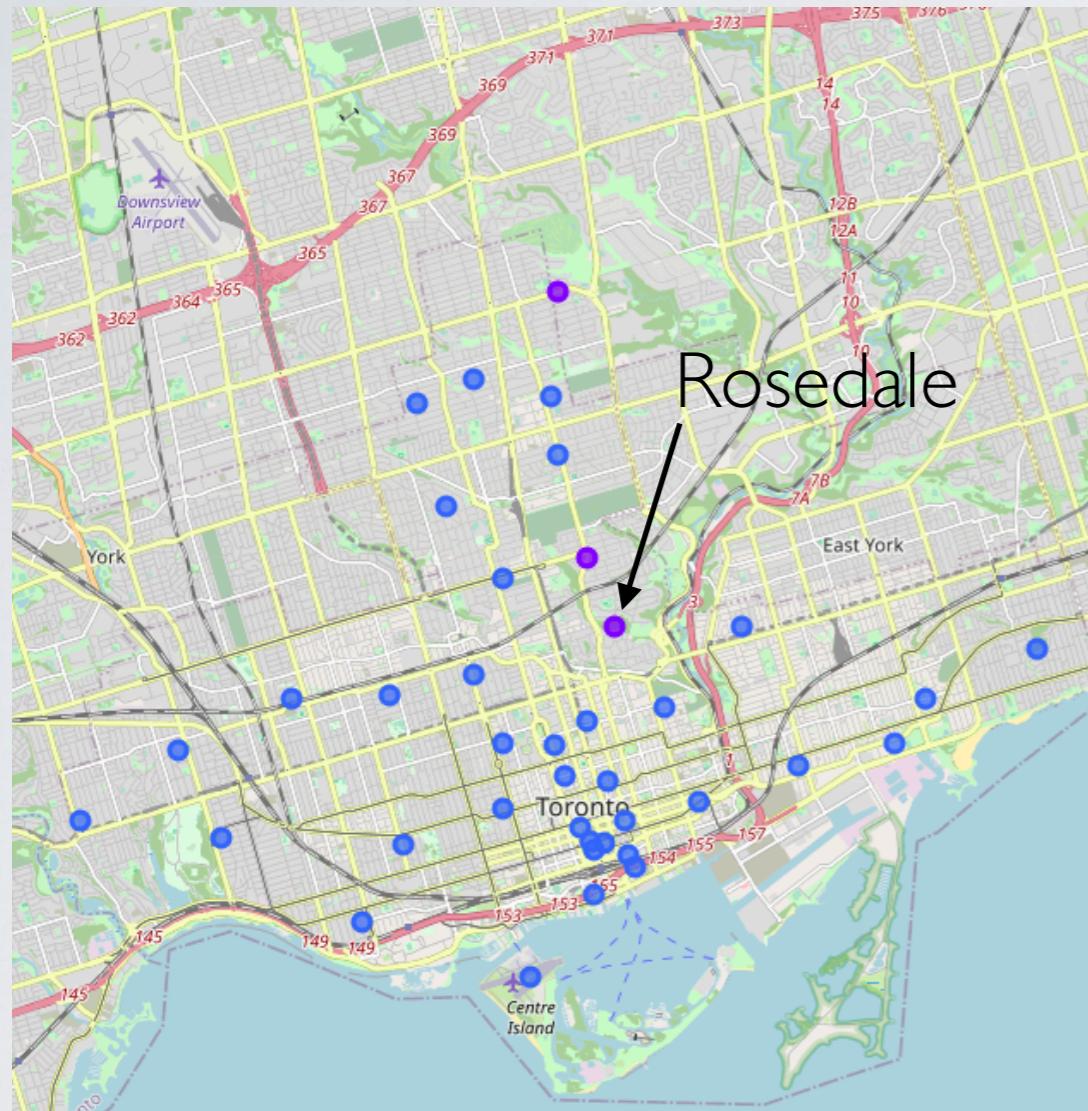
11,715 venues across the 345 neighborhoods of Toronto and NYC were analyzed using k-means clustering to produce 8 clusters.

Just 6 of 306 NYC neighborhoods are clustered with Rosedale and therefore are similar to Rosedale.

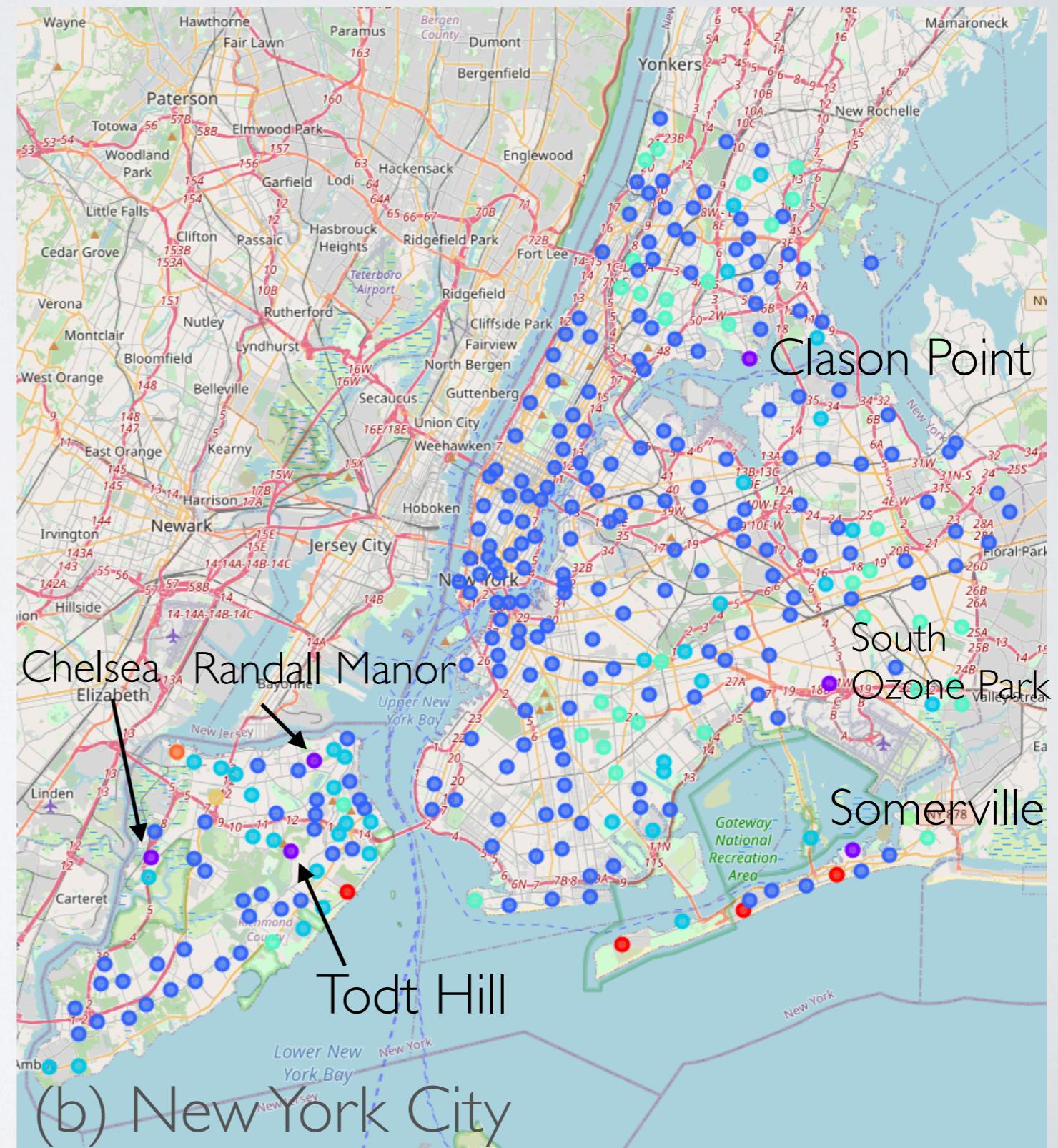
	Borough	Neighborhood	1st Most Common Venue Type	2nd Most Common Venue Type	3rd Most Common Venue Type
a	Downtown Toronto	Rosedale	Park	Trail	Playground
b	Central Toronto	Lawrence Park	Park	Swim School	Bus Line
c	Central Toronto	Moore Park	Park	Lawyer	Trail
d	Bronx	Clason Point	Park	Pool	Grocery Store
e	Queens	South Ozone Park	Park	Food Truck	Deli/Bodega
f	Queens	Somerville	Park	Yoga Studio	Egyptian Restaurant
g	Staten Island	Todt Hill	Park	Trail	Yoga Studio
h	Staten Island	Chelsea	Park	Steakhouse	Spanish Restaurant
i	Staten Island	Randall Manor	Home Service	Park	Bus Stop

RESULTS

Just 6 of 306 NYC neighborhoods are similar to Rosedale (purple dots).



(a) downtown Toronto



DISCUSSION

306 NYC neighborhoods have been narrowed to 6 that share common venue characteristics such as parks, trails, yoga studios and pools.

Borough	Neighborhood	1st Most Common Venue Type	2nd Most Common Venue Type	3rd Most Common Venue Type
d	Bronx	Clason Point	Park	Pool
e	Queens	South Ozone Park	Park	Food Truck
f	Queens	Somerville	Park	Yoga Studio
g	Staten Island	Todt Hill	Park	Trail
h	Staten Island	Chelsea	Park	Steakhouse
i	Staten Island	Randall Manor	Home Service	Park
				Bus Stop

The six NYC neighborhoods shown above are recommended for HealthZone's NYC location based on k-means clustering.

CONCLUSION

With machine learning (k-means clustering) we determined:

- Just 6 of 306 NYC neighborhoods are similar to Rosedale (purple dots).
- Three neighborhoods are located on Staten Island which has ample parks, trails, yoga and looks to offer the type of customer that HealthZone desires.
- Out of the remaining six locations, local real estate and foot traffic should be analyzed to pick the final NYC location.

