

# Presentation Battle of the Neighborhood

Toronto versus San Francisco

# Agenda

- ▶ Introduction
- ▶ Analysis
- ▶ Conclusion
- ▶ References

# INTRODUCTION

RECOMMEND A LOCATION TO OPEN A FRENCH RESTAURANT IN A MAJOR METROPOLITAN CITY IN NORTH AMERICA

- ▶ Owners of a French restaurant in New-York want to expand their business in another city in North America.
- ▶ The owners are not interested in relying on seasonal business only and want a similar business to the one they have in New-York. They have selected 2 cities, San Francisco and Toronto as both cities are main metropolitan areas in addition to be popular tourist destinations which will lead to year-around business.
- ▶ The analysis needs to define which option between San Francisco and Toronto would be best and narrow down the options to a suitable neighborhood for this expansion based on the criteria highlighted by the customer

# Crime Rate Analysis

- ▶ Import and cleanup crime statistics for Toronto and San Francisco for 2016 and load data in dataframes
- ▶ Create Chloropleth maps to visually highlight the locations with the highest and lowest crime areas for both Toronto and San Francisco

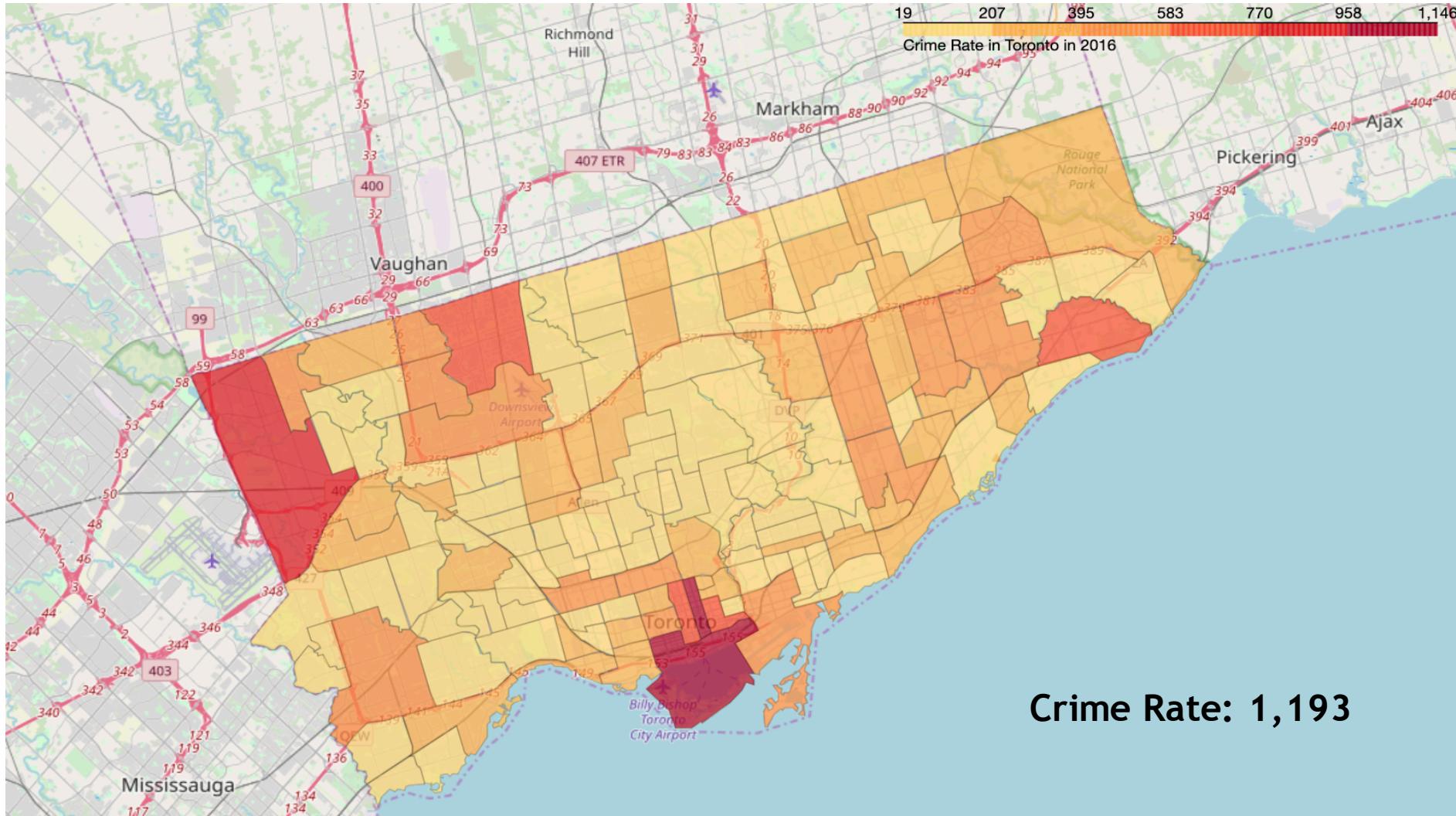
Toronto reported crime dataframe:

	premisetype	offence	occurrenceyear	MCI	Division	Neighborhood	Lat	Long
354	Outside	Assault	2016	Assault	D52	Waterfront Communities-The Island (77)	43.645374	-79.392059
356	Outside	Assault	2016	Assault	D52	Waterfront Communities-The Island (77)	43.645374	-79.392059
357	Apartment	Assault	2016	Assault	D14	Niagara (82)	43.636761	-79.402389
358	House	Assault	2016	Assault	D11	Roncesvalles (86)	43.647343	-79.443878
359	Commercial	Robbery - Business	2016	Robbery	D51	North St.James Town (74)	43.667637	-79.372208

San Francisco reported crimes dataframe

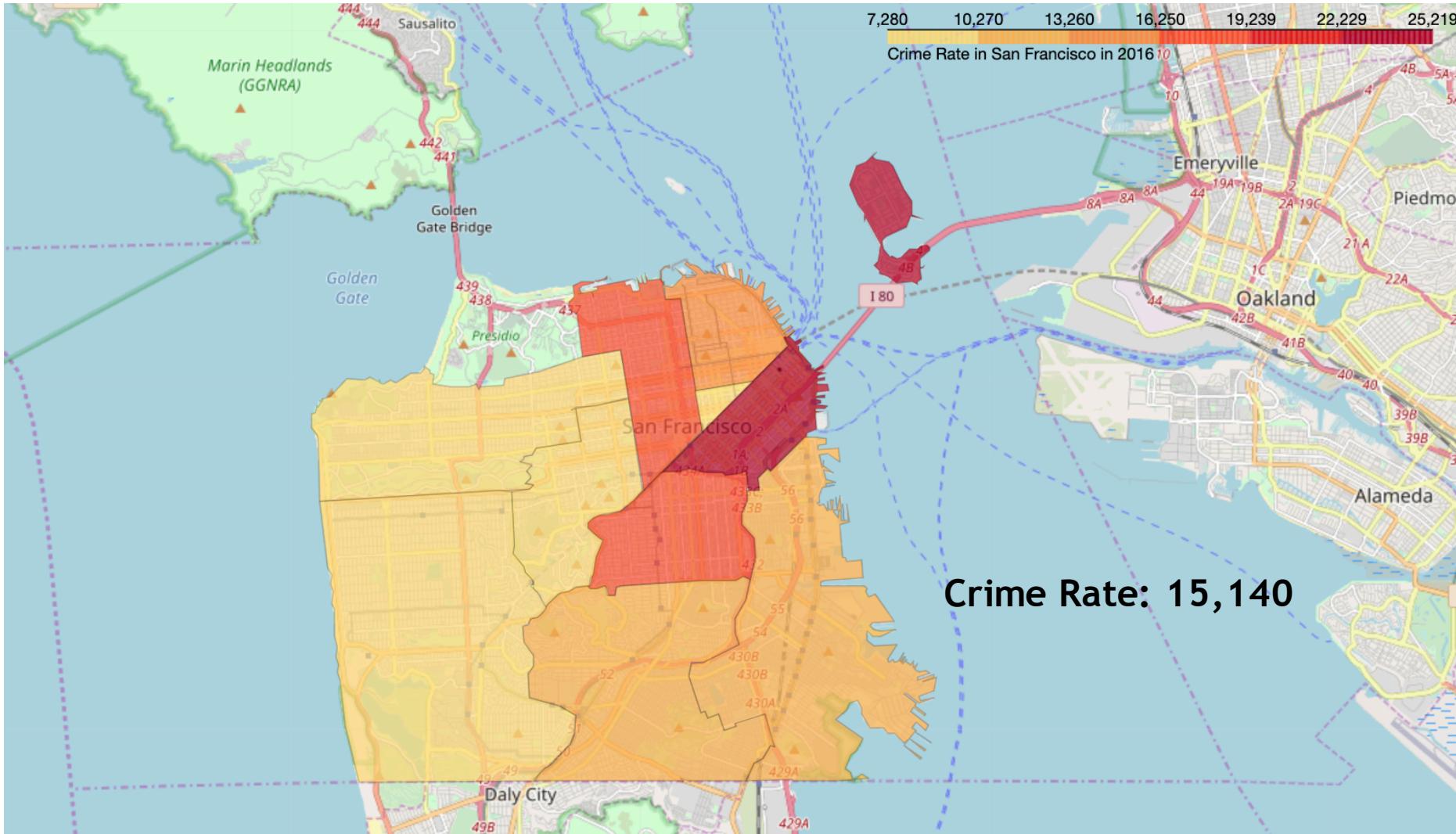
	IncidentNum	Category	Descript	DayOfWeek	Date	Time	Neighborhood	Resolution	Address	X	Y
0	120058272	WEAPON LAWS	POSS OF PROHIBITED WEAPON	Friday	01/29/2016 12:00:00 AM	11:00	SOUTHERN	ARREST, BOOKED	800 Block of BRYANT ST	-122.403405	37.775421
1	120058272	WEAPON LAWS	FIREARM, LOADED, IN VEHICLE, POSSESSION OR USE	Friday	01/29/2016 12:00:00 AM	11:00	SOUTHERN	ARREST, BOOKED	800 Block of BRYANT ST	-122.403405	37.775421
2	141059263	WARRANTS	WARRANT ARREST	Monday	04/25/2016 12:00:00 AM	14:59	BAYVIEW	ARREST, BOOKED	KEITH ST / SHAFTER AV	-122.388856	37.729981

# CRIME ANALYSIS TORONTO



- Population: 2.732 Millions
- 46 categories reported
- Crimes reported in 2016: **32601**

# CRIME ANALYSIS SAN FRANCISCO



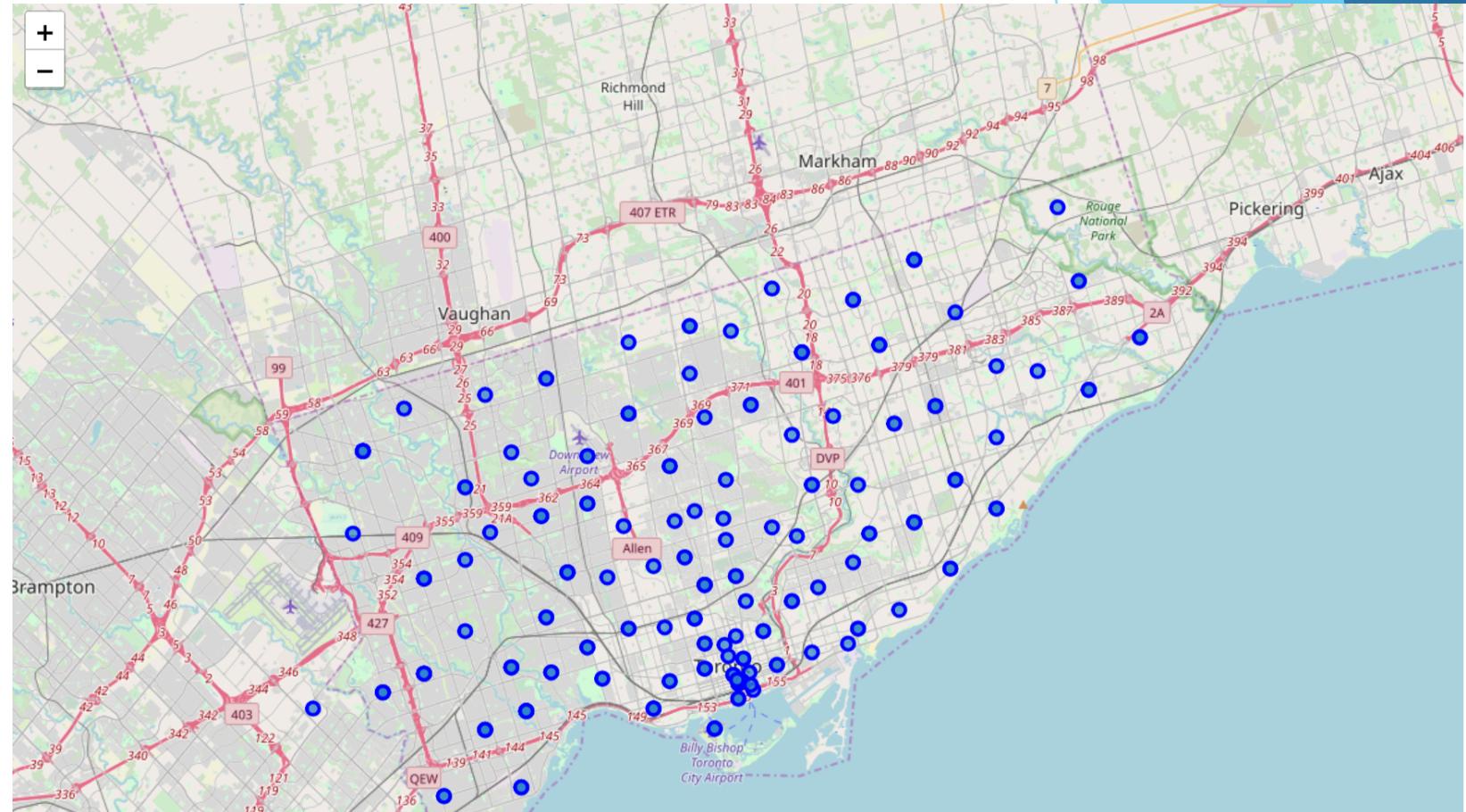
- Population: 0.876 Million
- 38 categories reported
- Crimes reported in 2016:  
**132634**

# Choice of City based on crime rates

- ▶ While the data for San Francisco is not reported at the same granular level as Toronto on the chloropleth maps for each city, the data indicates that Toronto is a much safer city than San Francisco, especially when taking into account the difference in population between the two cities, as Toronto is over 3 times more populous than San Francisco.
- ▶ The crime rates calculated for 2016 were 1,193 and 15,140 respectively for Toronto and San Francisco. This gap between the cities made the selection of the “safest” city rather easy:  
**Toronto, would be the best choice.**
- ▶ The particularly low crime rate Toronto opens up pretty much any neighborhood, even the ones with a higher crime count reported, as decent options for the restaurant, as long as all other parameters at play are met.
- ▶ We explored Downtown Toronto’s neighborhoods, which includes a waterfront, various popular landmarks and several business centers, and used Foursquare data to analyze each neighborhood and narrow down the number of locations recommended.

# Toronto Boroughs & Neighborhoods Overview

- Various neighborhood types: peninsula, waterfront and inland
- Higher cluster of neighborhoods around city center



# Borough Selection in Toronto

- ▶ Downtown's Toronto's borough, despite a higher level of crimes reported than neighborhoods further from the city center, was a good choice to explore as the proximity to the main business centers, touristic areas and the waterfront, made it an attractive option for year-around business.

# Analyzed Downtown Toronto's Borough

Using a function to analyze the top 10 venues returned by Foursquare for each neighborhood before selecting a candidate for further analysis:

## ----Regent Park----

	venue	freq
0	Coffee Shop	0.15
1	Café	0.09
2	Pub	0.07
3	Bakery	0.07
4	Park	0.07
5	Breakfast Spot	0.04
6	Mexican Restaurant	0.04
7	Theater	0.04
8	Brewery	0.02
9	Spa	0.02

## ----University of Toronto----

	venue	freq
0	Café	0.17
1	Bar	0.06
2	Bakery	0.06
3	Restaurant	0.06
4	Bookstore	0.06
5	Japanese Restaurant	0.06
6	Nightclub	0.03
7	Beer Bar	0.03
8	Beer Store	0.03
9	French Restaurant	0.03

## ----Central Bay Street----

	venue	freq
0	Coffee Shop	0.17
1	Italian Restaurant	0.05
2	Café	0.05
3	Bar	0.04
4	Burger Joint	0.04
5	Chinese Restaurant	0.03
6	Sandwich Place	0.03
7	Thai Restaurant	0.03
8	Sushi Restaurant	0.03
9	Salad Place	0.03

## ----Richmond----

	venue	freq
0	Coffee Shop	0.06
1	Café	0.04
2	Steakhouse	0.04
3	Thai Restaurant	0.04
4	Bar	0.04
5	Sushi Restaurant	0.03
6	Bakery	0.03
7	Burger Joint	0.03
8	Gym	0.03
9	Asian Restaurant	0.03

# Extract of Top 10 Venues Analysis in Downtown Toronto's Borough

## ----Regent Park----

	venue	freq
0	Coffee Shop	0.15
1	Café	0.09
2	Pub	0.07
3	Bakery	0.07
4	Park	0.07
5	Breakfast Spot	0.04
6	Mexican Restaurant	0.04
7	Theater	0.04
8	Brewery	0.02
9	Spa	0.02

## ----University of Toronto----

	venue	freq
0	Café	0.17
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2	Bakery	0.06
3	Restaurant	0.06
4	Bookstore	0.06
5	Japanese Restaurant	0.06
6	Nightclub	0.03
7	Beer Bar	0.03
8	Beer Store	0.03
9	French Restaurant	0.03

Among the top venues reported, only one neighborhood includes French Restaurants in its top 10: University of Toronto.

## ----Underground city----

	venue	freq
0	Coffee Shop	0.08
1	Café	0.07
2	Hotel	0.06
3	Steakhouse	0.04
4	Gastropub	0.03
5	Seafood Restaurant	0.03
6	Bar	0.03
7	Burger Joint	0.03
8	American Restaurant	0.03
9	Bakery	0.03

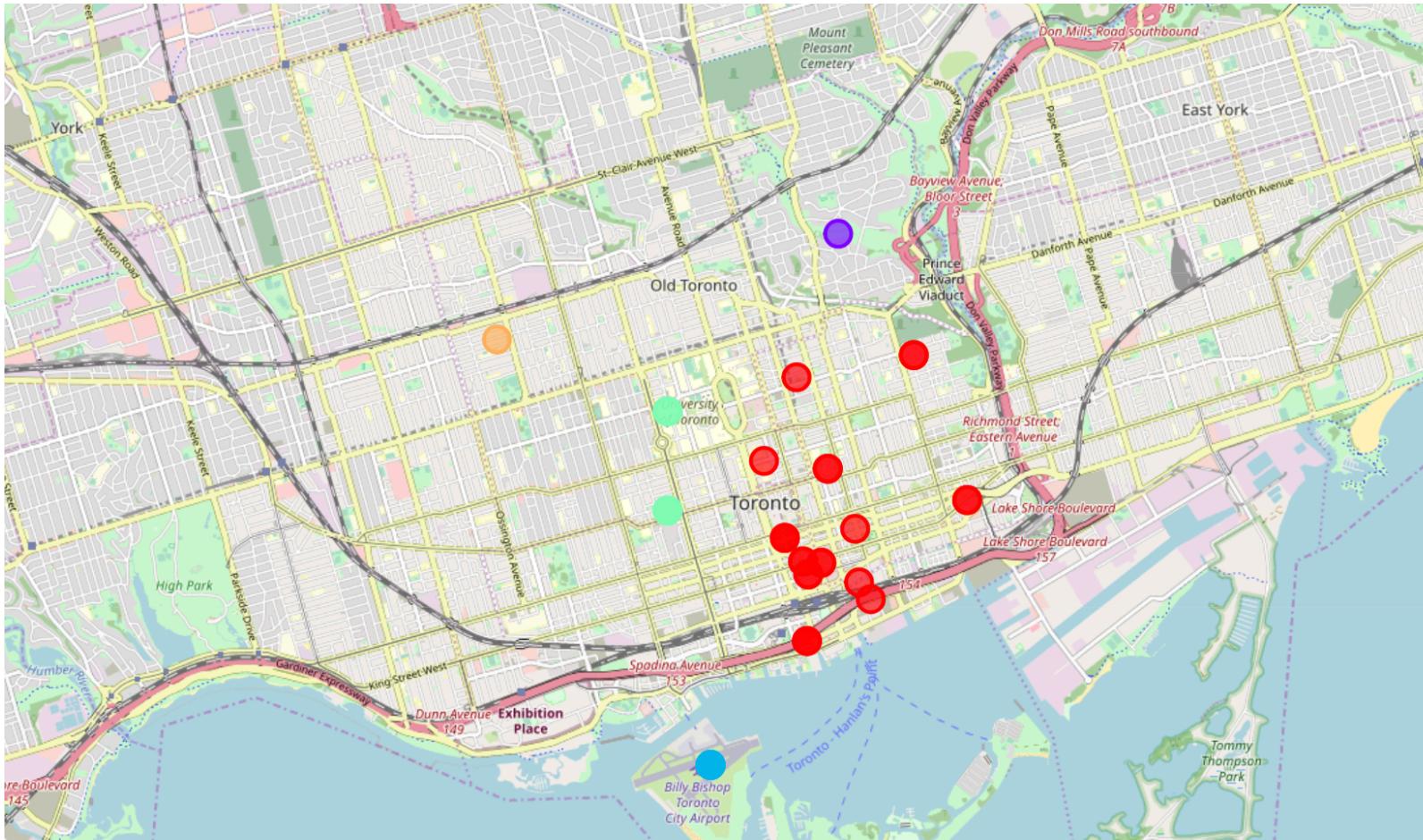
## ----Victoria Hotel----

	venue	freq
0	Coffee Shop	0.13
1	Hotel	0.06
2	Café	0.06
3	Restaurant	0.04
4	American Restaurant	0.04
5	Seafood Restaurant	0.03
6	Gastropub	0.03
7	Steakhouse	0.03
8	Deli / Bodega	0.03
9	Bakery	0.03

A few other neighborhoods returned “higher end” places in their top 10 venues, indicating likely popular areas, but a higher competitive landscape.

# K-Mean Clustering & Folium Mapping

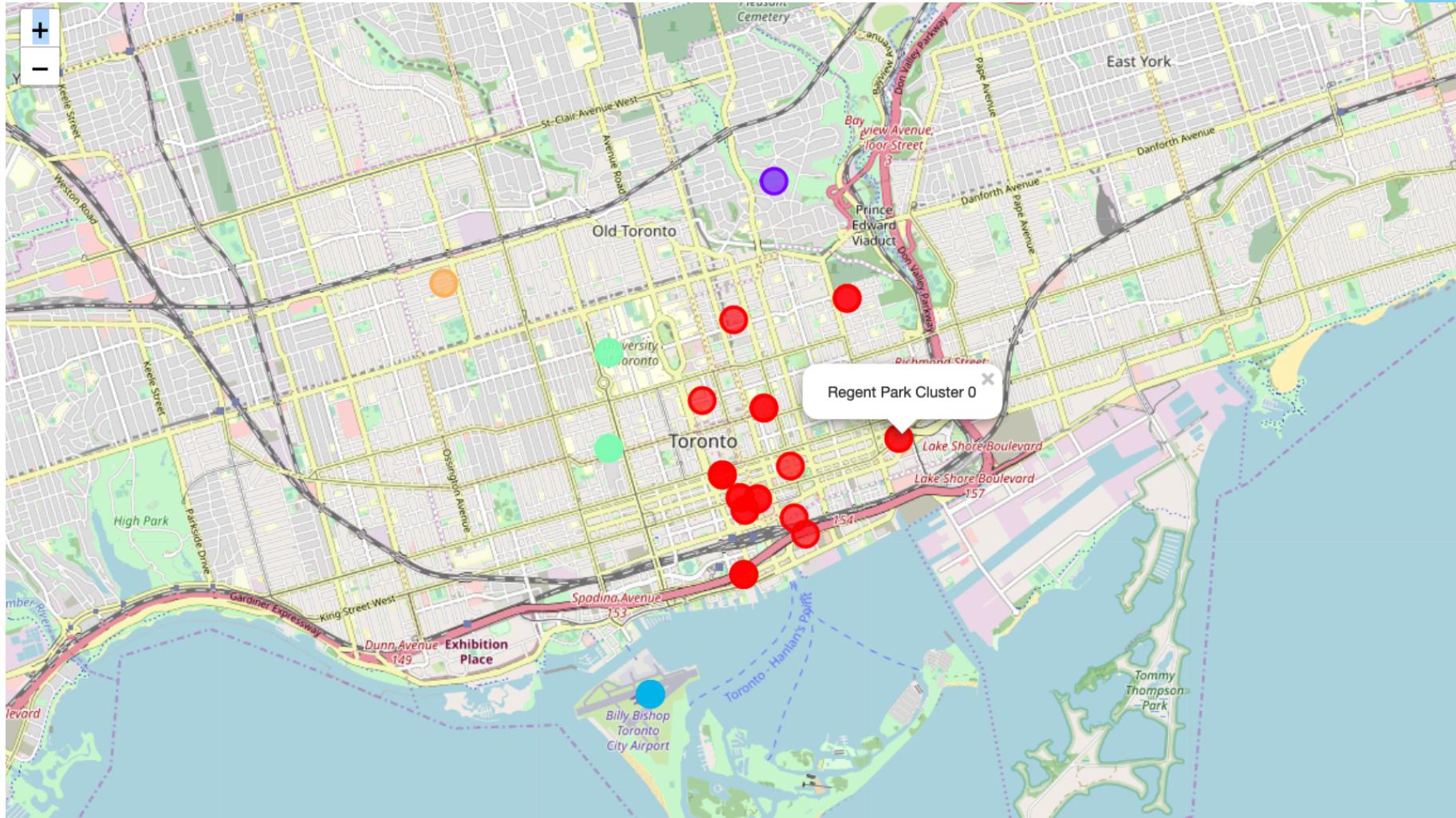
- I used the K-mean algorithm to create clusters within the neighborhoods picked to chose locations which best fit the established parameters



# Neighborhood Selection in Toronto

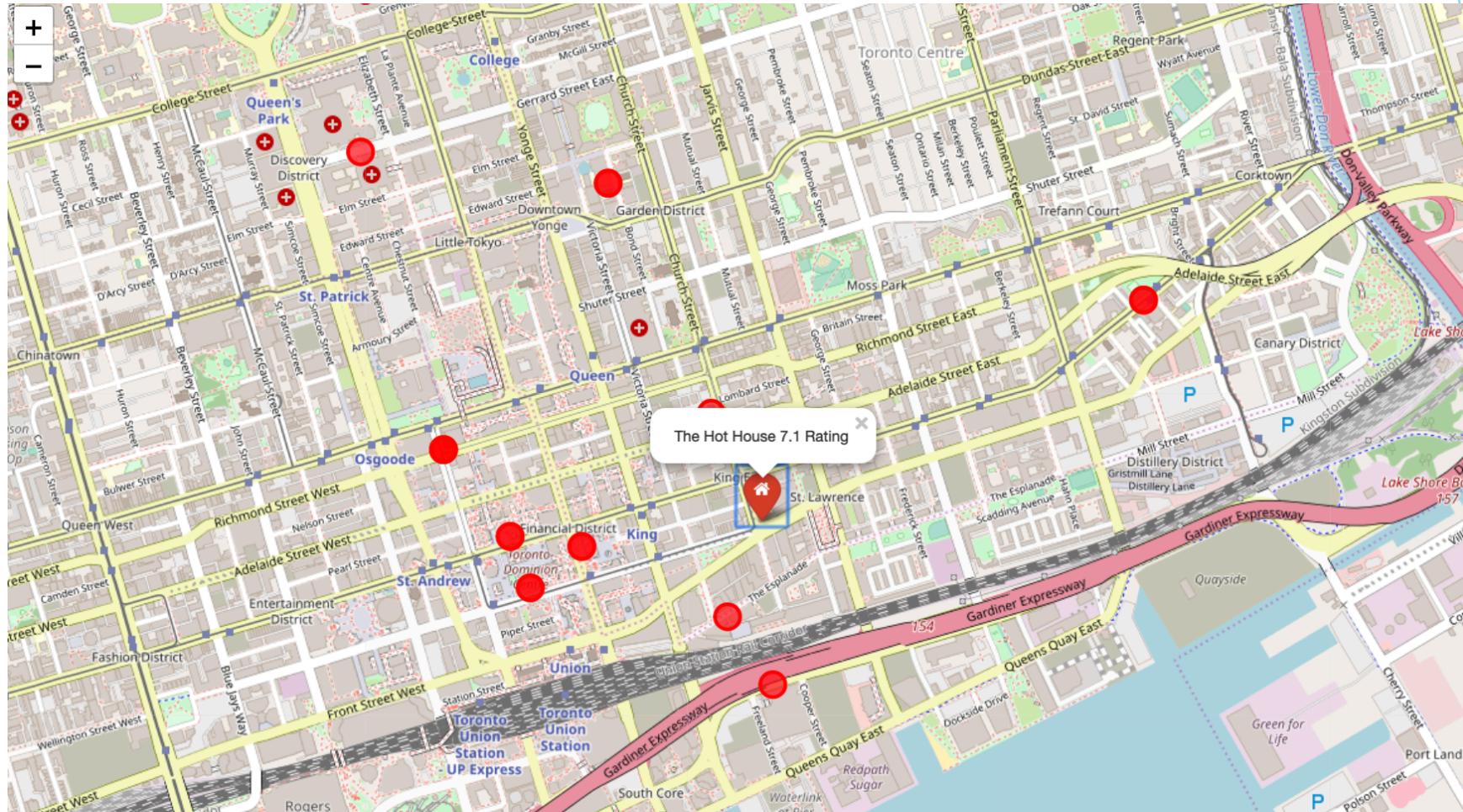
- ▶ Only one neighborhood in Downtown Toronto includes French Restaurants among the top 10 menus reported from Foursquare: University of Toronto
- ▶ A few other neighborhoods listed popular and higher end restaurants: like Underground City or Victoria Hotel, which we excluded from our deeper analysis with Foursquare data
- ▶ One neighborhood was particularly attractive: **Regent Front**
  - ▶ Relatively low crime rate with 178 crimes reported in 2016
  - ▶ Close vicinity to the city center and its amenities, thus easily accessible
  - ▶ Absence of French, Italian, Steakhouse restaurants in the top 10 venues listed

# Foursquare Neighborhood Analysis: Regent Park



- Regent Park: No French restaurant in the top 10 venues, close proximity to the city center and easily accessible.

# Analysis of direct competing venues in Regent Park

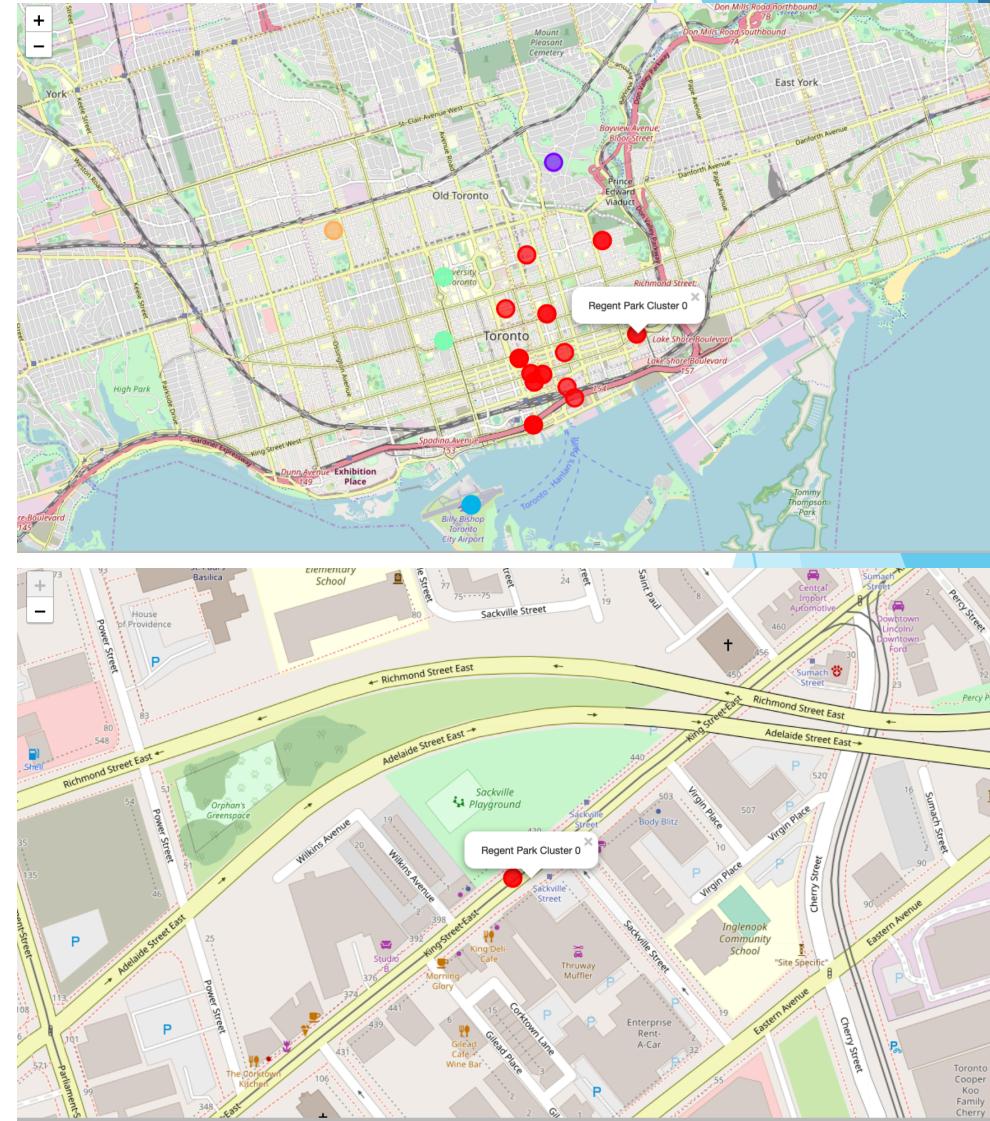


- Only 1 other French restaurant with a good rating is reported within 2km radius in Foursquare: The Hot House.

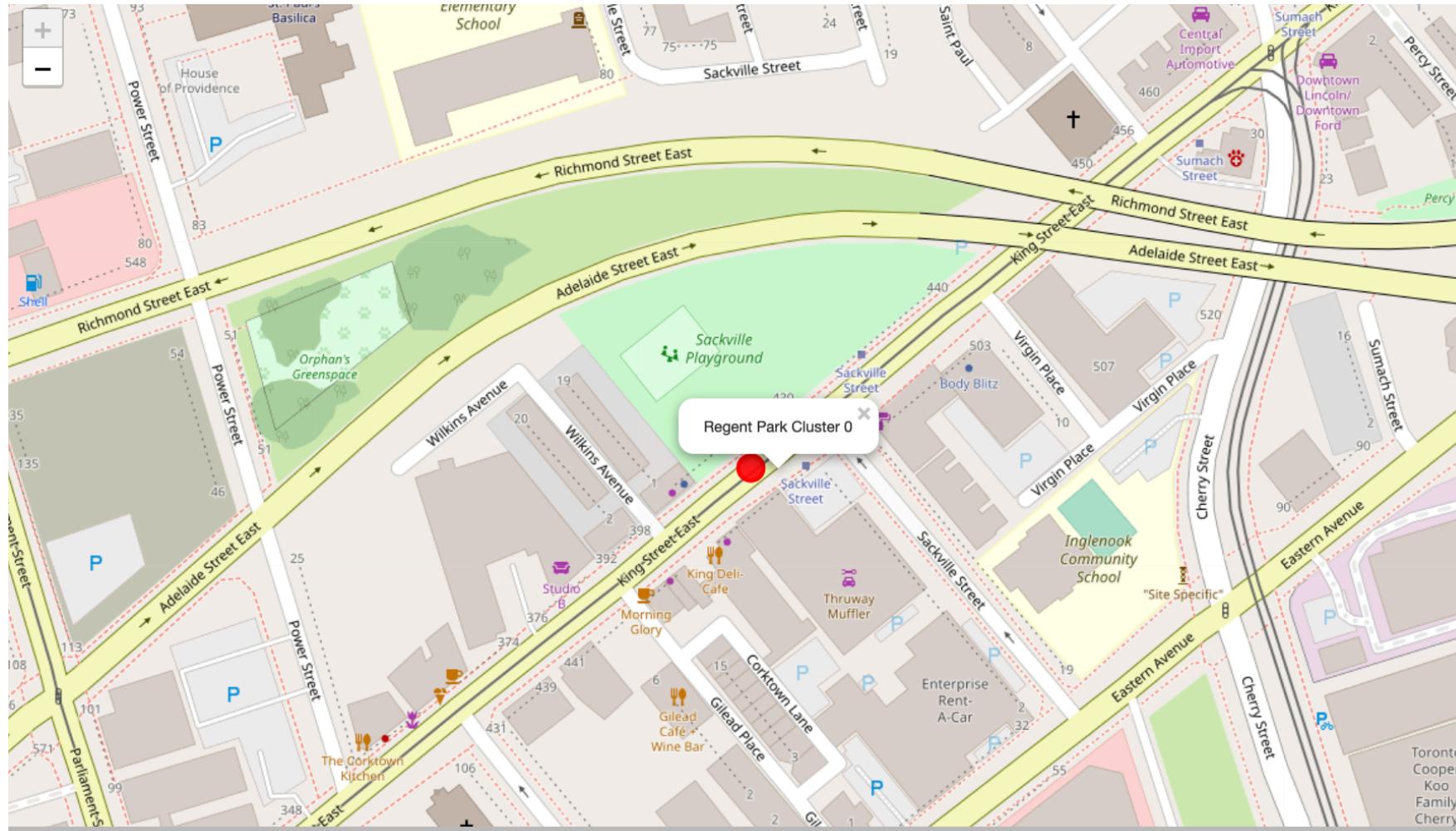
# Regent Park Neighborhood Final Assessment

Regent Park fits all the criteria:

- ▶ A reasonable number of venues reported in Foursquare: 49, this neither highly competitive, nor too remote for a business
- ▶ No French Restaurant listed in the top 10 venues reported in Foursquare and no competition from other “higher end” restaurants
- ▶ No public transportation reported within 100m in Foursquare, but plenty of parking options listed in the vicinity and close proximity to city center make the area easily accessible
- ▶ Only one competing French restaurant reported within 2km with a 7.2 rating



# Regent Park Cluster Downtown Toronto Details



One of the neighborhoods evaluated within Downtown Toronto combines all the attributes highlighted: Regent Park.

# Final Recommendation

- ▶ Based on crime rates analyzed, Toronto was selected as the safest city to open a new French restaurant
- ▶ Among the boroughs and neighborhoods in Toronto, Regent Park met all the criteria listed:
  - ▶ Low crime rate
  - ▶ Proximity to the city center, major financial districts, popular tourist destinations and water front for year around business
  - ▶ Easily accessible with various parking options available for patrons driving in
- ▶ The proximity of the location to New-York is an additional benefit as it would make it easier for the family to manage both locations

# DATA SOURCES

- ▶ Maps, demographics and crime statistics scraped or downloaded from the following sources:
  - ▶ <https://www.toronto.ca/city-government/data-research-maps/open-data/Toronto>
  - ▶ <http://data.torontopolice.on.ca/search?q=crime&tags=major%20crime%20indicators%2Ccrimes%2Cmc>
  - ▶ <https://datasf.org/opendata/>
  - ▶ <https://data.sfgov.org/Public-Safety/SFPD-Incidents-2016-Daily/8b9n-iqj8>
  - ▶ [https://en.wikipedia.org/wiki/List\\_of\\_postal\\_codes\\_of\\_Canada:\\_M](https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M)
  - ▶ <https://en.wikipedia.org/wiki/Toronto>
  - ▶ [https://en.wikipedia.org/wiki/San\\_Francisco](https://en.wikipedia.org/wiki/San_Francisco)