A decorative graphic on the left side of the slide, consisting of a network of light blue lines and circles, resembling a circuit board or a stylized tree structure, set against a dark blue background.

# **DETERMINING WHICH TORONTO AIRPORT NEIGHBORHOOD TO OPEN A NEW BAR**

CAPSTONE PROJECT JANUARY 2020

# INTRODUCTION

- Entrepreneurs often face the question of where to open a new establishment
- In this case we look at two airports which service the Toronto area and the respective neighborhood data to determine which airport would best support opening a new bar.
- The premise is to enter a market with low competition (Porter's forces)
- The airports / neighborhoods we look at are
  - Toronto Pierson also called YYZ
  - Billy Bishop Airport on Toronto Island



# DATA FROM FOURSQUARE

- The source data for the analysis comes from FourSquare
- In particular we are looking for Bars in the defined neighborhoods
- The geographic coordinate data for the locations is also necessary to obtain as this information is used in the map plots
- Geopy provides the longitude and latitude of the two Airports
- FourSquare provides the location coordinates for the results of the “bar” query



## Number of Bars within Respective Neighborhoods

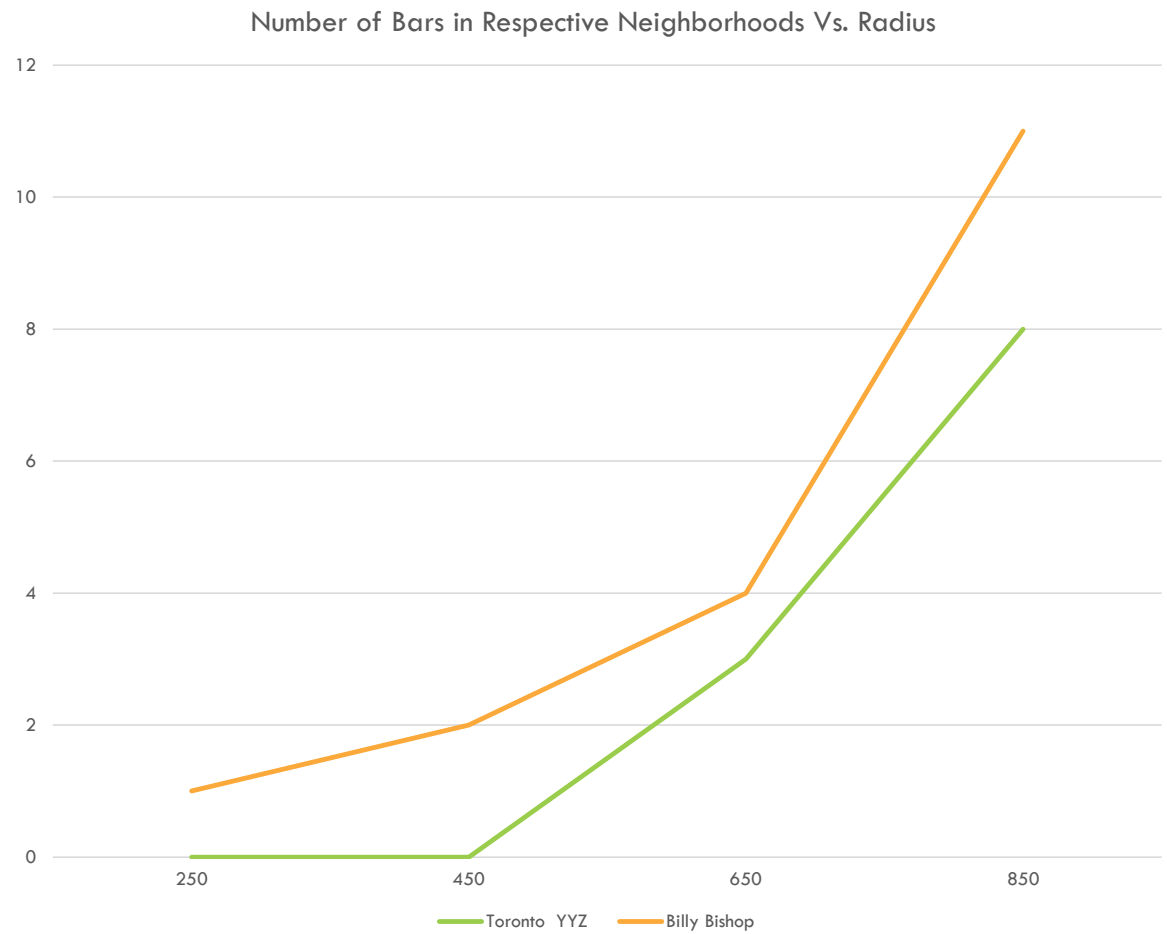
Radius	Toronto Pierson	Billy Bishop
250	0	1
450	0	2
650	3	4
850	8	11

## CREATING AN INCREASING RADIAL SEARCH

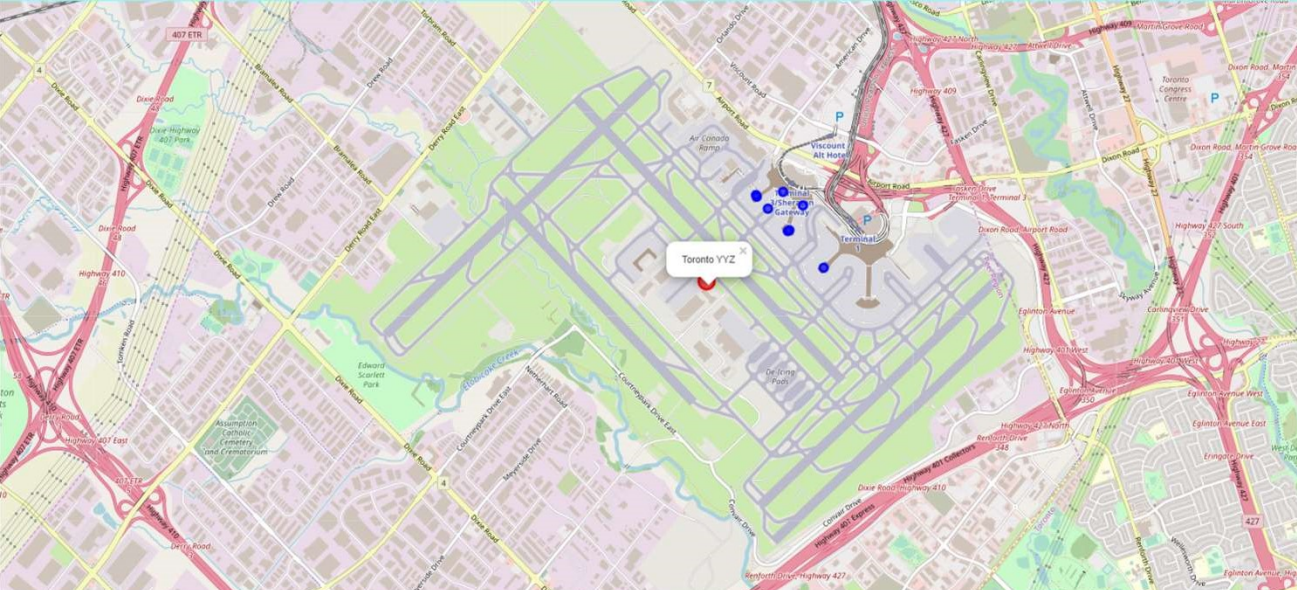
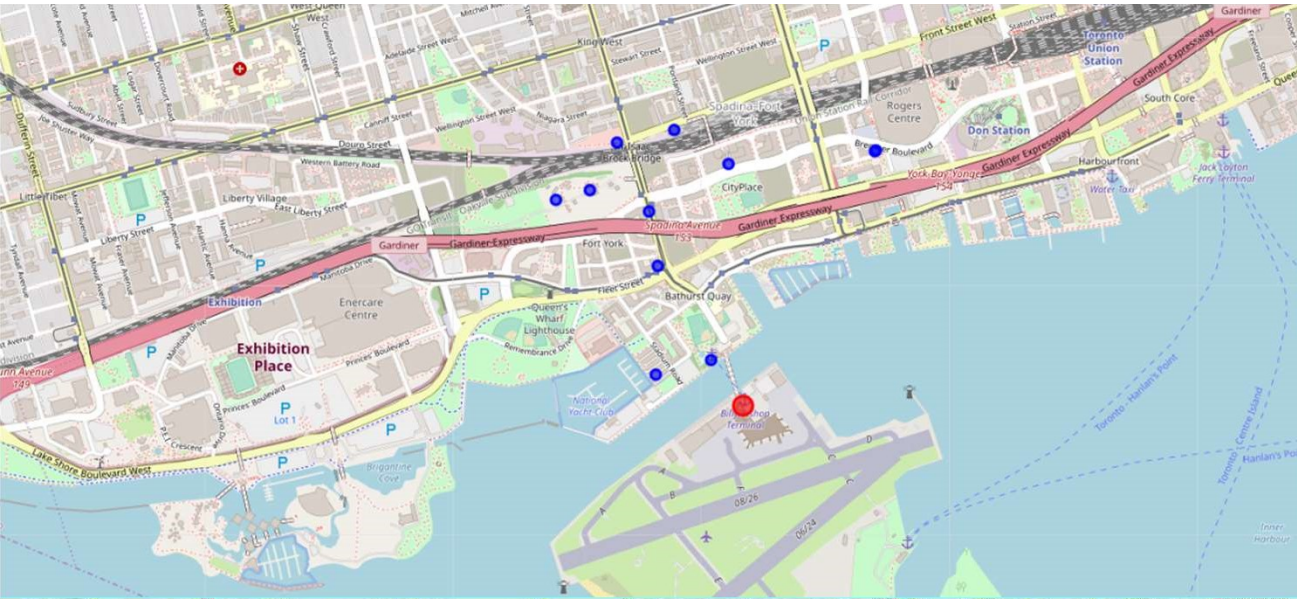
- An increasing radial search is when the radius of a query is increased to determine the number of results within a defined radius.
- The results help determine the “density” of the locations within a particular radius.
- A increasing radial search was conducted by individually passing multiple radius parameters to FourSquare and counting the resultant returns

# GRAPH OF RADIAL SEARCH

- The Radial Search Data is plotted
- We can see there are no bars in Toronto until 450
- Billy Bishop has 2 bars within 450







## VISUALIZATION OF THE LOCATIONS ON A MAP

- Using Folium we can generate plots of the two neighborhoods with the return of results for Bars.
- Top: Is Billy Bishop
- Bottom: Toronto

# CONCLUSION

- The queries from FourSquare indicate the potential competition to establishing a “bar” at either Toronto Airport or Billy Bishop Airport areas.
- Increasing radial search using the location data provided by FourSquare can be a useful tool to determine what the market looks like.
- The table generated from radial search point to the conclusion to add a bar at Toronto YYZ as there are a lower number of bars in the direct neighborhood, and there are none within the 450 radius perimeter.
- However we can not always rely purely on the “data”.
  - The visual interpretation of the map indicates that all the bars in Toronto are within the Airport and clustered quite close.
  - Adding a new business in this type of environment would encounter strong competition
  - At Billy Bishop, there is only one at the 250 radius
- Therefore the suggestion to the entrepreneur is to add a bar on premise at Billy Bishop as there is less direct competition.

