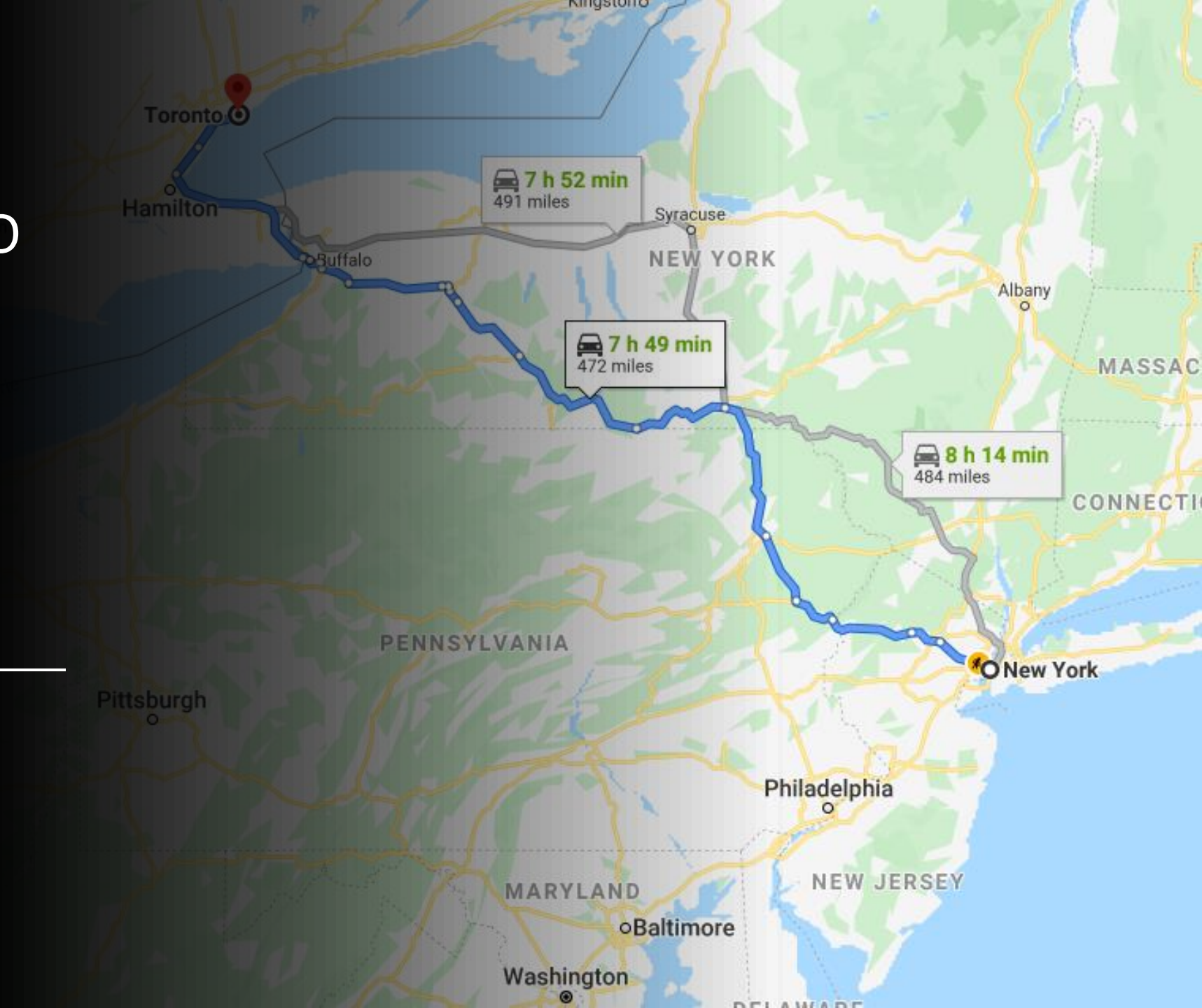# Capstone Project – The Battle of Neighborhoods
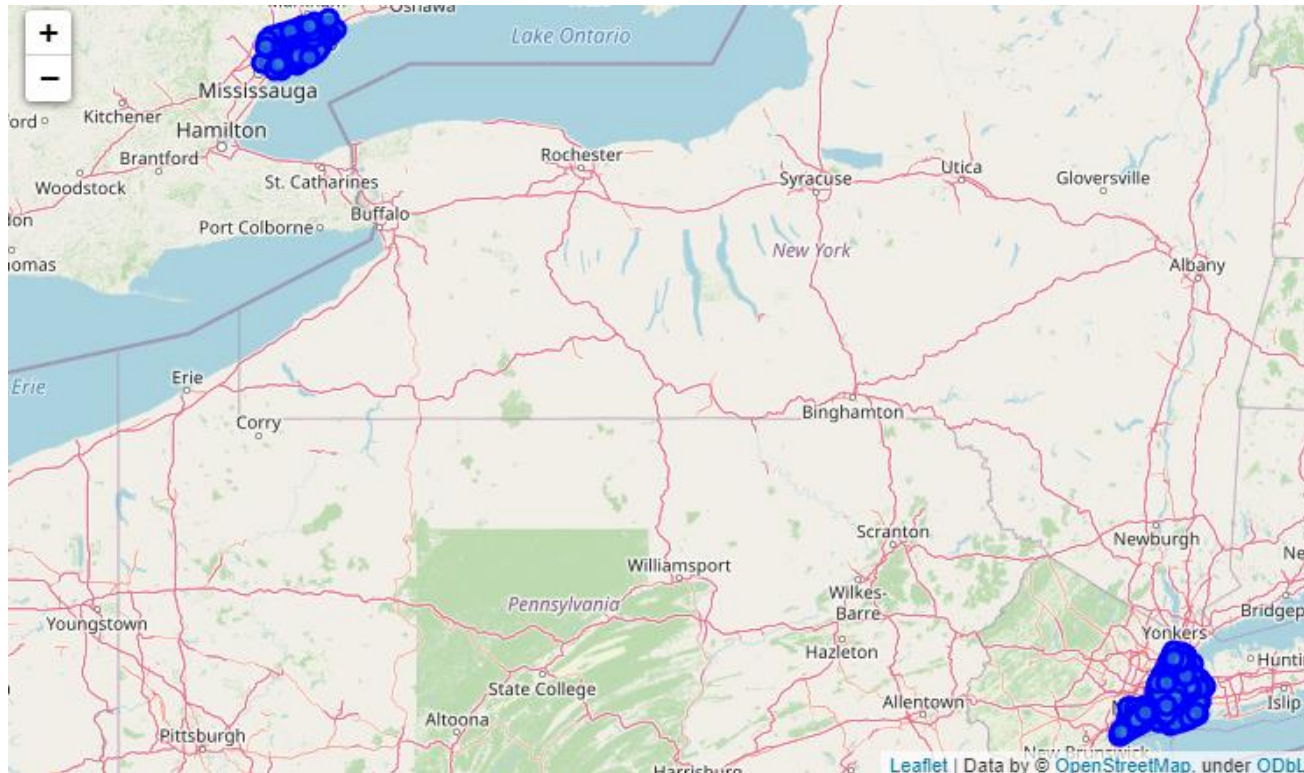
Finding a Familiar Place in Toronto/New York

How to move to a new city without changing lifestyle?

New York -> Toronto

Let's check the neighborhoods!

- We can use Foursquare API to check the amenities available for the neighborhoods in each city
  - If we can group similar neighborhoods based on venues, we may visualize the regions that, regardless of city, can support the same lifestyle.
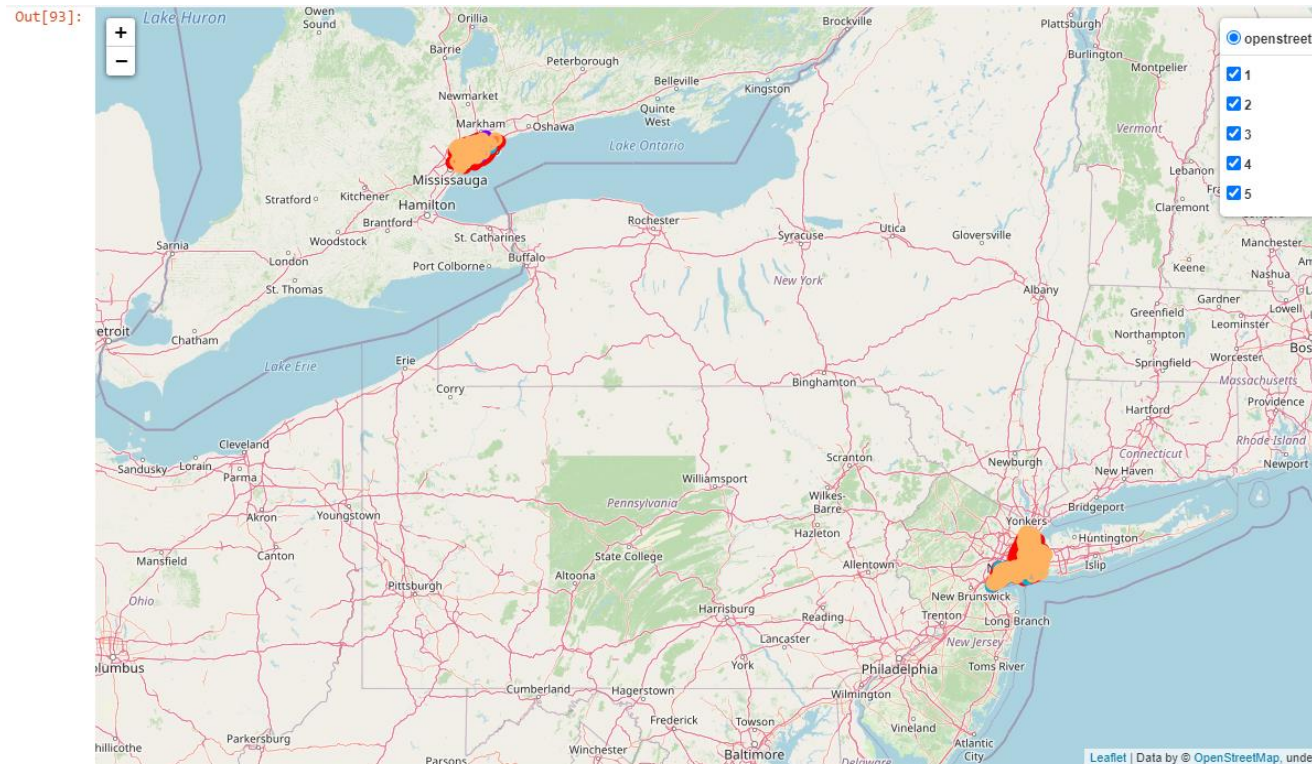
The data

- The results from Foursquare API are used to characterize each neighborhood in terms of the frequency of venue types
  - The parameters used on the coordinates of each neighborhood are (under the limits of the free license terms):
    - Radius: 500m
    - Maximum number of results: 100

	Borough	Neighbourhood	Latitude	Longitude
0	North York - TO	Parkwoods	43.753259	-79.329656
1	North York - TO	Victoria Village	43.725882	-79.315572
2	Downtown Toronto - TO	Regent Park, Harbourfront	43.654260	-79.360636
406	Queens - NY	Bayswater	40.611322	-73.765968
407	Queens - NY	Queensbridge	40.756091	-73.945631
408	Staten Island - NY	Fox Hills	40.617311	-74.081740

Out[64]:

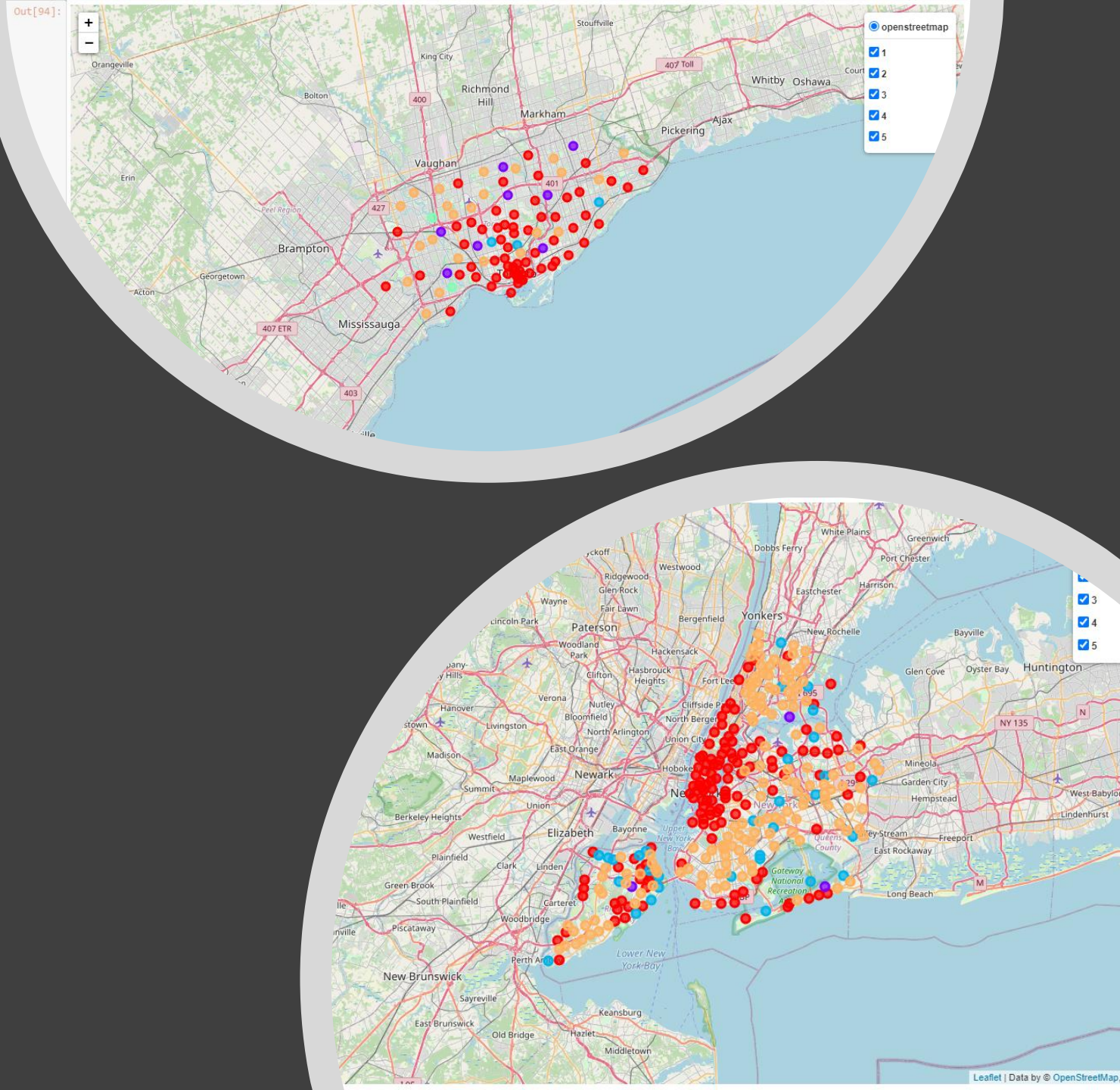|	Neighbourhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	...
1	Victoria Village	Intersection	French Restaurant	Pizza Place	Coffee Shop	...
2	Regent Park, Harbourfront	Coffee Shop	Bakery	Pub	Park	...
3	Lawrence Manor, Lawrence Heights	Furniture / Home Store	Clothing Store	Accessories Store	Athletics & Sports	...
4	Queen's Park, Ontario Provincial Government	Coffee Shop	Diner	Yoga Studio	Arts & Crafts Store	...
7	Don Mills	Gym	Japanese Restaurant	Beer Store	Coffee Shop	...
9	Garden District, Ryerson	Clothing Store	Coffee Shop	Café	Japanese Restaurant	...
10	Glencairn	Pub	Japanese Restaurant	Metro Station	Asian Restaurant	...
11	West Deane Park, Princess Gardens, Martin Grov...	Jewelry Store	Yoga Studio	Farmers Market	Electronics Store	...
12	Rouge Hill, Port Union, Highland Creek	Bar	Yoga Studio	Farm	Electronics Store	...
13	Don Mills	Gym	Japanese Restaurant	Beer Store	Coffee Shop	...
14	Woodbine Heights	Skating Rink	Beer Store	Athletics & Sports	Park	...
15	St. James Town	Coffee Shop	Restaurant	Café	Clothing Store	...

Let's check the neighborhoods!

- We use the unsupervised machine-learning k-means clustering algorithm to group similar neighborhoods.
  - The best choices for are moving between neighborhoods with the same color.

Got it!

- Now we have a map of similar neighborhoods for those who would like to move from Toronto to New York and vice-versa and would like to keep their routine running smoothly.
  - For example: moving from Sunnyside Gardens, New York, to Victoria Village, Toronto, would work a charm!

Thank you
for your
attention!