

The background is a deep blue gradient with a subtle pattern of white dots. Overlaid on this are several faint, light blue geometric elements: concentric circles, arcs, and dashed lines. Some of these elements include degree markings, such as 140, 150, 160, 170, 180, 190, 200, 210, 220, 230, 240, 250, and 260, arranged in a circular fashion. There are also small arrows pointing in various directions, suggesting a sense of rotation or movement.

BATTLE OF THE NEIGHBOURHOODS

HAARIPRIYA SUBRAMANIAN

DATA PREPERATION – WEB SCRAPING

Data source: "https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M"

	0	1	2
0	Postcode	Borough	Neighbourhood
1	M1A	Not assigned	Not assigned
2	M2A	Not assigned	Not assigned
3	M3A	North York	Parkwoods
4	M4A	North York	Victoria Village
5	M5A	Downtown Toronto	Harbourfront
6	M6A	North York	Lawrence Heights
7	M6A	North York	Lawrence Manor
8	M7A	Queen's Park	Not assigned
9	M8A	Not assigned	Not assigned
10	M9A	Queen's Park	Queen's Park

DATA PREPARATION

After filtering the data where Borough is not assigned , grouping the data with Postal code

	Postal Code	Borough	Neighbourhood
0	M1B	Scarborough	Rouge, Malvern
1	M1C	Scarborough	Highland Creek, Rouge Hill, Port Union
2	M1E	Scarborough	Guildwood, Morningside, West Hill
3	M1G	Scarborough	Woburn
4	M1H	Scarborough	Cedarbrae
5	M1J	Scarborough	Scarborough Village
6	M1K	Scarborough	East Birchmount Park, Ionview, Kennedy Park
7	M1L	Scarborough	Clairlea, Golden Mile, Oakridge
8	M1M	Scarborough	Cliffcrest, Cliffside, Scarborough Village West
9	M1N	Scarborough	Birch Cliff, Cliffside West
10	M1P	Scarborough	Dorset Park, Scarborough Town Centre, Wexford ...
11	M1R	Scarborough	Maryvale, Wexford
12	M1S	Scarborough	Agincourt
13	M1T	Scarborough	Clarks Corners, Sullivan, Tam O'Shanter
14	M1V	Scarborough	Agincourt North, L'Amoreaux East, Milliken, St...
15	M1W	Scarborough	L'Amoreaux West

DATA PREPERATION

Geospatial Data: http://cocl.us/Geospatial_data

	Postal Code	Latitude	Longitude
0	M1B	43.806686	-79.194353
1	M1C	43.784535	-79.160497
2	M1E	43.763573	-79.188711
3	M1G	43.770992	-79.216917
4	M1H	43.773136	-79.239476
5	M1J	43.744734	-79.239476
6	M1K	43.727929	-79.262029
7	M1L	43.711112	-79.284577

DATA PREPARATION- DATA MERGING

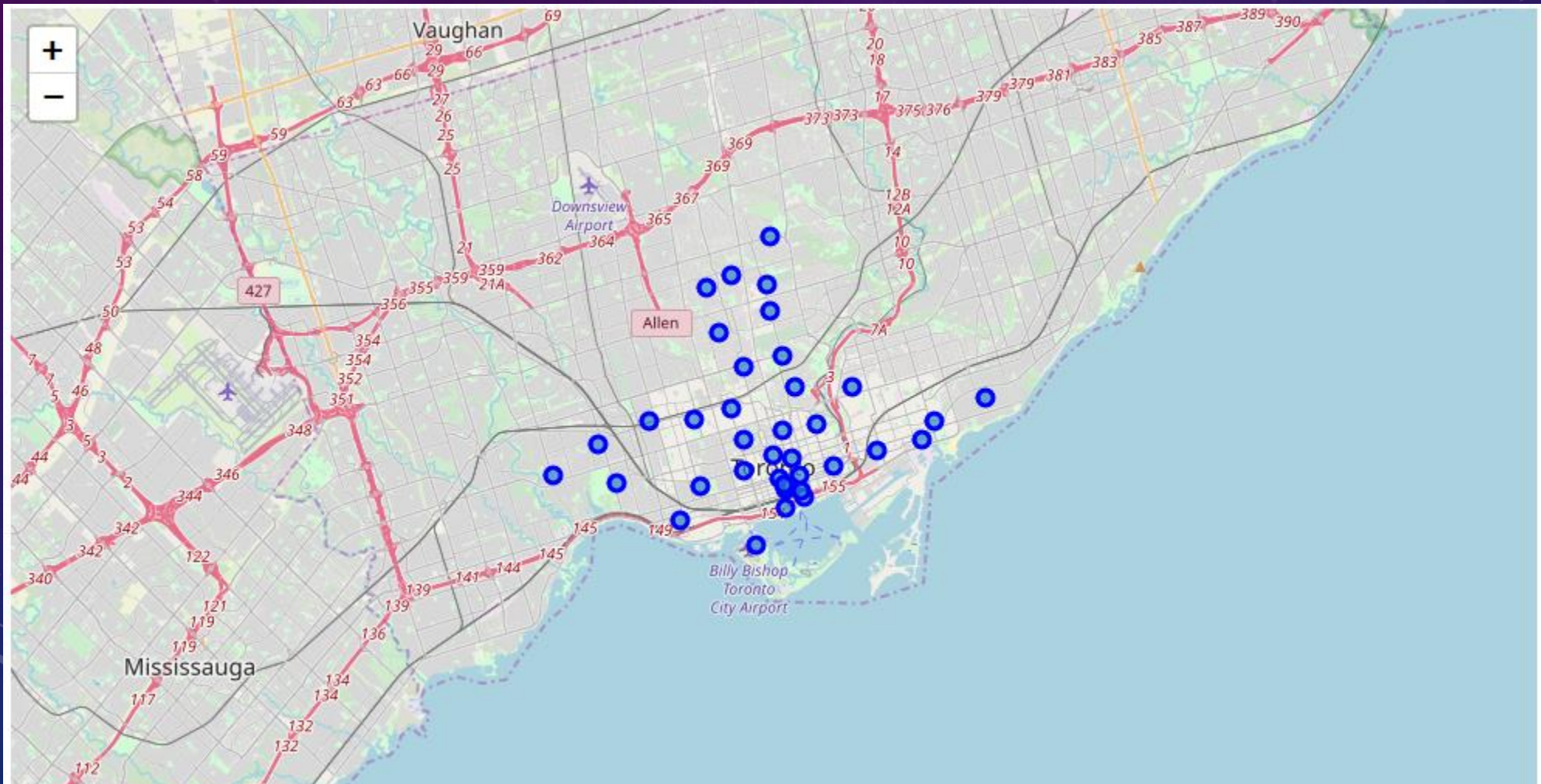
	Postal Code	Borough	Neighbourhood	Latitude	Longitude
0	M1B	Scarborough	Rouge, Malvern	43.806686	-79.194353
1	M1C	Scarborough	Highland Creek, Rouge Hill, Port Union	43.784535	-79.160497
2	M1E	Scarborough	Guildwood, Morningside, West Hill	43.763573	-79.188711
3	M1G	Scarborough	Woburn	43.770992	-79.216917
4	M1H	Scarborough	Cedarbrae	43.773136	-79.239476
5	M1J	Scarborough	Scarborough Village	43.744734	-79.239476
6	M1K	Scarborough	East Birchmount Park, Ionview, Kennedy Park	43.727929	-79.262029
7	M1L	Scarborough	Clairlea, Golden Mile, Oakridge	43.711112	-79.284577
8	M1M	Scarborough	Cliffcrest, Cliffside, Scarborough Village West	43.716316	-79.239476
9	M1N	Scarborough	Birch Cliff, Cliffside West	43.692657	-79.264848
10	M1P	Scarborough	Dorset Park, Scarborough Town Centre, Wexford ...	43.757410	-79.273304

DATA PREPERATION- FILTERING DATA

Filtering data with Borough words "Toronto"

	Postal Code	Borough	Neighbourhood	Latitude	Longitude
37	M4E	East Toronto	The Beaches	43.676357	-79.293031
41	M4K	East Toronto	The Danforth West, Riverdale	43.679557	-79.352188
42	M4L	East Toronto	The Beaches West, India Bazaar	43.668999	-79.315572
43	M4M	East Toronto	Studio District	43.659526	-79.340923
44	M4N	Central Toronto	Lawrence Park	43.728020	-79.388790
45	M4P	Central Toronto	Davisville North	43.712751	-79.390197
46	M4R	Central Toronto	North Toronto West	43.715383	-79.405678
47	M4S	Central Toronto	Davisville	43.704324	-79.388790
48	M4T	Central Toronto	Moore Park, Summerhill East	43.689574	-79.383160
49	M4V	Central Toronto	Deer Park, Forest Hill SE, Rathnelly, South Hi...	43.686412	-79.400049
50	M4W	Downtown Toronto	Rosedale	43.679563	-79.377529
51	M4X	Downtown Toronto	Cabbagetown, St. James Town	43.667967	-79.367675
52	M4Y	Downtown Toronto	Church and Wellesley	43.665860	-79.383160
53	M5A	Downtown Toronto	Harbourfront	43.654260	-79.360636
54	M5B	Downtown Toronto	Ryerson, Garden District	43.657162	-79.378937
55	M5C	Downtown Toronto	St. James Town	43.651494	-79.375418

TORONTO FOLIUM MAP



PRINTING THE VENUES FOR THE NEIGHBOURHOODS- USING FOUR SQUARE API

	Neighbourhood	Neighbourhood Latitude	Neighbourhood Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
0	The Beaches	43.676357	-79.293031	Glen Manor Ravine	43.676821	-79.293942	Trail
1	The Beaches	43.676357	-79.293031	The Big Carrot Natural Food Market	43.678879	-79.297734	Health Food Store
2	The Beaches	43.676357	-79.293031	Grover Pub and Grub	43.679181	-79.297215	Pub
3	The Beaches	43.676357	-79.293031	Upper Beaches	43.680563	-79.292869	Neighborhood
4	The Danforth West, Riverdale	43.679557	-79.352188	Pantheon	43.677621	-79.351434	Greek Restaurant
5	The Danforth West, Riverdale	43.679557	-79.352188	MenEssentials	43.677820	-79.351265	Cosmetics Shop
6	The Danforth West, Riverdale	43.679557	-79.352188	Cafe Fiorentina	43.677743	-79.350115	Italian Restaurant
7	The Danforth West, Riverdale	43.679557	-79.352188	Dolce Gelato	43.677773	-79.351187	Ice Cream Shop
8	The Danforth West, Riverdale	43.679557	-79.352188	Messini Authentic Gyros	43.677827	-79.350569	Greek Restaurant
9	The Danforth West, Riverdale	43.679557	-79.352188	Louis Cifer Brew Works	43.677663	-79.351313	Brewerv

FINDING THE VENUES FOR A NEIGHBOURHOOD – EG. ROSELAWN

	name	categories	lat	lng
0	Rosalind's Garden Oasis	Garden	43.712189	-79.411978

PRINTING THE VENUES FOR EACH NEIGHBOURHOOD

Neighbourhood		
	Adelaide, King, Richmond	100
	Berczy Park	58
	Brockton, Exhibition Place, Parkdale Village	22
	Business Reply Mail Processing Centre 969 Eastern	18
	CN Tower, Bathurst Quay, Island airport, Harbourfront West, King and Spadina, Railway Lands, South Niagara	16
	Cabbagetown, St. James Town	44
	Central Bay Street	83
	Chinatown, Grange Park, Kensington Market	95
	Christie	17
	Church and Wellesley	85
	Commerce Court, Victoria Hotel	100
	Davisville	35
	Davisville North	8
	Deer Park, Forest Hill SE, Rathnelly, South Hill, Summerhill West	16
	Design Exchange, Toronto Dominion Centre	100
	Dovercourt Village, Dufferin	15
	First Canadian Place, Underground city	100
	Forest Hill North, Forest Hill West	5
	Harbord, University of Toronto	35

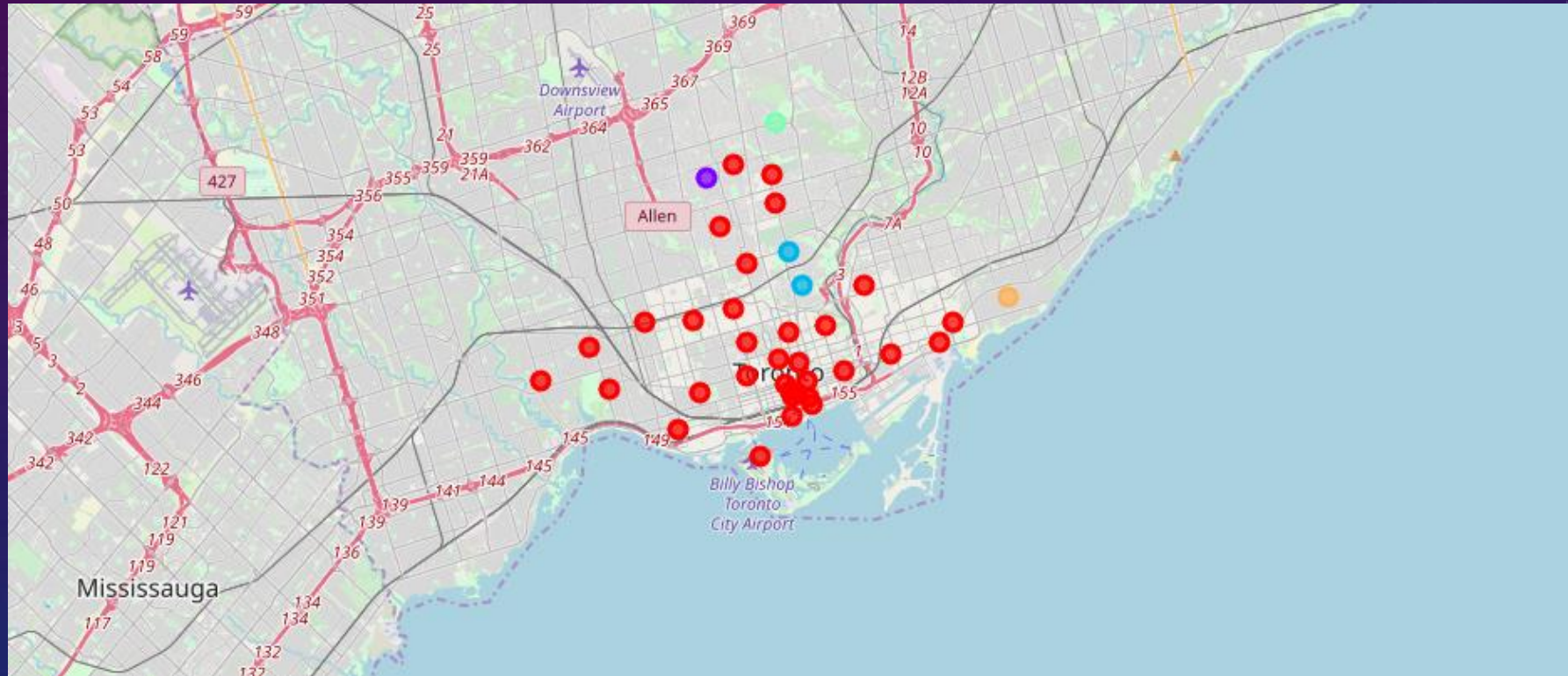
TOP 5 VENUES IN EACH NEIGHBOUR HOOD

	Neighbourhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
0	Adelaide, King, Richmond	Coffee Shop	Café	Steakhouse	Thai Restaurant	Bar
1	Berczy Park	Coffee Shop	Bakery	Cocktail Bar	Beer Bar	Steakhouse
2	Brockton, Exhibition Place, Parkdale Village	Breakfast Spot	Café	Coffee Shop	Yoga Studio	Bakery
3	Business Reply Mail Processing Centre 969 Eastern	Light Rail Station	Yoga Studio	Auto Workshop	Garden Center	Garden
4	CN Tower, Bathurst Quay, Island airport, Harbo...	Airport Service	Airport Lounge	Airport Terminal	Plane	Bar

CREATING 5 CLUSTERS USING K- MEANS CLUSTERING

	Postal Code	Borough	Neighbourhood	Latitude	Longitude	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
37	M4E	East Toronto	The Beaches	43.676357	-79.293031	4	Trail	Health Food Store	Pub	Neighborhood	Ethiopian Restaurant
41	M4K	East Toronto	The Danforth West, Riverdale	43.679557	-79.352188	0	Greek Restaurant	Coffee Shop	Ice Cream Shop	Italian Restaurant	Furniture / Home Store
42	M4L	East Toronto	The Beaches West, India Bazaar	43.668999	-79.315572	0	Park	Sandwich Place	Steakhouse	Sushi Restaurant	Food & Drink Shop
43	M4M	East Toronto	Studio District	43.659526	-79.340923	0	Café	Coffee Shop	Bakery	Italian Restaurant	American Restaurant
44	M4N	Central Toronto	Lawrence Park	43.728020	-79.388790	3	Park	Swim School	Bus Line	Yoga Studio	Diner

MAP FOR VISUALIZING CLUSTERS:



CONCLUSION:

- Adelaide, King, Richmond – one of the best neighbours that tourists would like to visit as there are 100 venues in this neighbourhood
- RoseLawn- One of the best places to start a business as there is only one venue in this neighbourhood