WHICH TORONTO NEIGHBORHOODS LACK SHOPPING MALLS

VIATCHESLAV LIACHENKO

IBM DATA SCIENCE CAPSTONE PROJECT PRESENTATION

With Love to Toronto...

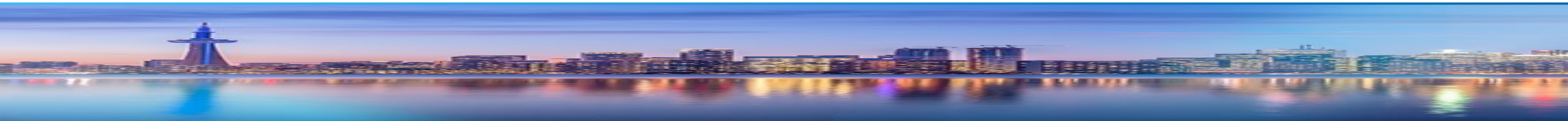- VIATCHESLAV LIACHENKO

THE PROBLEM

o Number of "dead" malls increased significantly

o "Glut of malls" in some parts

o Some neighborhoods do not have a shopping mall within a distance of a few kilometers

o Study the shopping malls distribution to see the situation & suggest action

THE DATA

- Scrapping Wikipedia's source of Toronto

- Using geospatial_data file for coordinates

- Processing and cleaning data

- Merging neighborhoods with coordinates
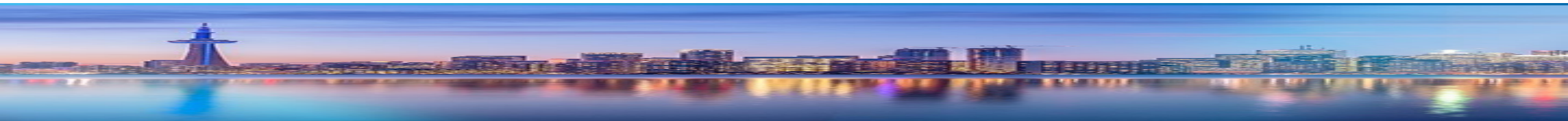
TORONTO NEIGHBORHOODS COUNT

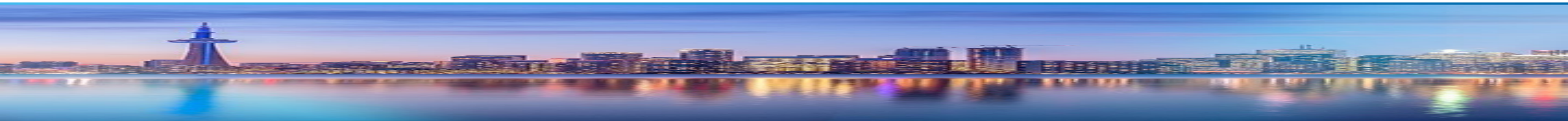|	PostalCode	Neighborhood	Latitude	Longitude
1	M1B	Malvern, Rouge	43.806686	-79.194353
2	M1C	Rouge Hill, Port Union, Highland Creek	43.784535	-79.160497
3	M1E	Guildwood, Morningside, West Hill	43.763573	-79.188711
4	M1G	Woburn	43.770992	-79.216917
5	M1H	Cedarbrae	43.773136	-79.239476
...	...	...	...	...
170	M9N	Weston	43.706876	-79.518188
171	M9P	Westmount	43.696319	-79.532242
172	M9R	Kingsview Village, St. Phillips, Martin Grove ...	43.688905	-79.554724
175	M9V	South Steeles, Silverstone, Humbergate, Jamest...	43.739416	-79.588437
176	M9W	Northwest, West Humber - Clairville	43.706748	-79.594054

103 rows × 4 columns

103 NEIGHBORHOODS
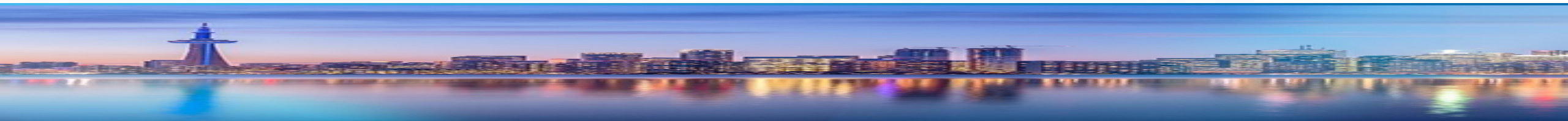
TORONTO NEIGHBORHOODS MAP
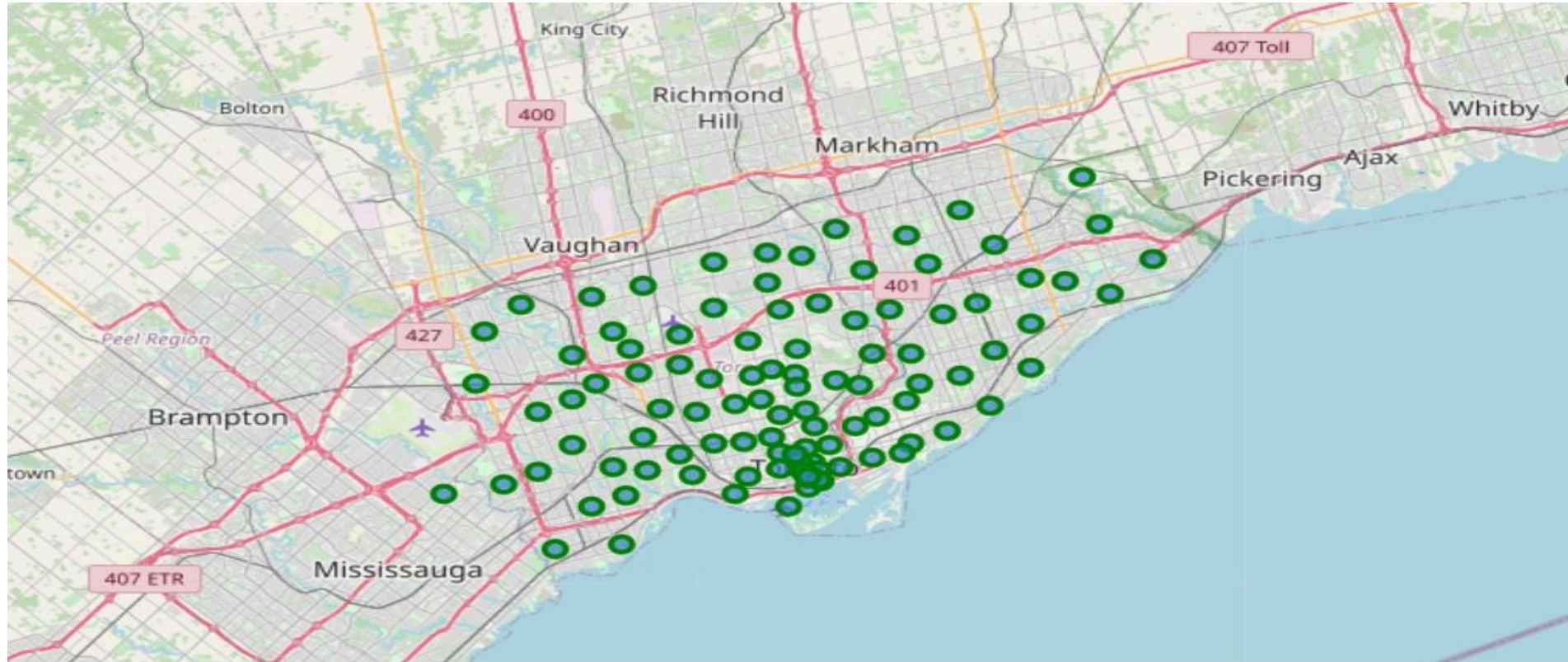
TORONTO NEIGHBORHOODS WITH SHOPPING MALLS

	Neighborhoods	Shopping Mall
0	Agincourt	0.010000
1	Alderwood, Long Branch	0.010000
2	Bathurst Manor, Wilson Heights, Downsview North	0.010000
3	Bayview Village	0.020000
4	Bedford Park, Lawrence Manor East	0.010000
...	...	...
94	Willowdale, Willowdale West	0.000000
95	Woburn	0.000000
96	Woodbine Heights	0.000000
97	York Mills West	0.011765
98	York Mills, Silver Hills	0.010000

99 rows × 2 columns

99 NEIGHBORHOODS WITH SHOPPING MALLS
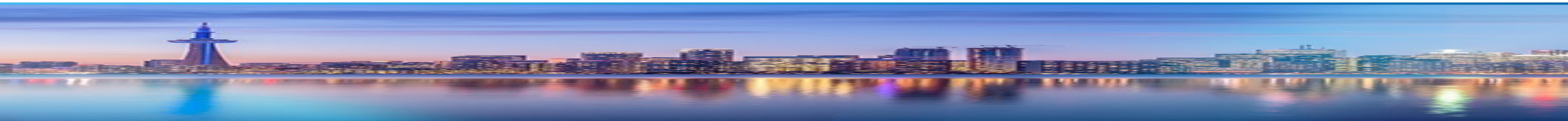
TORONTO CLUSTERS DATAFRAME

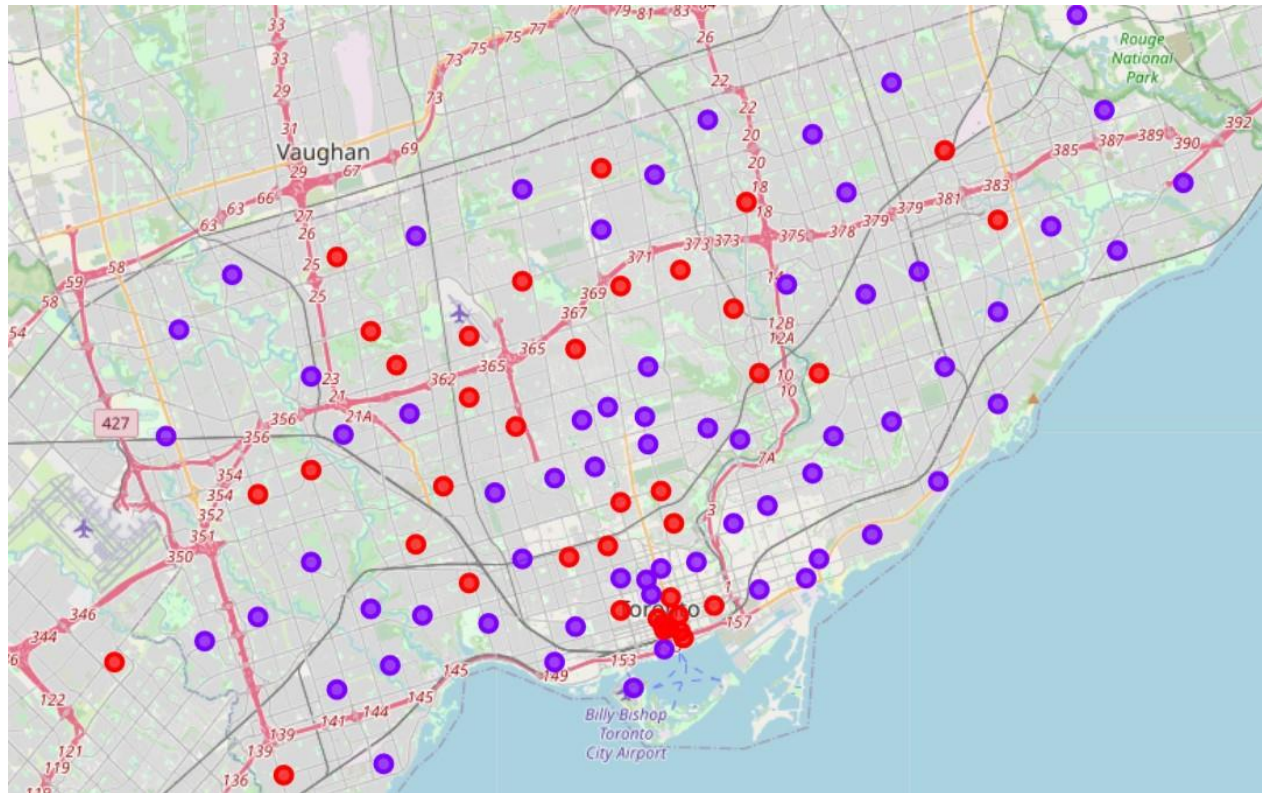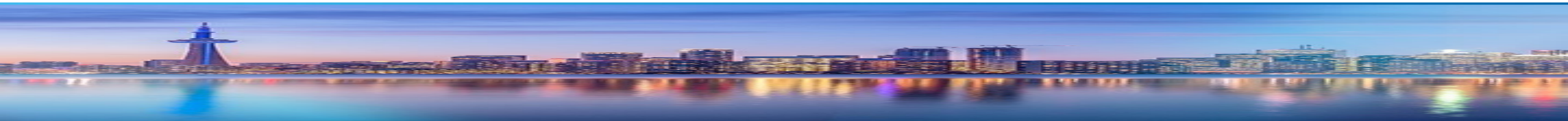|	Neighborhood	Shopping Mall	Cluster Labels	PostalCode	Latitude	Longitude
0	Agincourt	0.010000	1	M1S	43.794200	-79.262029
1	Alderwood, Long Branch	0.010000	1	M8W	43.602414	-79.543484
2	Bathurst Manor, Wilson Heights, Downsview North	0.010000	1	M3H	43.754328	-79.442259
3	Bayview Village	0.020000	2	M2K	43.786947	-79.385975
4	Bedford Park, Lawrence Manor East	0.010000	1	M5M	43.733283	-79.419750
...	...	...	...	...	...	...
94	Willowdale, Willowdale West	0.000000	0	M2R	43.782736	-79.442259
95	Woburn	0.000000	0	M1G	43.770992	-79.216917
96	Woodbine Heights	0.000000	0	M4C	43.695344	-79.318389
97	York Mills West	0.011765	1	M2P	43.752758	-79.400049
98	York Mills, Silver Hills	0.010000	1	M2L	43.757490	-79.374714

103 rows × 6 columns
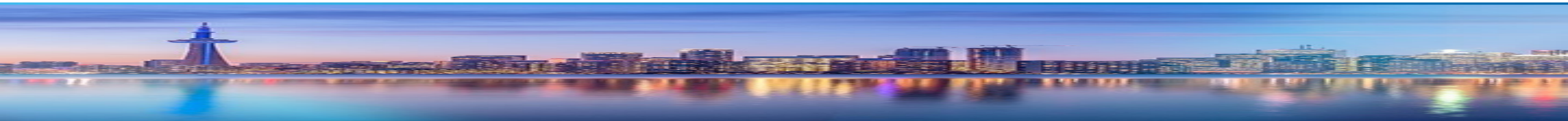
TORONTO CLUSTERS MAP


RED (CLUSTER 2) = TOO MUCH SHOPPING MALLS

BLUE (CLUSTER 1) = MODERATE AMOUNT OF MALLS

CLUSTER 0 = LACK OF SHOPPING MALLS

55 TORONTO NEIGHBORHOODS LACK SHOPPING MALLS

['Willowdale, Willowdale East', 'St. James Town, Cabbagetown', 'Bayview Village', 'Islington Avenue, Humber Valley Village', 'University of Toronto, Harbord', "Queen's Park, Ontario Provincial Government", 'Parkwoods', 'Church and Wellesley', 'Central Bay Street', 'Don Mills', 'Canada Post Gateway Processing Centre', 'York Mills West', 'Westmount', 'Moore Park, Summerhill East', 'Lawrence Manor, Lawrence Heights', 'Alderwood, Long Branch', 'Richmond, Adelaide, King', 'Kingsview Village, St. Phillips, Martin Grove Gardens, Richview Gardens', 'Kensington Market, Chinatown, Grange Park', 'Regent Park, Harbourfront', 'Agincourt', 'Rosedale', 'Runnymede, The Junction North', 'St. James Town', 'Glencairn', 'Stn A PO Boxes', 'Summerhill West, Rathnelly, South Hill, Forest Hill SE, Deer Park', 'The Annex, North Midtown, Yorkville', 'Toronto Dominion Centre, Design Exchange', 'Victoria Village', 'Willowdale, Newtonbrook', 'High Park, The Junction South', 'York Mills, Silver Hills', 'Commerce Court, Victoria Hotel', 'First Canadian Place, Underground city', 'Bathurst Manor, Wilson Heights, Downsview North', 'Garden District, Ryerson', 'Cedarbrae', 'Christie', 'Del Ray, Mount Dennis, Keelsdale and Silverthorn', 'Bedford Park, Lawrence Manor East', 'Berczy Park', 'Fairview, Henry Farm, Oriole', 'Downsview', 'The Danforth West, Riverdale', 'Cliffside, Cliffcrest, Scarborough Village West', "Clarks Corners, Tam O'Shanter, Sullivan", "Steeles West, L'Amoreaux West", 'South Steeles, Silverstone, Humbergate, Jamestown, Mount Olive, Beaumond Heights, Thistletown, Albion Gardens', 'Studio District', 'Scarborough Village', 'Caledonia-Fairbanks', 'The Beaches', 'Golden Mile, Clairlea, Oakridge', 'The Kingsway, Montgomery Road, Old Mill North', 'Thorncliffe Park', 'CN Tower, King and Spadina, Railway Lands, Harbourfront West, Bathurst Quay, South Niagara, Island airport', 'Runnymede, Swansea', 'Upper Rouge', 'Brockton, Parkdale Village, Exhibition Place', 'West Deane Park, Princess Gardens, Martin Grove, Islington, Cloverdale', 'Birch Cliff, Cliffside West', 'Weston', 'Wexford, Maryvale', 'Willowdale, Willowdale West', 'Woburn', 'Woodbine Heights', 'Business reply mail Processing Centre, South Central Letter Processing Plant Toronto', 'Davisville', 'Rouge Hill, Port Union, Highland Creek', 'Roselawn', 'Harbourfront East, Union Station, Toronto Islands', 'Hillcrest Village', 'Humber Summit', 'Humberlea, Emery', 'Humewood-Cedarvale', 'India Bazaar, The Beaches West', 'Forest Hill North & West, Forest Hill Road Park', 'Kennedy Park, Ionview, East Birchmount Park', 'Eringate, Bloordale Gardens, Old Burnhamthorpe, Markland Wood', 'Lawrence Park', 'Leaside', 'East Toronto, Broadview North (Old East York)', 'Malvern, Rouge', "Milliken, Agincourt North, Steeles East, L'Amoreaux East", 'Mimico NW, The Queensway West, South of Bloor, Kingsway Park South West, Royal York South West', 'Dufferin, Dovercourt Village', 'New Toronto, Mimico South, Humber Bay Shores', 'North Park, Maple Leaf Park, Upwood Park', 'North Toronto West, Lawrence Park', 'Northwest, West Humber - Clairville', 'Northwood Park, York University', "Old Mill South, King's Mill Park, Sunnylea, Humber Bay, Mimico NE, The Queensway East, Royal York South East, Kingsway Park South East", 'Parkdale, Roncesvalles', 'Parkview Hill, Woodbine Gardens', 'Dorset Park, Wexford Heights, Scarborough Town Centre', 'Davisville North', 'Guildwood, Morningside, West Hill', 'Little Portugal, Trinity']
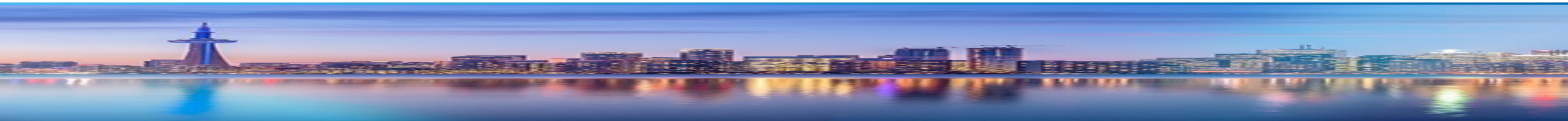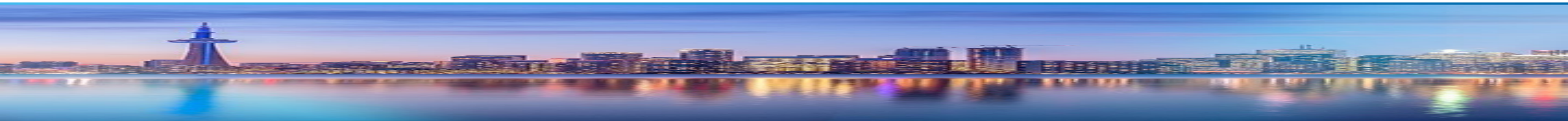
CONCLUSION

o City planners of Toronto have done relatively good job by evenly spreading the malls

o This does not mean that there are no overconcentration or lacking

o It is recommended to further study the necessity of shopping malls construction in the areas that lack shopping malls (cluster 0)

THANK YOU!