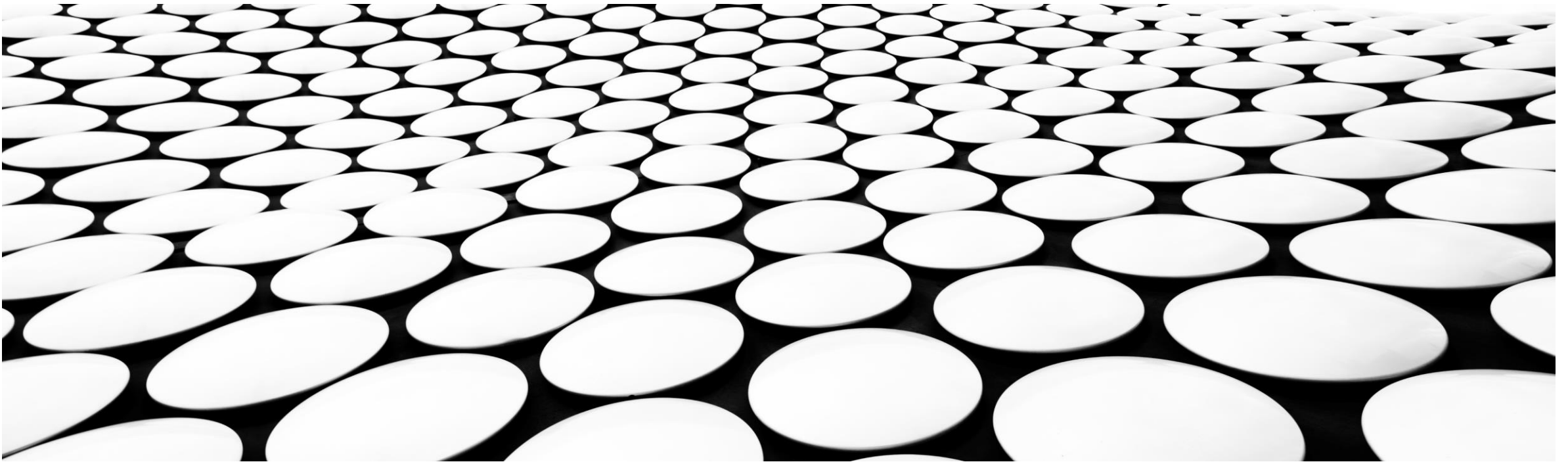

PREDICTING OPTIMAL MULTI-SPORT ARENA LOCATION - TORONTO , CA





BUSINESS REASONS

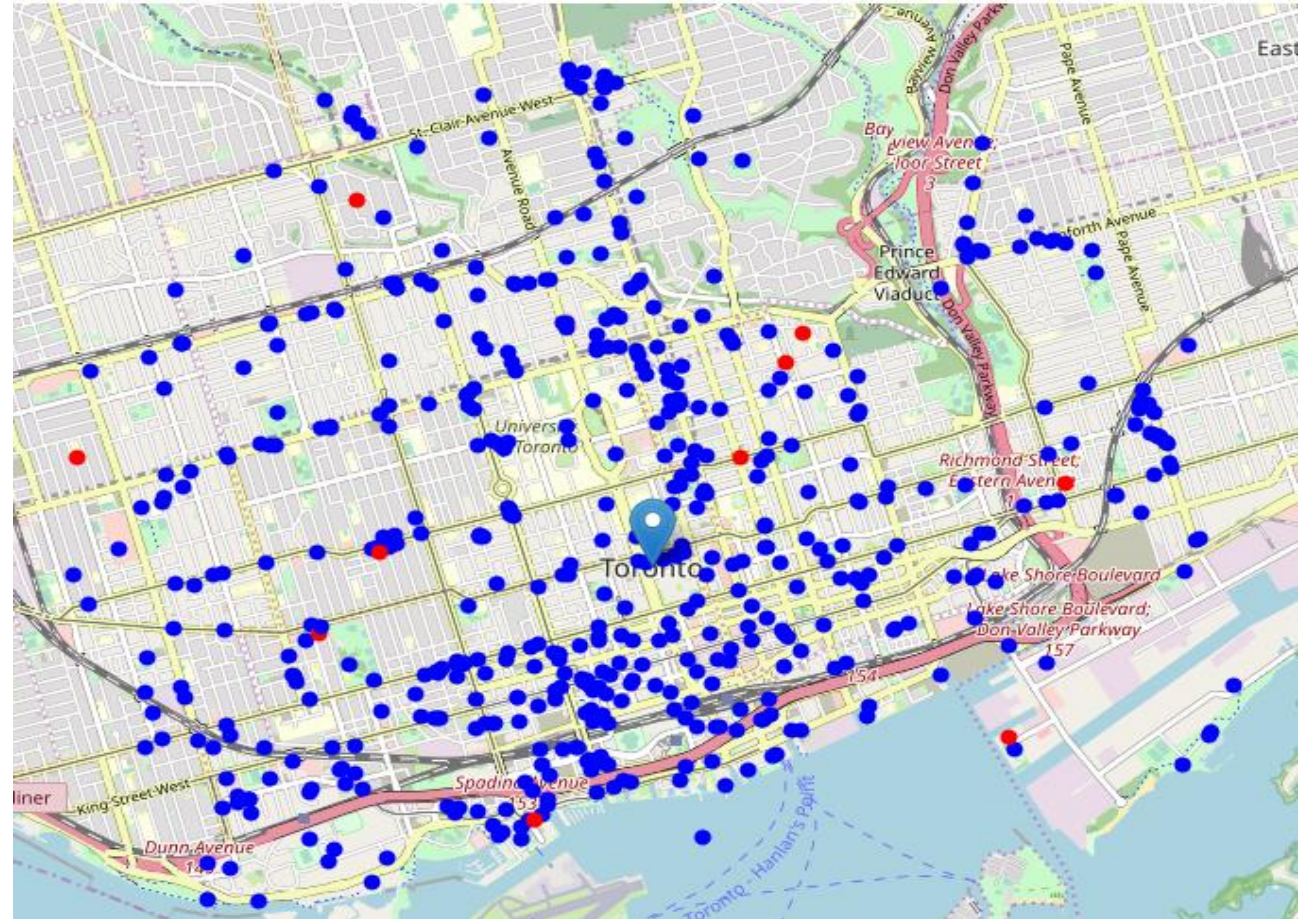
- Population boom in Toronto and recreational play is usually preferred by people of all ages
- With growing health conscious generation, indoor sports facility with no or less gyms in vicinity is bound to do good
- Multi-sport arena would help to draw interest from different sections of people

DATA ACQUISITION

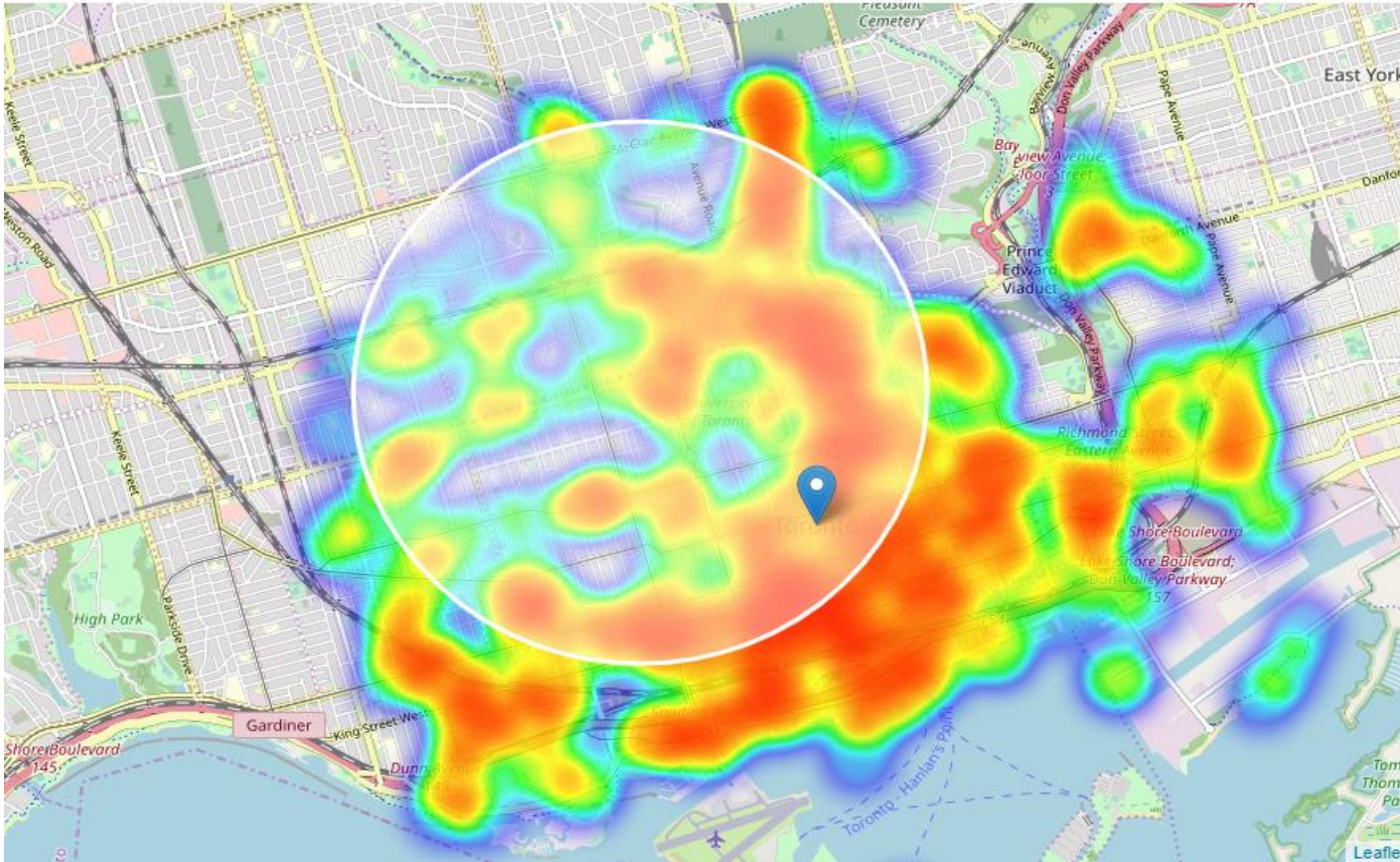
- **Foursquare API** – to obtain number of sports arena and their type and location in every neighborhood
- **Geopy Geocoding** – to obtain coordinates of Toronto center

Map on the right shows the plotted data, collected from the above said sources

- Refers to Gyms and Sports arenas/fields
- Refers to indoor sports arenas



LOCATION OF INTEREST



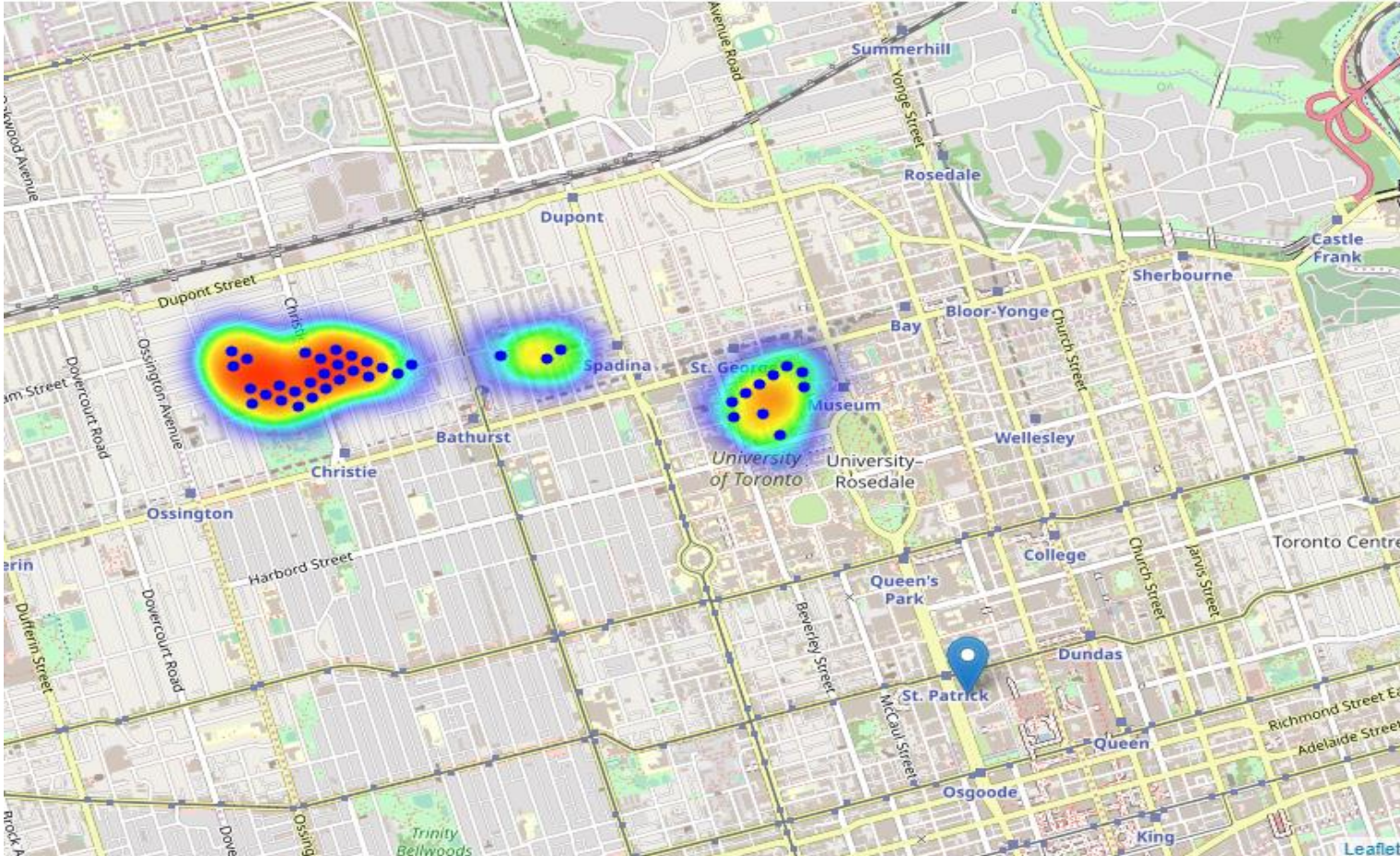
West Toronto seems to have less number of gyms or sports arenas as shown in the heat map but also is close to Toronto center

TORONTO LOCATION WITH NUMBER OF ARENA

	Latitude	Longitude	X	Y	Arenas nearby	Distance to Indoor arenas
0	43.666416	-79.384776	-5.308459e+06	1.050741e+07	14	979.669451
1	43.667037	-79.384871	-5.308359e+06	1.050741e+07	14	1062.614203
2	43.662941	-79.384997	-5.309009e+06	1.050749e+07	14	701.246731
3	43.663562	-79.385091	-5.308909e+06	1.050749e+07	14	742.390523
4	43.664183	-79.385186	-5.308809e+06	1.050749e+07	13	794.065741
5	43.664804	-79.385281	-5.308709e+06	1.050749e+07	13	854.363572
6	43.665425	-79.385375	-5.308609e+06	1.050749e+07	13	921.593091
7	43.666046	-79.385470	-5.308509e+06	1.050749e+07	15	994.349303
8	43.666667	-79.385565	-5.308409e+06	1.050749e+07	15	1071.506999
9	43.667288	-79.385659	-5.308309e+06	1.050749e+07	18	1152.182260

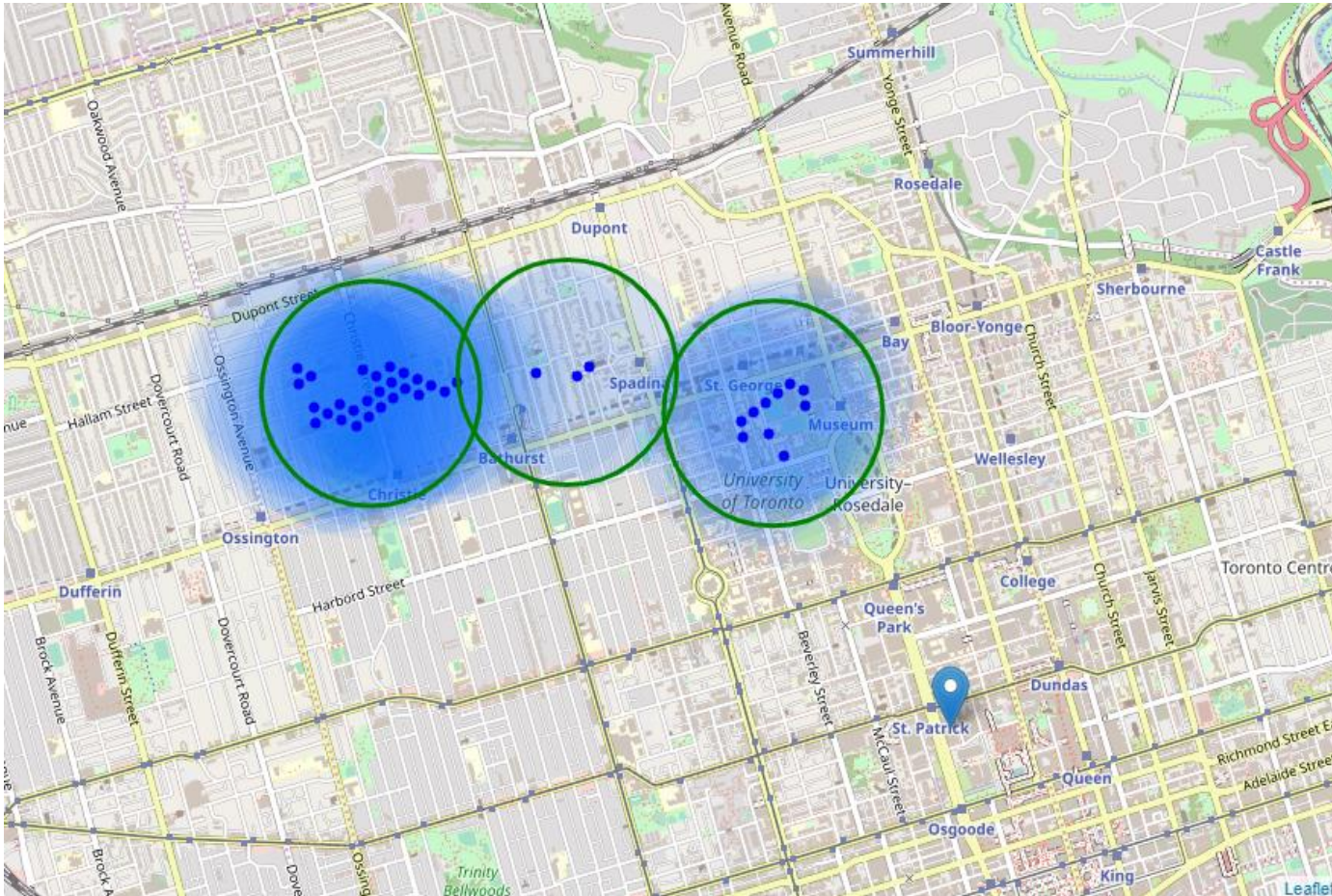
The table displays the geo-location of Toronto with the gyms or arenas nearby and the distance from them to Indoor arenas.

INTEREST ZONES



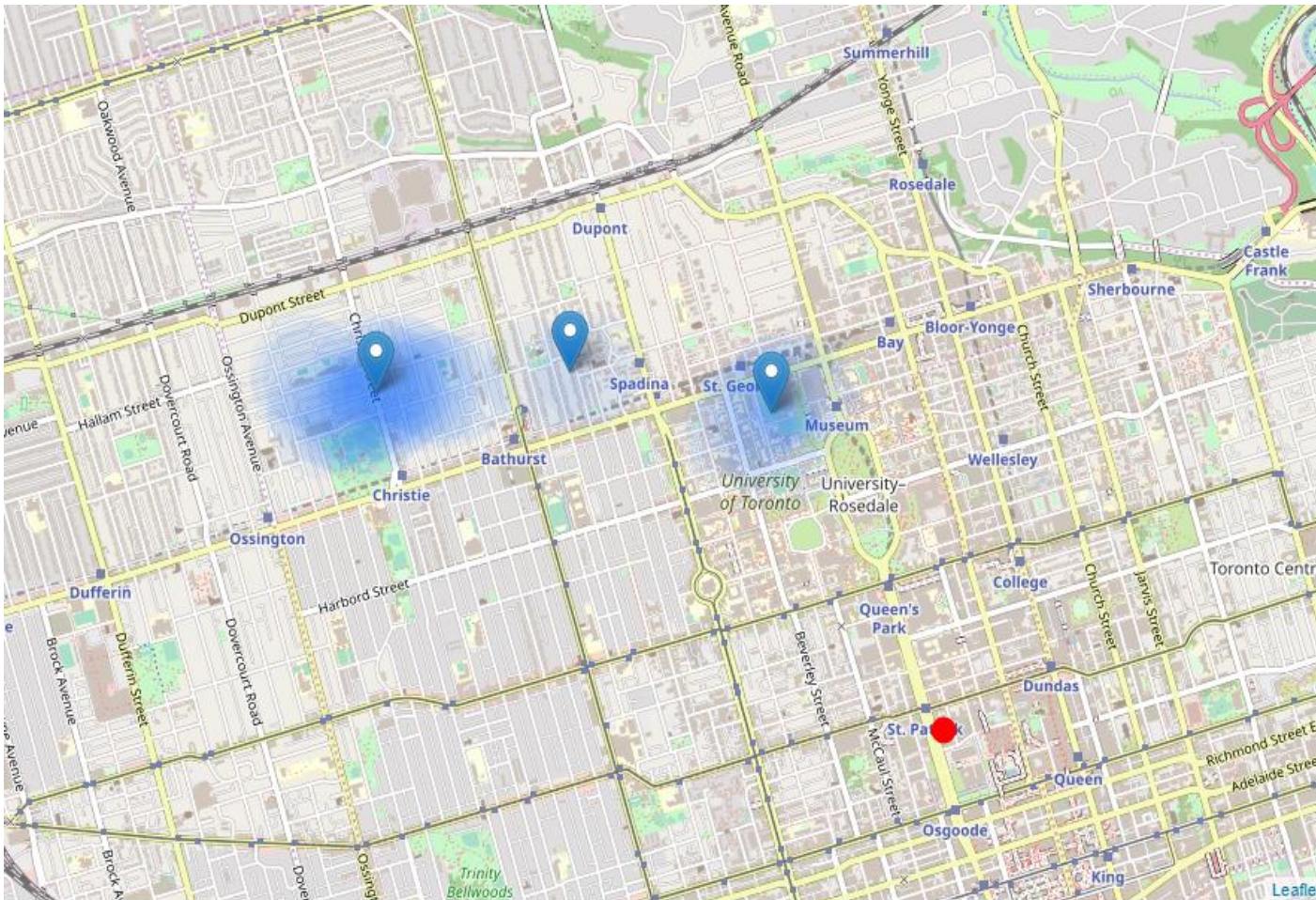
39 locations with no more than two gyms/arenas in radius of 500 meters, and without indoor arena in radius of 2000 meters is obtained

INTEREST ZONES



Using K-means clustering we create clusters of potential venue starting points

CONCLUSION



We have created 3 addresses

- Varsity Centre, Devonshire Place, Bloor Street Culture Corridor
- 151, Christie Street, Christie Pits, University—Rosedale
- 366, Brunswick Avenue, The Annex, University—Rosedale

Representing centers of zones containing locations with low number of gyms or arena and no indoor sports courts nearby, all zones being fairly close to city center (all less than 5km from Downtown).