

*Identifying Popular Venue Types  
& Underserved Geographic Regions in Toronto*

*3rd of January, 2020*

**Introduction:** This analysis will look at the venue categories in Toronto in an effort to;

1. Identify popular venue types
2. Determine if any popular venue types have a low venue count
3. Identify potentially unserved geographic regions of popular low venue count venue types, indicating the under-served geographic regions of a popular venue type.

**Data:** Data was collected from the three sources;

1. [Toronto List of Suburbs](#): Scrapped from Wikipedia
2. [Geospatial Data](#): Sourced from Coursea
3. Foursquare Data: Attained through API

**Methodology:** There were several key steps, they are outlined below. Please see Notebook for more information.

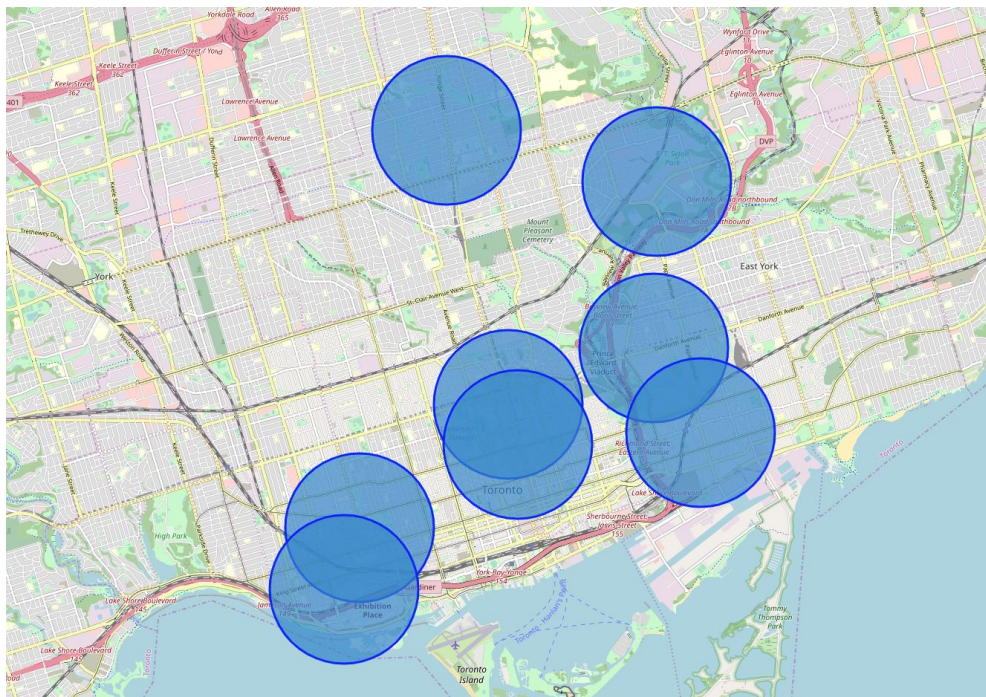
1. *Importing Libraries & Packages*: I installed all necessary packages and libraries for the analysis
2. *Collect Data*: I collected all the necessary data as listed above
3. *Clean Data*: I cleaned the data and established key data frames for the neighbourhoods and geospatial data and then I collated/ combined into a single data frame.
4. *Preliminary Visualisation*: I mapped the suburbs onto the Toronto map as a preliminary safety check.
5. *Foursquare*: I set up Foursquare API integration credentials
6. *Collect Data*: I collected additional data from foursquare, this time collecting a list of venues in Toronto
7. *Data Processing*: I set up a data frame of the top five venues in each postcode
8. *Data Analysis*: I conducted a preliminary review of the data
9. *Observations*: Based on the observations I've made, I narrowed the focus to a venue type.

**Results:** From this, we can see that 'Coffee Shops' are extremely popular, they rank first for '1st Most Common Venue', '2nd Most Common Venue' and '3rd Most Common Venue', however, the market appears saturated with 194 'Coffe Shop' venues and 99 'Café' venues. However, 'Yoga Studio' appears popular, it is the first venue type following 'Coffee Shop' to rank first in common venue ranking. It ranks third for '2nd Most Common Venue', third for '3rd Most Common Venue' and first for '4th Most Common Venue'. While there are 194 Coffe Shops, there are only 8 Yoga Studios, placing it as one of the least occurring venue types.

	Postcode	Postcode Latitude	Postcode Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
344	M4H	43.705369	-79.349372	Bikram Yoga East York	43.705450	-79.351448	Yoga Studio
366	M4K	43.679557	-79.352188	Moksha Yoga Danforth	43.677622	-79.352116	Yoga Studio
451	M4M	43.659526	-79.340923	Spirit Loft Yoga	43.663548	-79.341333	Yoga Studio
475	M4R	43.715383	-79.405678	Barreworks	43.714070	-79.400109	Yoga Studio
651	M4Y	43.665860	-79.383160	Bikram Yoga Yonge	43.668205	-79.385780	Yoga Studio
655	M4Y	43.665860	-79.383160	The Yoga Sanctuary	43.661499	-79.383636	Yoga Studio
1936	M6J	43.647927	-79.419750	YogaSpace	43.647607	-79.420133	Yoga Studio
1996	M6K	43.636847	-79.428191	Pure Yoga Toronto	43.637330	-79.423800	Yoga Studio

**Discussion:** Toronto has a population of 2.93 million, a 10-year study by [The Fraser Institute](#) found that 9% of the population have used yoga as a form of exercise. This is a rough estimate but should it hold that represents 263,700 people practising Yoga in Toronto, serviced by 8 studios, or 32,962 people per studio. This is a substantial potential clientele pool and supports the notion that Yoga is popular and potentially underserved by lack of venues in Toronto.

**Conclusion:** This analysis has reviewed using Foursquare data, the most popular venue types and identified a venue type that is popular, yet has a low number of venue locations. The identified venue type is Yoga Studio, which appears extremely popular, but with only 8 venue locations within the city. A radius around each studio was established to identify potentially underserved geographic regions in the city. The areas outside of the blue bubbles represent potentially underserved regions.



**Next Steps:** From this, we can see potential unserved geographic regions within Toronto. There are gaps where the studios may not be close enough to service relevant market segments. Additional analysis should look at;

1. What is the average distance travelled to and from a Yoga Studio by clientele. After obtaining this information, update the radius to better reflect unserved geographic regions.
2. What are the key demographic features of Yoga Studio clientele, demographics, age, location, socio-economic status etc. Once this data is collected, map it by regions and overlay it on the serviced region map.
3. Shortlist 'Top 5 Unserved Regions' based on points 1 and 2. Then conduct further analysis, identifying potential rental costs and locations, nearby features that may value add and traffic conditions servicing the region at peak times.
4. With the above steps completed, narrow the list to the top 3 rental locations for a studio.