

# Selecting a Restaurant Location in Toronto



# Predicting revenue for a location is critical to success

- Computing the relative revenue share for a location in the city is a measure of that location's viability.
- Understanding the number of competing establishments can predict future revenue changes.
- Mapping potential locations along with their revenue potential may allow for consideration of factors other than just revenue at that location.

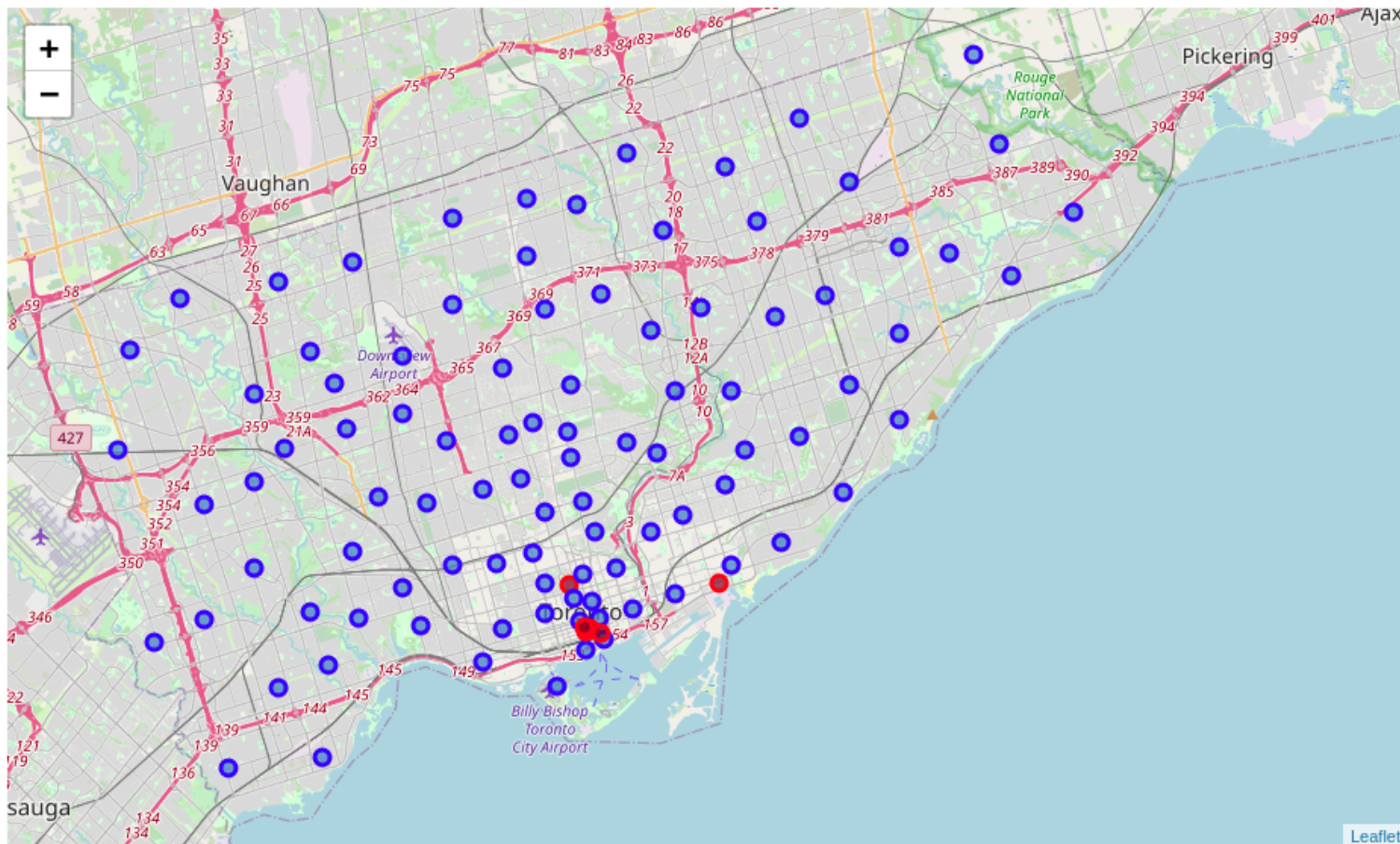


# Data Acquisition and Cleaning

- Sources
  - Canadian postal code breakdown for the city of Toronto from Wikipedia:  
[https://en.wikipedia.org/wiki/List\\_of\\_postal\\_codes\\_of\\_Canada:\\_M](https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M)
  - Geospatial data for the city of Toronto: [https://cocl.us/Geospatial\\_data](https://cocl.us/Geospatial_data)
  - Financial information from the Canadian census data sets:  
[https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/details/download-telecharger/comp/page\\_dl-tc.cfm?Lang=E](https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/details/download-telecharger/comp/page_dl-tc.cfm?Lang=E)
  - Venue information will be acquired from the Foursquare APIs.
- Preparation
  - Data sets are sourced from different times so not all records can be mapped. Records that cannot be mapped are dropped.
  - Classification of what is a competing venue. There are many types of a restaurant from fast food to fine dining. Identifying the types that would be considered competition is important to the analysis.

# Data Analysis: Financial

When correlating the location and financial data there was not a perfect match. Locations without financial data are highlighted in red. Given the proximity of locations without data relative to the search radius of competing venues it was decided to drop red locations from the analysis.



# Data Analysis: Venues

When scanning for venues in the Toronto area, 330 categories were identified. The list was reviewed and a subset of venues were manually classified as ‘competition’ for a new restaurant.

Category count: 330

['Accessories Store', 'Afghan Restaurant', 'Airport', 'American Restaurant', 'Amphitheater', 'Animal Shelter', 'Antique Shop', 'Aquarium', 'Art Gallery', 'Art Museum', 'Arts & Crafts Store', 'Asian Restaurant', 'Athletics & Sports', 'Auto Dealership', 'Auto Garage', 'Auto Workshop', 'Automotive Shop', 'BBQ Joint', 'Baby Store', 'Badminton Court', 'Bagel Shop', 'Bakery', 'Bank', 'Bar', 'Baseball Field', 'Baseball Stadium', 'Basketball Stadium', 'Beach', 'Beach Bar', 'Beer Bar', 'Beer Store', 'Belgian Restaurant', 'Bike Shop', 'Bistro', 'Bookstore', 'Boutique', 'Bowling Alley', 'Brazilian Restaurant', 'Breakfast Spot', 'Brewery', 'Bridal Shop', 'Bridge', 'Bubble Tea Shop', 'Buffet', 'Burger Joint', 'Burrito Place', 'Bus Line', 'Bus Station', 'Bus Stop', 'Business Service', 'Butcher', 'Café', 'Cajun / Creole Restaurant', 'Camera Store', 'Candy Store', 'Cantonese Restaurant', 'Caribbean Restaurant', 'Castle', 'Cemetery', 'Cheese Shop', 'Chinese Restaurant', 'Chiropractor', 'Chocolate Shop', 'Churrascaria', 'Climbing Gym', 'Clothing Store', 'Cocktail Bar', 'Coffee Shop', 'College Gym', 'College Quad', 'College Rec Center', 'College Stadium', 'College Theater', 'Comedy Club', 'Comfort Food Restaurant', 'Comic Shop', 'Community Center', 'Concert Hall', 'Construction & Landscaping', 'Convenience Store', 'Cosmetics Shop', 'Coworking Space', 'Creperie', 'Cuban Restaurant', 'Cupcake Shop', 'Curling Ice', 'Dance Studio', 'Deli / Bodega', 'Dentist's Office', 'Department Store', 'Design Studio', 'Dessert Shop', 'Dim Sum Restaurant', 'Diner', 'Discount Store', 'Distribution Center', 'Dive Bar', 'Dog Run', 'Doner Restaurant', 'Donut Shop', 'Dry Cleaner', 'Dumpling Restaurant', 'Eastern European Restaurant', 'Electronics Store', 'Entertainment Service', 'Ethiopian Restaurant', 'Event Space', 'Falafel Restaurant', 'Farm', 'Farmers Market', 'Fast Food Restaurant', 'Field', 'Filipino Restaurant', 'Fireworks Store', 'Fish & Chips Shop', 'Fish Market', 'Flea Market', 'Flower Shop', 'Food', 'Food & Drink Shop', 'Food Court', 'Food Truck', 'Fountain', 'Frame Store', 'French Restaurant', 'Fried Chicken Joint', 'Frozen Yogurt Shop', 'Fruit & Vegetable Store', 'Furniture / Home Store', 'Gaming Cafe', 'Garden', 'Garden Center', 'Gas Station', 'Gastropub', 'Gay Bar', 'General Entertainment', 'General Travel', 'German Restaurant', 'Gift Shop', 'Golf Course', 'Golf Driving Range', 'Gourmet Shop', 'Greek Restaurant', 'Grocery Store', 'Gym', 'Gym / Fitness Center', 'Gym Pool', 'Hakka Restaurant', 'Harbor / Marina', 'Hardware Store', 'Hawaiian Restaurant', 'Health & Beauty Service', 'Health Food Store', 'Historic Site', 'History Museum', 'Hobby Shop', 'Hockey Arena', 'Home Service', 'Hong Kong Restaurant', 'Hookah Bar', 'Hostel', 'Hot Dog Joint', 'Hotel', 'Hotel Bar', 'Hotpot Restaurant', 'IT Services', 'Ice Cream Shop', 'Indian Chinese Restaurant', 'Indian Restaurant', 'Indie Movie Theater', 'Indie Theater', 'Indonesian Restaurant', 'Intersection', 'Italian Restaurant', 'Japanese Restaurant', 'Jazz Club', 'Jewelry Store', 'Jewish Restaurant', 'Juice Bar', 'Karaoke Bar', 'Kitchen Supply Store', 'Korean Restaurant', 'Lake', 'Latin American Restaurant', 'Laundromat', 'Laundry Service', 'Light Rail Station', 'Lighting Store', 'Lingerie Store', 'Liquor Store', 'Lounge', 'Mac & Cheese Joint', 'Malay Restaurant', 'Market', 'Martial Arts Dojo', 'Massage Studio', 'Mattress Store', 'Mediterranean Restaurant', 'Men's Store', 'Metro Station', 'Mexican Restaurant', 'Middle Eastern Restaurant', 'Miscellaneous Shop', 'Mobile Phone Shop', 'Modern European Restaurant', 'Monument / Landmark', 'Moroccan Restaurant', 'Movie Theater', 'Moving Target', 'Museum', 'Music School', 'Music Store', 'Music Venue', 'Nail Salon', 'Neighborhood', 'New American Restaurant', 'Nightclub', 'Noodle House', 'North Indian Restaurant', 'Office', 'Opera House', 'Optical Shop', 'Organic Grocery', 'Other Great Outdoors', 'Other Repair Shop', 'Pakistani Restaurant', 'Paper / Office Supplies Store', 'Park', 'Pastry Shop', 'Performing Arts Venue', 'Persian Restaurant', 'Pet Store', 'Pharmacy', 'Photography Lab', 'Pide Place', 'Pie Shop', 'Pilates Studio', 'Pizza Place', 'Playground', 'Plaza', 'Poke Place', 'Pool', 'Pool Hall', 'Portuguese Restaurant', 'Poutine Place', 'Pub', 'Ramen Restaurant', 'Record Shop', 'Recreation Center', 'Rental Car Location', 'Rental Service', 'Residential Building (Apartment / Condo)', 'Restaurant', 'River', 'Road', 'Rock Climbing Spot', 'Rock Club', 'Roof Deck', 'Sake Bar', 'Salad Place', 'Salon / Barbershop', 'Sandwich Place', 'Scenic Lookout', 'School', 'Sculpture Garden', 'Seafood Restaurant', 'Shoe Store', 'Shop & Service', 'Shopping Mall', 'Shopping Plaza', 'Skate Park', 'Skating Rink', 'Ski Area', 'Ski Chalet', 'Smoke Shop', 'Smoothie Shop', 'Snack Place', 'Soccer Field', 'Soccer Stadium', 'Soup Place', 'South American Restaurant', 'Souvlaki Shop', 'Spa', 'Speakeasy', 'Sporting Goods Shop', 'Sports Bar', 'Sports Club', 'Sri Lankan Restaurant', 'Stationery Store', 'Steakhouse', 'Storage Facility', 'Street Art', 'Supermarket', 'Supplement Shop', 'Sushi Restaurant', 'Syrian Restaurant', 'Taco Place', 'Tailor Shop', 'Taiwanese Restaurant', 'Tanning Salon', 'Tapas Restaurant', 'Tea Room', 'Tech Startup', 'Tennis Court', 'Thai Restaurant', 'Theater', 'Theme Restaurant', 'Thrift / Vintage Store', 'Tibetan Restaurant', 'Toy / Game Store', 'Track', 'Trail', 'Train Station', 'Transportation Service', 'Tree', 'Turkish Restaurant', 'Udon Restaurant', 'University', 'Vegetarian / Vegan Restaurant', 'Video Game Store', 'Video Store', 'Vietnamese Restaurant', 'Warehouse Store', 'Whisky Bar', 'Wine Bar', 'Wine Shop', 'Wings Joint', 'Women's Store', 'Yoga Studio', 'Zoo']

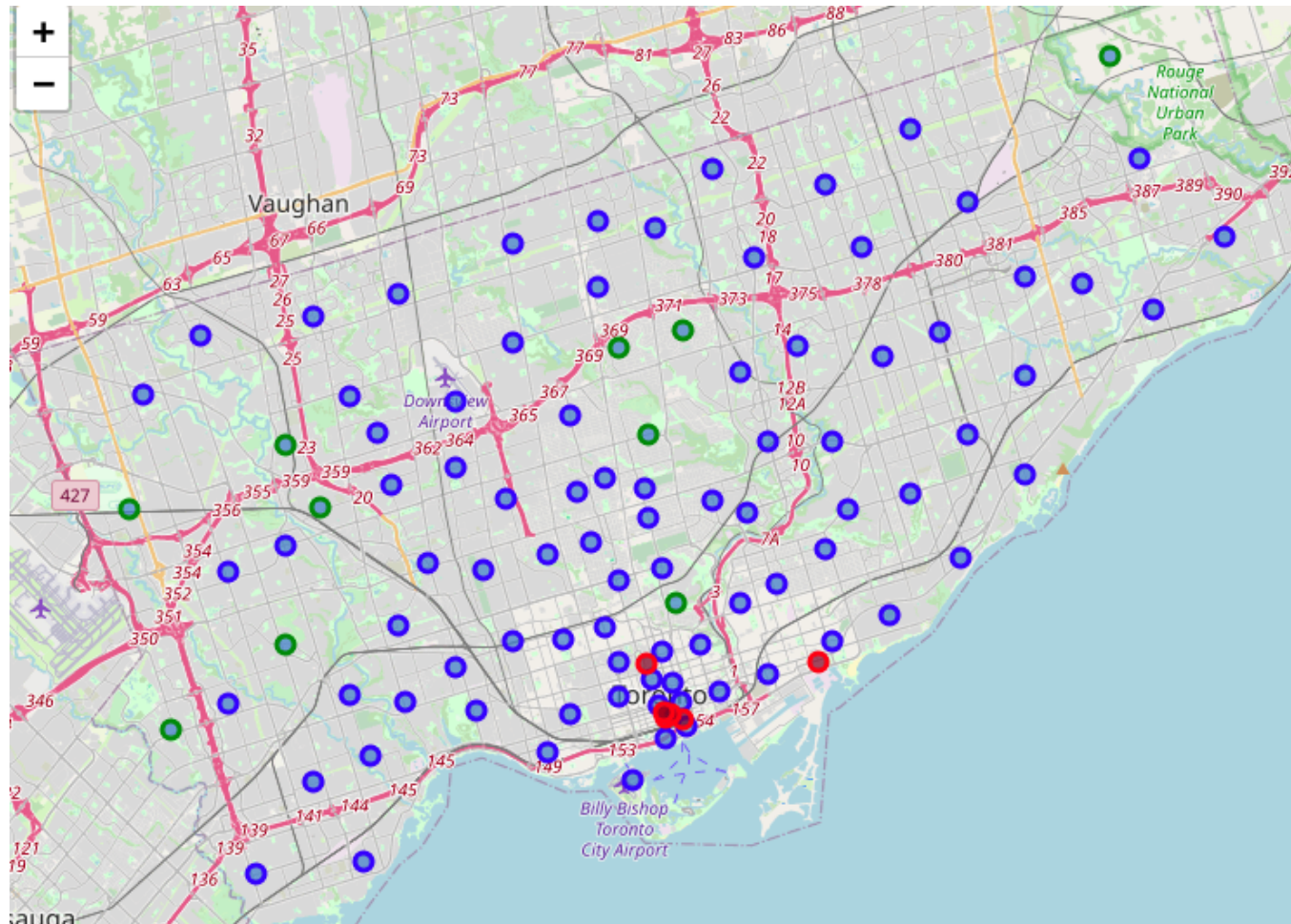
# Results

After correlating the location data with the competing venues for each area, the top 10 locations by potential revenue were identified.

Postcode	Relative Revenue	Competing Venue Count	Average Income
M2L	\$306,301.00	0	\$306,301.00
M4N	\$203,739.00	1	\$407,478.00
M9A	\$160,481.00	0	\$160,481.00
M1X	\$105,913.00	0	\$105,913.00
M9C	\$98,891.00	0	\$98,891.00
M4W	\$89,832.75	3	\$359,331.00
M9W	\$77,220.00	0	\$77,220.00
M9M	\$73,319.00	0	\$73,319.00
M2P	\$67,243.00	3	\$268,974.00
M9N	\$65,571.00	0	\$65,571.00

# Map of locations

- Locations in green represent the top 10 locations by revenue.
- Locations in red represent areas of no data.



# Conclusion

- The data analysis was able to rank locations in the city by potential relative revenue.
- Top 10 locations identified (green) are not near locations with unmapped data (red) which verifies that dropping unmapped data did not significantly skew results.
- A question exists as to why most of the top locations have no identified competition. This data facet should be identified and integrated in future analysis.
- Improvements
  - Consider other attributes
    - Account for cuisine type
    - Account for demographic composition of the location vs. style of restaurant
    - Account for zoning restrictions
  - Leverage multiple years of census data to identify financial trends and areas of growth
  - Integrate urban planning data sets to identify future trends