

# THE BATTLE IN THE NEIGHBOURHOODS – REPORT

## 1 INTRODUCTION & BUSINESS PROBLEM:

Problem background:

Toronto is the most populous city in Canada. It is diverse and has a significant financial sector. It is very multicultural and offers many opportunities to open a business. Toronto is a very global city, and it is a hub for business and commerce. It is an essential center for banking and finance, retail, world trade, transportation, tourism, real estate, etc..

This also means that many places are highly competitive. The cost of doing business indeed tends to be higher than in the rest of the regions. Therefore, it is advisable to plan a new business idea carefully so that expansions are possible later.

Through the analysis and the knowledge gained from it, the basis should form to be able to provide the correct strategic adjustment on the market. This should reduce the risk as much as possible.

Problem description:

Narrowing down the top restaurants in Toronto is no easy feat. On any given day, Toronto diners can choose from one of 12,000 restaurants within the city's walls.

And with one of the most diverse restaurant scenes in the world, we're sure we're missing a ton of fantastic options – so make sure to do your homework on your niche if you're thinking about opening up a spot in Toronto.

For the budding restaurateur, Toronto is ripe for conceptual analysis: which concepts are working? Which are not? To help you fine-tune and differentiate your restaurant concept, we've created a list of 25 of the best restaurants in Toronto.

With these creative concepts in mind, we hope that you can refine your startup idea or fill out your current theory so that your offering stands out from the rest.

With population rates soaring in recent years, Toronto has developed a melting pot of cuisine in style and flavor. With influences as broad as Korea, Venezuela, Ethiopia, and Eastern Europe, you'll find both big-named cheffy establishments side-by-side authentic global fare. Frequently used as a backdrop for TV and movies set in New York City, this cosmopolitan food destination is not unlike NY in its serious variety, in particular in the Asian realm (a sector not to be missed on any trip to Toronto) and ubiquity of quality hotdogs. A stroll through Kensington Market showcases the city's best food finds in a matter of a few blocks that is wholly immersive. And like NYC, if you're hungry for it, you can find it in Canada's biggest city.

### **1.1 THE GOAL OF THE PROJECT:**

The aim is to give the founder a recommendation about the best place or places in which district of Toronto it would be worthwhile to open a restaurant.

### **1.2 SUCCESS:**

The success of the project is a good recommendation. It should contain the choice of the suitable district and at which location to open the restaurant.

## 2 DATA

In this project i will be analyze only the city **Totoro, CA**. I will be using the below datasets for analyzing Totoro city

### 2.1 DATASET 1

- Neighborhood Profiles provide a portrait of the demographic, social and economic characteristics of the people and households in each City of Toronto neighborhood. The data is based on tabulations of 2016 Census of Population data from Statistics Canada.

[https://www.toronto.ca/ext/open\\_data/catalog/data\\_set\\_files/2016\\_neighbourhood\\_profiles.csv](https://www.toronto.ca/ext/open_data/catalog/data_set_files/2016_neighbourhood_profiles.csv)

### 2.2 DATASET 2

- Cultural Hotspot - Points of Interest

Cultural Hotspot spans a vast geographic area and many local neighborhoods with unique features. This dataset contains information about points of interest for residents and visitors to enjoy including public art, murals, buildings with historic or architectural significance, green spaces, restaurants and more.

[https://ckan0.cf.opendata.inter.prod-toronto.ca/download\\_resource/a083c865-6d60-4d1d-b6c6-b0c8a85f9c15?format=csv&projection=4326](https://ckan0.cf.opendata.inter.prod-toronto.ca/download_resource/a083c865-6d60-4d1d-b6c6-b0c8a85f9c15?format=csv&projection=4326)

### 2.3 DATASET 3

- The Public Safety Data Portal is intended to improve the understanding of policing, improve transparency and enhance confidence through the creation and use of open data for public safety in Toronto. This dataset includes all Major Crime Indicators (MCI) 2014 to 2018 occurrences by reported date and related offences.

Major Crime Indicators (MCI) Dashboard

<http://data.torontopolice.on.ca/>

### 2.4 REFERENCE

Toronto's Census data in publicly available at this website:

<https://www.toronto.ca/city-government/data-research-maps/open-data/open-data-catalogue/#8c732154-5012-9afe-d0cd-ba3ffc813d5a>

### 3 EXPLORE DATASET

#### 3.1 NEIGHBOURHOOD PROFILES (DATASET 1)

In these profiles, "neighbourhood" refers to the City of Toronto's 140 social planning neighbourhoods. These social planning neighbourhoods were developed by the City of Toronto to help government and community organizations with local planning by providing socio-economic data at a meaningful geographic area. The boundaries of these social planning neighbourhoods are consistent over time, allowing for comparison between Census years. Neighbourhood level data from a variety of other sources are also available through the City's Wellbeing Toronto mapping application and here on the Open Data portal.

Each data point in this file is presented for the City's 140 neighbourhoods, as well as for the City of Toronto as a whole. The data is sourced from a number of Census tables released by Statistics Canada. The general Census Profile is the main source table for this data, but other Census tables have also been used to provide additional information.

For definitions of terms and concepts referenced in this data set, users should consult the reference materials produced by Statistics Canada for the 2016 Census, available online at:

<https://www.toronto.ca/city-government/data-research-maps/open-data/open-data-catalogue/#8c732154-5012-9afe-d0cd-ba3ffc813d5a>

Category	Topic	Data Source	Characteristic	City of Toronto	Agincourt North	Agincourt South-Malvern-West	Alderwood	Annex	Banbury-Don Mills	Bathurst Manor	Bay Street Corridor	Bayview Village	Bayview Woods-Steeles	
0	Neighbourhood Information	Neighbourhood Information	City of Toronto	Neighbourhood Number	NaN	129	128	20	95	42	34	76	52	49
1	Neighbourhood Information	Neighbourhood Information	City of Toronto	TSNS2020 Designation	NaN	No Designation	No Designation	No Designation	No Designation	No Designation	No Designation	No Designation	No Designation	No Designation
2	Population	Population and dwellings	Census Profile 98-316-X2016001	Population, 2016	2,731,571	29,113	23,757	12,054	30,526	27,695	15,873	25,797	21,396	13,154
3	Population	Population and dwellings	Census Profile 98-316-X2016001	Population, 2011	2,615,060	30,279	21,988	11,904	29,177	26,918	15,434	19,348	17,671	13,530
4	Population	Population and dwellings	Census Profile 98-316-X2016001	Population Change 2011-2016	4.50%	-3.90%	8.00%	1.30%	4.60%	2.90%	2.80%	33.30%	21.10%	-2.80%

#### 3.2 CULTURAL HOTSPOT - POINTS OF INTEREST (DATASET 2)

Cultural Hotspot spans a vast geographic area and many local neighbourhoods with unique features. This dataset contains information about points of interest for residents and visitors to enjoy including public art, murals, buildings with historic or architectural significance, green spaces, restaurants and more.

##### Performance

Spaces in which performing arts (dance, music, theatre, etc.) creation or presentation takes place. Includes but is not limited to:

- Dance studios • Recording studios • Rehearsal spaces • Theatres • Music halls / live music spaces • Public squares • Restaurants and bars with stages / performance spaces • Churches • Band shells / amphitheatres / outdoor spaces that can accommodate performances (eg. Shakespeare in the Park, Manifesto Dance) • Multipurpose spaces with specific accommodations for performances (eg. lighting, audience seating, etc.)

##### Exhibition / Visual Arts

Spaces in which visual arts creation or presentation can take place, in addition to pure exhibition space. Includes but is not limited to:

- Art galleries · Museums · Visual artist studios · Photography studios · Exhibition space in coffee shops

### Screen Based

Spaces for the production and presentation of multimedia screen-based arts including digital, photography, and film. Includes but is not limited to:

- Film studios · Movie theatres · Digital media labs (eg. ProTech Media Centre) · Production/post production facilities

### Library

- Toronto Public Library facility with physical space for cultural activity.

### Multipurpose

Spaces that are not purpose-built and can house a range of cultural activity across disciplines. Includes but is not limited to:

- Parks · Community Centres · Recreation Centres · Public squares · Churches · Schools

### Heritage

- Museums · Facilities where heritage activity takes place (historical societies, archives, community museums etc.)

AREA_NAME	_id	AREA_ID	AREA_ATTR_ID	PARENT_AREA_ID	AREA_SHORT_CODE	AREA_LONG_CODE	AREA_DESC	X	Y	LONGITUDE	LATITUDE	OBJECTID	Shape_Area		
Wychwood	2381	25886861		25926662	49885		94	94	Wychwood (94)	NaN	NaN	-79.425515	43.676919	16491505	3.217960e+06
Yonge-Eglinton	2382	25886820		25926663	49885		100	100	Yonge-Eglinton (100)	NaN	NaN	-79.403590	43.704689	16491521	3.160334e+06
Yonge-St.Clair	2383	25886834		25926664	49885		97	97	Yonge-St.Clair (97)	NaN	NaN	-79.397871	43.687859	16491537	2.222464e+06
York University Heights	2384	25886593		25926665	49885		27	27	York University Heights (27)	NaN	NaN	-79.488883	43.765736	16491553	2.541821e+07
Yorkdale-Glen Park	2385	25886688		25926666	49885		31	31	Yorkdale-Glen Park (31)	NaN	NaN	-79.457108	43.714672	16491569	1.156669e+07

## 3.3 CRIME DATA (DATASET 3)

The Public Safety Data Portal is intended to improve the understanding of policing, improve transparency and enhance confidence through the creation and use of open data for public safety in Toronto. This dataset includes all Major Crime Indicators (MCI) 2014 to 2018 occurrences by reported date and related offences.

### Major Crime Indicators (MCI) Dashboard

	reportedda	premisetyp	offence	reportedye	reportedmo	reported_1	reported_3	reportedho	MCI	Division	Neighbour	Lat	Long	geometry
0	2014-06-20T13:20:00.000Z	Apartment	Theft Over	2014	June	20	Friday	13	Theft Over	D52	Bay Street Corridor (76)	43.659229	-79.385193	POINT (-79.385193 43.659229)
1	2014-07-02T02:58:00.000Z	Outside	Pointing A Firearm	2014	July	2	Wednesday	2	Assault	D32	Newtonbrook West (36)	43.777592	-79.425400	POINT (-79.425400 43.777592)
2	2014-07-02T02:58:00.000Z	Outside	Robbery With Weapon	2014	July	2	Wednesday	2	Robbery	D32	Newtonbrook West (36)	43.777592	-79.425400	POINT (-79.425400 43.777592)
3	2014-07-02T05:40:00.000Z	House	B&E	2014	July	2	Wednesday	5	Break and Enter	D42	Malvern (132)	43.801727	-79.210373	POINT (-79.210373 43.801723)
4	2014-07-02T20:57:00.000Z	Commercial	Assault	2014	July	2	Wednesday	20	Assault	D42	Milliken (130)	43.835884	-79.254334	POINT (-79.254334 43.835884)

## 4 METHODOLOGY

### 4.1 BUSINESS GOAL

The aim is to give the founder a recommendation about the best place or places in which district of Toronto it would be worthwhile to open a restaurant.

### 4.2 ANALYTIC APPROACH

Toronto City has a total of 19 division and 17000 dining options with around 470 hot spots.

For the years 2014 - 2018 167525 cases are registered.

- Part 1 - Clustering of restaurants
- Part 2 - Clustering from Hot Spot
- Only the criminal data from the year 2018 are consulted.

All data will be filtered by OpenData and used for this project.

### 4.3 ALL DATA IS PROCESSED BY THE SAME ETL PROCESS.

- Load the data and explore data (CSV, Shape, Txt)
- Transform the data of nested python dictionaries into a pandas dataframe.
- Dataframe contains the geographical coordinates.
- Data will used from OpenData from City of Toronto.
- Folium libraries used to create a map of Toronto city.

#### 4.3.1 POLICE BOUNDARY

The police borders consist of 19 divisions. We will divide all restaurant and hot spot in these divisions. Then we will visualize which places are highly medium or slightly endangered by adding the criminal data to them.

<b>AREA_LONG_CODE</b>		<b>LATITUDE</b>	<b>LONGITUDE</b>	<b>Shape_Area</b>
<b>9</b>	0	43.633336	-79.368454	1.079671e+07
<b>10</b>	11	43.654151	-79.465607	3.570932e+07
<b>14</b>	12	43.695261	-79.493046	4.742078e+07
<b>16</b>	13	43.692443	-79.439954	3.559172e+07
<b>0</b>	14	43.649990	-79.417189	2.710943e+07
<b>6</b>	22	43.636142	-79.535267	1.300893e+08
<b>13</b>	23	43.714309	-79.577914	1.103716e+08
<b>2</b>	31	43.748497	-79.519215	8.177649e+07
<b>3</b>	32	43.756900	-79.432549	1.170648e+08
<b>4</b>	33	43.764411	-79.352777	1.012368e+08
<b>17</b>	41	43.730915	-79.276205	8.530402e+07
<b>5</b>	42	43.810977	-79.242229	1.625190e+08
<b>1</b>	43	43.766467	-79.199932	1.137953e+08
<b>11</b>	51	43.655470	-79.364360	1.645457e+07
<b>12</b>	52	43.653342	-79.388915	9.579489e+06
<b>15</b>	53	43.701340	-79.385936	5.988492e+07
<b>18</b>	54	43.700513	-79.325294	3.874682e+07
<b>8</b>	55	43.665352	-79.323255	3.933033e+07
<b>7</b>	58	43.622809	-79.381290	8.005564e+06

#### 4.3.2 RESTAURANTS TYPES

Here the data is grouped into the individual species. In Toronto has more than 7000 declared restaurants. Next, follow about 2700 Take Out's. After that, there are 2300 shopping possibilities, us. In total there are about 17478 possibilities to eat.

For each of these data records, the name of the Lokas and its position is available. The data is available under the City of Toronto's Open Data Portal.

<https://open.toronto.ca/dataset/dinesafe/>

	ID	NAME	ADDRESS	LATITUDE	LONGITUDE
TYPE					
<b>Restaurant</b>	7097	7097	7097	7097	7097
<b>Food Take Out</b>	2747	2747	2747	2747	2747
<b>Food Store (Convenience/Variety)</b>	2375	2375	2375	2375	2375
<b>Child Care - Catered</b>	615	615	615	615	615
<b>Food Court Vendor</b>	501	501	501	501	501
<b>Supermarket</b>	461	461	461	461	461
<b>Bakery</b>	401	401	401	401	401
<b>Child Care - Food Preparation</b>	364	364	364	364	364
<b>Food Processing Plant</b>	243	243	243	243	243
<b>Student Nutrition Site</b>	217	217	217	217	217
<b>Food Depot</b>	216	216	216	216	216
<b>Cafeteria - Private Access</b>	184	184	184	184	184
<b>Cocktail Bar / Beverage Room</b>	181	181	181	181	181
<b>Banquet Facility</b>	163	163	163	163	163
<b>Food Caterer</b>	160	160	160	160	160
<b>Butcher Shop</b>	154	154	154	154	154
<b>Community Kitchen (Meal Program)</b>	136	136	136	136	136
<b>Cafeteria - Public Access</b>	118	118	118	118	118
<b>Private Club</b>	92	92	92	92	92
<b>Hot Dog Cart</b>	77	77	77	77	77
<b>Retirement Homes(Licensed)</b>	75	75	75	75	75
<b>Boarding / Lodging Home - Kitchen</b>	72	72	72	72	72
<b>Secondary School Food Services</b>	69	69	69	69	69
<b>Food Bank</b>	68	68	68	68	68
<b>Institutional Food Services</b>	67	67	67	67	67

#### 4.3.3 CULTURE HOT SPOT

##### Performance

Spaces in which performing arts (dance, music, theatre, etc.) creation or presentation takes place. Includes but is not limited to:

- Dance studios · Recording studios · Rehearsal spaces · Theatres · Music halls / live music spaces · Public squares · Restaurants and bars with stages / performance spaces · Churches · Band shells / amphitheatres / outdoor spaces that can accommodate performances (eg. Shakespeare in the Park, Manifesto Dance) · Multipurpose spaces with specific accommodations for performances (eg. lighting, audience seating, etc.)

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<https://open.toronto.ca/dataset/cultural-spaces/>

TYPE	
Public Art	101
Hot Eats	78
Business	77
Creative	42
Community	41
Heritage	36
Library	35
History	27
Nature	21
Architecture	9
Park	5

PNT_OF_INT	DESCRIPTION	SOCIAL_MED	WEBSITE	CATEGORY	LOCATION	X	Y	LONGITUDE	LATITUDE	
0	21 Points in Equilibrium (Sculpture)	This sculpture is by James Southerland. It is ...	None	None	Public Art	150 Borough Dr	324341.227	4847914.922	-79.257067	43.772936
1	Crucified Again (Sculpture)	Crucified Again shows the body of a tortured m...	None	None	Public Art	450 Scarborough Golf Club Road	327641.001	4845799.116	-79.216170	43.753806
2	A Tall Couple (Sculpture)	Louis Archambault (1915-2003) created A Tall C...	None	None	Public Art	-79.187369, 43.783078	329947.860	4849060.368	-79.187369	43.783078
3	Warden Underpass Mural (Mural)	The Warden Underpass Mural provides a visual h...	None	None	Public Art	-79.273286, 43.693461	323059.616	4839081.887	-79.273286	43.693461
4	Sustenance (Mural)	Sustenance, also known as the "Western Gateway..."	None	None	Public Art	-79.255266, 43.700826	324509.747	4839904.258	-79.255266	43.700826

### 4.3.4 CRIME DATA

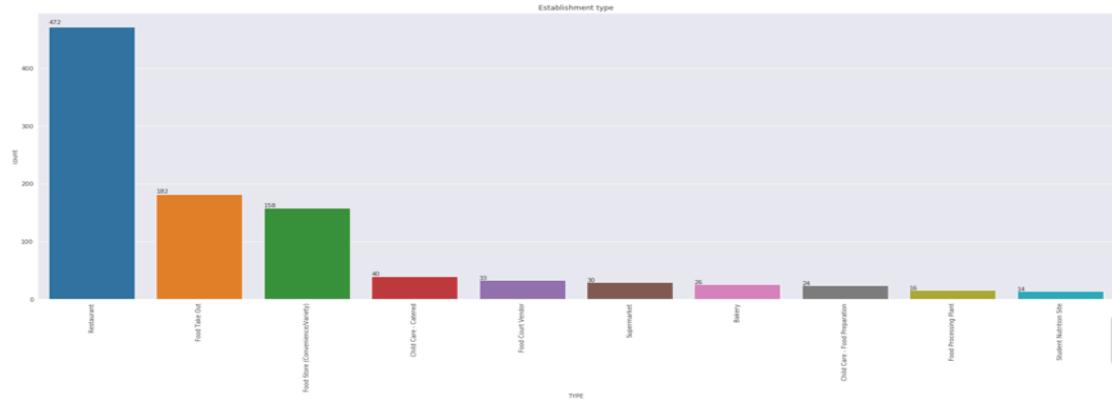
The Toronto Police Service is dedicated to delivering police services, in partnership with our communities, to keep Toronto the best and safest place to be. Our Principles Actively Accountable and Trusted Transparent and Engaged Inclusive and Collaborative Affordable and Sustainable.

Data Type		Open Data		Data Analytics		Maps			
Category	Data	Download	Currency	Year-to-Date	Historical	Interactive (Year-to-Date)	Interactive (Historical)	Static	
Crime	<b>Assault</b>		2014-2018					N/A	
Crime	<b>Auto Theft</b>		2014-2018					N/A	
Crime	<b>Break and Enter</b>		2014-2018					N/A	
Crime	<b>Robbery</b>		2014-2018					N/A	
Crime	<b>Sexual Assault</b>	N/A	N/A		N/A		N/A	N/A	
Crime	<b>Theft Over</b>		2014-2018					N/A	
Crime	<b>Homicide</b>		2004-2018						
Crime	<b>Shootings</b>	N/A	N/A				N/A		
Crime	<b>Stabbings</b>	N/A	N/A	N/A	N/A	N/A	N/A		
Crime	<b>Bike Thefts</b>		2014-2018	N/A	N/A	N/A	N/A	N/A	N/A
Crime	<b>All Major Crime Indicators</b>		2014-2018					N/A	
Crime	<b>Arrests</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

## 5 METHODOLOGY

### 5.1 METHODOLOGY 1

#### 5.1.1 ESTABLISHMENT TYPE (MOST TOP 1000)



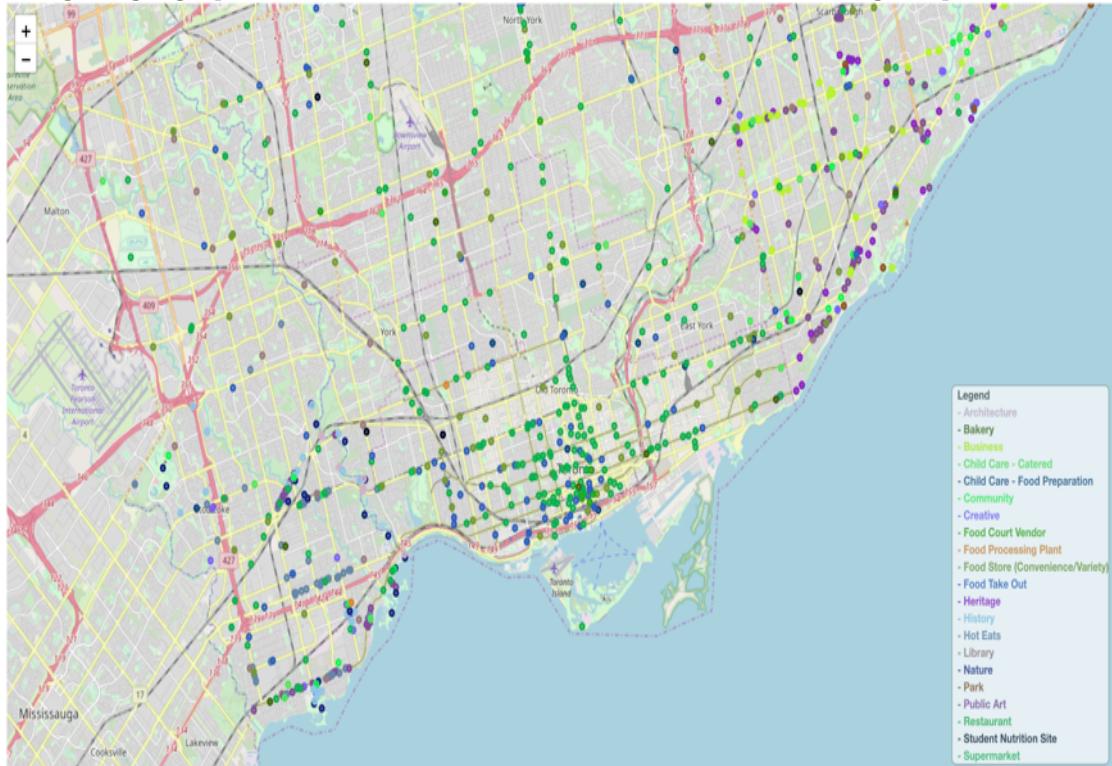
##### Catering:

Restaurant and other possibilities to be able to eat oneself

- We are using the data of restaurant (Top 1000) of all types
- There are a total of 472 restaurants which is by far the highest number in Toronto.
- And the lowest are the student nutrition site

### 5.2 VISUALIZE ESTABLISHMENT IN TORONTO

Using the geographical coordinates of each location calls are made to get top 1000:



### 5.2.1 MOST USED WORD FOR LOCATION NAMES

Most used Word in name location are Restaurant following by Tim Horton and Café.



### 5.3 METHODOLOGY 2

### 5.3.1 TORONTO MAJOR CRIME INDICATORS (MCI) DATA

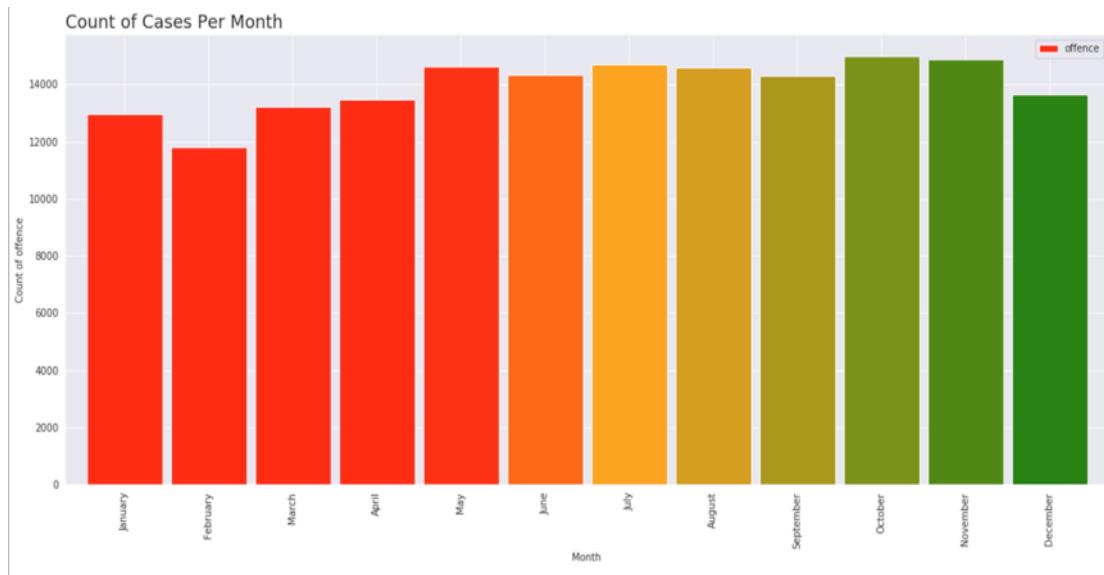
Major Crime Indicators (MCI) Dashboard.

The information contained in these dashboards refers to 2018 Year-to-Date as well as previous full Year End content.

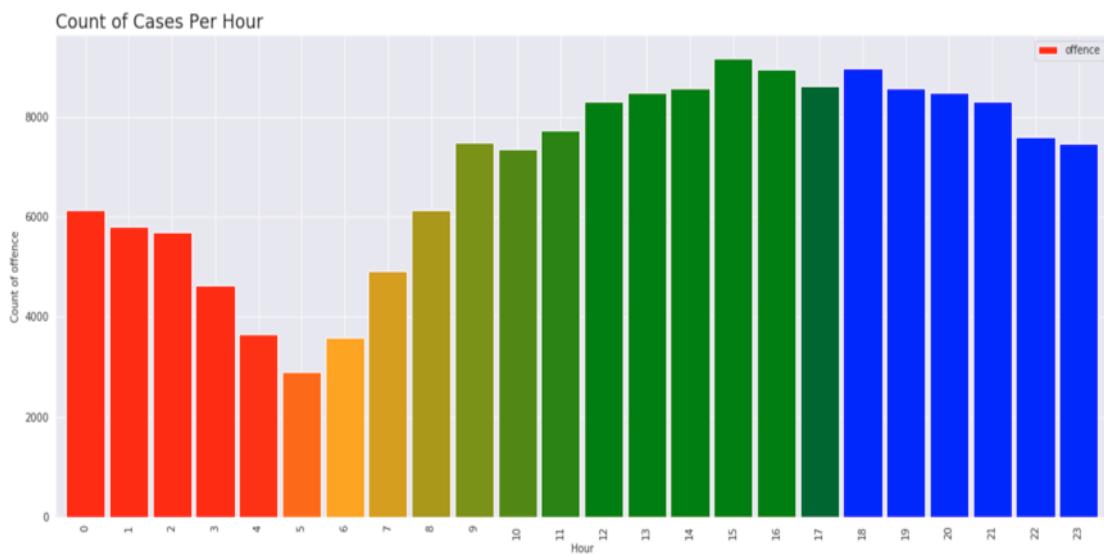
This data are been aggregated. We load the realdata from the opendata Catalog.  
[https://opendata.arcgis.com/datasets/98f7dde610b54b9081dfca80be453ac9\\_0.zip?outSR=%7B%22wkid%22%3A102100%2C%22latestWkid%22%3A3857%7D](https://opendata.arcgis.com/datasets/98f7dde610b54b9081dfca80be453ac9_0.zip?outSR=%7B%22wkid%22%3A102100%2C%22latestWkid%22%3A3857%7D)

	reporteddate	premisestyp	offence	reportedby	reportedmo	reported_1	reported_3	reportedho	MCI	Division	Neighbourhood	Lat	Long	geometry
0	2014-06-20 13:20:00+00:00	Apartment	Theft Over	2014	June	20	Friday	13	Theft Over	D52	Bay Street Corridor (76)	43.659229	-79.385193	POINT (-79.385193 43.659229)
1	2014-07-02 02:58:00+00:00	Outside	Pointing A Firearm	2014	July	2	Wednesday	2	Assault	D32	Newtonbrook West (36)	43.777592	-79.425400	POINT (-79.425400 43.777592)
2	2014-07-02 02:58:00+00:00	Outside	Robbery With Weapon	2014	July	2	Wednesday	2	Robbery	D32	Newtonbrook West (36)	43.777592	-79.425400	POINT (-79.425400 43.777592)
3	2014-07-02 05:40:00+00:00	House	B&E	2014	July	2	Wednesday	5	Break and Enter	D42	Malvern (132)	43.801707	-79.210373	POINT (-79.210373 43.801707)
4	2014-07-02 20:57:00+00:00	Commercial	Assault	2014	July	2	Wednesday	20	Assault	D42	Milliken (130)	43.835884	-79.254334	POINT (-79.254334 43.835884)

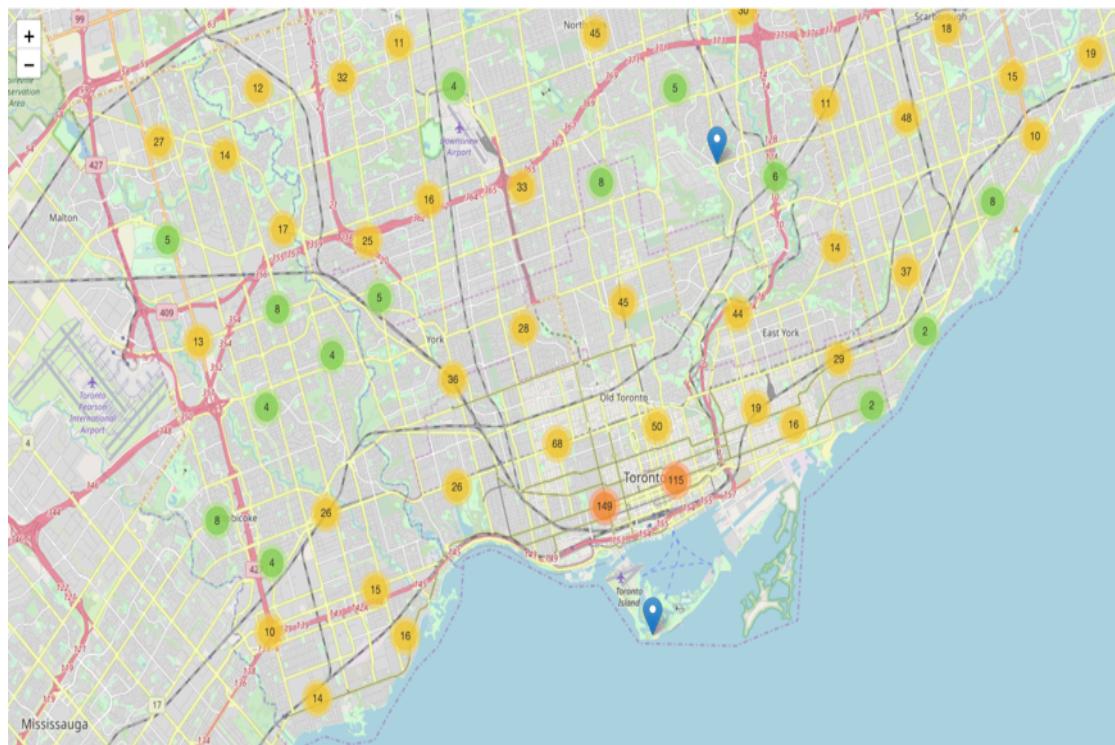
This dates are grouped by months for the period of year 2014 to 2018.



And in this Dates we grouped by hour for the period of year 2014 to 2018.



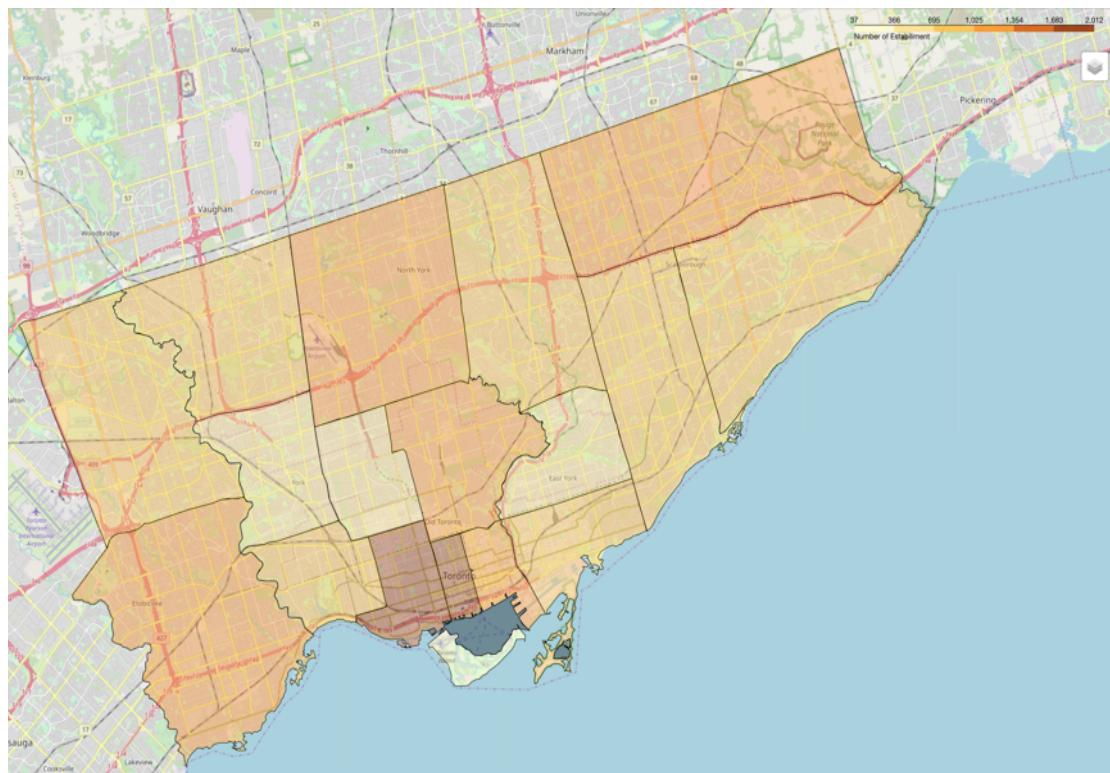
Finally, we visualized the common offence on the map by point and counted by group



## 5.4 METHODOLOGY 4

### 5.4.1 POLICE BOUNDARY MAP OF TORONTO RESTAURANTS AND CULTURE HOT SPOT

In this we draw the policy boundary an set all restaurant and hot stop in there.



## 6 RESULT

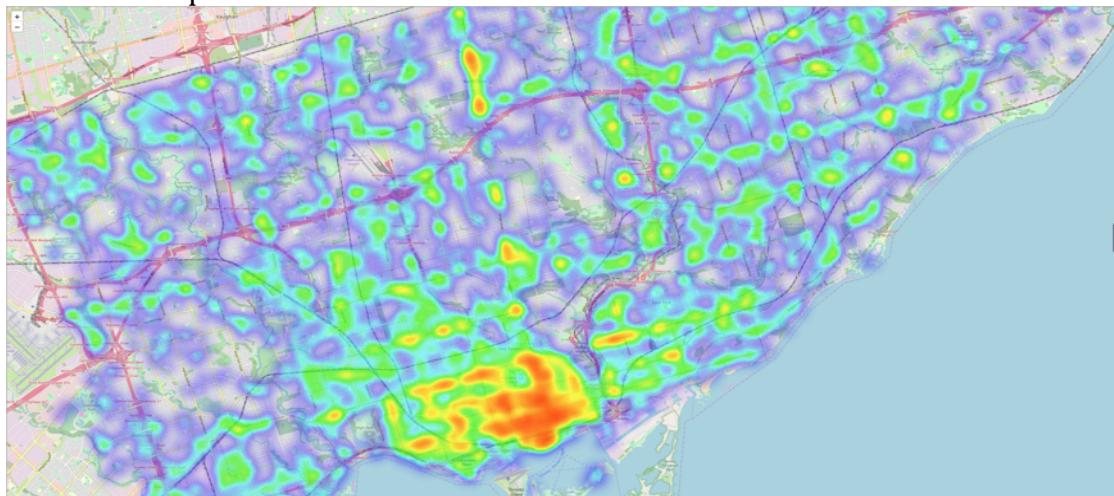
### 6.1 GENERATING CRIME DATA TO CALCULATE A PREDICTION

For the clustering to find a good place for the new restaurant we create an artificial crime data record. The crimes will be split between an act 0 and no act 1. The newly created artificial record will be assigned to the restaurant and hot spot. The next step is to assign a random date. At the end a prediction should be made whether a crime will be committed in the desired place or not.

At the end we found 3000 bad place and 500 good places. We look now for one place for every 19 Division.

#### 6.1.1 HEADMAP OF PLACES THAT ARE NOT GOOD TO OPEN A RESTAURANT

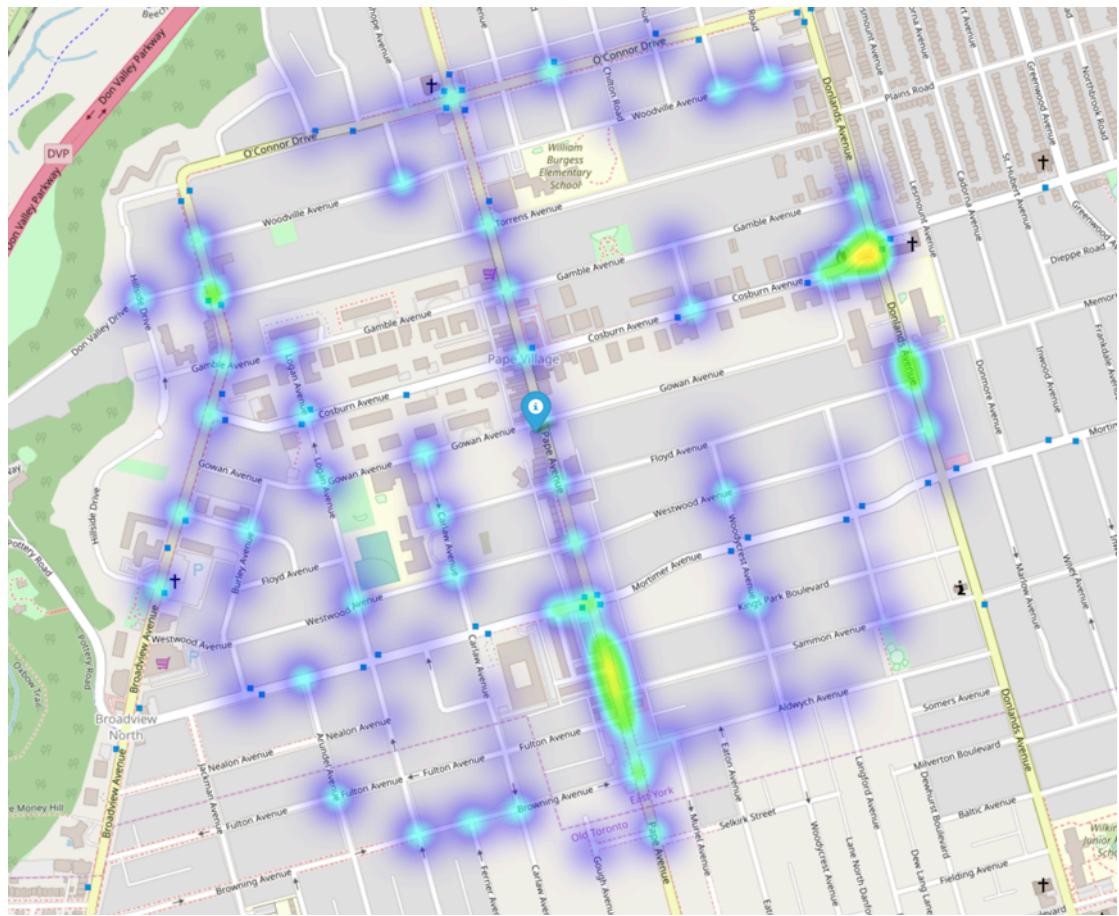
This head map visualize all location an crime below 1000 meter.



#### 6.1.2 THE NEW PLACE

For the new place for open a restaurant we calculate a place with the lowest prediction on crime. We found thi on the Est York – district 54.

1000 Pape Ave, Toronto, East York, Ontario, Canada, 43.6882889, -79.3485799



## 7 DISCUSION

- 1 Opportunities to explore real estate prices in the various districts.
- 2 In District 54 - East York it has the smallest density of Restaurants and kitchens.
- 3 The risk can certainly be taken with great menus.
- 4 It also shows that the crime rate is not too high.
- 5 Unfortunately, it also has not many hot spots that can attract visitors.
- 6 Therefore, a local cuisine is more recommended than a foreign one.

## 8 CONCLUSION

This Analysis based on large amounts of data. We will execute process with more information districts with prices. So that we can make a concentration of the restaurant business. We consider further possibilities of different districts that have a good number of restaurants but no hot spot places. And we look out for the neighbourhood or the restaurant type nearby which makes it better than us.