Opening a venue in London, Ontario, Canada

Introduction

Local conditions

London is a city in southwestern Ontario, Canada, along the Quebec City-Windsor Corridor. The city had a population of 383,822 according to the 2016 Canadian census. London is at the confluence of the Thames River, approximately 200 km (120 mi) from both Toronto and Detroit; and about 230 km (140 mi) from Buffalo, New York. The city of London is a separated municipality, politically separate from Middlesex County, though it remains the county seat.

London is a regional centre of healthcare and education, being home to the University of Western Ontario (which brands itself "Western University"), Fanshawe College, and several hospitals (including a University Hospital). The city hosts a number of musical and artistic exhibits and festivals, which contribute to its tourism industry, but its economic activity is centred on education, medical research, insurance, and information technology. London's university and hospitals are among its top ten employers. London lies at the junction of Highway 401 and 402, connecting it to Toronto, Windsor and Sarnia. It also has an international airport and train and bus stations.

Cost of living

The city's cost of living is low compared to other southern Ontario cities. According to the London St. Thomas Association of Realtors, the average price of a home in the London and St. Thomas area in 2016 is \$274,383, which is substantially lower than the national average of \$467,082. It is also well below the average home prices of nearby cities including Toronto (\$736,670), Hamilton (\$510,204), and Kitchener-Waterloo (\$364,290). The 2015 average rental rate for a one-bedroom apartment is \$781.

Problem statement

Given the fact that London, Ontario has a relatively small population (383,822 according to the 2016 Canadian census), what kind of potential does the city have to set-up a lucrative enterprise? Where is it the most suitable place to establish a new business?

Where would be the cheapest but still popular place to open this business without being overwhelmed by the competitors? The general rule is that the farther we are from the city centre, the less expensive the places are and the less overwhelming the competition is. Moreover, we can differentiate between two types of businesses.

Data

In order to answer the above questions, data on London, Ontario districts to include boundaries, latitude, longitude as well as venue specifics are required.

The data will be acquired:

- Wikipedia https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M
- http://cocl.us
- FourSquare API via the Request library in Python

Methodology

- 1. General data collection about the location London, Ontario
- The data will be collected from Wikipedia
 https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M
- The data will be cleaned and processed into a dataframe
- The geodata will be collected from https://cocl.us
- The data will cleaned and processed into a dataframe.
- 2. Data collection about the restaurants in 3 different areas (districts)
- FourSquare will be used to locate all venues. The specifics of the different venues are added to the dataframe.
- Finally, the data will be visually assessed using graphing from Python libraries.
- 3. Choosing the optimal area (district) to open the venue
- Data will be sorted based on rankings and location specifics.

1. General data collection about the location London, Ontario

After obtaining the postal codes with the locations of Canada from Wikipedia (https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M) I arranged the data into a table.

	PostalCode	Borough	Neighborhood
0	M1A\n	Not assigned\n	Not assigned
1	M1B\n	Scarborough\n	Malvern, Rouge
2	M1C\n	Scarborough\n	Rouge Hill, Port Union, Highland Creek
3	M1E\n	Scarborough\n	Guildwood, Morningside, West Hill
4	M1G\n	Scarborough\n	Woburn
5	M1H\n	Scarborough\n	Cedarbrae
6	M1J\n	Scarborough\n	Scarborough Village
7	M1K\n	Scarborough\n	Kennedy Park, Ionview, East Birchmount Park
8	M1L\n	Scarborough\n	Golden Mile, Clairlea, Oakridge
9	M1M\n	Scarborough\n	Cliffside, Cliffcrest, Scarborough Village West

The next step was to populate the geodata from http://cocl.us/Geospatial_data and arrange it into a table.

	PostalCode Borou		Neighborhood	Latitude	Longitude
0	M1A\n	Not assigned\n	Not assigned	NaN	NaN
1	M1B\n	Scarborough\n	Malvern, Rouge	NaN	NaN
2	M1C\n	Scarborough\n	Rouge Hill, Port Union, Highland Creek	NaN	NaN
3	M1E\n	Scarborough\n	Guildwood, Morningside, West Hill	NaN	NaN
4	M1G\n	Scarborough\n	Woburn	NaN	NaN
5	M1H\n	Scarborough\n	Cedarbrae	NaN	NaN
6	M1J\n	Scarborough\n	Scarborough Village	NaN	NaN
7	M1K\n	Scarborough\n	Kennedy Park, Ionview, East Birchmount Park	NaN	NaN
8	M1L\n	Scarborough\n	Golden Mile, Clairlea, Oakridge	NaN	NaN
9	M1M\n	Scarborough\n	Cliffside, Cliffcrest, Scarborough Village West	NaN	NaN

After this step I requested the coordinates (latitude and longitude) of the city 'London' based in Ontario.

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The geograpical coordinate of London is 42.9836747, -81.2496068.
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After downloading the library Folium to Jupyter Notebook, it was possible to find the city 'London' based in Ontario on the map:



2. Data collection about the restaurants in 3 different areas (districts)

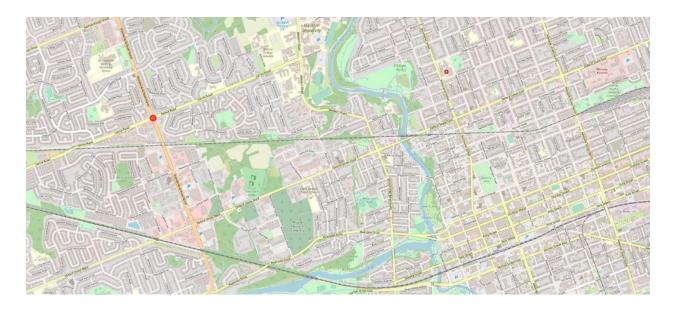
Regarding the data collection about the restaurants from three different areas (districts), I decided to collect data from the city centre of London (Downtown), from the North-Western part of the city London and finally from the South-Eastern part of the city London.

First of all, I chose one of the roads of London for analysis namely Horton Street that crosses the city centre (Downtown). I had the expectation to find several venues in Horton Street because of its central location in the city.



Secondly, I collected data about the venues from the North-Western part of London, namely from Wonderland Road. Wonderland Road is a major north-south arterial road in London, Ontario, designated as Ontario Highway 4 between Highway 401 and Sunningdale Road. Outside of the City limits, the road extends north into Middlesex

Centre as Middlesex County Road 56 and south into Southwold. It is one of the busiest roads in London, carrying over 43,000 vehicles per day between Springbank Drive and Riverside Drive as of 2013. The road is served by multiple bus routes of the London Transit Commission. The most notorious is Route 10 which travels on Wonderland between Sarnia and Southdale, which was eponymously named 10 Wonderland for decades until September 2016. Other routes that serve portions of Wonderland include Routes 9, 11, 12, 15, 19, 20, 23, 28, 29, 31, and 33.



Due to its prominent location and role in transportation it could be reasonable expectation to find almost as many venues as in the city centre of London (Downtown) in our case, in the radius of Horton Street.

Finally, I collected data about the venues from the South-Eastern part of London, namely from Commissioners Road. I was especially interested in the environment of Victoria Hospital (address: 800 Commissioners Road, London, Ontario, Canada). Victoria Hospital is a large teaching hospital affiliated with the University of Western Ontario. Along with University Hospital it is part of London Health Sciences Centre, which itself is the Lead Trauma Hospital of the Southwestern Local Health Integration Network.



Due to the fact that I was interested in the business opportunities in a small city like London, Ontario I used exploratory analysis about the number of restaurants in a given district. For this, I used Foursquare API to be able to identify the exact location of a venue in a radius of 1500. Based on Foursquare API and its retrieved data I could see not only the number of venues, but type of a specific venue, its exact address and ID. Based on the ID I could also search for the look, other specifics and the ratings of the venues on Google. From the number and type of restaurants it could be decided where it would be the cheapest but still popular place to open a Hungarian restaurant without being overwhelmed by the competitors. The general rule is that the farther we are from the city centre, the less expensive the places are and the less overwhelming the competition is.

Results

Firstly, I retrieved the results for the location Horton Street (found in the city centre). Based on the retrieved data there are 28 venues in the radius of 1500. Most of the venues belong to the category restaurant. Most of the restaurants offer Asian food (at least 6 by the name 'Thai", "Chinese", "Japanese", "Sushi"), while some of them offer Italian food (at least 3 by the name of "Italian"). The exact type of the other restaurants offers either Middle Eastern, Eastern European, African, Mediterranean, French, American, etc. food or the cuisine is not even specified by the Category.

	name	categories	address	cross Street	lat	Ing	labeledLatLngs	distance	postalCode	cc city	state	country	formattedAddress	id
0	Thaifoon Restaurant	Thai Restaurant	120 Dundas St.	near Talbot St.	42.983311	-81.251357	[{label: 'display', 'lar: 42.98331116267564, 'lng': -81.25136712126716}]	614	N6A 1G3 (CA London	ON	Canada	[120 Dundas St. (near Talbot St.), London ON NSA 1G3, Canada]	4b97329ff964a520cbfb34e3
1	Westside Family Restaurant	Breakfast Spot	107 Mount Pleasant Ave	Whamoliffe Rd. N.	42.984838	-81.263275	[[label: 'display', 'lat': 42.98483774629121, 'lng': -81.28327496848652)]	1245	N8H 1E1 (CA London	ON	Canada	[107 Mount Pleasant Ave (Whamoliffe Rd. N.), London ON N8H 1E1, Canada]	4bf532dd706e20a1e222aa98
2	Tahinis Restaurant	Middle Eastern Restaurant	11-551 Richmond St	at Albert St.	42.988800	-81.250732	[[label: 'display', 'lat': 42.9885998, 'lng': -81.2507319]]	1204	N6A 3E9 (CA London	ON	Canada	[11-551 Richmond St (at Albert St.), London ON NSA 3E9, Canada]	4b81ce40f984a520fa232ae3
3	Symposium Cafe Restaurant & Lounge	Restaurant	620 Richmond St.	at Central Ave.	42.990855	-81.250828	[{label': 'display', 'lat': 42.990855149813, 'lng': -81.25082830194532}]	1432	N8J 5A9	CA London	ON	Canada	[620 Richmond St. (at Central Ave.), London ON N6J 5A9, Canada]	4b5e63e5f964a520ba8c29e3
4	Tanakaya Japanese Restaurant	Sushi Restaurant	130 King St.	at Talbot St.	42.982631	-81.250504	[{label': 'display', 'lat': 42.96283111508381, 'lng': -81.25050388952882}]	543	N6A 1C5 (CA London	ON	Canada	[130 King St. (at Talbot St.), London ON N6A 1C5, Canada]	4e249a0d028409a5743552b0
5	Viet-thai Restaurant	Thai Restaurant	NaN	NaN	42.979698	-81.245114	[{label': 'display', 'lat': 42.979098, 'lng': -81.24511420720770}]	554	NaN (CA NaN	NaN	Canada	[Canada]	4d44bb52e198721efd0ebf8b
6	Family Circle Restaurant	Breakfast Spot	147 Wellington St	Grey st	42.977113	-81.241708	[{label: 'display', 'lar': 42.97711254709463, 'lng': -81.2417064808609}]	793	N6B 2K7 (CA London	ON	Canada	[147 Wellington St (Grey st), London ON N8B 2K7, Canada]	4bb73b62f562ef3b26223197
7	Restaurant Equipment Supply	Miscellaneous Shop	234 William St	NaN	42.983210	-81.231098	[['label': 'display', 'lat': 42.98321021475201, 'lng': -81.23109828903525)]	1760	NaN (CA NaN	NaN	Canada	[234 William St, Canada]	4ee255259911340c36dae60b
8	Five Fortune Culture restaurant	Chinese Restaurant	368 Richmond St	King St	42.982730	-81.248884	[['label': 'display', 'lat': 42.98273003770885, 'lng': -81.24888383809882}]	587	NaN (CA London	ON	Canada	[388 Richmond St (King St), London ON, Canada]	5324ef9d498e89a993a33014
9	Melody Restaurant	Diner	NaN	NaN	42.983748	-81.249484	[{'label': 'display', 'lat': 42.983746, 'lng': -81.249484}]	681	NaN (CA London	ON	Canada	[London ON, Canada]	4e74e1fb8998ed82a43fcaf0
10	Marienbad Restaurant & Chaucer's Pub	Restaurant	122 Carling St	NaN	42.983898	-81.251628	[[label: 'display', 'lat': 42.9838981, 'lng': -81.2518282]]	680	N6A 1H6 (CA London	ON	Canada	[122 Carling St, London ON N8A 1H8, Canada]	5835c884498ef3d7f7fdd405
11	Walkers Restaurant	American Restaurant	223 Wellington Street	NaN	42.979441	-81.242759	[{label': 'display', 'lat': 42.979440889472915, 'lng': -81.24275922775289}]	727	N6B (CA London	ON	Canada	[223 Wellington Street, London ON N6B, Canada]	4f20768600399a5b0db737ad
12	Marienbad Restaurant	Eastern European Restaurant	122 Carling St.	at Talbot St.	42.984052	-81.251671	[[label: 'display', 'lat': 42.984051587294145, 'lng': -81.2516708588583}]	697	N6A 1H6 (CA London	ON	Canada	[122 Carling St. (at Talbot St.), London ON N6A 1H6, Canada]	4be6e40fcf200f476af6143c
13	Grace Restaurant	Restaurant	215 Dundas St	Clarence	42.984111	-81.247689	[[label: 'display', 'lat': 42.984110765522864, 'lng': -81.24768912792206)]	765	N6A 1G4 (CA London	ON	Canada	[215 Dundas St (Clarence), London ON N6A 1G4, Canada]	5df51c09944c510008f2a598
14	Vito's Italian Restaurant	Italian Restaurant	196 Dundas Street	NaN	42.984458	-81.248462	[('label': 'display', 'lat': 42.984456, 'lng': -81.248462)]	779	N6A 1G7	CA London	ON	Canada	[196 Dundas Street, London ON N6A 1G7, Canada]	5b0f199bf00a70002c04ef02
15 G	o Rana's Really Really Nice Restaurant	Japanese Restaurant	NaN	NaN	42.988154	-81.253466	[[label: 'display', 'lat': 42.9881544, 'lng': -81.2534857)]	946	NaN (A NaN	NaN	Canada	[Canada]	4ee2c481e5faffd7300a29ca
16	Cityview restaurant	None	30 Whamoliffe Rd	Riiverside Dr	42.982711	-81.283008	[{label': 'display', 'lat': 42.982711, 'lng': -81.283008}]	1092	NaN 0	CA London	ON	Canada	[30 Whamcliffe Rd (Riiverside Dr), London ON, Canada]	4d0b62bb9a4437041d3fb967
17	Hong Ping Restaurant	Asian Restaurant	339 Horton St E	at Waterloo St.	42.980691	-81.239850	[[label: 'display', 'lat': 42.98089082931056, 'lng': -81.23984989988829}]	994	NaN (CA London	ON	Canada	[339 Horton St E (at Waterloo St.), London ON, Canada]	4bc1072d4cdfc9b6ee009421
18	TG's Addis Ababa Restaurant	African Restaurant	465 Dundas St	at Maitland St	42.987210	-81.237187	[[label: 'display', 'lat': 42.98721004750271, 'lng': -81.23718726739062}]	1501	NaN (CA London	ON	Canada	[465 Dundas St (at Maitland St), London ON, Canada]	4c86d5c756e0370439c4ada3
19	Bijoux Restaurant	French Restaurant	105 Erie Street	NaN	42.971207	-81.254038	[{label: 'display', 'lat': 42.97120666503906, 'lng': -81.2640380859375}]	1263	NaN (CA London	ON	Canada	[105 Erie Street, London ON, Canada]	4e3edd16b0fb875af875240d
20	Kambie Chinese Restaurant	Chinese Restaurant	375 Horton St	NaN	42.981314	-81.238419	[{label: 'display', 'lat': 42.981313648596735, 'lng': -81.23841898998593}]	1127	NaN (CA London	ON	Canada	[375 Horton St, London ON, Canada]	4b860679f964a520320f2be3
21	Renato's Restaurant	Italian Restaurant	640 Richmond St	NaN	42.991762	-81.251241	[{label: 'display', 'lat': 42.99176236679733, 'lng': -81.25124111625588}]	1555	N6A 3G6 (A London	ON	Canada	[840 Richmond St, London ON N8A 3G8, Canada]	595751ed464d651c9a36051b
22	Tak Sun Restaurant	Dim Sum Restaurant	122 Wellington Rd	NaN	42.970407	-81.238828	[[label: 'display', 'lat': 42.97040719677586, 'lng': -81.23682787597071}]	1457	NaN (CA London	ON	Canada	[122 Wellington Rd, London ON, Canada]	4b97a6bbf964a520ac0d35e3
23	Enat Ethiopian Restaurant	African Restaurant	379 Horton St	NaN	42.987100	-81.238279	[{label': 'display', 'lat': 42.967099758932715, 'lng': -81.23827914474089}]	1488	NaN 0	CA London	ON	Canada	[379 Horton St, London ON, Canada]	4faa95cee4b0dc75ba4321ed
24	Budapest Restaurant	Eastern European Restaurant	348 Dundas Street	near Waterloo St.	42.985884	-81.241971	[{label': 'display', 'lat': 42.985884154644226, 'lng': -81.24197144649777}]	1182	N6B 1V7	CA London	ON	Canada	[348 Dundas Street (near Waterloo St.), London ON N6B 1V7, Canada]	4bc1223874a9a593de6ed1f6
25	Ionian Pizza & Restaurant	Pizza Place	275 Dundas St	NaN	42.984932	-81.244115	[{label: 'display', 'lat': 42.98493203961961, 'lng': -81.24411477916351}]	992	N68 3L1 (CA London	ON	Canada	[275 Dundas St, London ON N5B 3L1, Canada]	4cb4a05c1168a0934f334a23
26	Aroma Restaurant	Mediterranean Restaurant	717 Righmond St	NaN	42.994204	-81.252805	[(label: 'display', 'lat': 42.9942041212805, 'lng': -81.25280510928807)]	1830	N6A 1S2	CA London	ON	Canada	[717 Richmond St, London ON N6A 1S2, Canada]	4b4b9a62f964a520aaa125e3
27	Abruzzi Ristorante	Italian Restaurant	119 King Street	Talbot St	42.982105	-81.250735	[{label: 'display', 'lat': 42.98210491239574, 'lng': -81.2507345809138}]	483	N6A 1H8	CA London	ON	Canada	[119 King Street (Talbot St), London ON NSA 1H8, Canada]	4o8eb713f338238a08400b1b

Secondly, I retrieved the results for the location Wonderland Road (found in the North-Western part of the city). Based on the retrieved data there are 12 venues in the radius of 1500. Most of the venues belong to the category restaurant. The composition of the restaurants is quite mixed. There are restaurants which offer Asian food (2 by the name "Chinese"), some of them offer Italian food (1 by the name of "Italian"), while others offer other delicacies from other cuisines or is not even specified by the category restaurant.



Finally, in the South-eastern part of the city there is only one restaurant nearby which is an American restaurant with the name of Fireside Family Restaurant.



Summary of the results & Discussion

Based on the analyzed data we can conclude that the city centre of London (Downtown) is where we can expect the biggest pressure from the competitors. Opening a new restaurant here among 28 already existing restaurants/venues within the radius 1500 would diminish our chances for a profitable restaurant.

Considering the location of the North-Western part of London (Wonderland Road) we can conclude that the level of competition is varied because not only restaurants can be found here among the 9 venues, but other establishments as well (Gastropub, Breakfast Spot and an Ice Cream Shop). We can find a variety of restaurants here including Asian, Italian, Syrian and Middle Eastern ones.

Considering the location of the South-Eastern part of London (Commissioners Road) only one venue was found near the Victoria Hospital. This venue was an American restaurant with the name of Fireside Family Restaurant. Considering the fact that only one restaurant could be found in this area, maybe it is better to leave out this area and choose such location where we definitely know that at least the demand is high (such as Wonderland Road being the busiest road in the city London, Ontario) and is still fairly close to the city centre.

Conclusion

Taking the 3 different locations into consideration, I would open a Hungarian restaurant on Wonderland Road (in the North-Western part of London) because it is one of the busiest roads in the city London and there are already 9 different venues offering the specialties of their cuisines around the world (Asian, Italian, Syrian, Middle Eastern) apart from the Gastropub, Breakfast Spot and Ice Cream Shop venues. Opening a Hungarian restaurant would make the variety of the already existing venues more colorful and thanks to the central location of Wonderland Road there would be enough demand to satisfy the local needs.