Best neighborhoods in Chicago to open a restaurant

Introduction: Business Problem

Problem description: Opening a restaurant in Chicago where competition and crime rate is low.

Target audience: people who would like to open a restaurant in Chicago at a safe neighborhood with relatively low competition.

Why it is important:

- Low competition is better.
- Customers prefer safer areas.

NOTE: During my analysis I will concentrate on the more serious, more violent crimes. Because in my opinion more violent crimes matter the most.

Data:

1. Chicago crime data

I will use the Chicago's city official website for crime data. The latest data available is from 2018, so I will use that. After downloading the CSV I will convert it to a DataFrame. As I mentioned above I will concentrate on the more serious/violent crimes.

I will drop lines considering less serious/violent crimes:

- burglary
- concealed carry license violation
- criminal trespass
- deceptive practice
- gambling
- interference with public officer
- liquor law violation
- motor vehicle theft
- non-criminal
- non-criminal (subject specified)
- obscenity
- other narcotic violation
- other offense
- prostitution
- public indecency
- public peace violation
- theft

I will concentrate on the following type of crimes:

- arson
- assault
- crim sexual assault
- criminal damage
- criminal sexual assault
- homicide
- human trafficking
- intimidation
- kidnapping
- narcotics
- offense involving children
- robbery
- sex offense
- stalking
- weapons violation

Chicago has 77 neighborhoods. I will check the (total number of crimes)/(neighborhood population) for neighborhood and I will continue with the 20 safest neighborhoods.

2. Community areas in Chicago

The name of the community areas can be found on Wikipedia. I will get the name of the areas and the population from this source. Unfortunately, this does not contains the coordinates, so I will use geolocator to the latitude and longitude information.

3. Foursquare

I used foursquare to check competition in the safest 20 neighborhoods. I selected those wich has less than 10 restaurants.

Methodology

I downloaded the Chicago crime information as a CSV format. I converted the CSV into a pandas dataframe. I dropped all unnecessary columns and those rows which did not have the longitude and longitude information. After this I dropped rows with less serios crimes. In the analysis section I will select the 20 most peaceful neighborhoods.

The crime dataset did not include area information such as: the name and population of the area. Fortunately, this information is on Wikipedia. I used pandas again to get this info. However I was still missing the latitude and longitude information. I used the geolocator to get this information.

In the analysis section I will perform the following:

I will select the 20 safest neighborhoods. I will check the (total crime of the given area)/ total population of the given area.
I will use forsquare to check competition.

In the conclusion section I will make the recommendations regarding where to open a restaurant.

Analysis

During my analysis I found, that the followings are the top 20 safest neighborhoods of Chicago:

Area Number	Area Name	Population	Latitude	Longitude	Number of violent crimes	Crime per person
9	Edison Park	11605	42.005733499999998	-87.814016338333573	53	0.004566996984059
12	Forest Glen	19019	41.991751550000004	-87.751673968427383	91	0.004784688995215
5	North Center	35789	41.956107299999999	-87.679159600000006	262	0.007320685126715
74	Mount Greenwood	19277	41.698089099999997	-87.708661599999999	142	0.007366291435389
10	Norwood Park	37089	41.985589500000003	-87.800581730011018	295	0.007953840761412
17	Dunning	43689	41.952809000000002	-87.796449300000006	390	0.008926732129369
64	Clearing	25891	41.780588000000002	-87.773388100000005	260	0.010042099571280
6	Lake View	100470	41.947050000000004	-87.655428782900543	1031	0.010261769682492
11	Jefferson Park	26808	41.969737500000001	-87.763117899999997	283	0.010556550283497
72	Beverly	20822	41.718153200000003	-87.671767399999993	226	0.010853904524061
4	Lincoln Square	41715	41.975989850000005	-87.689616330511498	453	0.010859403092413
77	Edgewater	55965	41.983368900000002	-87.663951600000004	638	0.011399982131689
18	Montclare	13830	41.925309100000000	-87.800893099999996	164	0.011858279103398
13	North Park	18842	41.980587200000002	-87.720891699999996	243	0.012896720093408
2	West Ridge	76215	42.003548199999997	-87.696242600000005	1004	0.013173259856984
7	Lincoln Park	67710	41.940297650000005	-87.638117105417564	918	0.013557820115197
15	Portage Park	64307	41.957809300000001	-87.765059399999998	883	0.013731009065887
16	Irving Park	54606	41.953364999999998	-87.736447100000007	753	0.013789693440281
60	Bridgeport	33637	41.837938500000000	-87.651027999999997	466	0.013853791955287
14	Albany Park	51992	41.971936700000001	-87.716173900000001	722	0.013886751807970

I continued my analysis with checking the number of restaurants in the neighborhoods mentioned above. The following neighborhoods have less than 10 restaurants:

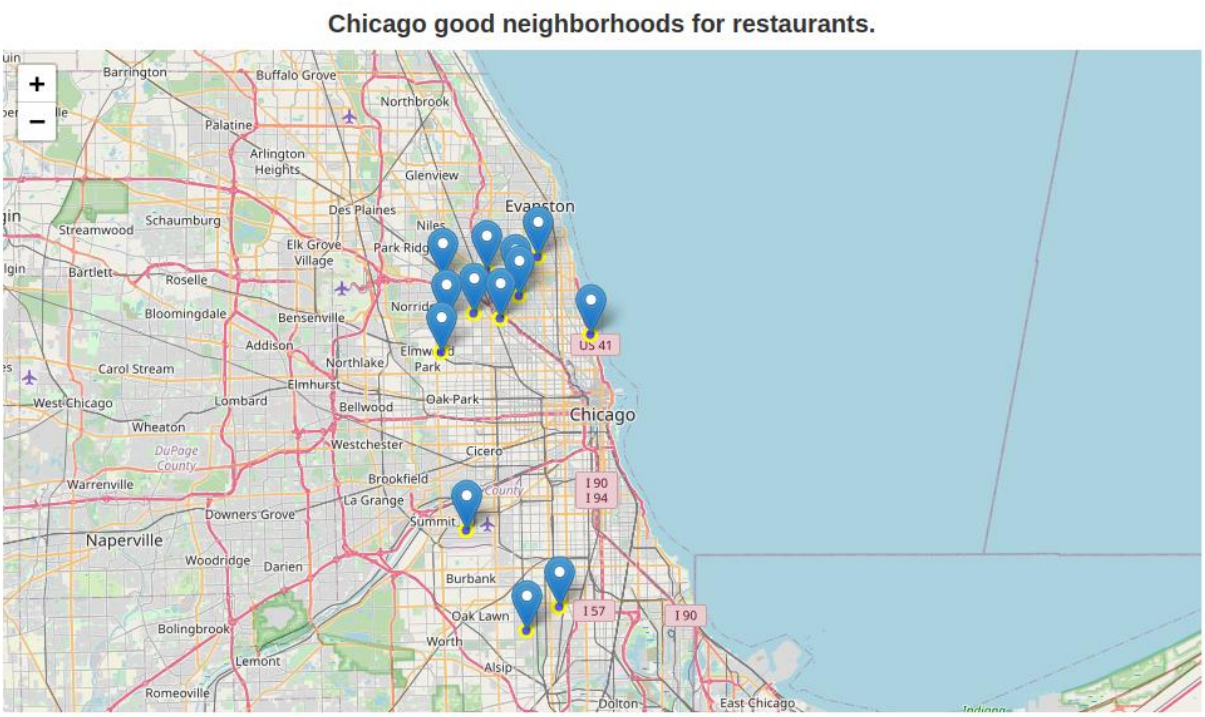
Area Number	Area Name	Population	Latitude	Longitude	Number of violent crimes	Crime per person	Number of restaurants
10	Norwood Park	37089	41.985589500000003	-87.800581730011018	295	0.007953840761412	0
74	Mount Greenwood	19277	41.698089099999997	-87.708661599999999	142	0.007366291435389	1
7	Lincoln Park	67710	41.940297650000005	-87.638117105417564	918	0.013557820115197	1
17	Dunning	43689	41.952809000000002	-87.796449300000006	390	0.008926732129369	2
2	West Ridge	76215	42.003548199999997	-87.696242600000005	1004	0.013173259856984	2
13	North Park	18842	41.980587200000002	-87.720891699999996	243	0.012896720093408	4
72	Beverly	20822	41.718153200000003	-87.671767399999993	226	0.010853904524061	5
12	Forest Glen	19019	41.991751550000004	-87.751673968427383	91	0.004784688995215	5
64	Clearing	25891	41.780588000000002	-87.773388100000005	260	0.010042099571280	8
15	Portage Park	64307	41.957809300000001	-87.765059399999998	883	0.013731009065887	8
18	Montclare	13830	41.925309100000000	-87.800893099999996	164	0.011858279103398	8
16	Irving Park	54606	41.953364999999998	-87.736447100000007	753	0.013789693440281	10
14	Albany Park	51992	41.971936700000001	-87.716173900000001	722	0.013886751807970	10

Basically at this point I have all the information we needed: the safest neighborhoods with low competition.

Results and Discussion

According to my analysis the following neighborhoods have low crime rate and low competition:

Area Number	Area Name
10	Norwood Park
74	Mount Greenwood
7	Lincoln Park
17	Dunning
2	West Ridge
13	North Park
72	Beverly
12	Forest Glen
64	Clearing
15	Portage Park
18	Montclare
16	Irving Park
14	Albany Park



In the north there are some good candidates very close to each other.

Conclusion

The goal of the project was to identify safe neighborhoods in Chicago with quite low competition in food services. During my analysis I concentrated on the more serious crimes.

I was able to identify 13 neighborhoods**. I would concentrate on the neighborhoods located in the north, since there are a number of good candidates very close to each other.**