



# The Battle of Neighborhoods

BEST LOCATIONS FOR A NEW SPORTING GOODS STORE IN CHICAGO

# Introduction

- ▶ Chicago is one of the most populated cities in the USA. Chicago is one of ten U.S. cities to have teams from the five major American professional team sports (baseball, football, basketball, hockey, soccer). Chicago has been named as the Best Sports City by Sporting News three times in 1993, 2006 and 2010.

# The Task At Hand

- ▶ The company that is specialized on selling sporting goods decided to expand its business to Chicago. They already have multiple shops in big cities, and found out that most profitable of them are in the neighborhood of various sportive objects, especially various gyms. As far as not all of their shops are highly profitable, they need to be more selective and intelligent in their shop positioning. Chicago is also a new market for them and they suffer from the lack of information.

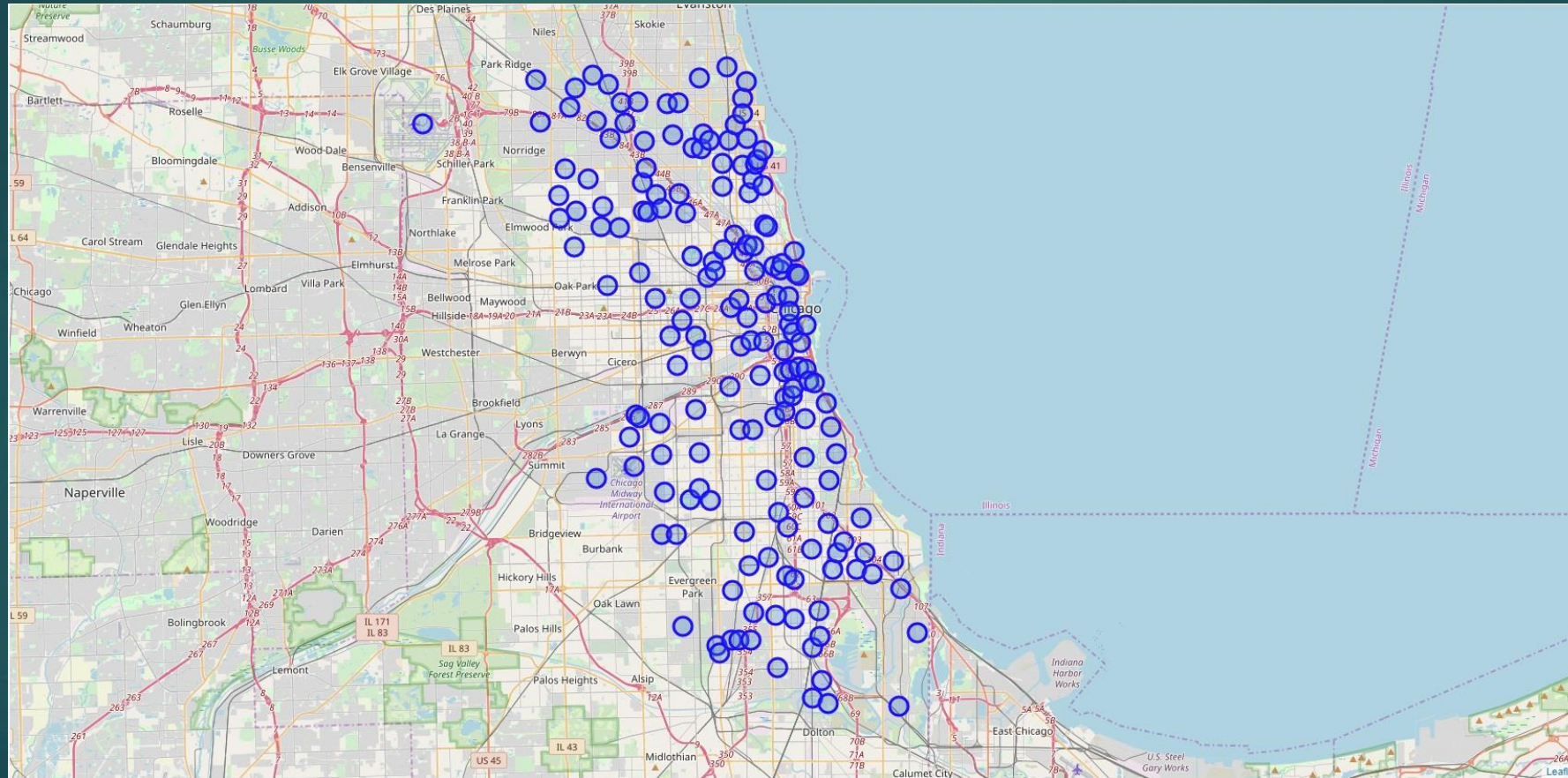
# Data

- ▶ [Chicago Open data portal](#) - The City of Chicago's open data portal lets you find city data, lets you find facts about your neighborhood, lets you create maps and graphs about the city, and lets you freely download the data for your own analysis. Many of these datasets are updated at least once a day, and many of them are updated several times a day.
- ▶ [Wikipedia](#) - Wikipedia is a free encyclopedia, that contains a great amount of data. Several pages were used to get detailed information to solve a task. [List of neighborhoods in Chicago](#) for neighborhood exploration, and [Community areas in Chicago](#) for a community areas understanding.
- ▶ [Foursquare API](#) - An incredible tool to get information about venues, coordinates and many other well detailed information.

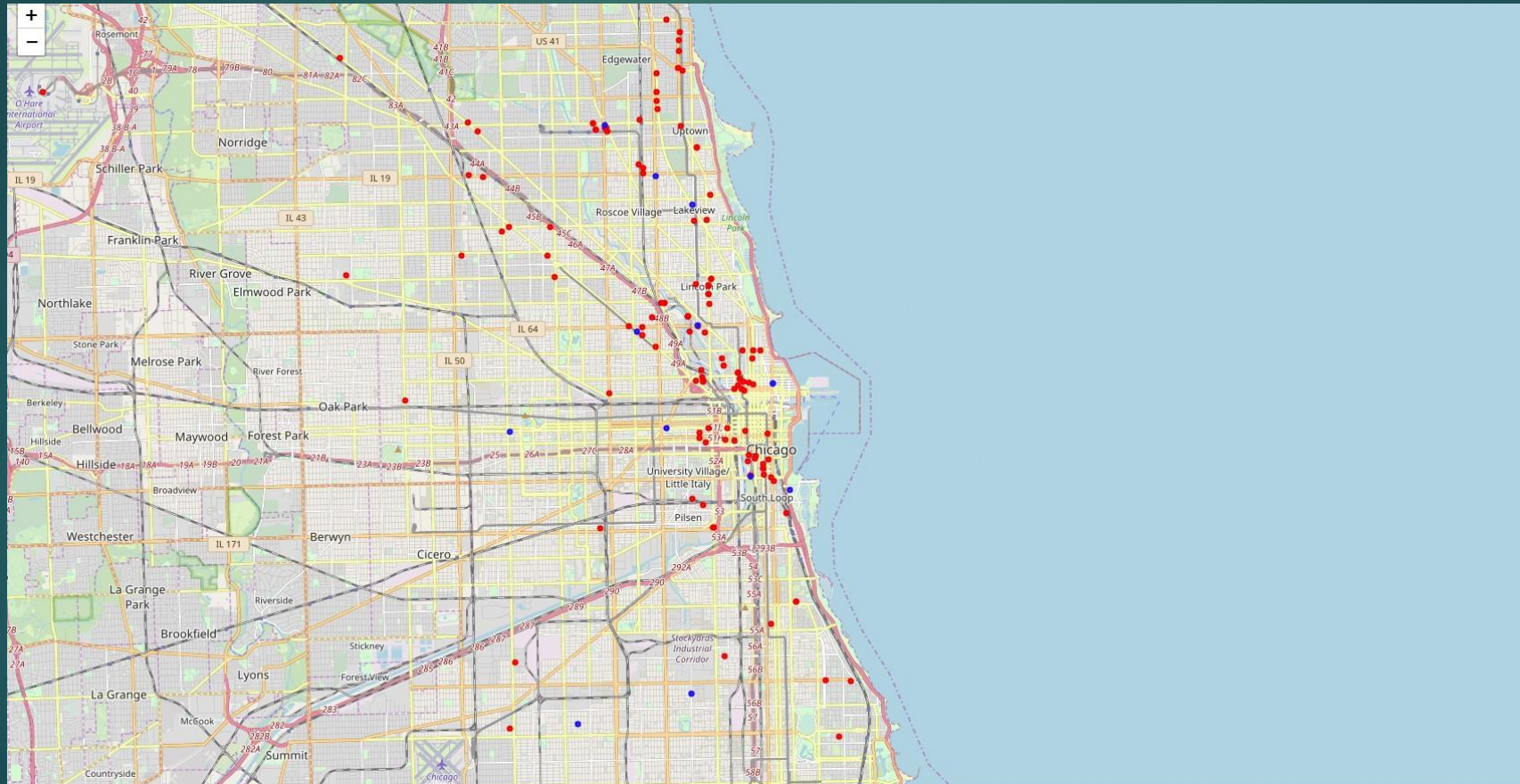
# List of neighborhoods

	name	categories	lat	lng
0	Garrett Popcorn Shops	Snack Place	41.976047	-87.902024
1	Argo Tea	Tea Room	41.975817	-87.902590
2	Delta Air Lines Ticket Counter	Airport Service	41.976418	-87.904570
3	Garrett Popcorn Shops	Snack Place	41.978830	-87.906890
4	O'Hare Yoga Room	Yoga Studio	41.975487	-87.903245
5	Publican Tavern	Gastropub	41.976573	-87.900908
6	Argo Tea	Tea Room	41.977470	-87.899133
7	Tortas Frontera by Rick Bayless	Mexican Restaurant	41.975421	-87.900147
8	Summer House Santa Monica	American Restaurant	41.976611	-87.905583
9	Tortas Frontera by Rick Bayless	Mexican Restaurant	41.980000	-87.906803





# Gyms and shops distribution





# Neighborhoods by number and popularity

	Neighborhood	Gyms	Longitude	Latitude	Community area
0	River North	9	-87.635719	41.896471	Near North Side
1	Printer's Row	7	-87.628900	41.873787	The Loop
2	Dearborn Park	6	-87.628954	41.866553	Near South Side
3	Greektown	5	-87.646932	41.878445	Near West Side
4	Park West	5	-87.645661	41.920892	Lincoln Park
5	East Village	5	-87.655358	41.896198	West Town
6	Lincoln Square	5	-87.688965	41.968682	Lincoln Square
7	Bucktown	4	-87.670123	41.916211	Logan Square
8	Cabrini-Green	4	-87.640937	41.898805	Near North Side
9	Near North Side	4	-87.634497	41.900033	Near North Side
10	Heart of Chicago	3	-87.648108	41.856977	Lower West Side
11	Lincoln Park	3	-87.647832	41.921699	Lincoln Park
12	Andersonville	3	-87.669273	41.977139	Edgewater
13	Goose Island	3	-87.655765	41.910048	Near North Side
14	Nortown	3	-87.660611	41.910530	West Ridge
15	West Loop	3	-87.638578	41.882332	Near West Side
16	North Center	3	-87.679160	41.956107	North Center
17	Wicker Park	3	-87.678155	41.907802	West Town
18	Edgewater	3	-87.663952	41.983369	Edgewater
19	Edgewater Glen	3	-87.664046	41.992391	Edgewater

	Neighborhood	Gyms	Longitude	Latitude	Community area
0	Kennedy Park	0.285714	-87.683482	41.687226	Morgan Park
1	Nortown	0.166667	-87.660611	41.910530	West Ridge
2	Bucktown	0.166667	-87.670123	41.916211	Logan Square
3	East Village	0.147059	-87.655358	41.896198	West Town
4	Near North Side	0.133333	-87.634497	41.900033	Near North Side
5	Norwood Park East	0.125000	-87.793098	41.987245	Norwood Park
6	River North	0.113924	-87.635719	41.896471	Near North Side
7	Cabrini-Green	0.102564	-87.640937	41.898805	Near North Side
8	Mayfair	0.100000	-87.737837	41.968087	Albany Park
9	Canaryville	0.100000	-87.640329	41.814756	New City
10	Greektown	0.098039	-87.646932	41.878445	Near West Side
11	Irving Park	0.095238	-87.736447	41.953365	Irving Park
12	Kelvyn Park	0.090909	-87.737968	41.929318	Hermosa
13	Kenwood	0.086957	-87.597991	41.809144	Kenwood
14	The Island	0.083333	-87.764851	41.887876	Austin
15	Groveland Park	0.083333	-87.610256	41.833644	Douglas
16	Edgewater Glen	0.081081	-87.664046	41.992391	Edgewater
17	Dearborn Park	0.072289	-87.628954	41.866553	Near South Side
18	Printer's Row	0.070000	-87.628900	41.873787	The Loop
19	Park West	0.067568	-87.645661	41.920892	Lincoln Park



# Combined metric

	Neighborhood	Gyms_x	Longitude_x	Latitude_x	Community area_x	Sporting Goods Shop_x	Gyms_y	Longitude_y	Latitude_y	Community area_y	Sporting Goods Shop_y	Gyms
0	River North	1.000000	-87.635719	41.896471	Near North Side	0.000000	0.467779	-87.635719	41.896471	Near North Side	0.000000	1.467779
6	Bucktown	0.166667	-87.670123	41.916211	Logan Square	0.000000	1.000000	-87.670123	41.916211	Logan Square	0.000000	1.166667
5	East Village	0.333333	-87.655358	41.896198	West Town	0.000000	0.802139	-87.655358	41.896198	West Town	0.000000	1.135472
9	Nortown	0.000000	-87.660611	41.910530	West Ridge	0.000000	1.000000	-87.660611	41.910530	West Ridge	0.000000	1.000000
8	Near North Side	0.166667	-87.634497	41.900033	Near North Side	0.000000	0.663636	-87.634497	41.900033	Near North Side	0.000000	0.830303
1	Printer's Row	0.666667	-87.628900	41.873787	The Loop	0.000000	0.024545	-87.628900	41.873787	The Loop	0.000000	0.691212
3	Greektown	0.333333	-87.646932	41.878445	Near West Side	0.000000	0.307487	-87.646932	41.878445	Near West Side	0.000000	0.640820
2	Dearborn Park	0.500000	-87.628954	41.866553	Near South Side	0.012048	0.047645	-87.628954	41.866553	Near South Side	0.012048	0.547645
7	Cabrini-Green	0.166667	-87.640937	41.898805	Near North Side	0.000000	0.353147	-87.640937	41.898805	Near North Side	0.000000	0.519814
4	Park West	0.333333	-87.645661	41.920892	Lincoln Park	0.000000	0.000000	-87.645661	41.920892	Lincoln Park	0.000000	0.333333
10	Edgewater Glen	0.000000	-87.664046	41.992391	Edgewater	0.000000	0.136364	-87.664046	41.992391	Edgewater	0.000000	0.136364

# Top 20 neighborhoods by number



# Top 20 neighborhoods by popularity

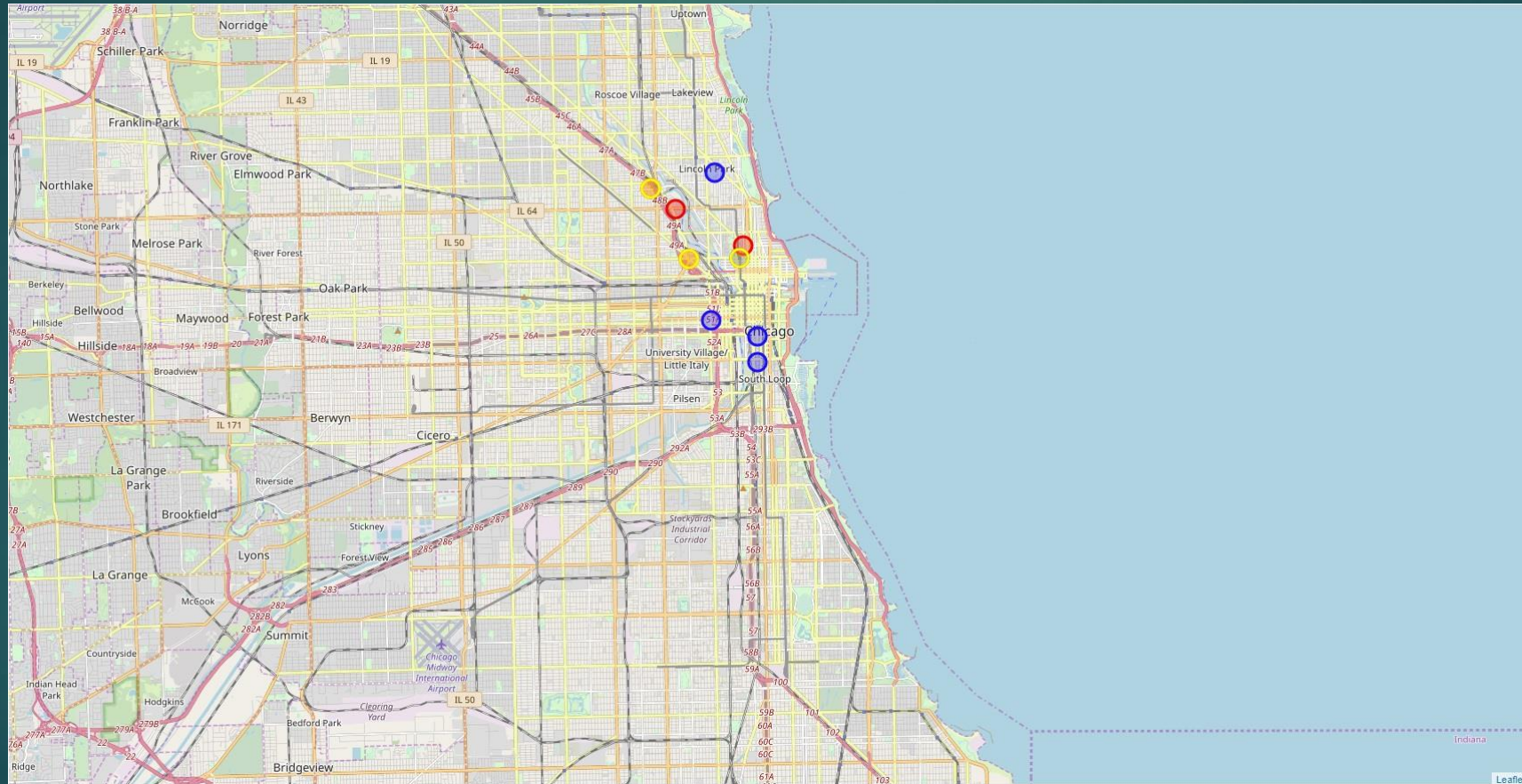


# Combined metric





# The final map



# Results

The most desirable neighborhoods are:

- ▶ River North
- ▶ Bucktown
- ▶ East Village

Our company strategy relies on the combined metrics, so its results show the low level of the competition.

# Conclusions

- ▶ In conclusion, we can say that different methodologies, data sources and metrics can be used to resolve that question. This work highly relies on Foursquare API. The industry is changing and the location of gyms and sporting goods shops changes. First, I tended to use cauterization methods to resolve that issue, but instead a custom model was created. As for my point of view it is easier to understand and gives a clear answer. The way I've chosen starts with finding a large amount of locations, and then, step by step, narrowing the number of them. The answer to the initial question is data-driven and rather easy for stakeholders to understand. Moreover, it is reusable and may help in further investigations.
- ▶ It could be very time-consuming to find a location for the store without used methods. This work shows the easy way to make data-driven recommendations.

Thank you!