

Where has best Pub in NYC?

Emma Delehanty

Data Science Program, University of North Carolina Wilmington

Introduction

The City of New York is the most populous city in the United States. It is diverse and is the financial capital of USA. It is multicultural. It provides lot of business opportunities and business friendly environment. It has attracted many different players into the market. It is a global hub of business and commerce. The city is a major center for banking and finance, retailing, world trade, transportation, tourism, real estate, new media, traditional media, advertising, legal services, accountancy, insurance, theater, fashion, and the arts in the United States. This also means that the market is highly competitive. As it is highly developed city so cost of doing business is also one of the highest. Thus, any new business venture or expansion needs to be analyzed carefully. The insights derived from analysis will give good understanding of the business environment which help in strategically targeting the market. This will help in reduction of risk. And the Return on Investment will be reasonable. The basis of this study is to find the best location for investors to open a new pub in NYC city. Sales in the drinking place sector in the United States have steadily grown since the mid 1990's reaching 23.15 billion U.S. dollars in 2015. The sector includes bars, pubs, lounges, taverns and nightclubs as well as other drinking places that primarily sell alcoholic beverages for immediate consumption. The National Restaurant Association estimated that food and drink sales in U.S. bars and taverns would reach 19.9 billion U.S. dollars in 2016. This is a relatively small figure in

comparison to the wider restaurant industry, for which food and drink sales were expected to rise to approximately 783 billion U.S. dollars during the same year. New York is a major metropolitan area with more than 8.4 million (Quick Facts, 2018) people living within city limits.

With these criteria given by the investing group, based on previous success in other markets, the objective is to locate and recommend to the investors, the target audience, which neighborhood(s) of NYC will be the best choice to start growth plan. The information gained will assist in choosing the right location by providing data about the population of each neighborhood, in addition to other established venues present in these areas. This report explores which neighborhoods and boroughs of New York City have the most as well as the pubs. Additionally, I will attempt to answer the questions “Where I can find best pub in NYC?”

Data acquisition and cleaning

- Data 1: Neighborhood has a total of 5 boroughs and 306 neighborhoods which each borough as well as the latitude and longitude coordinates of each neighborhood. This dataset exists for free on the web. Link to the dataset https://geo.nyu.edu/catalog/nyu_2451_34572
- Data 2: For the below analysis we will get data from Wikipedia as given below:
 - https://en.wikipedia.org/wiki/Neighborhoods_in_New_York_City
 - https://en.wikipedia.org/wiki/Economy_of_New_York_City
 - https://en.wikipedia.org/wiki/Portal:New_York_City
- Data 3: we are using Foursquare API to utilize city geographical coordinates data which will be leveraged to provision venues information for each neighborhood

Cleaning the above dataset proved challenging. Specially using Foursquare API to get number pub in each Borough and neighborhood.

Methodology

- Scraping data from Wikipedia link
- extract data from newyork_data.json and convert json to data frame
- find the coordinates of the target place and list of neighborhoods
- Create a map of North York and extract Pubs in NYC data from Foursquare API.
- The borough and neighborhood have the most Pub
- check each pub (Rating, Tips, Like) from Foursquare API.
- Find Average rating of Pub for each neighborhood and borough
- Use Folium display locations of best pubs in the map

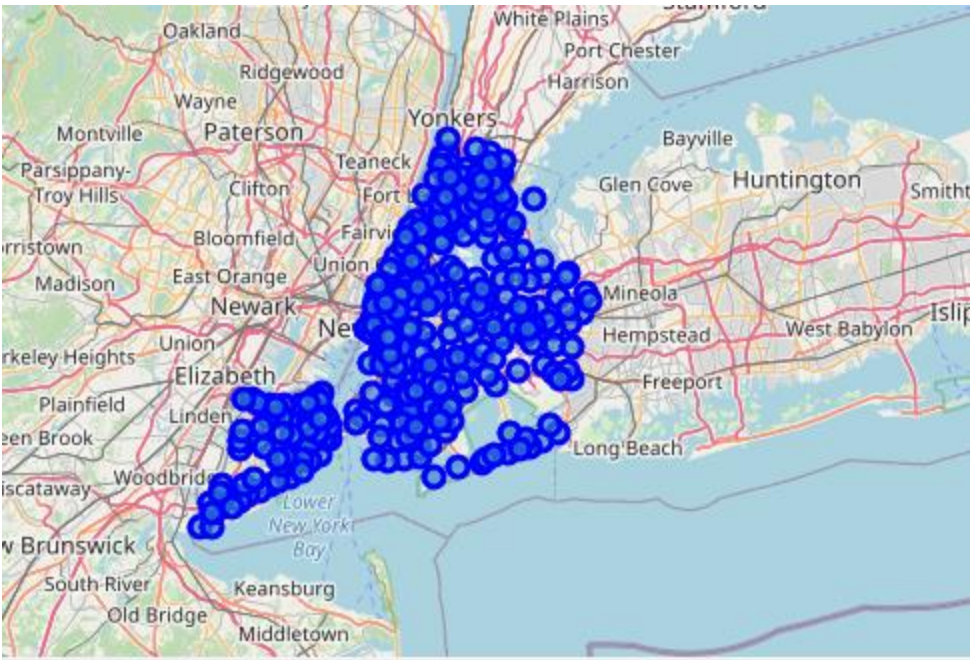
Results

- 1.the data that extracting from Wikipedia with adding latitude and longitude

.

	Borough	Neighborhood	Latitude	Longitude
0	Bronx	Wakefield	40.894705	-73.847201
1	Bronx	Co-op City	40.874294	-73.829939
2	Bronx	Eastchester	40.887556	-73.827806
3	Bronx	Fieldston	40.895437	-73.905643
4	Bronx	Riverdale	40.890834	-73.912585

- 2. Create a map of North York with displaying neighborhoods

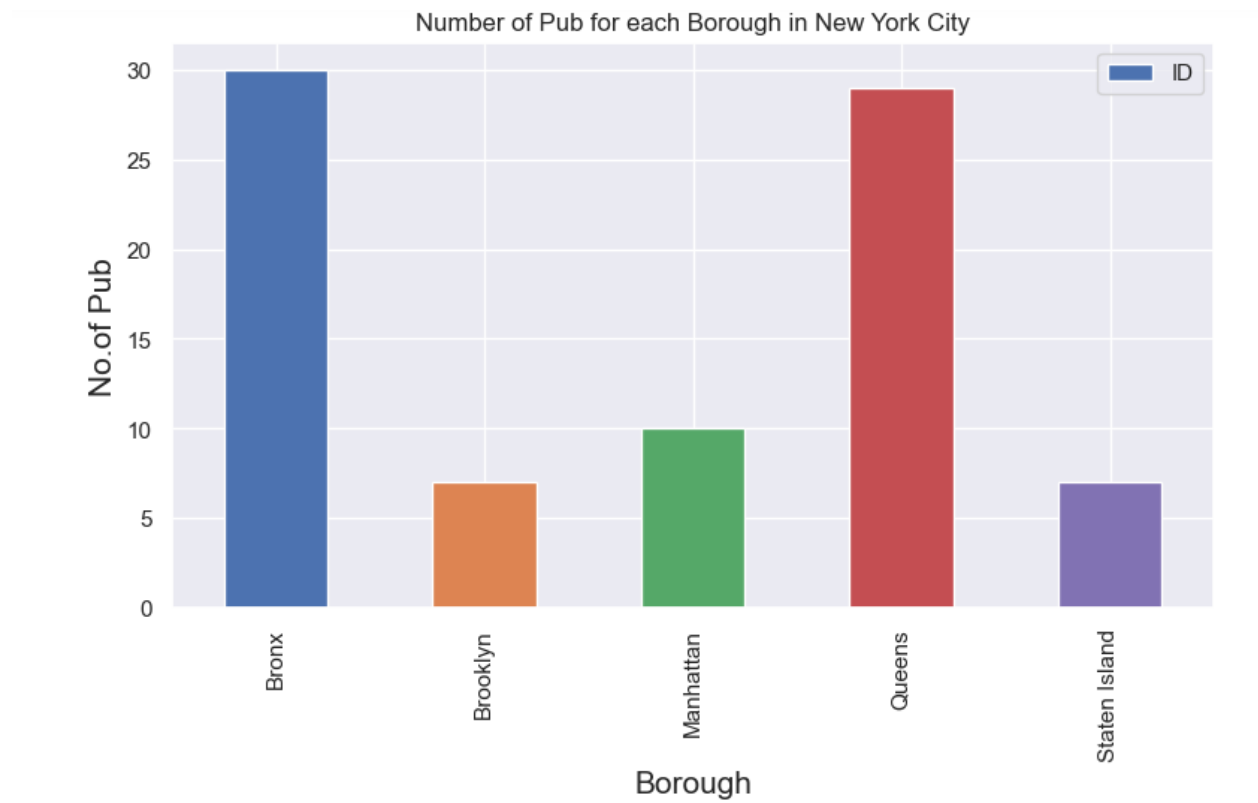


3. The data extracting from Foursquare API of Pubs in NYC in each neighborhood.

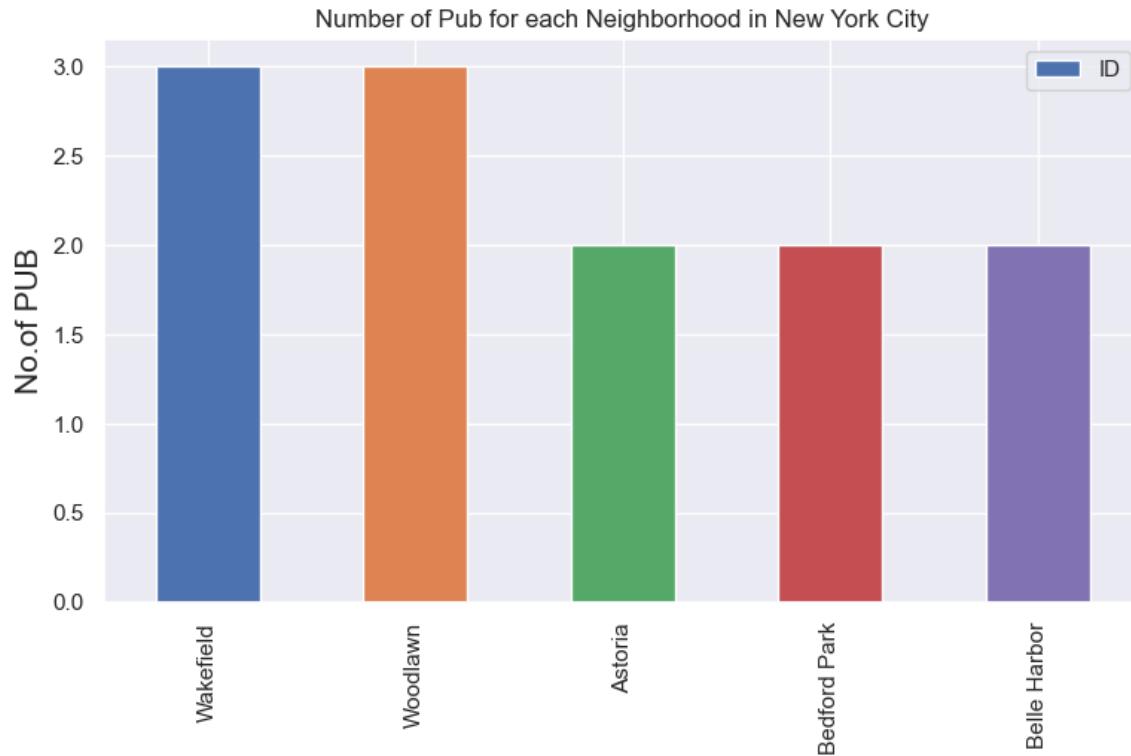
1]:

	Borough	Neighborhood	ID	Name
0	Bronx	Wakefield	4bb24ac935f0c9b6a913bb83	The Heritage
1	Bronx	Wakefield	46212cb5f964a5208d451fe3	Rambling House
2	Bronx	Wakefield	4d4f16d29a2a6ea83b05296f	Moriarty's Bar & Restaurant
3	Bronx	Fieldston	59b17fe23b4e0043787e1a7c	The Bronx Public
4	Bronx	Riverdale	59b17fe23b4e0043787e1a7c	The Bronx Public

4.The borough has the most Pub, as we can see from bar chart, the borough of Bronx and Queens have most pubs



5. The neighborhood has the most Pub, as we can see from bar chart, Wakefield and Woodlawn have most pubs



6. Each pub (Rating, Tips, Like) from Foursquare API.

:

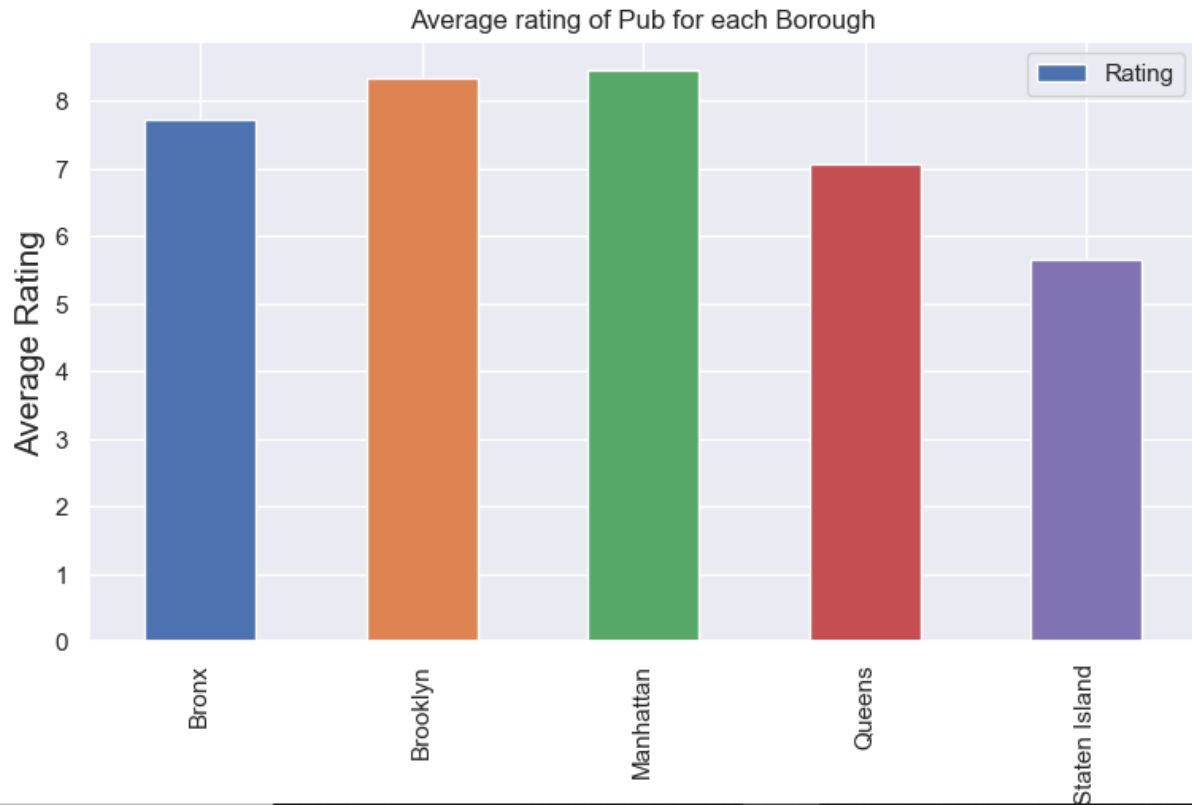
	Borough	Neighborhood	ID	Name	Likes	Rating	Tips
0	Bronx	Wakefield	4bb24ac935f0c9b6a913bb83	The Heritage	49	8.6	17
1	Bronx	Wakefield	46212cb5f964a5208d451fe3	Rambling House	96	8.3	36
2	Bronx	Wakefield	4d4f16d29a2a6ea83b05296f	Moriarty's Bar & Restaurant	9	7.1	3
3	Bronx	Fieldston	59b17fe23b4e0043787e1a7c	The Bronx Public	12	8.5	6
4	Bronx	Riverdale	59b17fe23b4e0043787e1a7c	The Bronx Public	12	8.5	6

7. Average rating of Pub for each neighborhood.

:

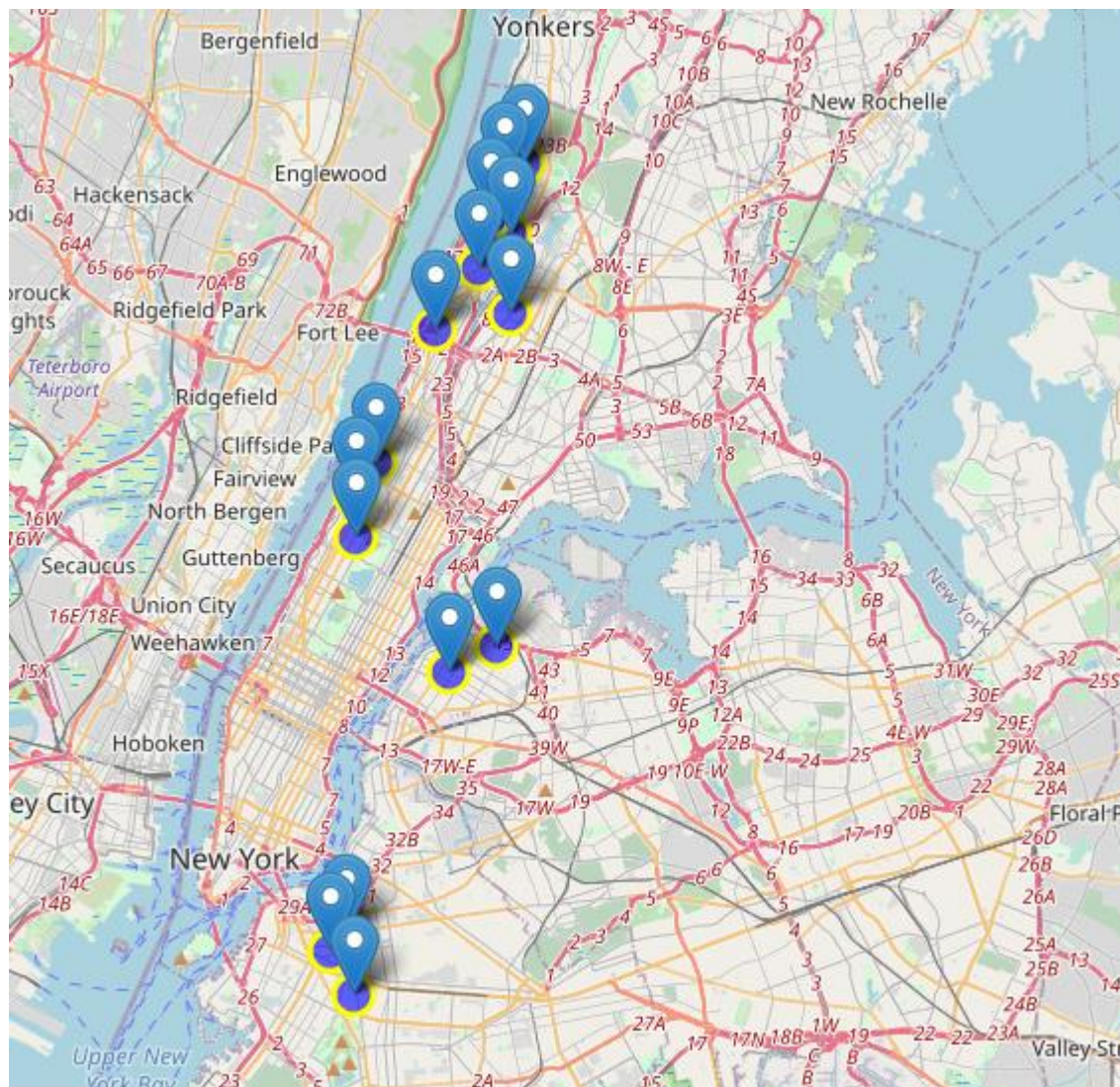
	Neighborhood	Average Rating
37	Prospect Heights	8.90
17	Fort Greene	8.90
39	Ravenswood	8.65
56	Washington Heights	8.60
52	University Heights	8.60
1	Astoria	8.55
26	Marble Hill	8.55
20	Inwood	8.55
14	Fieldston	8.50
45	Spuyten Duyvil	8.50

7.Average rating of Pub for each Borough. Manhattan and Brooklyn have highest average rating Pub



9.find the location of Pub has rating over 8.5 and display the location on the map.

	Borough	Neighborhood	Latitude	Longitude	Average Rating
0	Queens	Astoria	40.768509	-73.915654	8.55
1	Brooklyn	Clinton Hill	40.693229	-73.967843	8.50
2	Bronx	Fieldston	40.895437	-73.905643	8.50
3	Brooklyn	Fort Greene	40.688527	-73.972906	8.90
4	Manhattan	Inwood	40.867684	-73.921210	8.55
5	Manhattan	Manhattan Valley	40.797307	-73.964286	8.50
6	Manhattan	Manhattanville	40.816934	-73.957385	8.50
7	Manhattan	Marble Hill	40.876551	-73.910660	8.55
8	Manhattan	Morningside Heights	40.808000	-73.963896	8.50
9	Brooklyn	Prospect Heights	40.676822	-73.964859	8.90
10	Queens	Ravenswood	40.761705	-73.931575	8.65
11	Bronx	Riverdale	40.890834	-73.912585	8.50
12	Bronx	Spuyten Duyvil	40.881395	-73.917190	8.50
13	Bronx	University Heights	40.855727	-73.910416	8.60
14	Manhattan	Washington Heights	40.851903	-73.936900	8.60



Conclusion

This project successfully using the foursquare API to find the best pub in NYC using the average rating. Regarding the results, I would recommend if you are looking for the best pub, using the map I create to find each location.

Although all the dataset may not be representative of all the pubs in NYC, for future work, I would be adding multi-feature to represent the better recommendation.

