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Flora lou
Jun 9 · 6 min read

> *"What would you recommend in New York City to open a new affordable hotel?"*

Photo by Mike C. Valdivia on Unsplash

New York City's demographics show that it is a large and ethnically diverse metropolis. It is the largest city in the United States with a long history of international immigration. New York City was home to nearly 8.5 million people in 2014, accounting for over 40% of the population of New York State and a slightly lower percentage of the New York metropolitan area, home to approximately 23.6 million. Over the last decade, the city has been growing faster than the region. The New York region continues to be by far the leading metropolitan gateway for legal immigrants admitted into the United States.

A Taste of New York

from **FilmSpektakel**

02:59

New York City is so much more than a bunch of amazing points of interest spread across 5 boroughs. What truly makes this city so special is its distinct neighbourhoods which themselves make up the integral parts of New York.

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Data

For this project we need the following data :

New York City data that contains list Boroughs, Neighborhoods along with their latitude and longitude.

- Data source: https://cocl.us/new_york_dataset

- Description: This data set contains the required information. And we will use this data set to explore various neighbourhoods of new york city.

Foursquare Developer

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Hotels in each neighbourhood of new york city.

- Data source: Foursquare API

- Description: By using this API we will get all the venues in each neighbourhood. We can filter these venues to get only hotels.

New York neighbourhood general stats

|	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

Neighbourhood and Location
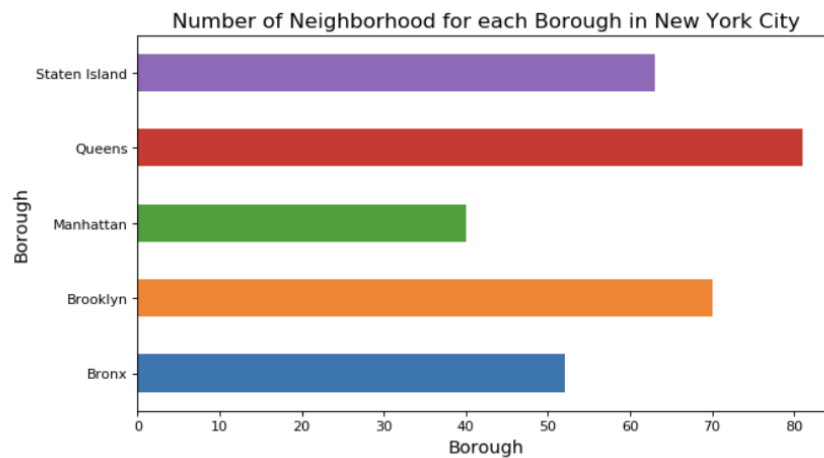
Queens have most neighbourhoods than the rest boroughs.

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Get hotel venues in each neighbourhood

Number of Hotels in each Borough of New York City
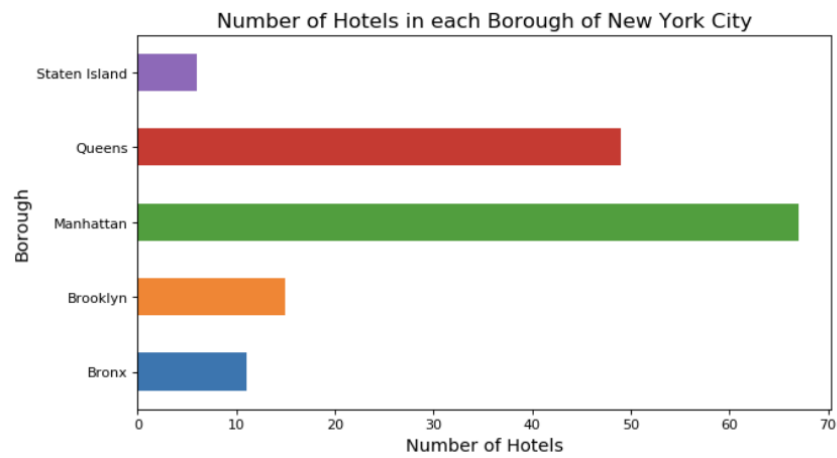
Manhattan has the largest number of hotels

Number of hotels for each Neighborhood in New York City
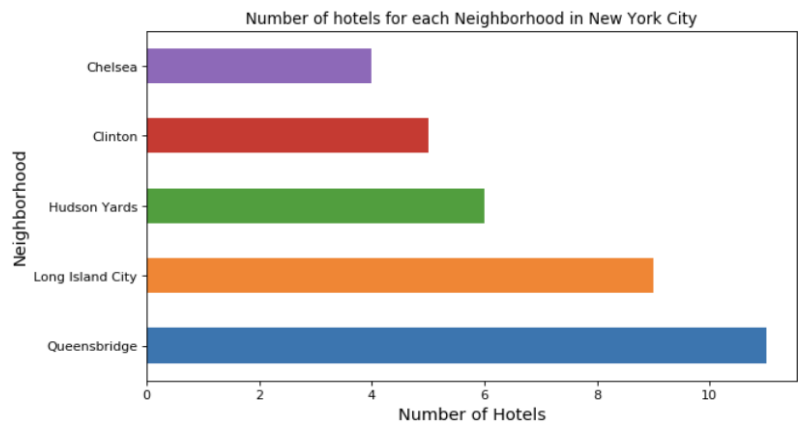
Queensbridge on top has 11 hotels

Photo by Colton Duke on Unsplash

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Get venue details of individual hotel

	Borough	Neighborhood	ID	Name	Type	Likes	Rating
0	Bronx	Co-op City	4ca57d6e14c33704d2d0b63b	Ramada Bronx	Motel	3	5.6
1	Bronx	Eastchester	4ca57d6e14c33704d2d0b63b	Ramada Bronx	Motel	3	5.6
2	Brooklyn	Brooklyn Heights	57ed4330498e34539123c310	1 Hotel Brooklyn Bridge	Wedding Hall	237	9.1
3	Manhattan	Chinatown	578692f4498e1054905dbde7	Hotel 50 Bowery NYC	Resort	71	9.0
4	Manhattan	Upper East Side	4b37853af964a520c54125e3	The Mark Hotel	Hotel Bar	88	8.7
5	Manhattan	Upper East Side	4ae0e432f964a5206e8321e3	The Surrey	Spa	66	8.2
6	Manhattan	Chelsea	40a16900f964a520f9f21ee3	Soho House	Lounge	1101	9.2
7	Manhattan	Tribeca	4ab6c985f964a5200a7920e3	Greenwich Hotel	Hotel Bar	92	8.8
8	Manhattan	Little Italy	578692f4498e1054905dbde7	Hotel 50 Bowery NYC	Resort	71	9.0
9	Manhattan	Financial District	57ab3eb5498e2efa275dfef3	AKA Wall Street	Resort	21	8.3
10	Queens	South Ozone Park	52af19d111d24b820c70cad6	Crowne Plaza JFK Airport New York City	Resort	81	7.0
11	Manhattan	Civic Center	4ab6c985f964a5200a7920e3	Greenwich Hotel	Hotel Bar	92	8.8
12	Manhattan	Midtown South	4ae6f117f964a520a6a721e3	The NoMad Hotel	Roof Deck	361	9.3
13	Brooklyn	Fulton Ferry	57ed4330498e34539123c310	1 Hotel Brooklyn Bridge	Wedding Hall	237	9.1

Drop hotels missing available data

we can see foursquare has more hotels data available in Manhattan, which also has the most variety of hotel types.


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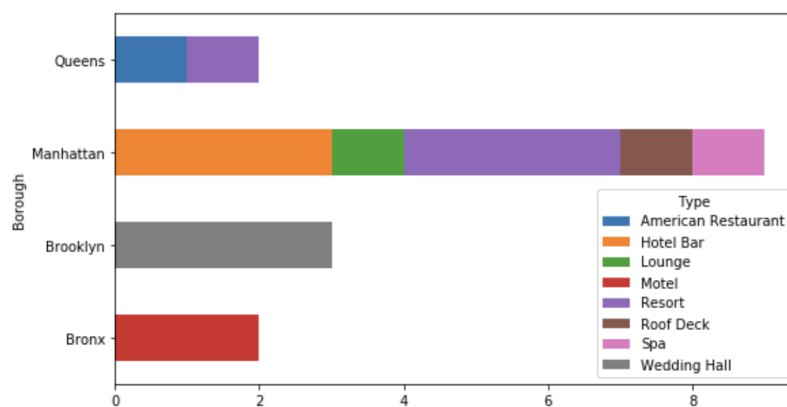
Explore an affordable hotel in Manhattan

16 Best Hotels in New York. Hotels from $53/night - KAYAK

Looking for a New York Hotel? 2-star hotels from $53, 3 stars from $65 and 4 stars+ from $110. Sta…

www.kayak.com

- Downtown Manhattan is a calm and historic area south of 14th Street, where you can find Hilton Garden Inn New York, which provides amenities including a gym. Midtown is located between 34th Street and 59th Street, near the busy Times Square area, where you can find The Roosevelt Hotel, which has rooms with a terrace.

- If you're visiting Manhattan on a budget, there are some **affordable options** if you are willing to stay a bit further from Times Square. Consider the Upper West Side or Upper East Side, where you can go for a walk in Central Park or enjoy attractions like the Museum of Modern Art (MoMA). A convenient option in these areas could be the Empire Hotel, which has a rooftop pool. Another cheap option could be The Franklin Hotel, which provides a free breakfast.

- Those attracted to outdoors and green spaces should head to **Greenwich Village**, just a 10-minute subway ride away from Central Park. There you will find several hotels with a pool, where you can relax after taking in the surroundings. Some examples are the Saratoga Hilton, the **Holiday Inn Saratoga Springs**, the Union Gables Bed & Breakfast and the Landmark Motor Inn.
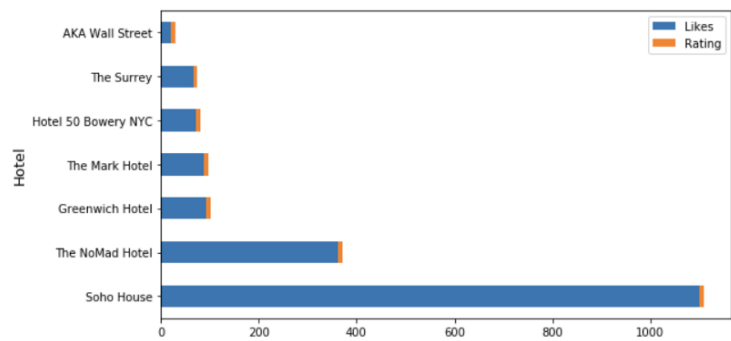
Top rated ones are not easy on a budget. However, we can see Soho house has way better ratings than the rest.

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Pod 39 Hotel

10 of the best new affordable hotels in New York City

> *In an elegant brick building in Manhattan's Murray Hill, this excellent **budget** option opened following the success of sister hotel, The Pod. It trumps the elder sibling—now renamed Pod 51—as all its rooms are en suite and it has a fabulous brick-pillared rooftop bar serving tacos and a warm atmosphere amid fairy lights and stunning views. The rooms, some with bunk beds, are called pods gave their compact size and may not suit everyone. But with prices among the most competitive in Manhattan, budgeters will be happy. Other nice touches include free passes to customised group walking tours of the city, held four days a week by guides Streetwise New York.*

	Borough	Neighborhood	ID	Name
121	Manhattan	Tudor City	4fe0634b7beb303528d17f94	Pod 39 Hotel

Get tips and list of associated features

Photo by Matthew Hamilton on Unsplash

Best hotel room ever! So efficient. There's a mini table, light and outlet by each pillow, tv at the end of each bed and see through shower/bathroom wall (awkward when staying with your guy friend...)

All-round cool, modern, good value-for-money hotel in a very convenient location in Manhattan. Just one thing to make it better — remove the captive login for the Wi-Fi. It's really annoying!

The comments are pretty good and with a rating of 8.4, I decided to use this hotel as the prototype whose surrounding information becomes the foundation of the selection process.

Explore venues near the hotel

```
nearby_list=[]
for i in range(results['response']['nextVenues']['count']):
    nearby=results['response']['nextVenues']['items'][:][i]['categories'][0]['shortName']
    nearby_list.append(nearby)
nearby_list
```

```
['Cocktail', 'Coffee Shop', 'Diner', 'Burgers', 'Plaza']
```

. . .

3. Search for a possible place for the new hotel

Search for similar hotels

ID and Name of similar hotels

	ID	Name
0	43b042a4f964a520962c1fe3	The Roosevelt Hotel
1	48636489f964a520e0501fe3	Gramercy Park Hotel
2	4bc4f73c0191c9b6d2e8eab1	The Manhattan at Times Square Hotel
3	465f30baf964a52054471fe3	Dream Midtown
4	44d7b1f3f964a52070361fe3	W New York - Union Square

Get nearby venues of those similar hotels
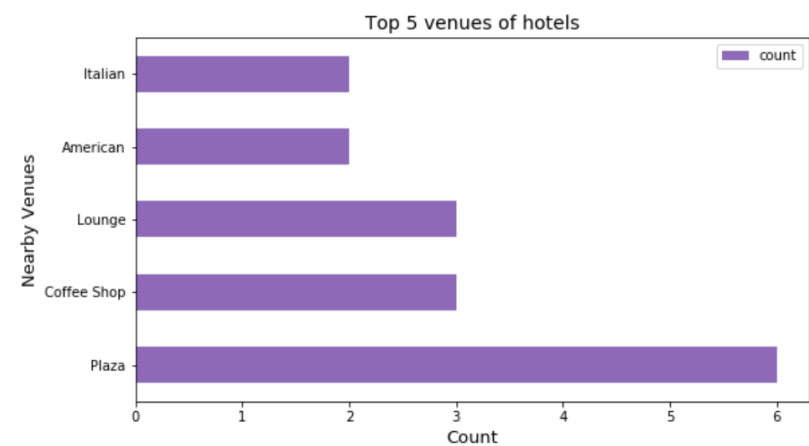
We can see the hotel location get great influence from passenger traffic since the top categories that nearby venues fall into are plaza and coffee shop.

Photo by Marc Ruaix on Unsplash

Due to the unforeseeing large amount of feedback data missing from foursquare API, ratings and likes cannot help to find a proper prototype hotel that can be explored.

So I decided to use a semi-target hotel and Foursquare API's similar venues recommendation to move the selection process.

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4. Find 5 possible neighbourhoods for the new hotel

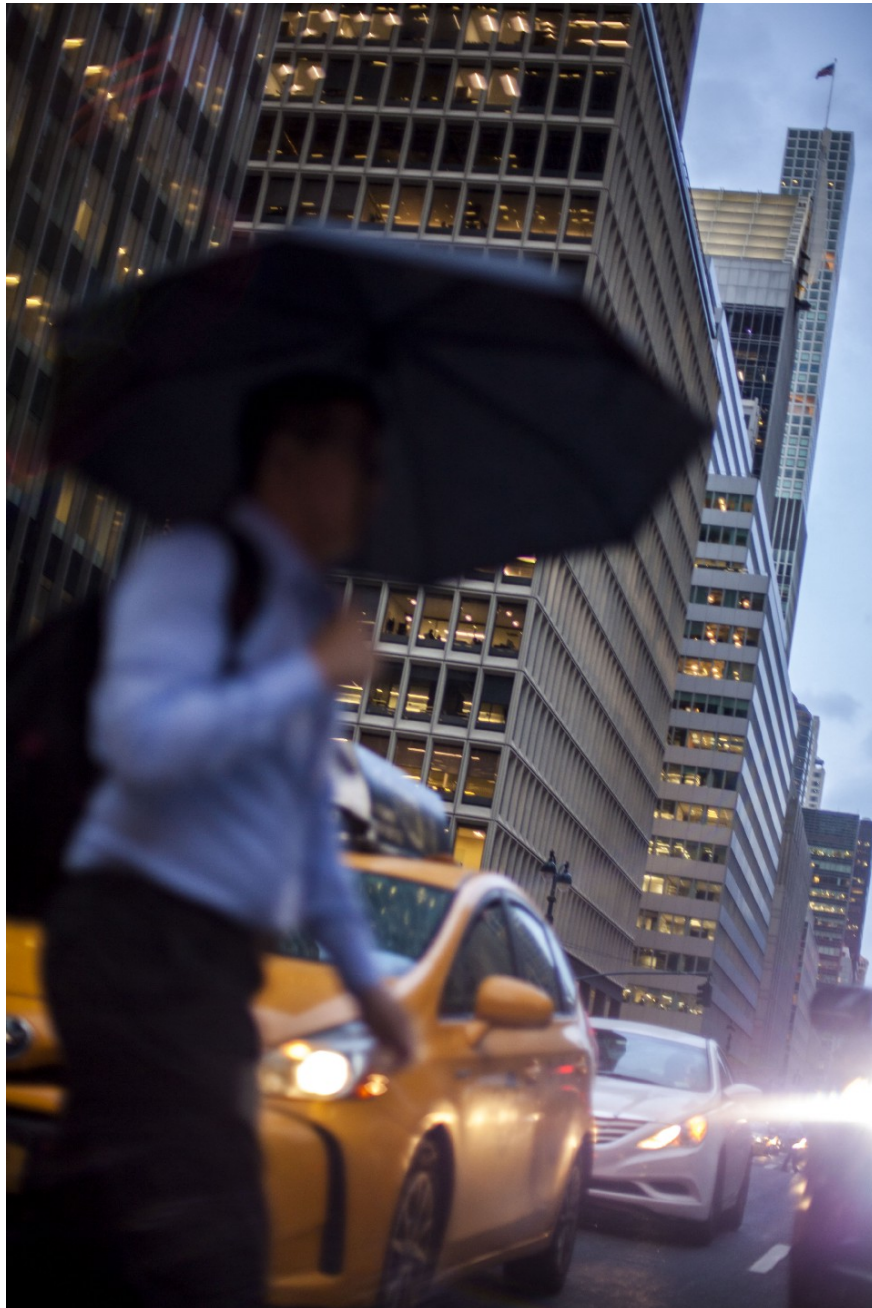|	Borough	Neighborhood	Plaza	Coffee Shop	Lounge	American	Italian
112	Manhattan	Lincoln Square	4	5	1	1	4
127	Manhattan	Battery Park City	3	7	0	2	1
114	Manhattan	Midtown	3	4	1	1	2
58	Brooklyn	Windsor Terrace	3	4	0	3	5
59	Brooklyn	Prospect Heights	3	3	0	3	2

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5. Conclusion

Photo by Anton on Unsplash

- In terms of popularity, traffic flow transportation, a new affordable hotel should be located in Manhattan. Possible neighbourhoods using those set of data are Lincoln Square, Battery Park City and Midtown. A neighbourhood can vary due to different clustering categories.

- One obstacle of using Foursquare API for hotels is that many data are not available, thus rating and likes information cannot be extracted, leading to nearly independent on those feedback data at all.

- In this report, I only used nearby venues of similar hotels recommended by Foursquare API, which is fed by my chosen prototype hotel, Pod 39.

- As the answer to the project question, I would recommend Manhattan Midtown, upper east side and Greenwich Village. A good trade-off between pricy place and passenger flow should be further studied.