

Where is the best place to launch a Bar in Manhattan

1. Introduction

1.1 Background

The City of New York is the most populous city in the United States. It is diverse and is the financial capital of the USA. It is multicultural. It provides a lot of business opportunities and a 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 a highly developed city so the 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 the analysis will give a good understanding of the business environment which helps in strategically targeting the market. This will help in the reduction of risk. And the Return on Investment will be reasonable.

1.2 Business Target

New York is an international metropolis with all kinds of people, and people also have various preferences. The bar is an important sign that reflects the citizens' preferences. Different Bars in New York can reflect the preferences of New Yorkers.

Timely change is a sign of a metropolis and an attribute preferred by citizens. In the face of the citizens' flexible preferences, it is a very commercial direction. By analyzing the preferences of citizens through the existing data, we can dig out the guidelines and suggestions for establishing a new Bar, so as to discover new business opportunities.

1.3 Client's Goals

The client wants to open in the Manhattan area, so I only focused on the administrative area during the analysis. The purpose is to determine and recommend to management which community in New York City will be the best choice for opening a restaurant. Management also wants to understand the reasons for the recommendations.

1.4 Why use this report

If you plan a real bar that may require higher prices for basic elements such as fresh fruit and wine delivered daily from the place of origin, you should focus on communities and shops that have already attracted regular customers. If you plan to regularly provide cheap soft bars for creative drinks at a fair price, then point to those who are looking for affordable high-traffic locations with large shopping malls and other local attractions.

Therefore, it is clear that to survive in such a competitive market, strategic planning is necessary. We need to study various factors to determine a location.

1.5 Brief content for this analysis

We firstly build the dataset on the location information and customer features in the New York City from the public resources through API from Foursquares.com. After cleaning the dataset, K-means was the first choice to analyze the feature performance of segments in Manhattan, New York. Generally, there were 5 significant different segment performances in New Yorkers on the Bars.

Finally, several recommendations would be provided based on the features to find suitable places to launch the bars to meet the customers' demands.

2. Data Collections and Map selections

Through the map data document of New York City from the link of the resources: https://cocl.us/new_york_dataset, we create the table of neighborhood and borough with the location information as figure 1. Considering the demand from our clients, the opportunities for

	Borough	Neighborhood	Latitude	Longitude		Borough	Neighborhood	Latitude	Longitude
0	Bronx	Wakefield	40.894705	-73.847201	0	Manhattan	Marble Hill	40.876551	-73.910660
1	Bronx	Co-op City	40.874294	-73.829939	1	Manhattan	Chinatown	40.715618	-73.994279
2	Bronx	Eastchester	40.887556	-73.827806	2	Manhattan	Washington Heights	40.851903	-73.936900
3	Bronx	Fieldston	40.895437	-73.905643	3	Manhattan	Inwood	40.867684	-73.921210
4	Bronx	Riverdale	40.890834	-73.912585	4	Manhattan	Hamilton Heights	40.823604	-73.949688

bars only in Manhattan, we only leave the neighborhoods under Manhattan as figure 2.

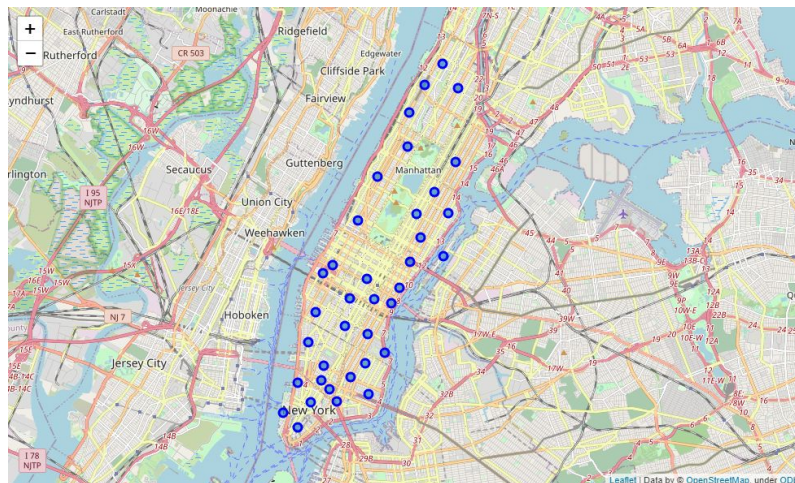
	Borough	Neighborhood	Latitude	Longitude
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Figure 1

	Borough	Neighborhood	Latitude	Longitude
0	Manhattan	Marble Hill	40.876551	-73.910660
1	Manhattan	Chinatown	40.715618	-73.994279
2	Manhattan	Washington Heights	40.851903	-73.936900
3	Manhattan	Inwood	40.867684	-73.921210
4	Manhattan	Hamilton Heights	40.823604	-73.949688

Figure 2

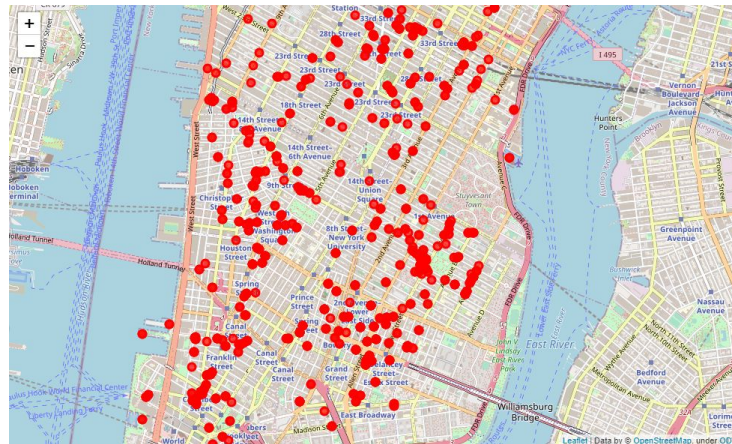
Load the location information to mark the points with blue color on the map below.



Map 1

From Map 1, it's easy to find that the density of the neighborhood is higher in Lower Manhattan compared with other areas. Where the center of New York City attracts a lot of customers and travelers to enjoy their times at several kinds of bars. For the prior analysis, this will be a great place to launch the new version of bars to provide creative products with new elements for the youngs, and customers prefer the novelties.

Then, we figure out all of the existing bars (1780 bars) in Manhattan to find out the clustered segments of customers' performance and point out the red markers on Map 2.



Map 2

The next step would analyze each neighborhood.

3. Analyze each Neighborhood and K-means

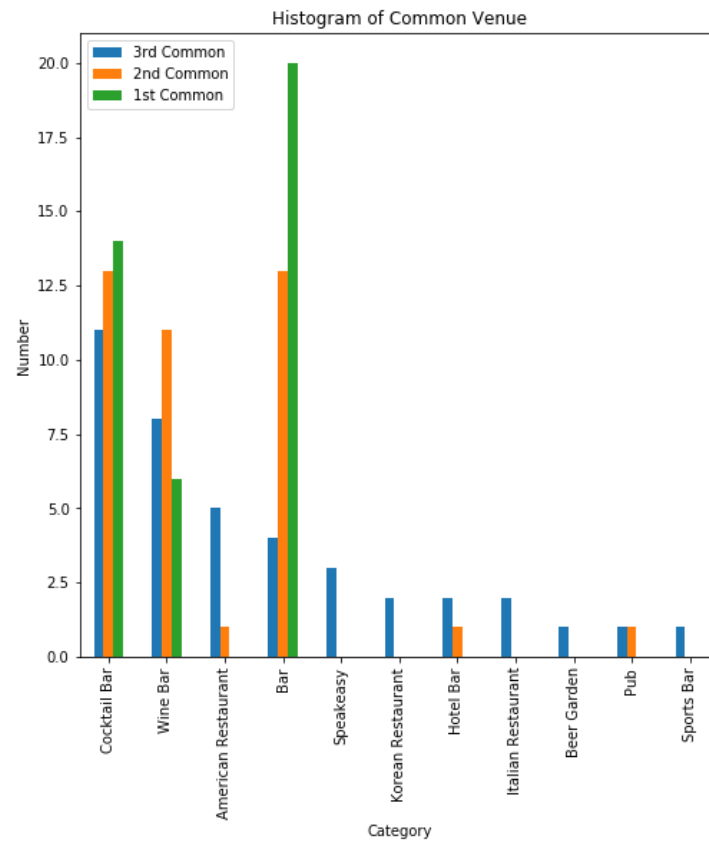
In this part, we will try to find the average choices for each neighborhood in Manhattan in a total of 86 special kinds of restaurants in the type of Bar.

Neighborhood	American Restaurant	Arepa Restaurant	Asian Restaurant	Australian Restaurant	BBQ Joint	Bar	Beer Bar	Beer Garden	Beer Store	Belgian Restaurant	Bistro	Bookstore	Brazilian Restaurant
0 Battery Park City	0.047619	0.0	0.00	0.00	0.000000	0.238095	0.000000	0.047619	0.00	0.00	0.00	0.0	0.0
1 Carnegie Hill	0.040000	0.0	0.00	0.00	0.000000	0.260000	0.000000	0.000000	0.02	0.00	0.00	0.0	0.0
2 Central Harlem	0.066667	0.0	0.00	0.00	0.033333	0.366667	0.033333	0.000000	0.00	0.00	0.00	0.0	0.0
3 Chelsea	0.040000	0.0	0.00	0.00	0.000000	0.100000	0.040000	0.020000	0.00	0.02	0.02	0.0	0.0
4 Chinatown	0.020000	0.0	0.04	0.02	0.000000	0.120000	0.020000	0.000000	0.00	0.00	0.00	0.0	0.0

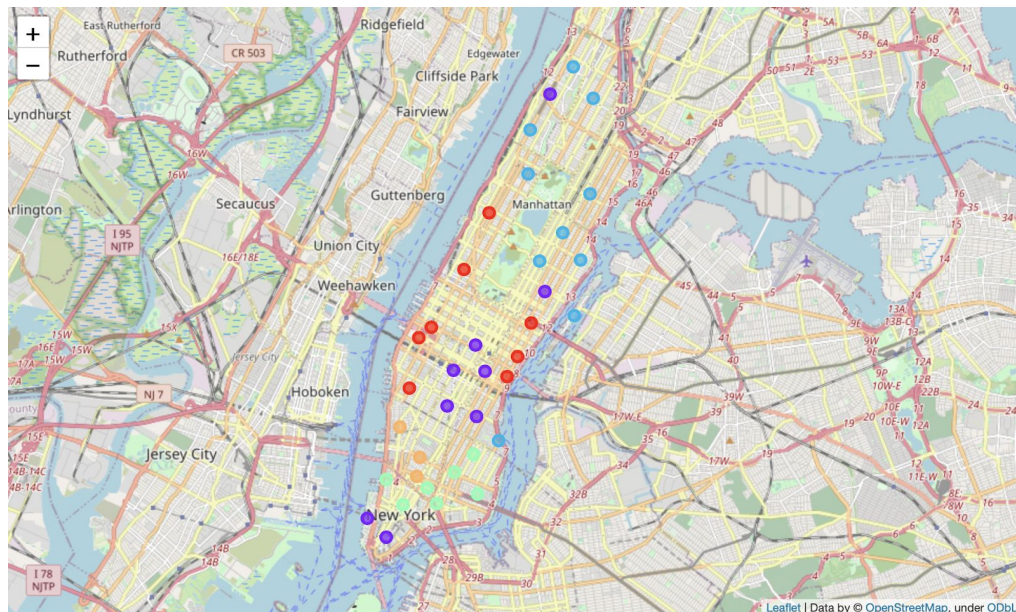
After summarising the total neighborhoods, we select the top 10 common venues for each one.

Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
0 Battery Park City	Bar	Hotel Bar	Cocktail Bar	Wine Bar	French Restaurant	Beer Garden	American Restaurant	Pub	Steakhouse	Event Space
1 Carnegie Hill	Bar	Cocktail Bar	Wine Bar	Pub	Sports Bar	American Restaurant	New American Restaurant	Coffee Shop	Indian Restaurant	Lounge
2 Central Harlem	Bar	Cocktail Bar	American Restaurant	Tapas Restaurant	Hotel Bar	Coffee Shop	Gay Bar	Hookah Bar	Mexican Restaurant	Beer Bar
3 Chelsea	Wine Bar	Bar	Cocktail Bar	American Restaurant	Hotel Bar	Speakeasy	Beer Bar	Coffee Shop	Piano Bar	Tech Startup
4 Chinatown	Cocktail Bar	Bar	Wine Bar	Speakeasy	Hotel Bar	Asian Restaurant	Lounge	Mexican Restaurant	New American Restaurant	Italian Restaurant

From the histogram figure, the most common venue focuses on the 3 categories including bar, Wine Bar, Cocktail Bar. Customers prefer the professional place for the wine and beer at the Bar in place of the restaurants in food.



Using K-means to find the cluster features



Map 3

There are 5 clustered customers' performance and marked as 5 different kinds of markers on Map 3. Generally, most of the segments in purple locate in lower Manhattan and middle Manhattan. The green one only selects the location at the lower Manhattan.

Red = cluster0

Purple = cluster 1

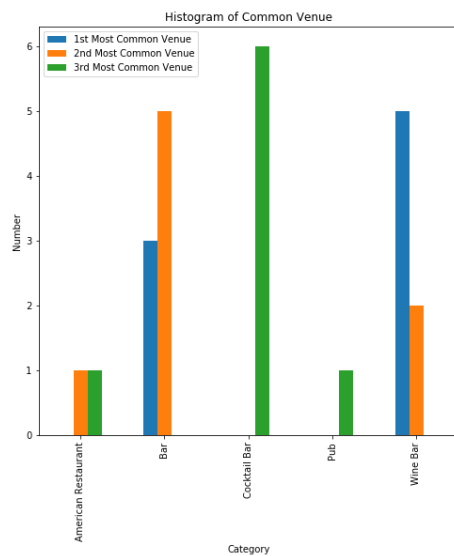
Blue = cluster 2

Green = cluster 3

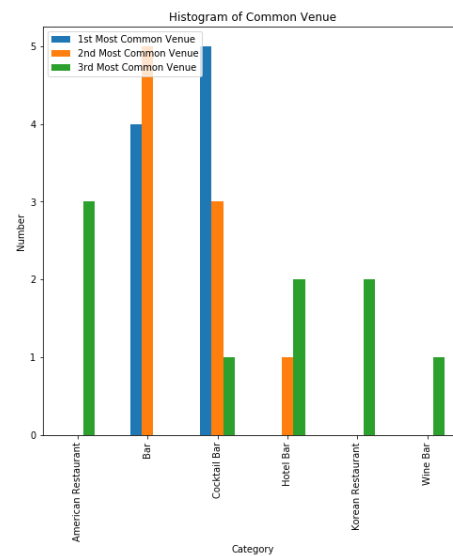
Yellow = cluster 4

The histogram of each cluster (Detail number in appendix)

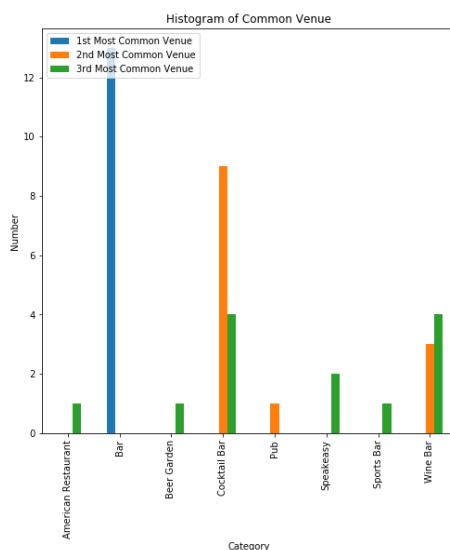
Cluster 0 = Red marker



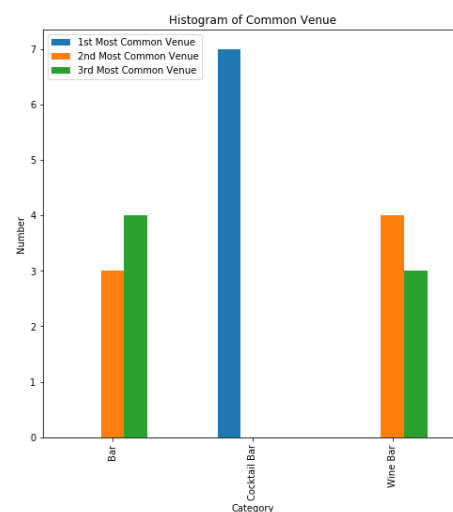
Cluster 1 = Purple marker

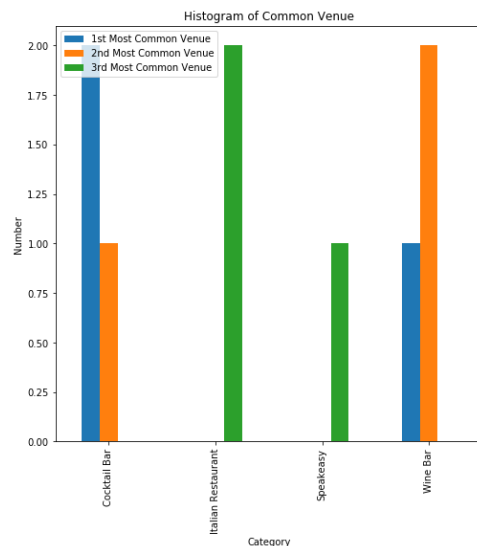


Cluster 2 = Blue marker



Cluster 3 = Green marker



Cluster 4 = Yellow marker

Cluster 4, 3, at the location in lower Manhattan would be the high-end bar offering only red wine and cocktails. Clearly the location with the highest rental fee and high pay customers.

Cluster 2, at the location in Upper Manhattan, would be the general bar to provide the beer and cheap wines.

Cluster 0, 1, at the location in middle Manhattan, would be the bars focus the beer and cocktail bar.

4. Conclusion

The location selection should be based on the type of bars our client would like to choose.

- As for the general bar, Upper Manhattan is a good choice, not only the density of the bar is not real high but also this kind of bar meets the demand of most customers at that place.
- As for the cocktail bar, middle Manhattan is a better place to launch.
- As for the high-end bar, providing the red wine, and cocktail should launch at the lower Manhattan.

Appendix

Cluster 0

	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
12	Upper West Side	Wine Bar	Bar	Pub	Dive Bar	Italian Restaurant	Karaoke Bar	Cocktail Bar	Speakeasy	Sports Bar	American Restaurant
13	Lincoln Square	Wine Bar	Bar	American Restaurant	Lounge	Cocktail Bar	Italian Restaurant	Gay Bar	Mexican Restaurant	Pub	Café
14	Clinton	Bar	Wine Bar	Cocktail Bar	New American Restaurant	American Restaurant	Dive Bar	Gay Bar	Italian Restaurant	Gastropub	Coffee Shop
17	Chelsea	Wine Bar	Bar	Cocktail Bar	American Restaurant	Hotel Bar	Speakeasy	Beer Bar	Coffee Shop	Piano Bar	Tech Startup
34	Sutton Place	Wine Bar	Bar	Cocktail Bar	Restaurant	American Restaurant	French Restaurant	Speakeasy	Hotel Bar	Beer Garden	Beer Bar
35	Turtle Bay	Wine Bar	Bar	Cocktail Bar	Restaurant	Pub	Seafood Restaurant	Karaoke Bar	American Restaurant	French Restaurant	Coffee Shop
36	Tudor City	Bar	Wine Bar	Cocktail Bar	Pub	American Restaurant	Lounge	Seafood Restaurant	Karaoke Bar	German Restaurant	Latin American Restaurant
39	Hudson Yards	Bar	American Restaurant	Cocktail Bar	Lounge	Hotel Bar	New American Restaurant	Sports Bar	Wine Bar	Italian Restaurant	Pub

Cluster 1

	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
5	Manhattanville	Bar	Cocktail Bar	American Restaurant	Wine Bar	Pub	Sports Bar	BBQ Joint	Cuban Restaurant	Dive Bar	Hotel Bar
10	Lenox Hill	Cocktail Bar	Bar	Wine Bar	Beer Garden	Gastropub	Pub	Hotel Bar	Burger Joint	American Restaurant	Thai Restaurant
15	Midtown	Cocktail Bar	Bar	Korean Restaurant	Italian Restaurant	Hotel Bar	Wine Bar	Speakeasy	Lounge	Japanese Restaurant	Restaurant
16	Murray Hill	Cocktail Bar	Bar	Korean Restaurant	Hotel Bar	Wine Bar	American Restaurant	Karaoke Bar	Lounge	Pub	Speakeasy
27	Gramercy	Bar	Cocktail Bar	American Restaurant	Wine Bar	Pub	Speakeasy	Roof Deck	Comedy Club	Hotel Bar	Lounge
28	Battery Park City	Bar	Hotel Bar	Cocktail Bar	Wine Bar	French Restaurant	Beer Garden	American Restaurant	Pub	Steakhouse	Event Space
29	Financial District	Bar	Cocktail Bar	Hotel Bar	Restaurant	Mexican Restaurant	Wine Bar	Wine Shop	Pub	Pizza Place	Mediterranean Restaurant
33	Midtown South	Cocktail Bar	Bar	Hotel Bar	Speakeasy	Wine Bar	Korean Restaurant	Lounge	American Restaurant	Japanese Restaurant	Comedy Club
38	Flatiron	Cocktail Bar	Bar	American Restaurant	Wine Bar	Hotel Bar	Speakeasy	Tapas Restaurant	Steakhouse	Comedy Club	Beer Bar

Cluster 2

	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
0	Marble Hill	Bar	Pub	Cocktail Bar	American Restaurant	Whisky Bar	Hotel Bar	Speakeasy	Café	Fried Chicken Joint	Event Space
2	Washington Heights	Bar	Cocktail Bar	Speakeasy	Mexican Restaurant	Lounge	Café	Sports Bar	Dive Bar	Tapas Restaurant	Restaurant
3	Inwood	Bar	Wine Bar	Cocktail Bar	Pub	Café	Beer Garden	Lounge	Tapas Restaurant	Sports Bar	Mexican Restaurant
4	Hamilton Heights	Bar	Cocktail Bar	Wine Bar	Gay Bar	Pub	Dive Bar	Speakeasy	Tapas Restaurant	Coffee Shop	Lounge
6	Central Harlem	Bar	Cocktail Bar	American Restaurant	Tapas Restaurant	Hotel Bar	Coffee Shop	Gay Bar	Hookah Bar	Mexican Restaurant	Beer Bar
7	East Harlem	Bar	Cocktail Bar	Speakeasy	Beer Bar	Hookah Bar	American Restaurant	Gastropub	Pub	New American Restaurant	Steakhouse
8	Upper East Side	Bar	Cocktail Bar	Sports Bar	New American Restaurant	Burger Joint	Pub	Café	Wine Bar	Italian Restaurant	Gastropub
9	Yorkville	Bar	Cocktail Bar	Wine Bar	Pub	American Restaurant	Coffee Shop	French Restaurant	Restaurant	Piano Bar	English Restaurant
11	Roosevelt Island	Bar	Cocktail Bar	Beer Garden	Pub	Speakeasy	Wine Bar	Wine Shop	Latin American Restaurant	Sports Bar	Steakhouse
25	Manhattan Valley	Bar	Wine Bar	Cocktail Bar	Karaoke Bar	Speakeasy	Sports Bar	Gay Bar	Mexican Restaurant	Burger Joint	Gastropub
26	Morningside Heights	Bar	Wine Bar	Cocktail Bar	Pub	Sports Bar	Whisky Bar	Hookah Bar	Jazz Club	Beer Bar	Gastropub
30	Carnegie Hill	Bar	Cocktail Bar	Wine Bar	Pub	Sports Bar	American Restaurant	New American Restaurant	Coffee Shop	Indian Restaurant	Lounge
37	Stuyvesant Town	Bar	Cocktail Bar	Wine Bar	Beer Bar	Speakeasy	American Restaurant	Karaoke Bar	Pub	Sake Bar	Salon / Barbershop

Cluster 3

	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
1	Chinatown	Cocktail Bar	Bar	Wine Bar	Speakeasy	Hotel Bar	Asian Restaurant	Lounge	Mexican Restaurant	New American Restaurant	Italian Restaurant
19	East Village	Cocktail Bar	Wine Bar	Bar	Speakeasy	Sake Bar	Beer Bar	Japanese Restaurant	Pub	Café	Seafood Restaurant
20	Lower East Side	Cocktail Bar	Bar	Wine Bar	Speakeasy	New American Restaurant	Sake Bar	Beer Bar	Japanese Restaurant	American Restaurant	Dive Bar
21	Tribeca	Cocktail Bar	Bar	Wine Bar	Italian Restaurant	Hotel	Lounge	Hotel Bar	American Restaurant	French Restaurant	Burger Joint
22	Little Italy	Cocktail Bar	Wine Bar	Bar	New American Restaurant	American Restaurant	Hotel Bar	Beer Bar	Japanese Restaurant	Asian Restaurant	Whisky Bar
31	Noho	Cocktail Bar	Wine Bar	Bar	Beer Bar	Sake Bar	Speakeasy	American Restaurant	Café	Hotel	Italian Restaurant
32	Civic Center	Cocktail Bar	Wine Bar	Bar	Hotel Bar	American Restaurant	French Restaurant	Lounge	Karaoke Bar	Hotel	Burger Joint

Cluster 4

	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
18	Greenwich Village	Cocktail Bar	Wine Bar	Speakeasy	Italian Restaurant	New American Restaurant	Jazz Club	Café	Hotel	Pub	Pizza Place
23	Soho	Cocktail Bar	Wine Bar	Italian Restaurant	Bar	Hotel	Whisky Bar	New American Restaurant	Speakeasy	Pub	Lounge
24	West Village	Wine Bar	Cocktail Bar	Italian Restaurant	New American Restaurant	Bar	Speakeasy	Jazz Club	Café	Beer Bar	Tapas Restaurant