Location guide for art dealer conference

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1. Introduction

In this report I will try to find optimal neighborhood for opening art dealer conference location in Manhattan, New York. New York is one of culture center of the world, and Manhattan is the heart of New York. It is quite fitting place for the exquisite art dealers' gathering, and guidance for optimal neighborhood can be useful.

The first and basic requirement for the conference is hotels which accommodates visitors from various places of the world. Second requirement would be the art related venues, like art galleries and art museums which meet the visitors' business needs.

For this purpose I use geopy and folium map to visualize, and collect relevant venue data using foursquare api. Collected data is cleaned and sorted out using python pandas frame and optimal locations are determined by decision tree method.

2. Data

The data of Manhattan was collected via existing url
https://cocl.us/new_york_dataset
and foursquare.com API.

First the Manhattan neighborhoods location data was collected and made into pandas dataframe. They were visualized using folium map. After neighborhoods are visualized (Fig 2.1), venue statistics were gathered using foursquare API. Among those venues, category 'Hotel', 'Art Gallery' and 'Art Museum' are selected. Those venue categories represents the main needs for the art dealer conference visitors.

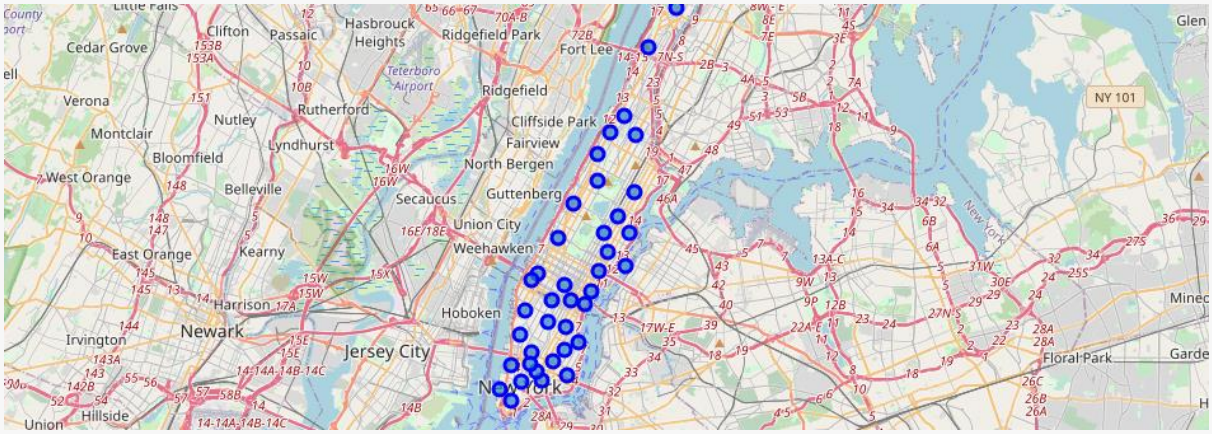

Fig 2.1

3. Methodology

The determination process for the optimal conference was done by decision tree logic. Most important need for the conference visitors is accommodations. Next important needs are business needs, like looking through art galleries and art museums. Neighborhoods with those categories were collected and made into table (Fig 3.1, Fig 3.2).

	Neighborhood	Hotel	Art Gallery	Art Museum
0	Battery Park City	5	0	0
1	Carnegie Hill	1	0	1
2	Central Harlem	0	1	0
3	Chelsea	1	7	0
4	Chinatown	1	0	0
5	Civic Center	4	0	0
6	Clinton	3	1	0
7	East Harlem	0	0	0
8	East Village	0	1	0
9	Financial District	4	0	0
10	Flatiron	1	1	0
11	Gramercy	1	1	0
12	Greenwich Village	1	1	0
13	Hamilton Heights	0	0	0
14	Hudson Yards	4	1	0
15	Inwood	0	0	0
16	Lenox Hill	0	2	0
17	Lincoln Square	1	0	0
18	Little Italy	2	0	0
19	Lower East Side	0	2	0
20	Manhattan Valley	0	0	0

Fig 3.1 Table of Manhattan Neighborhoods with number of hotels, art galleries, art museums

21	Manhattanville	0	0	0
22	Marble Hill	0	0	0
23	Midtown	7	0	0
24	Midtown South	7	0	0
25	Morningside Heights	0	0	0
26	Murray Hill	5	0	0
27	Noho	3	2	0
28	Roosevelt Island	0	0	0
29	Soho	2	0	0
30	Stuyvesant Town	0	0	0
31	Sutton Place	2	0	0
32	Tribeca	2	1	0
33	Tudor City	1	0	0
34	Turtle Bay	2	0	0
35	Upper East Side	2	2	1
36	Upper West Side	1	0	0
37	Washington Heights	0	0	0
38	West Village	0	1	0
39	Yorkville	0	0	0

Fig 3.2 continued table of Manhattan Neighborhoods with number of hotels, art galleries, art museums

There are not enough venues to separate the needs for the art galleries and art museums, so they were summed and re-categorized as 'Arts' in pandas dataframe. With two main categories 'Hotel' and 'Arts', the neighborhoods with no hotel or no Arts venues were removed. After that the neighborhoods were sorted by first important category 'Hotel'. Results are presented in next section.

4. Results

After above selection procedure 10 neighborhoods are selected. The results are in the following table (Fig 4.1). Map of these neighborhoods are also shown in Fig 4.2 .

	Neighborhood	Hotel	Arts
0	Hudson Yards	4	1
1	Clinton	3	1
2	Noho	3	2
3	Tribeca	2	1
4	Upper East Side	2	3
5	Carnegie Hill	1	1
6	Chelsea	1	7
7	Flatiron	1	1
8	Gramercy	1	1
9	Greenwich Village	1	1

Fig 4.1 Table of neighborhoods containing at least one Hotel or Arts venues. Sorted by the number of Hotels.

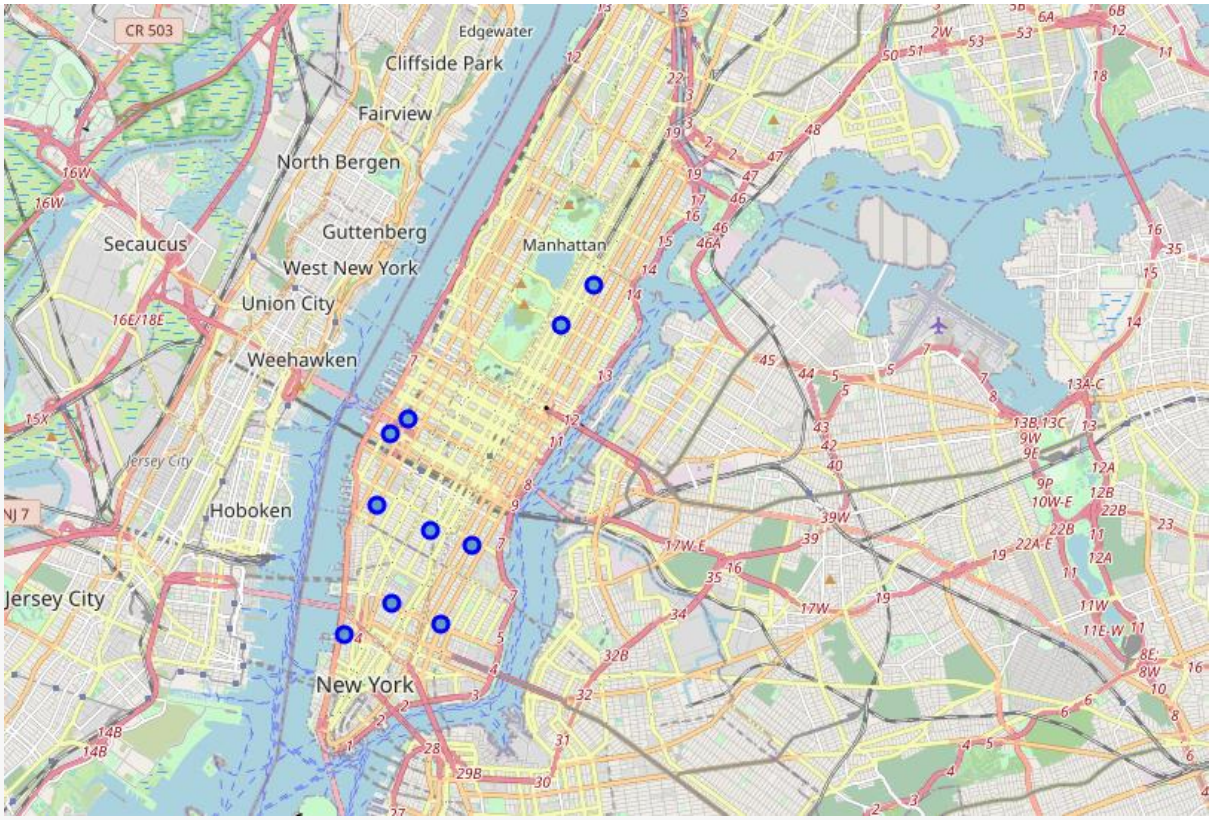

Fig 4.2. Map of selected neighborhoods (blue dots in the map).

5. Discussion

According to the result table (Fig 4.1), Hudson Yards is first with 4 hotels. The average number of hotel rooms is 85. And vacancy rate of the hotel is 1/4, by conservative estimation. So Hudson Yards can accommodate approximately 85 visitors within itself. Next are Clinton and Noho, approximately 64 visitors. Among Clinton and Noho, Noho is better candidate since it has more arts venues than Clinton. Third are Tribeca, Upper East Side, with two hotels accommodating approximately 42 visitors. Among them Upper East Side is better with 3 arts venues. Fourth are Carnegie Hill, Chelsea, Flatrion, Gramercy, Greenwich Village, accommodating approximately 21 visitors. Among them Chelsea has particularly many 7 arts venues.

6. Conclusion

In conclusion, at least in my limited dataset, if one is planning a conference with more than 60 people, **Hudson Yards** is optimal choice. For conference size 40~60 visitors, **Noho** is optimal. For conference size of 20~40 visitors, **Upper East Side** is optimal. For conference with less than 20, **Chelsea** is best with 7 arts venues.