



The Battle of Neighborhoods – Presentation

An analysis of the Brooklyn neighborhood



Table of contents

1 Introduction

2 Data

3 Methodology

4 Results and Discussion

6 Conclusion

Introduction - Business Problem

- In this environment I am the Business Analyst of a hotel company looking for a location for a new hotel in New York City.
- Since most hotels are in Manhattan and the costs for a new building there are very high, the goal is to analyze the possibilities for a hotel in Brooklyn.
- The Business Problem is in which neighborhood a new hotel would have the greatest success



Data

The following information is required to answer the issues of the problem:

- List of neighborhoods of Brooklyn with their geodata List real estate prices for each neighborhood of Brooklyn
- Proximity to the Center of Manhattan for each neighborhood of Brooklyn
- Venues like restaurants and cultural sights for each neighborhood of Brooklyn

Data

Data Sources:

- New York City data that contains list Boroughs, Neighborhoods along with their latitude and longitude.
 - Data source: https://cocl.us/new_york_dataset
- Restaurants, hotels, Subway stations and cultural sights.
 - Data source: Fousquare API
- GeoSpace data to get the New york Borough boundaries that will help us visualize choropleth map.
 - <https://data.cityofnewyork.us/City-Government/Borough-Boundaries/tqmj-j8zm>
- New York Real Estate Prices by neighborhood.
 - <https://streeteasy.com/blog/q1-2019-market-reports/>

Data

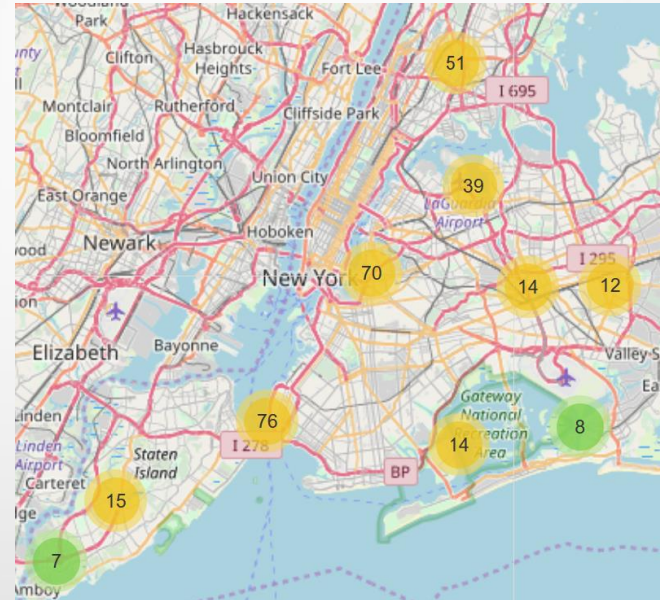
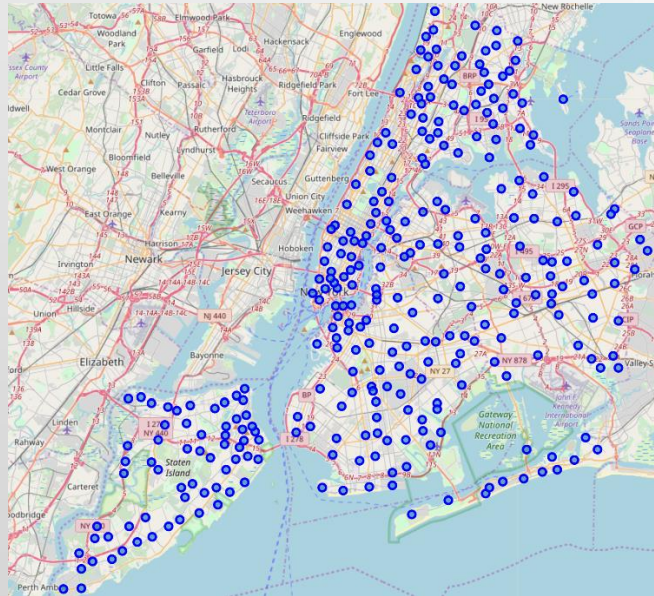
Example of the Dataset:

- The dataframe has 5 boroughs and 306 neighborhoods.
- The Center is the Empire State Building in this example.

Borough	Neighborhood	Latitude	Longitude	Center_Distance	Median Recorded Sales Price
Brooklyn	Bay Ridge	40.625801	-74.030621	14.138050	615000.0
Brooklyn	Bensonhurst	40.611009	-73.995180	15.281355	1140000.0
Brooklyn	Sunset Park	40.645103	-74.010316	11.661878	1100000.0
Brooklyn	Greenpoint	40.730201	-73.954241	3.337298	1609143.0
Brooklyn	Gravesend	40.595260	-73.973471	17.040144	830000.0

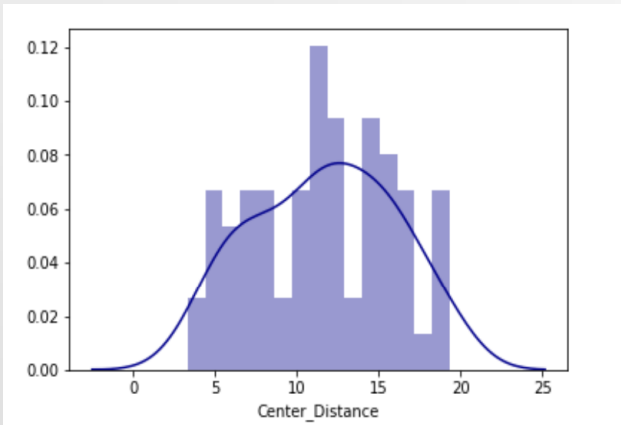
Data

Overview-Maps over the neighborhoods of New York
(left: each neighborhood, right: mapped):

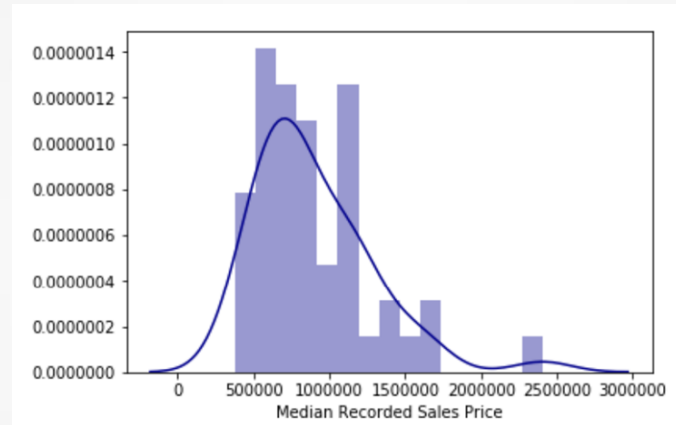


Methodology – Analysis of the Data

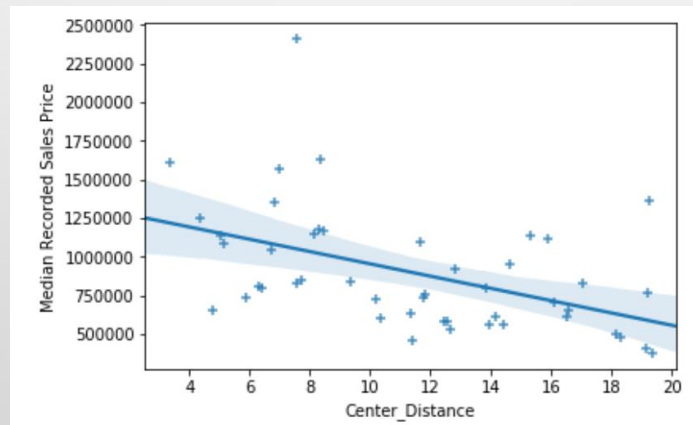
Distance to Center



Sales Prices

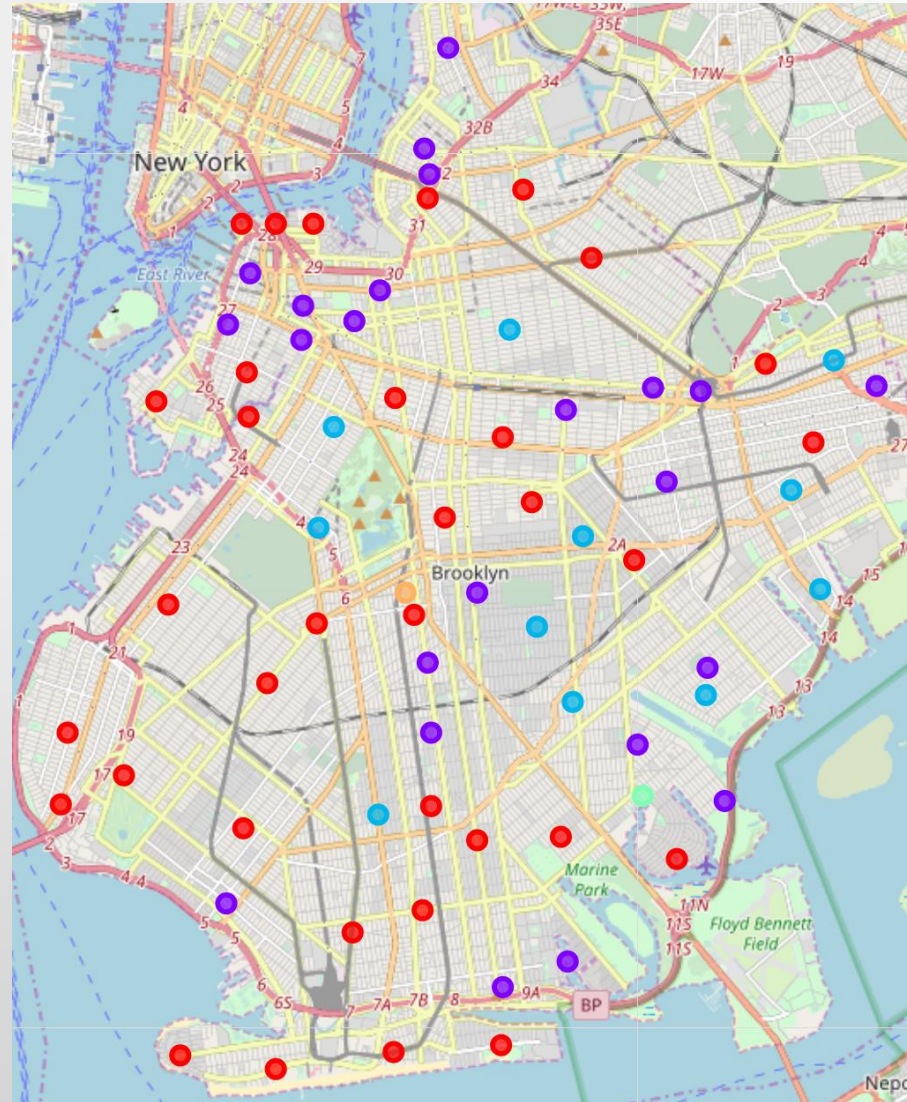


Correlation between Distance to Center and Sales Prices



Methodology – Clustering

Map of Brooklyn with 5 clusters:



Methodology – Clustering

Wordcloud for the Venues of Brooklyn neighborhood:



Results and Discussions

- As a Data Analyst I would recommend the hotel company to build a hotel in Brooklyn Heights or in Brooklyn South because of the right Cluster Category for tourists the Distance to the Center and the comparable low sales prices.
- Because of the Limitation of the Data, the analysis is only incomplete. Further research would be necessary to get a bigger picture of the hotel market in Brooklyn and in overall New York.

	Neighborhood	Cluster Labels	Borough	Latitude	Longitude	Center_Distance	Median Recorded Sales Price
17	Brooklyn Heights	1	Brooklyn	40.695864	-73.993782	5.877482	735000.0
34	Clinton Hill	1	Brooklyn	40.693229	-73.967843	6.311790	807500.0
36	Downtown	1	Brooklyn	40.690844	-73.983463	6.397338	800000.0
43	South Side	1	Brooklyn	40.710861	-73.958001	4.781324	660000.0

Conclusion

- Brooklyn is a good place for a hotel with lots of potential
- We found 2 neighborhoods which are great for building or buying a hotel
- Clear evidence were found, that the prices increase with a lower distance to the Center of Manhattan.
- Further data is necessary to get a better picture of the whole market

DEAR COLLEAGUES



**THANK YOU FOR YOUR ATTENTION. YOU
MAY APPLAUSE NOW**