

# AIRBNB Case Study IIIT-B

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# INTRODUCTION

- ▶ Suppose that you are working as a data analyst at Airbnb. For the past few months, Airbnb has seen a major decline in revenue. Now that the restrictions have started lifting and people have started to travel more, Airbnb wants to make sure that it is fully prepared for this change

# OBJECTIVE

- ▶ The different leaders at Airbnb want to understand some important insights based on various attributes in the dataset so as to increase the revenue
- ▶ For the past few months, Airbnb has seen a major decline in revenue.
- ▶ Now that the restrictions have started lifting and people have started to travel more, Airbnb wants to make sure that it is fully prepared for this change.
- ▶ Therefore analysis has been done on a dataset consisting of various Airbnb listings in New York.

# PROBLEM STATEMENT

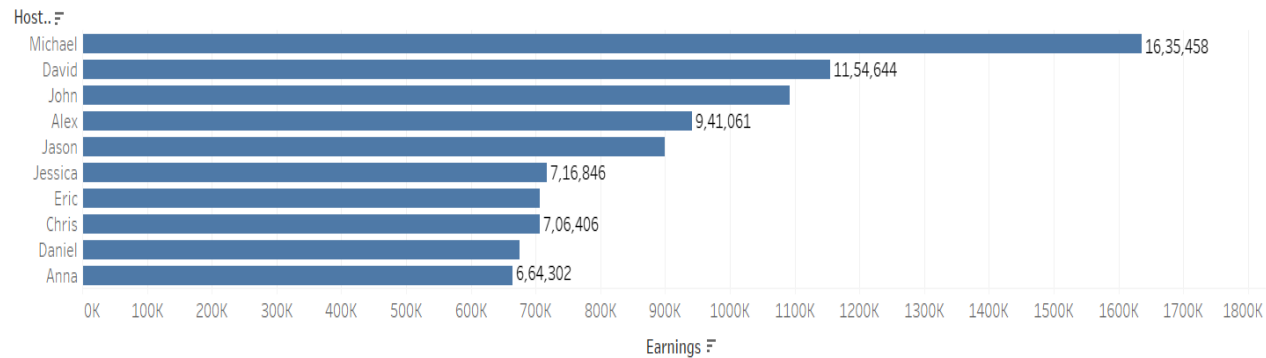
- ▶ Which type of hosts to acquire more and where?
- ▶ The categorization of customers based on their preferences.
- ▶ What are the neighborhoods they need to target?
- ▶ What is the pricing ranges preferred by customers?
- ▶ The various kinds of properties that exist w.r.t. customer preferences.
- ▶ Adjustments in the existing properties to make it more customer-oriented.
- ▶ What are the most popular localities and properties in New York currently?
- ▶ How to get unpopular properties more traction? and so on..

# DATA CLEANING AND PREPARATION

- ▶ For this case study, we have used Jupiter Notebook for initial analysis of the data and Tableau for further analysis and visualization
- ▶ The dataset was checked for duplicate rows, and none were found.
- ▶ Null values were found in the columns name, host-name, last review, and review-per-month.
- ▶ The column “name” was dropped because the number of missing values was small and dropping it would not have a significant impact on the analysis. Other irrelevant columns like “last review” and “ID” were also dropped.
- ▶ The formatting of the dataset was checked.
- ▶ Outliers were identified and reviewed.

# LIST OF TOP 10 HOSTS

## Top 10 Host

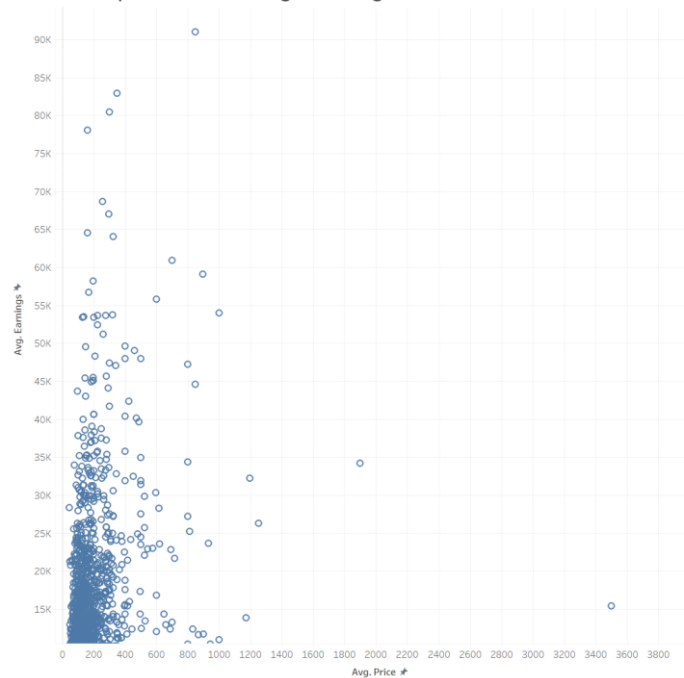


The graphs depicts the top 10 host who are earning more.

Michael is the top earner who is earning more and he belongs to Manhattan

# RELATIONSHIP BETWEEN AVERAGE EARNINGS AND PRICE

Relationship between Average Earnings and Price

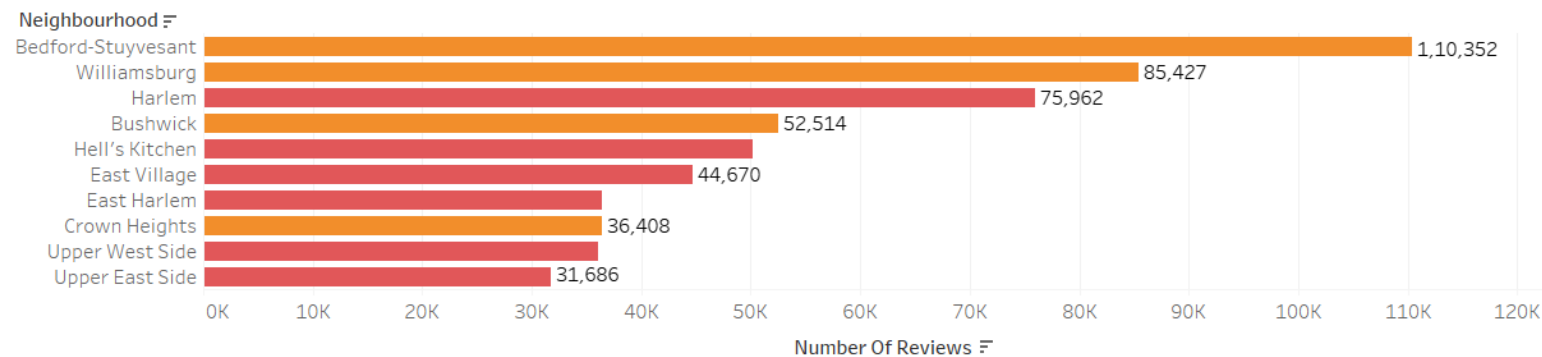


The Scatter Plot shows:

- The average earnings are highly concentration at the low price areas
- More of the listings are in the lower price range and the host are earning the most out of it

# Targeted Neighbourhood

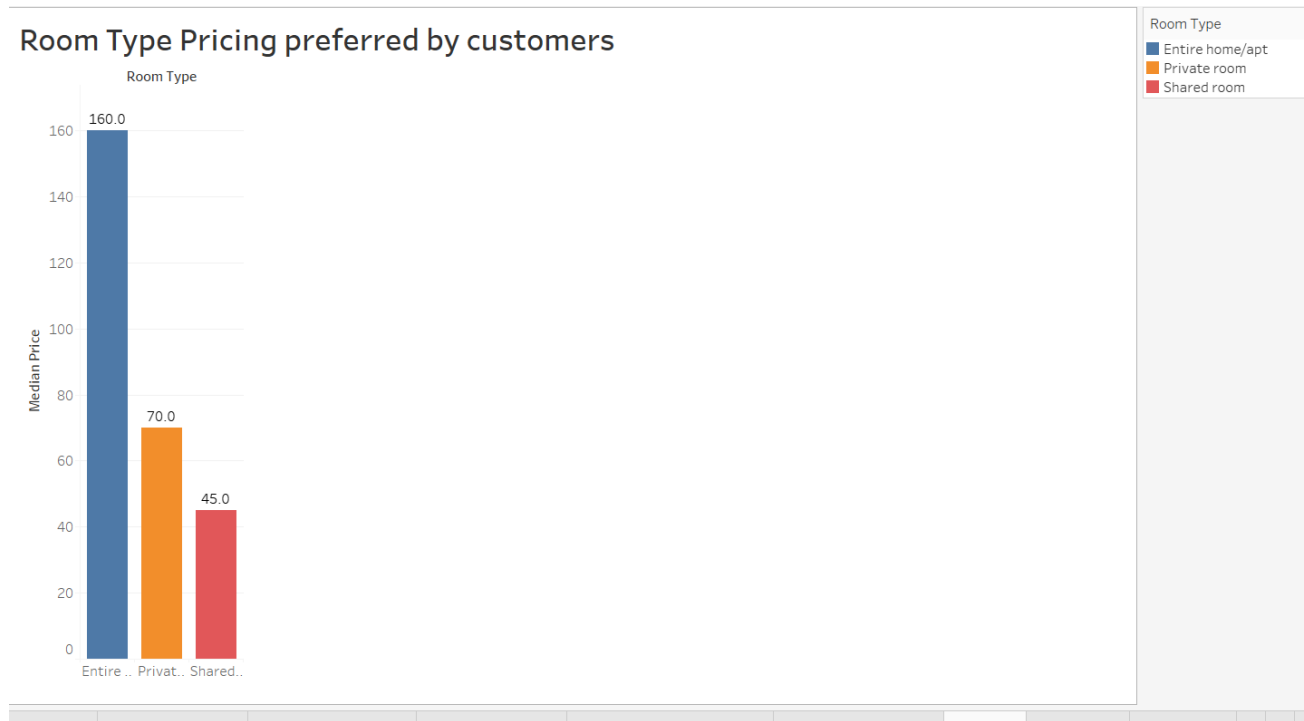
## Top 10 Neighbourhoods



These Neighborhoods are the most targeted by customers. It could be mostly visited as they are near a tourist spot or the facilities are best in this locality.



# Average Price Preferred by People



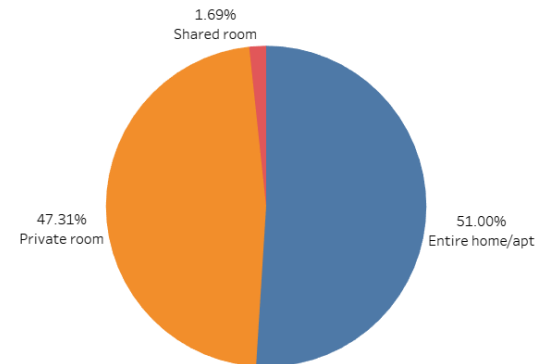
On the basis of room type the average price preferred by customer for Entire Room is 160.

- For Private Room is 70
- Shared Room is 45

# TYPES OF PROPERTIES PREFERRED BY CUSTOMERS

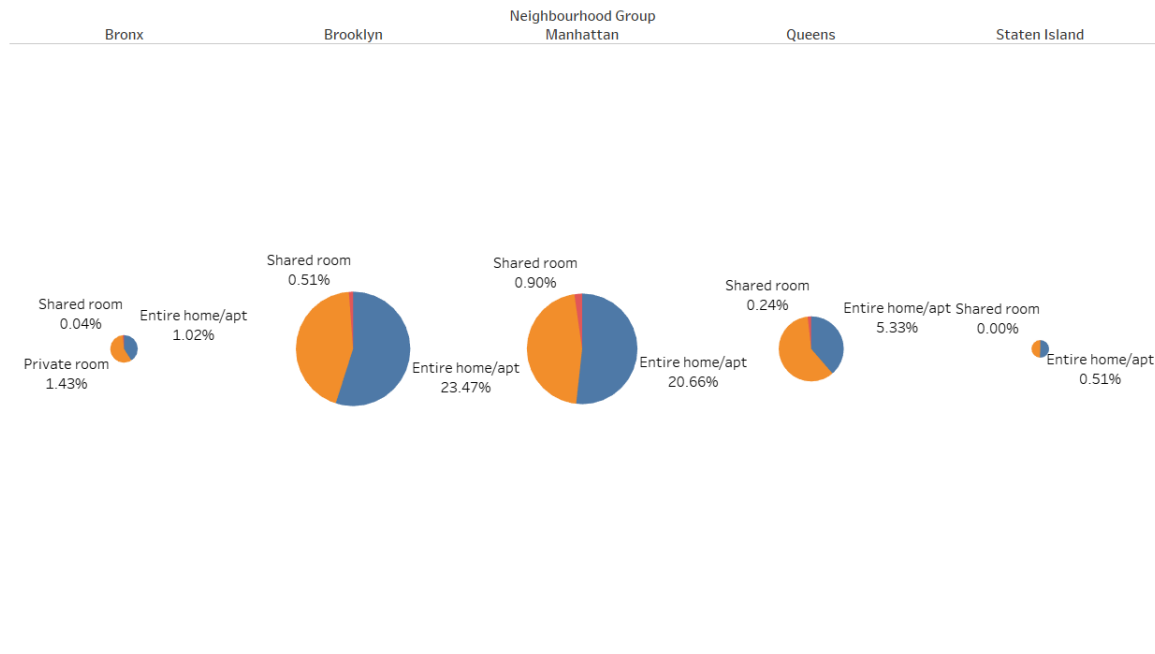
- There are three types of rooms – Entire Home/Apartment, Private Room & Shared Room
- Overall customers appear to prefer Entire Home (51%) & Private Room (47.31%) in comparison to the shared room (1.69%).
- Airbnb can focus on promoting shared rooms with discount offers to increase booking of a shared room with discounts

Types of properties w.r.t Customer Preferences



# ROOM TYPE W.R.T NEIGHBOURHOOD GROUP

Types of Room w.r.t Neighbourhood group

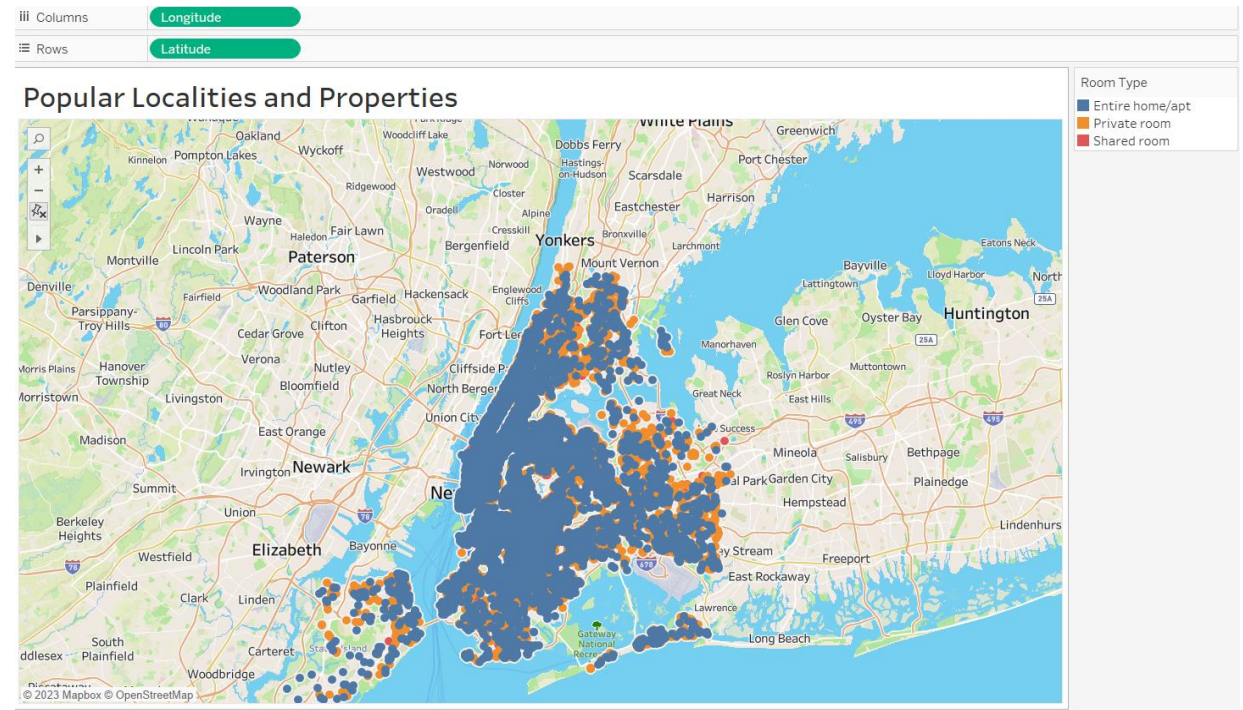


- Based on this map we depict that popular localities & properties concerning Room types in Manhattan (Entire Home / Private) or Brooklyn (entire Home/ Private) in comparison to other Neighborhood

# MOST POPULAR LOCALITIES AND PROPERTIES IN NEW YORK

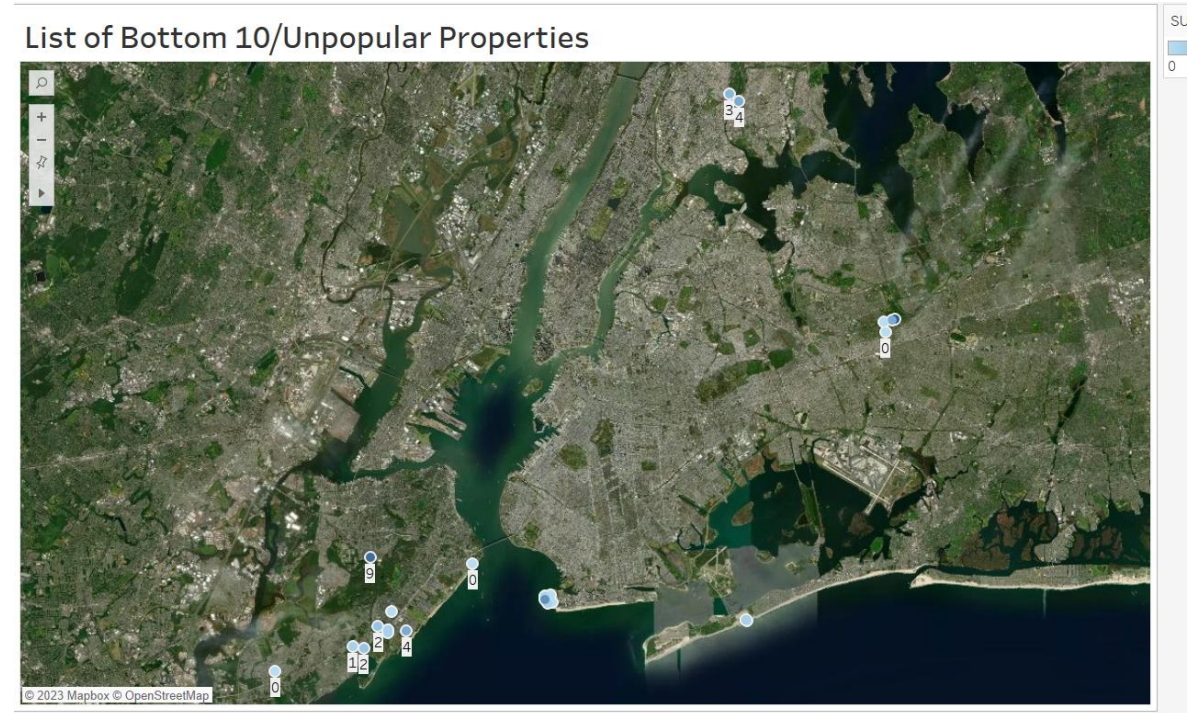
According to this map more the darker side represents the most popular localities and the lighter side represents the least popular.

We can conclude that Manhattan, Brooklyn & Queens are much popular than Bronx and Staten Island



# BOTTOM 10 PROPERTIES

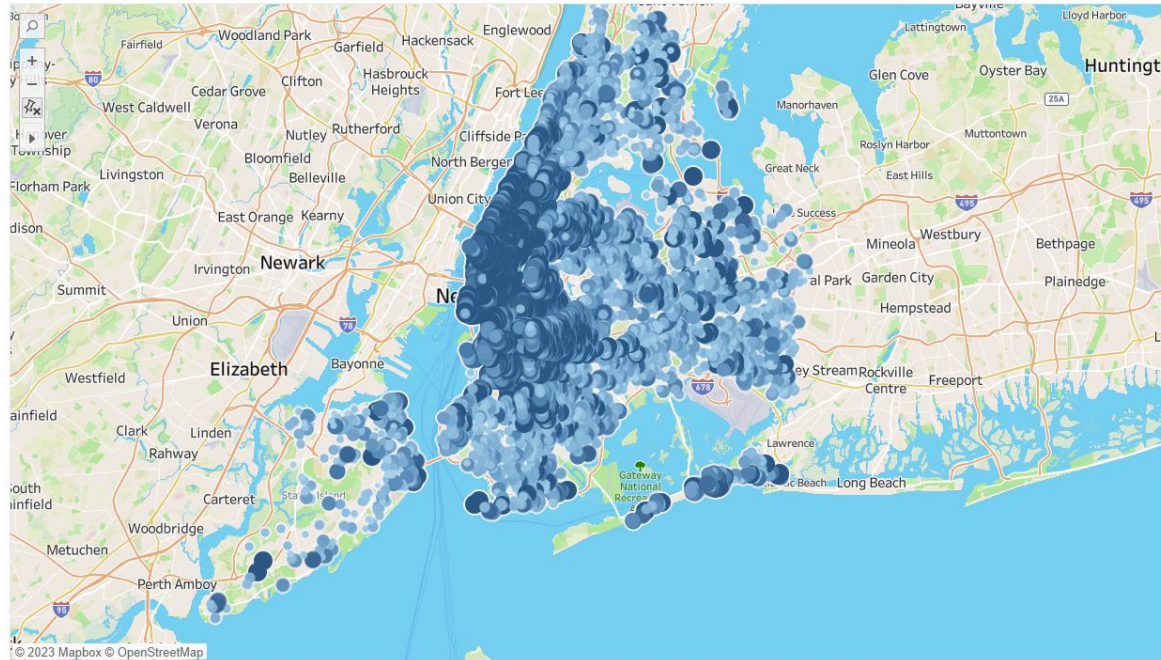
- Top 10 unpopular locations where people do not opt for stay.
- Because the location of all unpopular localities is at the corner of the city where people do not wish to visit or there may not be any tourist attraction point.





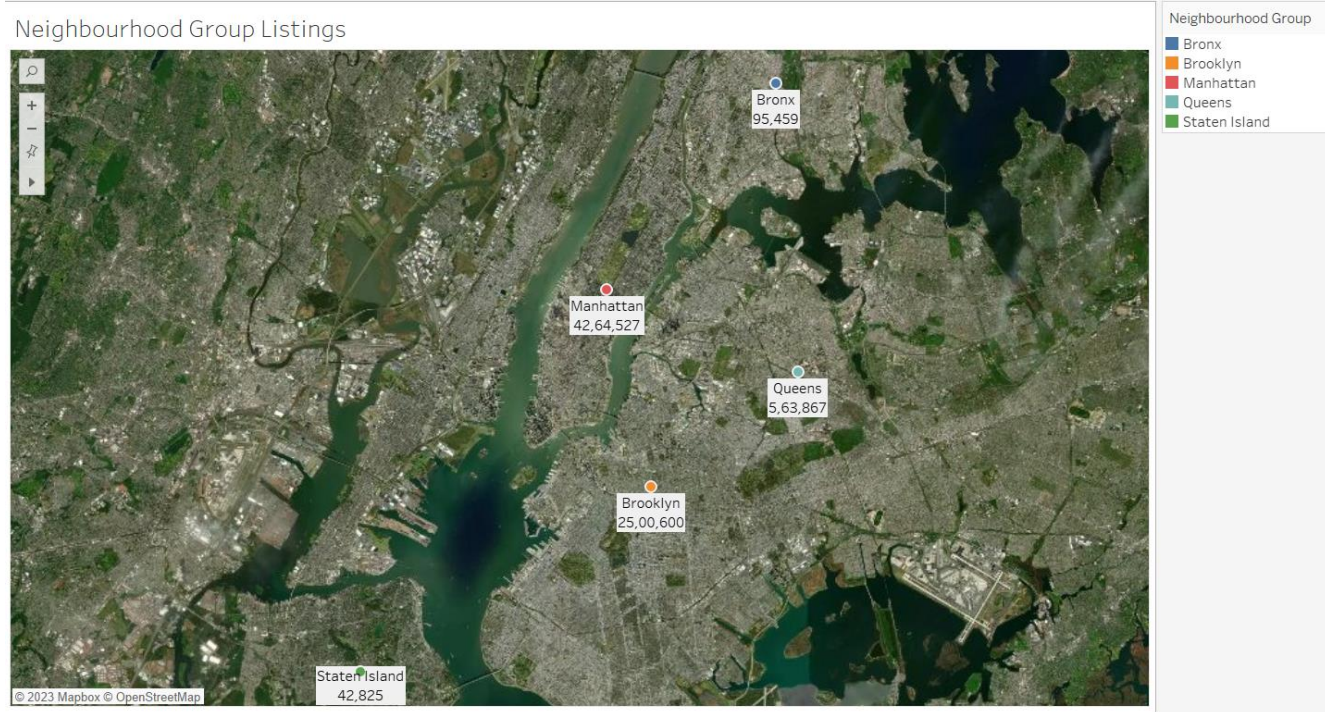
# POPULAR PROPERTIES W.R.T NEIGHBOURHOOD AND GROUPS

Popular Properties w.r.t Neighbourhood and Neighbourhood Group



According to the map Manhattan, Brooklyn, Queens are popular than Bronx and Staten islands for entire home. They are again shown in the darker shade in the map.

# NEIGHBOURHOOD GROUP LISTING ON MAP

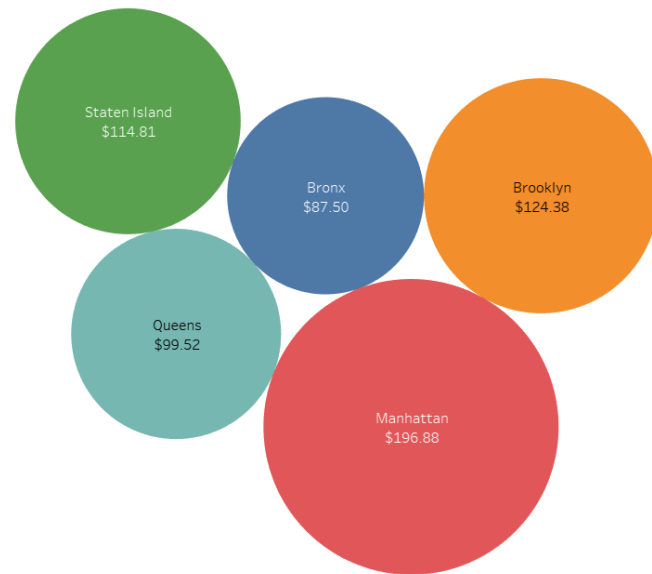


The map shows that Manhattan is more expensive and caters to highend tourists due to its many tourist attractions.

Brooklyn, on the other hand, is more affordable and preferred by locals and budget-conscious tourist

# AVERAGE PRICE W.R.T NEIGHBOURHOOD GROUPS

Average Price according to neighbourhood groups



Neighbourhood Group

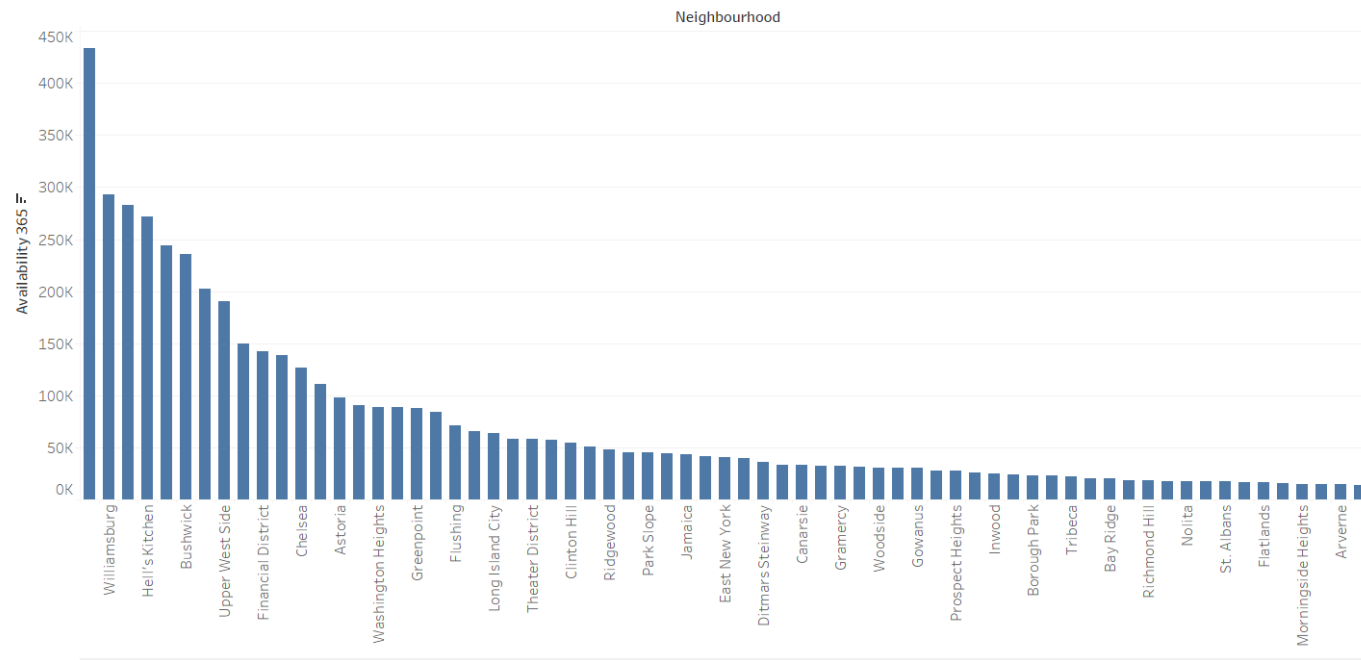
- Bronx
- Brooklyn
- Manhattan
- Queens
- Staten Island

The average price of listed properties in Manhattan is around 196.9, which is highest among all neighbourhoods. Average price for Brooklyn is second highest i.e. 124.4. Bronx appears to be an affordable neighbourhood as the average price is almost half than Manhattan's average price



# NEIGHBOURHOOD AND AVAILABILITY

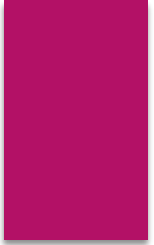
Neighbourhood and Availability



The graph shows that the availability of Bedford is highest and its price is on the lower side. It is a good choice for customers. After Bedford, Harlem follows the same trend. Chelsea's availability low but it is costly. On the other hand, William's price is high and has average availability.

# RECOMMENDATIONS

- Shared accommodations can be promoted with targeted discounts to increase bookings.
- New acquisitions or expansions should be within the price range of \$40 to \$160, and should meet the criteria for both customer traffic volume and customer happiness.
- New purchases of "private rooms" in Manhattan and Brooklyn, and "entire homes" in the Bronx and Queens, can be considered as long as they fall within the desirable price range.
- Brooklyn has an average price of \$113. Given the abundance of listings in Manhattan, Brooklyn may be considered for growth.
- More coastal purchases and new construction could lead to increased bookings from clients.
- Focus on prime locations like Manhattan and Brooklyn where there is interest from potential guests.

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- All locations except Manhattan and Brooklyn need to change their marketing strategy to increase sales.
  - Most customers are willing to spend between \$40 and \$160. New marketing strategies should be implemented to attract customers, such as offering discounts and deals.
  - Unpopular localities need to change their plans to generate more revenue. This could involve developing tourist attractions or increasing the spending power of customers.

THANK YOU