Airbnb NY Case Study

Impact of Customer Preferences on Home Rentals

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Agenda

Objective:

1. Understand customer preferences and customer experience in Airbnb listings
2. Understand the pricing relation to various parameters
3. Provide recommendation to improve quality of new acquisitions and customer experience

Key Insight

To understand some important insights we have explored the following questions:
1. Customer preference for neighbourhood & room type
2. Property demand based on minimum nights offered
3. Price range preferred by customers
4. Understanding Price variation with respect to Room Type & Neighbourhood
5. Understanding Price variation with respect to Geography
6. Top reviewed properties
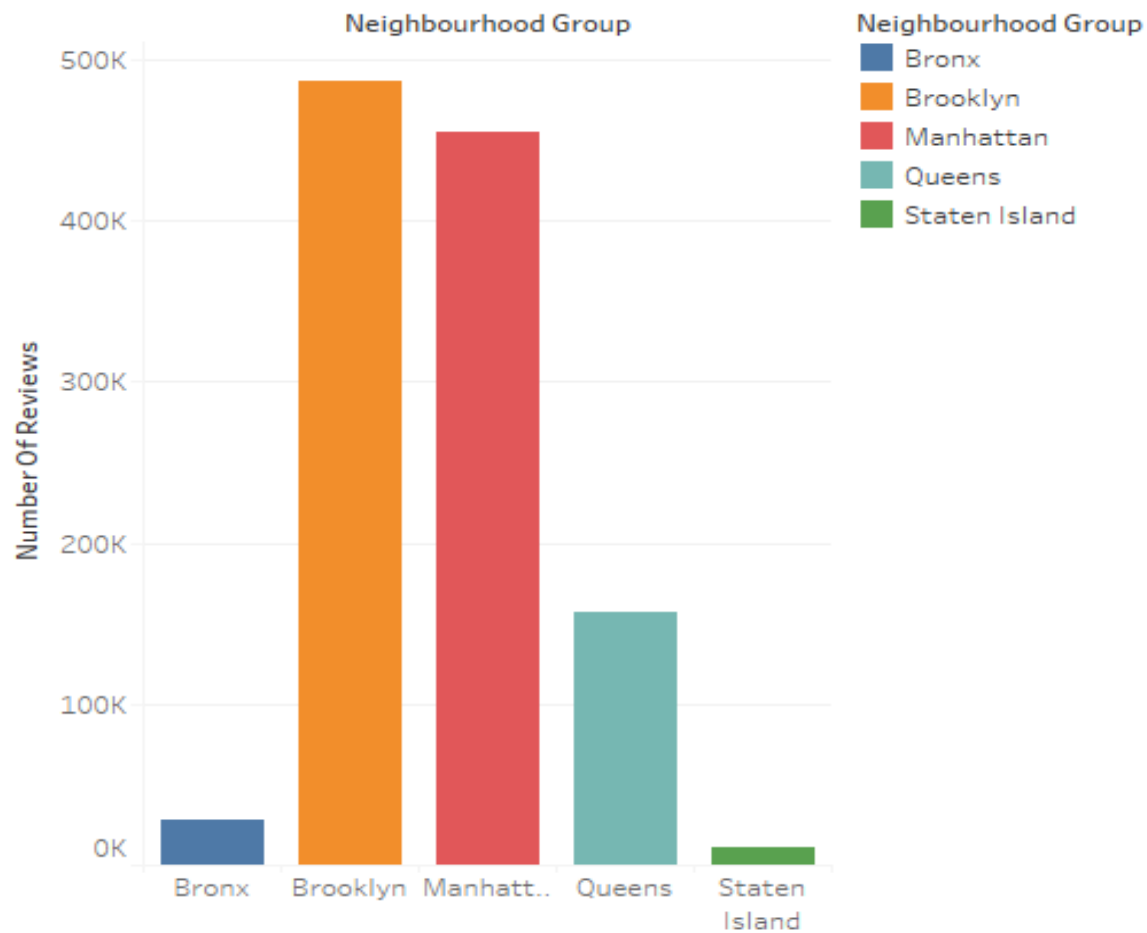
Sum of Number Of Reviews for each Neighbourhood Group. Color shows details about Neighbourhood Group. The view is filtered on Neighbourhood Group, which keeps Bronx, Brooklyn, Manhattan, Queens and Staten Island.
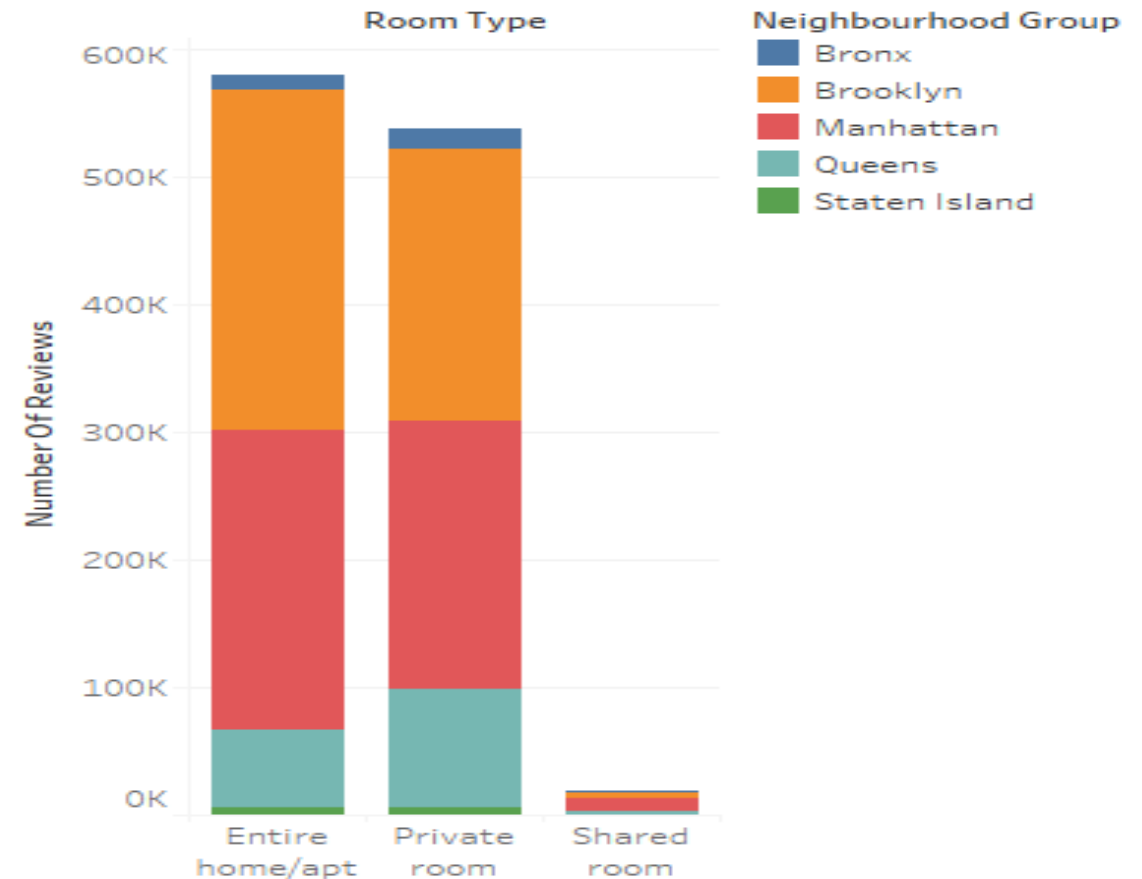
Sum of Number Of Reviews for each Room Type. Color shows details about Neighbourhood Group. The view is filtered on Neighbourhood Group, which keeps Bronx, Brooklyn, Manhattan, Queens and Staten Island.

- There are three types of rooms -Entire home/Apartment, Private room & shared room.Customersprefer private rooms or entire homes in comparison to shared rooms.
- Also, we can see maximum reviews in listings for Manhattan & Brooklyn, implying that more bookings happen in these neighbourhoods.(The higher number of customer reviews imply higher satisfaction)
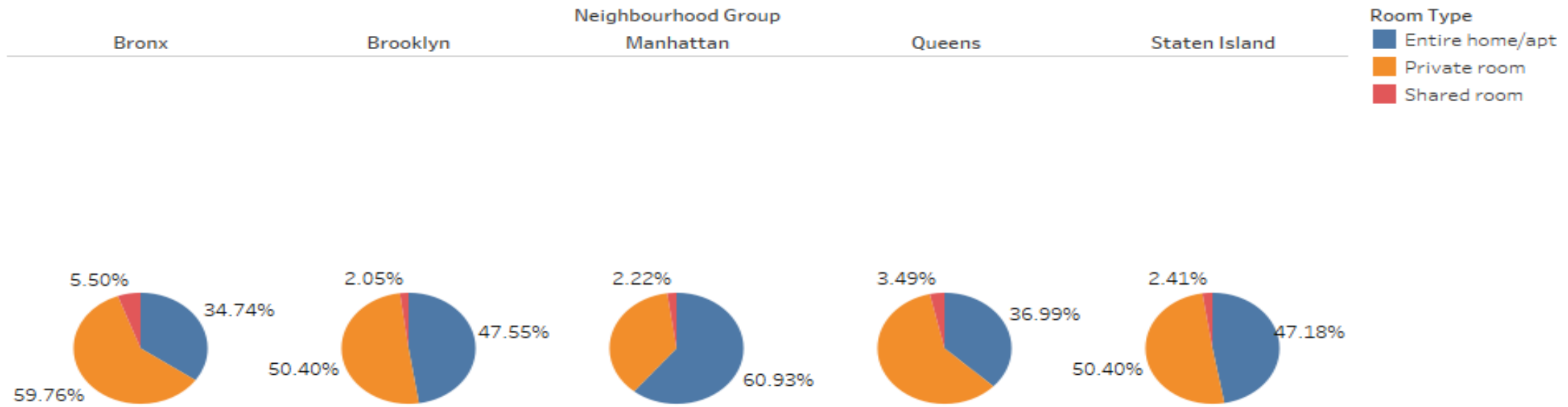
% of Total Count of Room Type broken down by Neighbourhood Group. Colour shows details about Room Type. The marks are labelled by % of Total Count of Room Type.

Recommendation:
- Airbnb can concentrate on promoting shared rooms with targeted discounts to increase bookings.
- New acquisitions can be explored to acquire 'private rooms' in Manhattan and Brooklyn and 'entire homes' in Bronx and Queens.

Minumum Nights Grouped
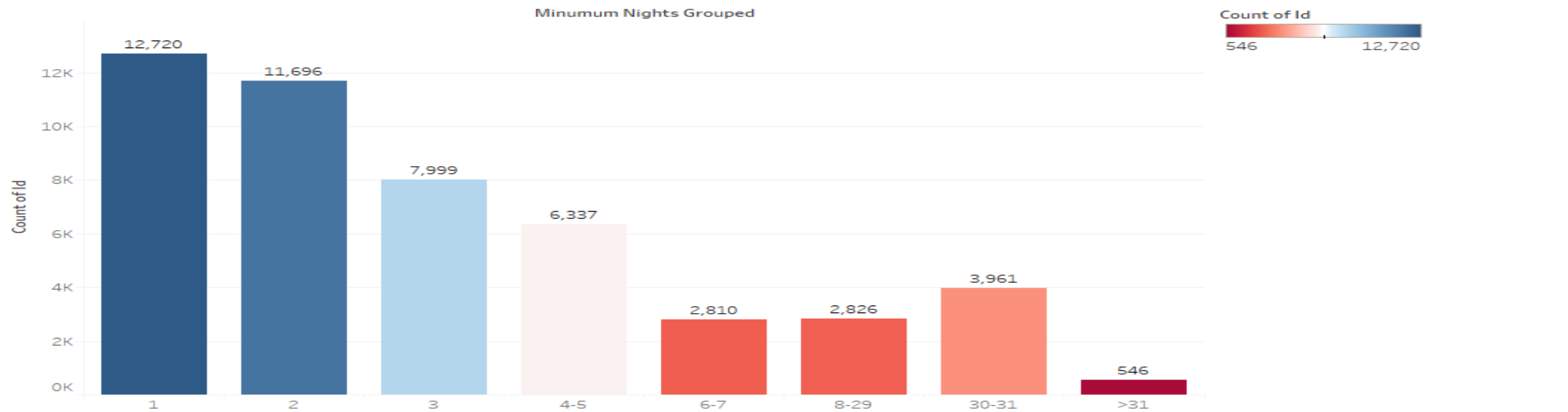
Count of Id for each Minumum Nights Grouped. Colour shows count of Id. The marks are labelled by count of Id.
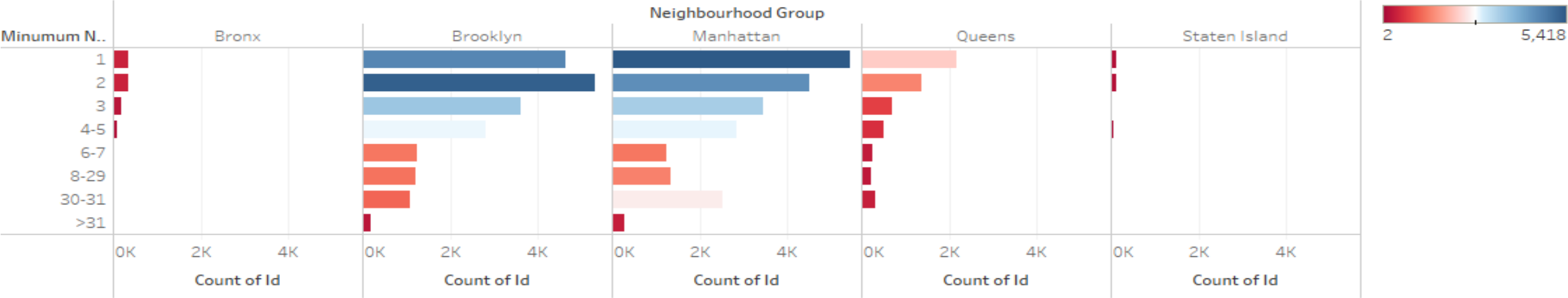

Count of Id for each Minumum Nights Grouped broken down by Neighbourhood Group. Colour shows count of Id.

- The listings with Minimum nights 1-6 have the most number of bookings. We can see a prominent spike in 30 days. This would be because customers would prefer renting out on a monthly basis. After 30 days, we can also see small spikes at 60 & 90 days, this can also be explained by the monthly rent taking trend.

- **Recommendation:**

- More number of hosts & listings with monthly rental duration (30-60-90) can be acquired. We see a good potential in the 30-day rental window. Manhattan & Brooklyn have higher number of 30 day bookings compared to the others, these areas can be further targeted.

- Also, weekly or bi-weekly rentals can also be acquired as these can be used customers stranded in NYC for quarantine purposes.
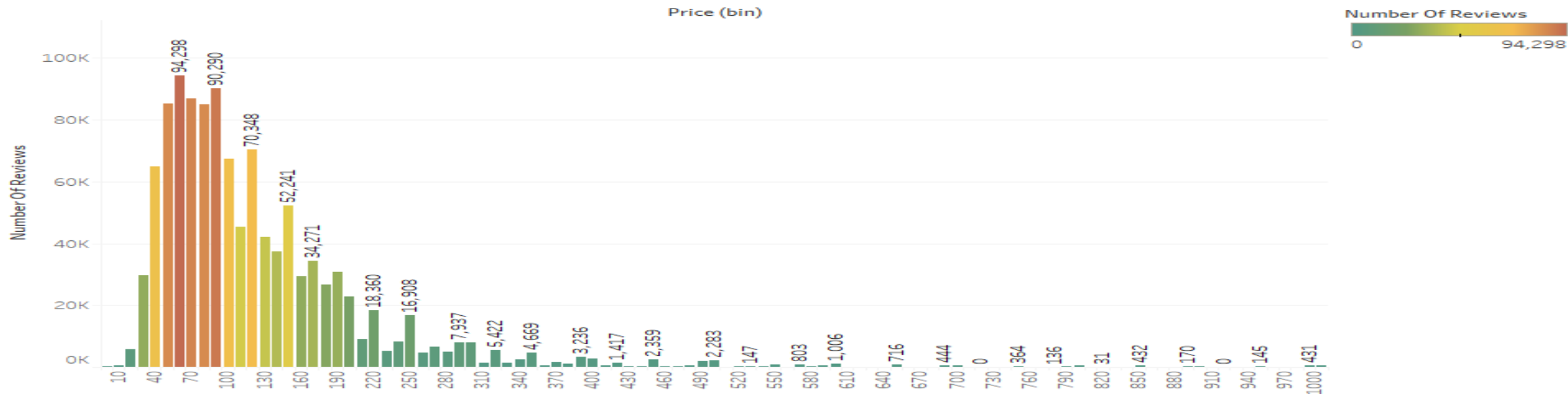
Price (bin)

Sum of Number Of Reviews for each Price (bin). Colour shows sum of Number Of Reviews. The marks are labelled by sum of Number Of Reviews. The view is filtered on Price (bin), which has multiple members selected.
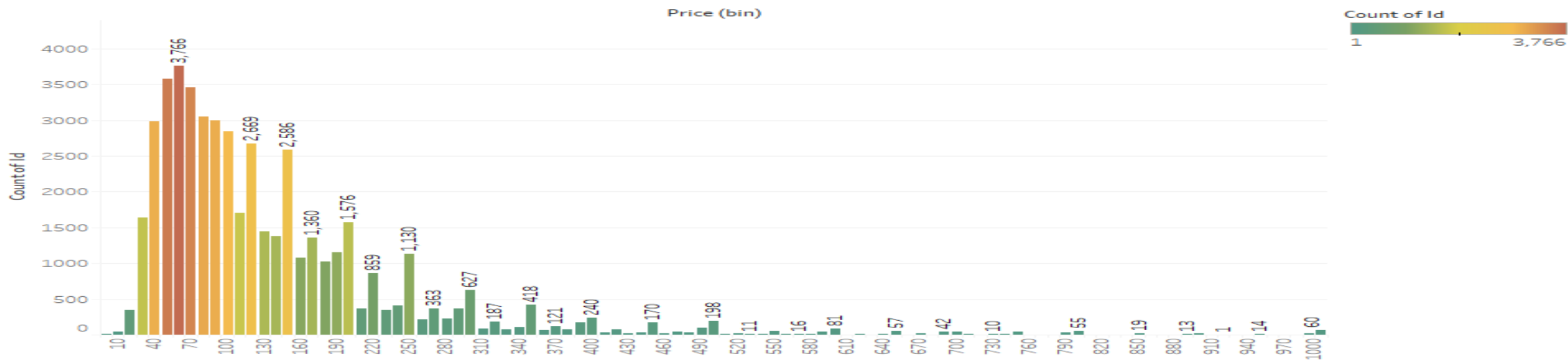
Price (bin)

Count of Id for each Price (bin). Colour shows count of Id. The marks are labelled by count of Id. The view is filtered on Price (bin), which has multiple members selected.

- We have taken pricing preference based on two parameters –volume of bookings done in a price range and number of reviews in a price range.

- The favorable price range is $40 -$190. This is the price range most preferred by most customers.

- **Recommendation:**

- New acquisitions and expansion can be done in the price range of $40 -$190 as it satisfies both parameters of volume of customer traffic and customer satisfaction.
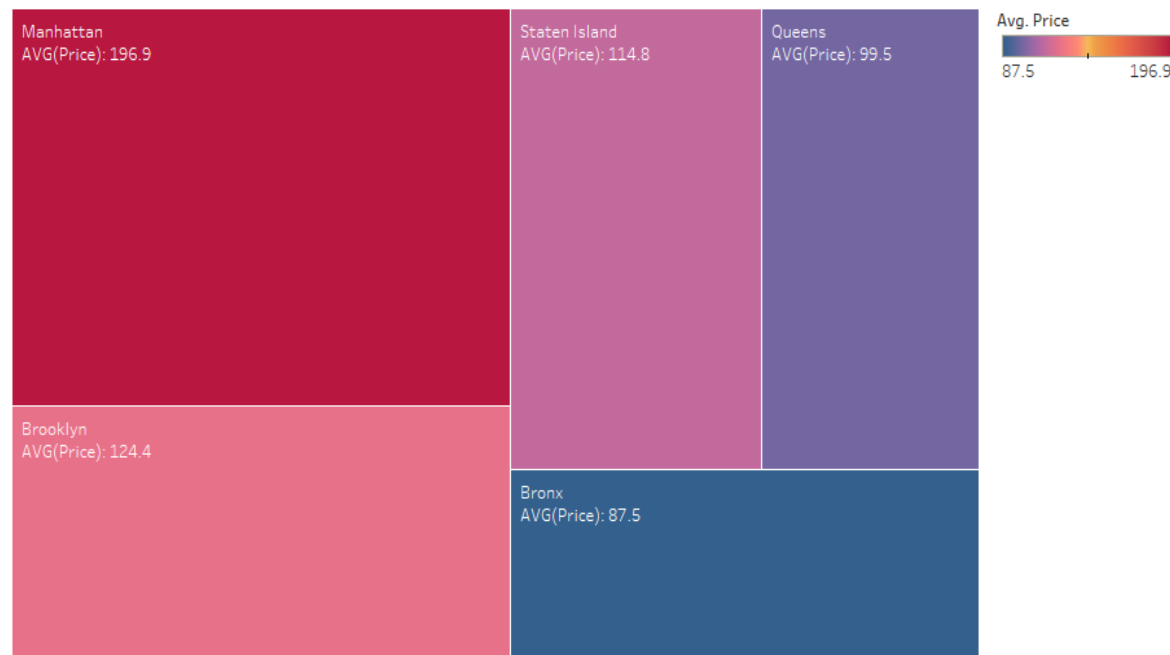
Neighbourhood Groupandaverage of Price. Colour shows average of Price. Size shows average of Price. The marks are labelled by Neighbourhood Groupandaverage of Price.
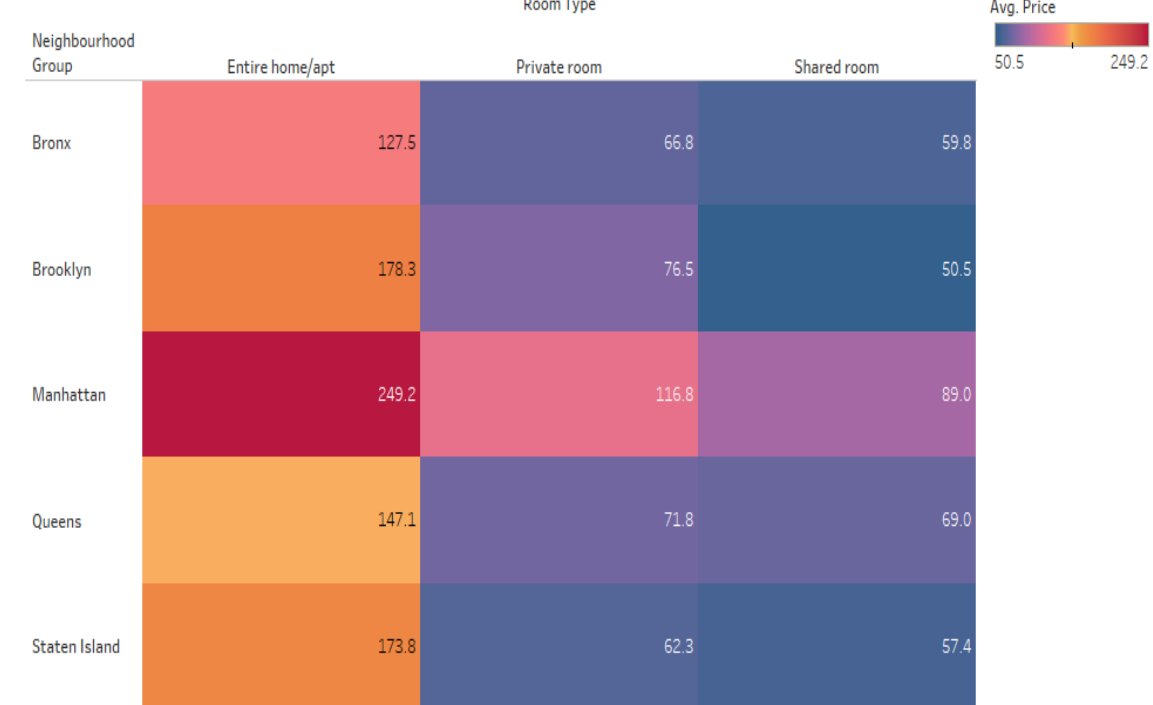
Average of Price broken down by Room Type vs. Neighbourhood Group. Colour shows average of Price. The marks are labelled by average of Price.

- Manhattan appears to have the highest average price of $196.9. The 'Entire home/apt' room type in Manhattan is the most expensive at $250, much higher than the overall average.
- Shared Room' type is the cheapest in Brooklyn.

Recommendation:

- 'Private rooms' of Manhattan & Brooklyn and 'entire homes' in Bronx and Queens Fall in the favorable price range ($40-$190).
- Brooklyn has an average price of $124. As there are already many listings available in Manhattan, Brooklyn can be considered for expansion.
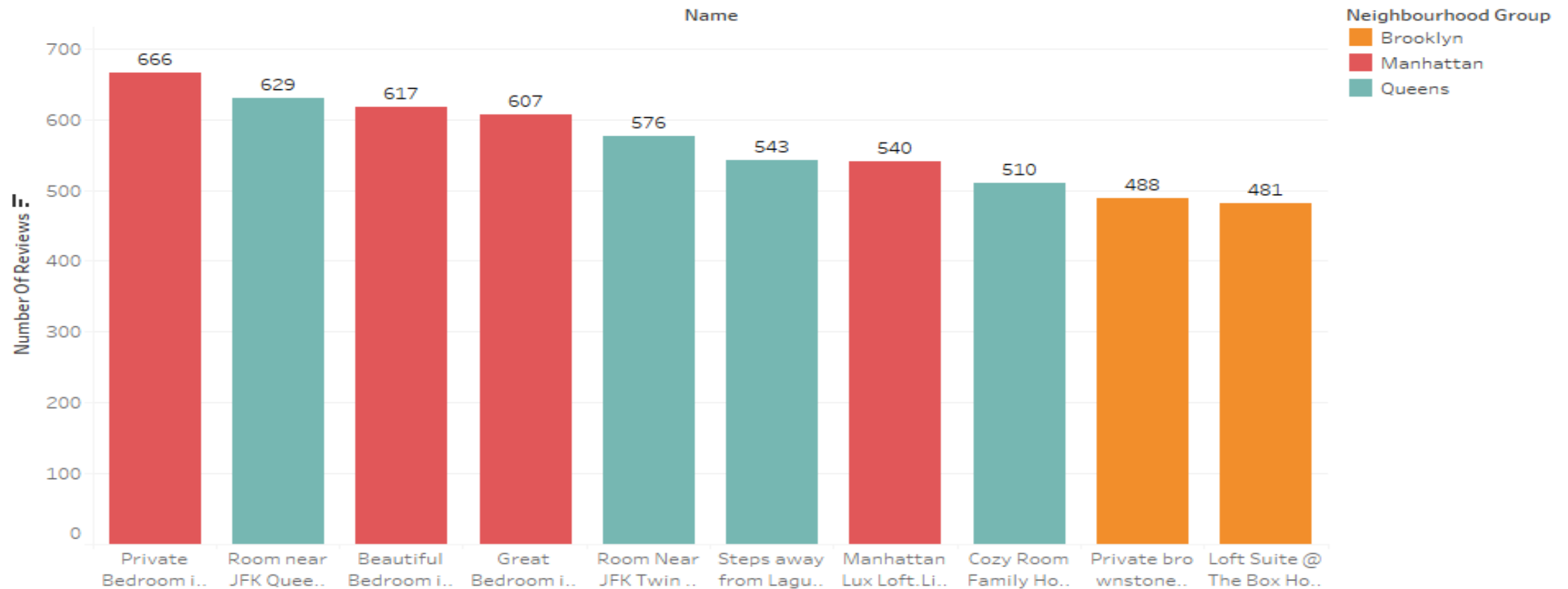
Sum of Number Of Reviews for each Name. Colour shows details about Neighbourhood Group. The marks are labelled by sum of Number Of Reviews. The view is filtered on Name, which has multiple members selected.

- Manhattan, Brooklyn and Queens have the most liked properties (most reviewed).
- The most reviewed property "Private Bedroom in Manhattan", though it appears to be steeply priced still has managed to get the maximum number of reviews making it the most favorable property in NYC.

Recommendations

- Promotion of shared rooms with targeted discounts to increase bookings.

- More number of hosts & listings with monthly rental duration (30-60-90) can be acquired. We see a good potential in the 30-day rental window. Manhattan & Brooklyn have higher number of 30-day bookings compared to the others; these areas can be further targeted.

- Weekly or bi-weekly rentals can also be acquired, as these can be used customers stranded in NYC for quarantine purposes.

- New acquisitions and expansion can be done in the price range of $40 -$190 as it satisfies both parameters of volume of customer traffic and customer satisfaction.

- New acquisitions can be explored to acquire 'private rooms' in Manhattan and Brooklyn and 'entire homes' in Bronx and Queens.

- Brooklyn has an average price of $124. As there are already many listings available in Manhattan, Brooklyn can be considered for expansion.

- Increasing acquisitions and new properties in coastal regions can increase customer bookings.

Appendix: Data Attributes

Provided with Airbnb New York City Listings Dataset till 2019 (48895 Rows * 16 Columns)

Column	Description
id	listing ID
name	name of the listing
host_id	host ID
host_name	name of the host
neighbourhood_group	location
neighbourhood	area
latitude	latitude coordinates
longitude	longitude coordinates
room_type	listing space type
price	
minimum_nights	amount of nights minimum
number_of_reviews	number of reviews
last_review	latest review
reviews_per_month	number of reviews per month
calculated_host_listings_count	amount of listing per host
availability_365	number of days when listing is available for booking

Appendix

Methodology

- The analysis and visualizations were done using Tableau considering various parameters.

- The analysis was done keeping in mind the business side of the project. The important factors taken into consideration were customer booking volume and customer preference.

- The first half of the presentation focused on customer preference. The second half compared various parameters of customer preference with respect to price.

- The following parameters were considered –

- Customer experience : Neighbourhood, Room type & minimum nights offered

- Price variation : Volume of customer booking, Room type, Neighbourhood, Number of reviews & Geography.

- Recommendations have been made keeping in mind the above parameters.

Assumptions

- As we are not aware about the nature of reviews, we have assumed that the properties which received higher number of reviews have a better customer liking.

Appendix: Data Methodology

- Used Tableau to visualize correctly to get insights
- Please refer methodology document for details (Methodology Document II.pdf)

Thank You