

airbnb

CASE STUDY

Agenda

- Objective
- Visualization and inferences
- Conclusion
- Appendix

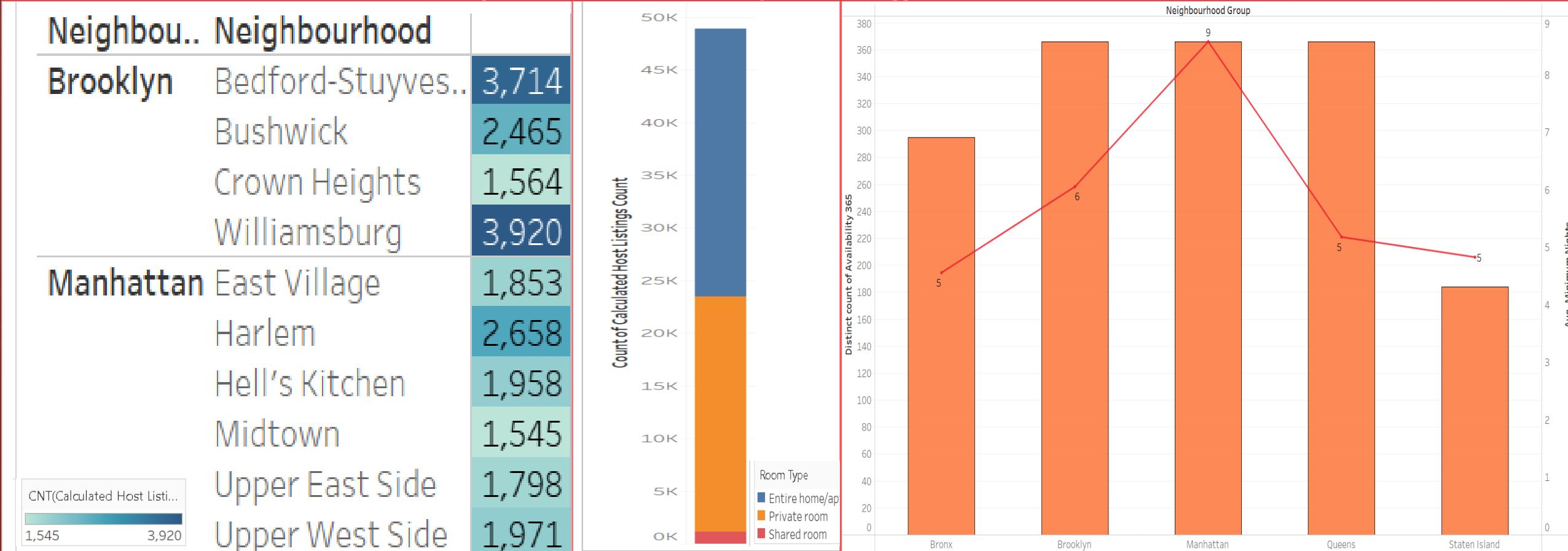
Objective

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.

To find a solution to this problem, we analysed Airbnb dataset to find important insights and recommendations which will ensure positive growth to the company's revenue.

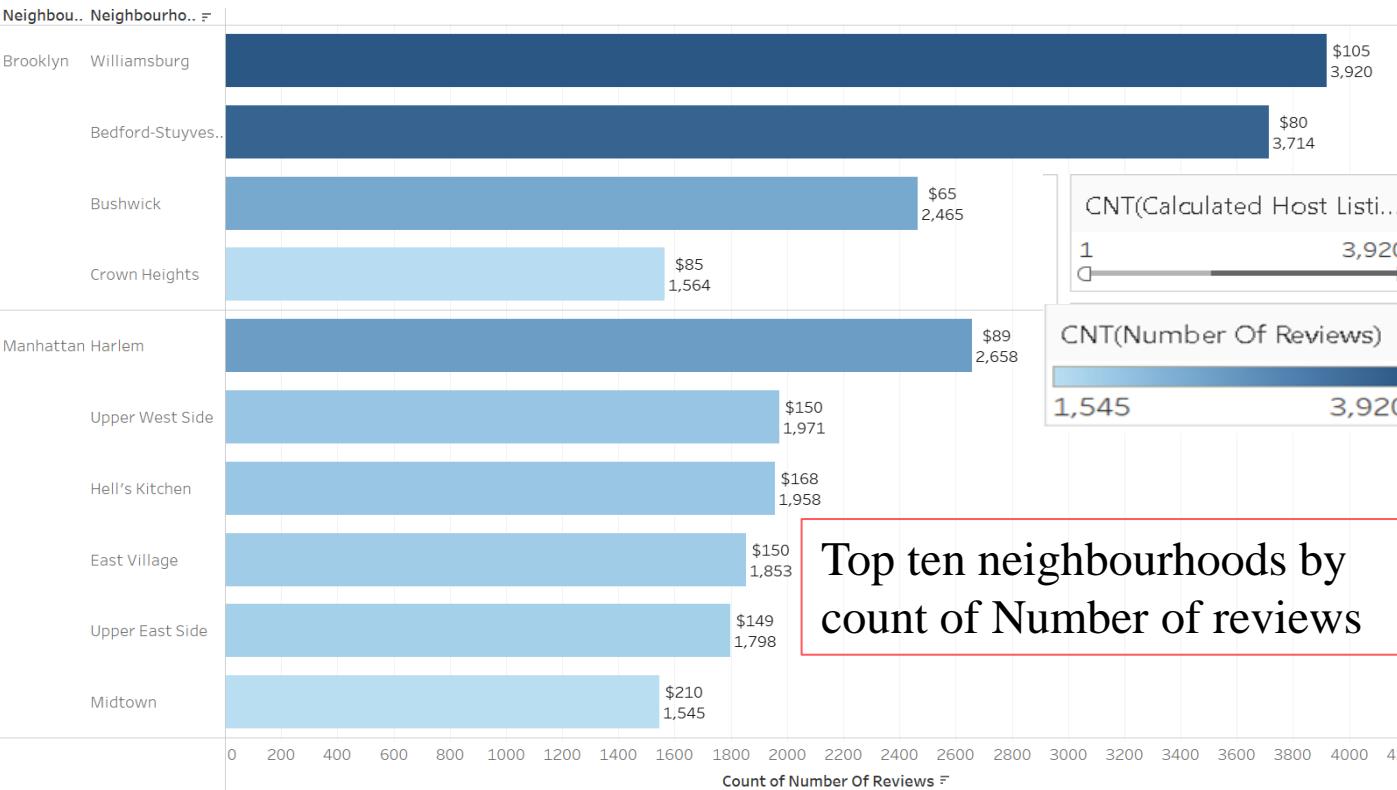
Visualization and inferences

As Airbnb's most important business aspect is acquiring hosts for customers to book, we analysed data to find hosts which have potential to drive positive growth in revenue.

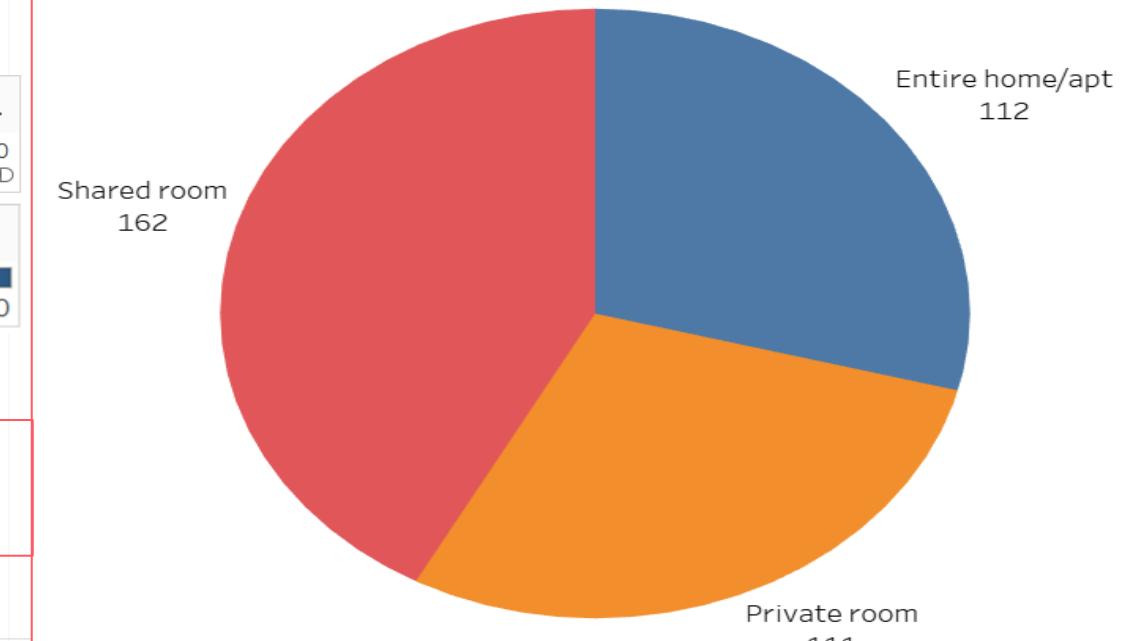


Inferences from the graph:

- From the graphs above we can see that Top ten neighbourhoods with most listings are mostly concentrated in Brooklyn and Manhattan with most popular room type being Entire home/apartment or Private room.
- We can also infer that Manhattan, Brooklyn and Queens have the highest list of hosts who are available for 365 days of the year with average minimum nights ranging from nine to five days, Manhattan being the highest.



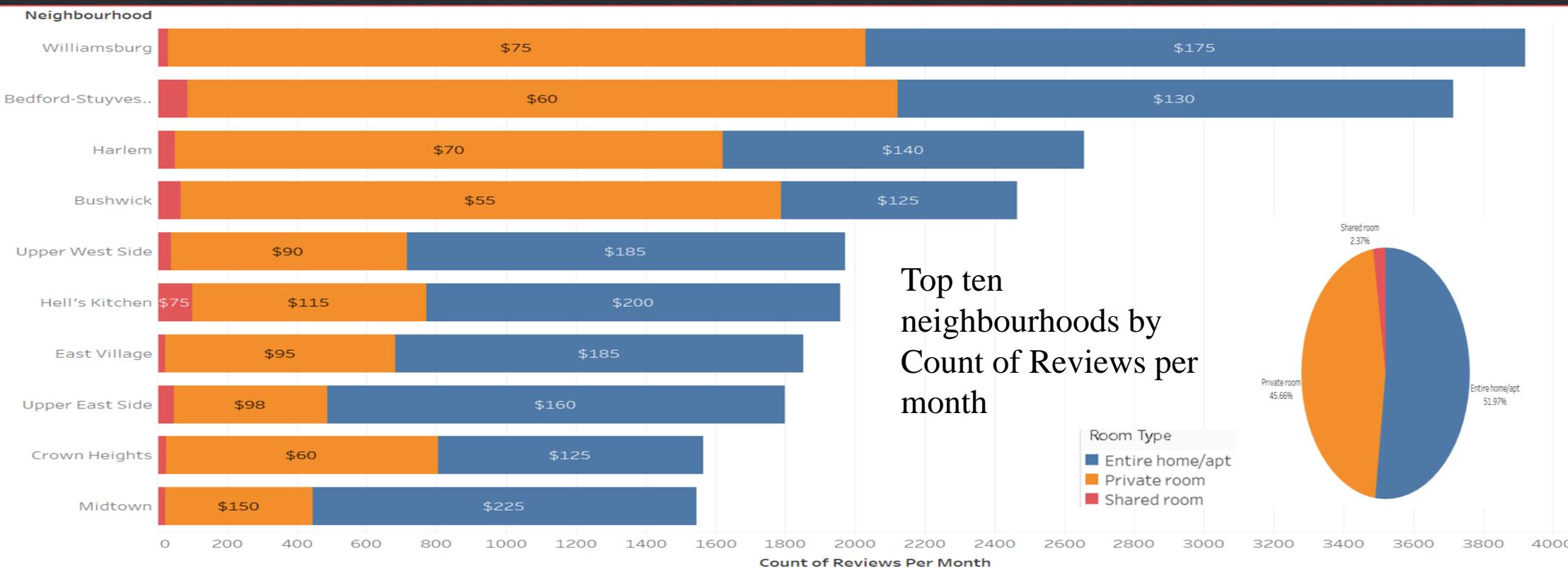
Average of availability_365 by room_type



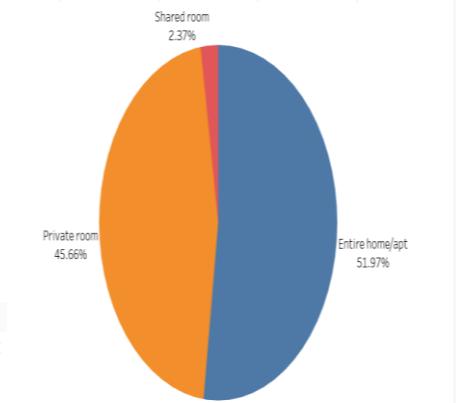
Inferences from the graph:

- Top ten neighbourhoods with most number of reviews and number of listings for each neighbourhood, Williamsburg being the highest in Brooklyn and Harlem in Manhattan, with the median price ranging from \$105 to \$85 in Brooklyn and \$210 to \$89 in Manhattan.
- There is fluctuations in median price ranges in the neighbourhoods, in Brooklyn price seems to be decreasing w.r.t rank, but in Manhattan it is the opposite, as the neighbourhood with less number of reviews has high price compared to the neighbourhood with high number of reviews.
- Pie chart depicts room type which is available most days of the year.

Customer preferences is a crucial part of Airbnb, which can help identify emerging trends and adapt its business strategy accordingly to stay ahead of the competition. Hence, using the Airbnb data set we were able to identify neighbourhoods, hosts, room type and properties that are most in demand.

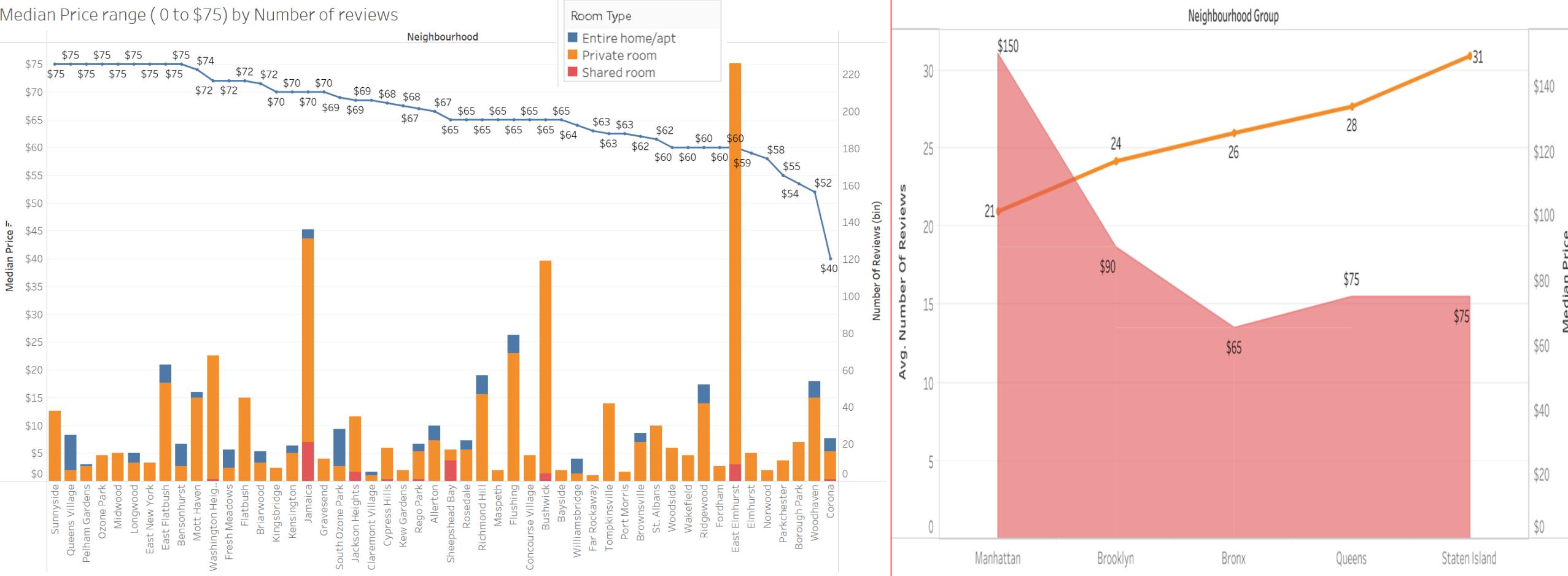


Top ten
neighbourhoods by
Count of Reviews per
month



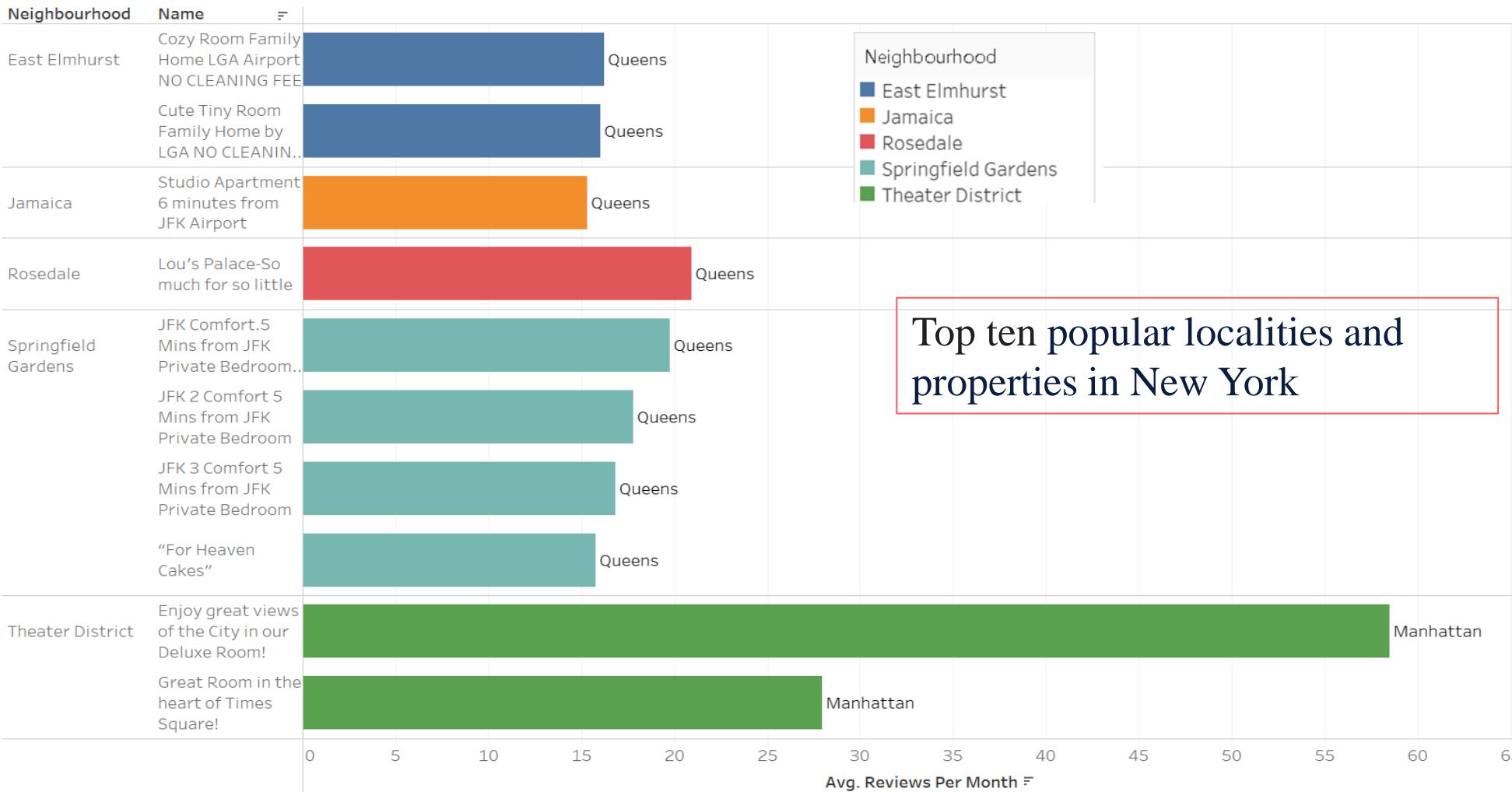
Inferences from the graph:

- From the above graphs we can infer that Top ten neighbourhoods with highest reviews per month are Williamsburg, Bedford-Stuyvesant, Harlem, Bushwick, Upper West Side, Hell's Kitchen, East Village, Upper East Side, Crown Heights and Midtown Where Entire home/Apartment is being preferred by 51.97%, Private Room by 45.66% and Shared Room by 2.37%.



Inferences from the graph:

- Median Price below \$75 has highest bookings for private room. The price range from \$40 to \$60 has range of 100 to 180 number of reviews, where median price \$60 to \$75 has 180 to 220 number of reviews. East Elmhurst having the highest number of reviews with price of \$60. Jamaica and Bushwick being the next highest with median price of \$70 and \$65.
- Staten island has the highest average number of reviews and Manhattan with least average number of reviews.
- Manhattan has the highest price of \$150 compared to any other neighbourhood groups , Bronx being the least with price range starting from \$65.

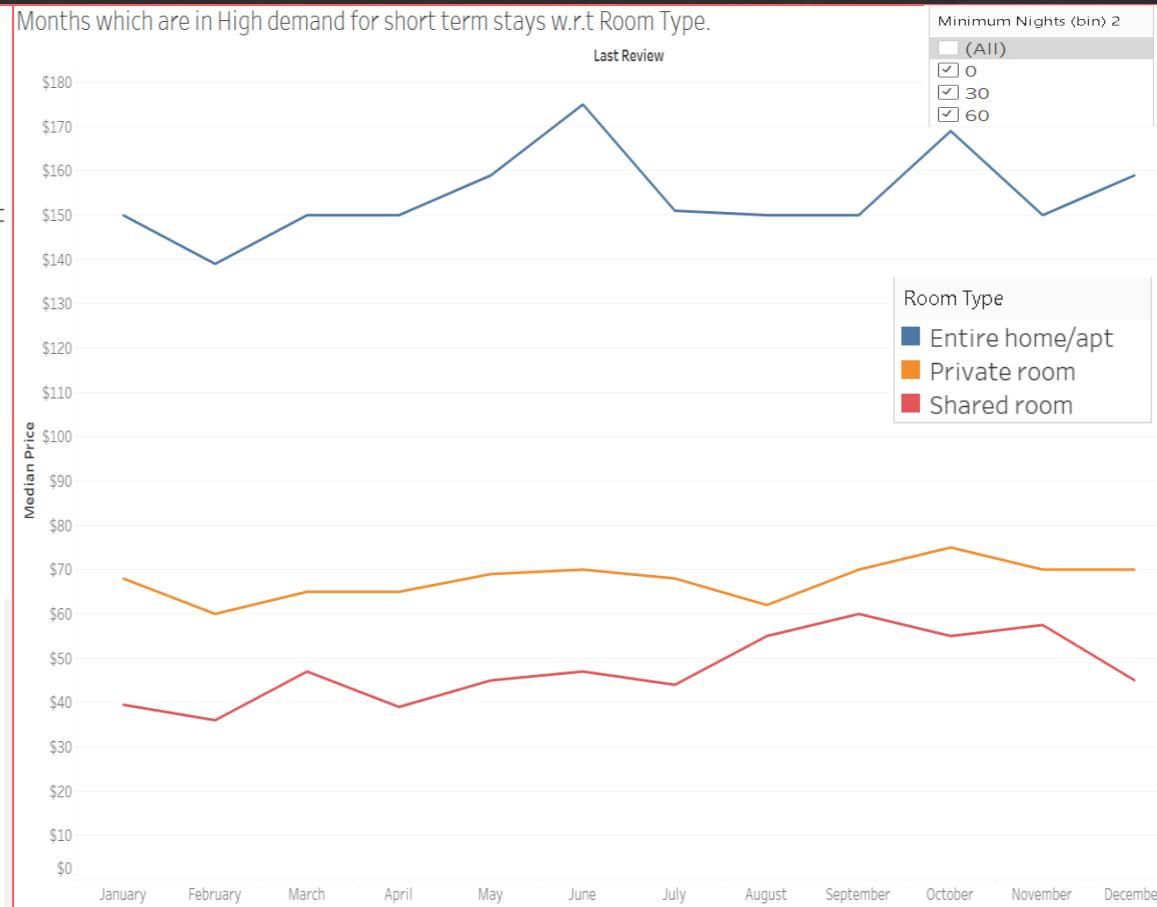
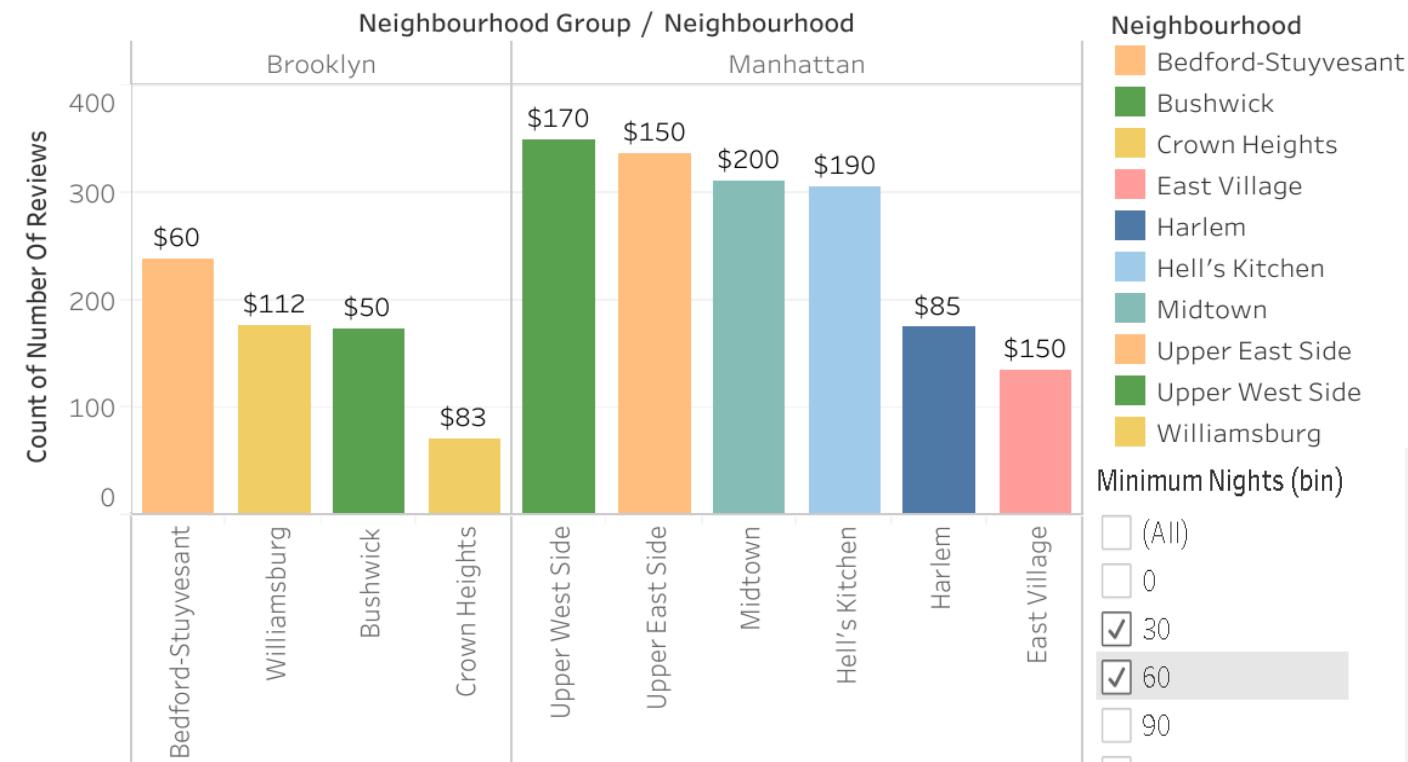


Inferences from the graph:

- East Elmhurst, Jamaica, Rosedale, Springfield Gardens and Theater District are the neighbourhoods which have the most popular properties in New York, where Two most popular properties are situated in Manhattan and Queens having the remaining eight most popular properties based on Average Reviews Per Month.

Analysing short-term stays to gain insights into the demand and preferences of customer for accommodations

Neighbourhood to choose for short term stays based on number of reviews.

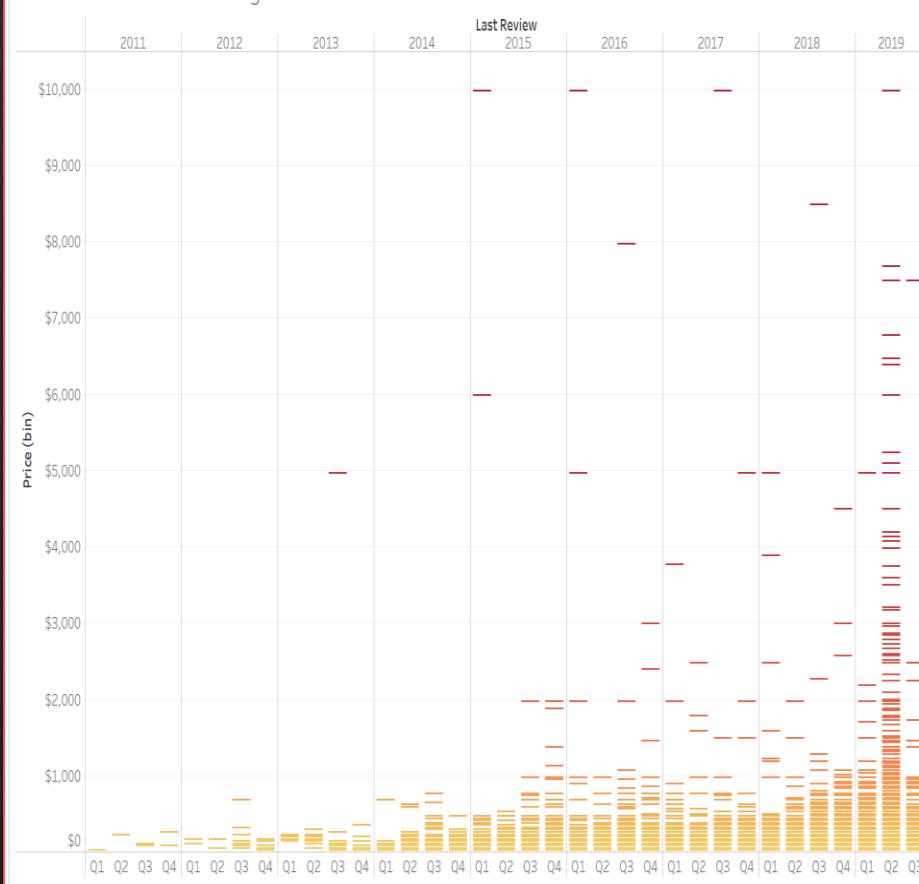


Inferences from the graph:

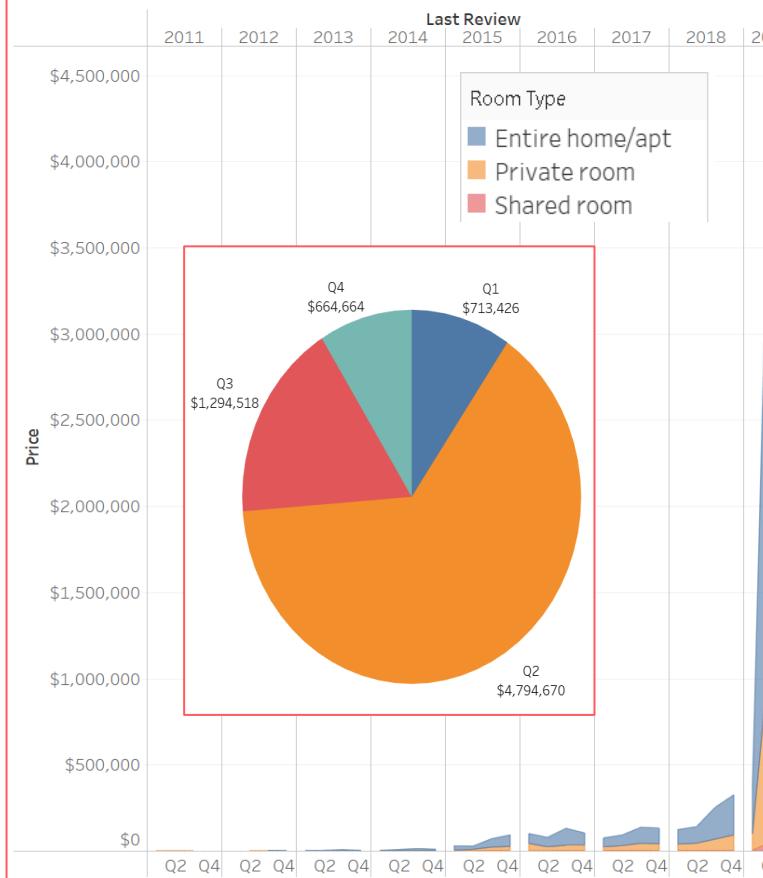
- Upper west Side, Upper East Side, Midtown, Hell's Kitchen, Harlem and East Village have most number of reviews for short term stays between 30 days to 60 days in Manhattan. Bedford-Stuyvesant, Williamsburg, Bushwick and Crown Heights have the most number of reviews for short term stays between 30 days to 60 days.
- Bushwick has the least price of \$50 while Midtown has the highest price of \$200.
- June and November are high in demand for short term stays between 30 to 60 days where most sorted listing is Entire home/Apartment.

Analysis on Prices of Airbnb Rentals to gain Insights.

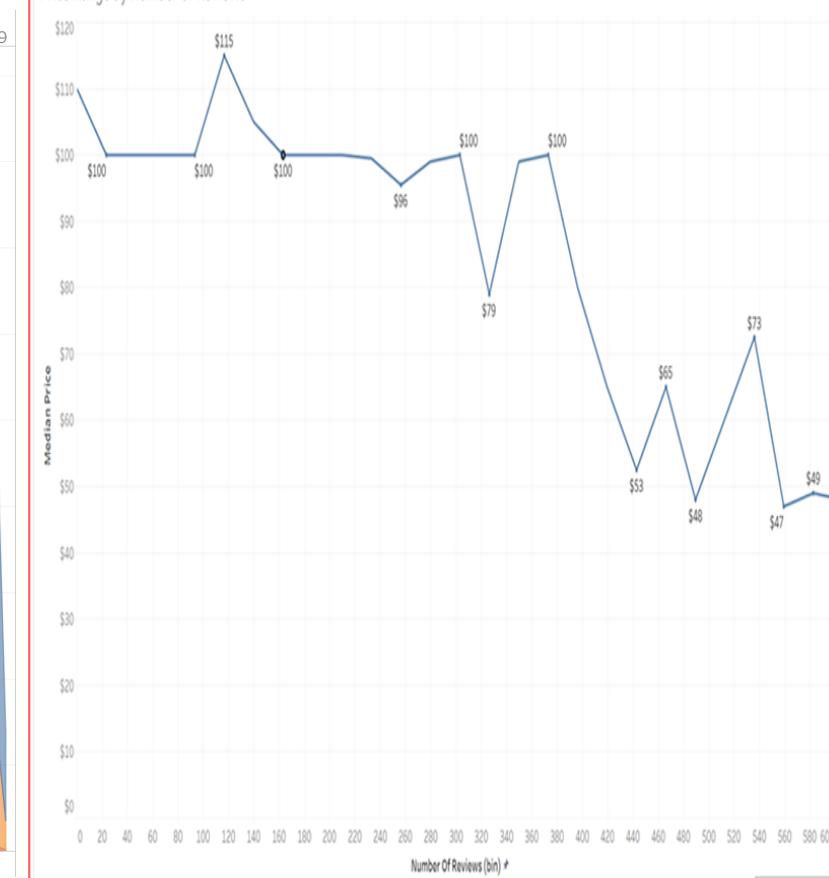
Seasonal Trend of Price Range.



Revenue generated quarterly.



Price Range by Number of Reviews



Inferences from the graph:

- The price has increased as the years progressed, it can indicate that the demand for rental properties has increased over time, leading to an increase in prices of rental. It can also suggest that the supply of short-term rental properties has not kept up with the demand, leading to an increase in prices.
- The second quarter of 2019 was a highly profitable period for Airbnb, and the most popular types of listings during that time were Entire Home/apartment and private rooms.
- The median price range between \$75 and \$50 has highest number of reviews.

Conclusion

- Prioritize acquiring hosts in Brooklyn and Manhattan, focusing on "Entire home/apartment" or "Private room" listings, as they are the most popular room types. Consider Manhattan, Brooklyn, and Queens for longer stays as they have the most year-round available hosts.
- Offer discounts in lower median price neighbourhoods like Bushwick in Brooklyn or Washington Heights in Manhattan, and promote highly reviewed areas such as Williamsburg in Brooklyn and Harlem in Manhattan.
- Encourage hosts to offer more private rooms with median prices ranging from \$40 to \$75, and incentivize competitive pricing in Manhattan. Promote Staten Island's high average reviews to encourage bookings in the area.
- Promoting shared rooms with attractive price and incentives for short term stays will be profitable as the number of listings for shared rooms is limited but their average price is placed less and availability is high.
- Encourage hosts in Upper West Side, Upper East Side, Midtown, Hell's Kitchen, Harlem, and East Village to offer short-term stays between 30 to 60 days, as these neighbourhoods have the most number of reviews for this length of stay. Encourage hosts in Bedford-Stuyvesant, Williamsburg, Bushwick, and Crown Heights to offer short-term stays between 30 to 60 days, as these neighbourhoods have the most number of reviews for this length of stay.
- Consider offering promotions or discounts for bookings made in June and November, which are high-demand months for short-term stays between 30 to 60 days. This could encourage more bookings during these periods and help increase revenue.
- Investing in the development of new short-term rental properties to help meet the growing demand and prevent further price increases.
- Encourage hosts to price their listings competitively within the median price range of \$75 to \$50, as this is where the highest number of reviews are found. Consider offering special promotions or discounts during off-peak periods to encourage more bookings and maximize revenue throughout the year.

The background of the image is a dark, moody cityscape at night. The city is filled with numerous skyscrapers of various heights and architectural styles, their windows reflecting a faint light. The sky above is filled with large, billowing clouds, some illuminated from behind by a setting or rising sun, creating a dramatic and somewhat somber atmosphere.

THANK YOU

Appendix

Limitations and assumptions:

- The median value of the price field was used for visualization purposes due to the presence of outliers in the price field.
- Used Number of reviews as a base measure to find customer preferences
- Used Reviews per Month and Number of Reviews as the popularity measure to gain information on customer preferences.
- Short-term stays is considered to be 30-60 days here.

Data sources: Airbnb 2019 dataset

Methodology: This is the link to the methodology document I followed to arrive at the insights.

https://drive.google.com/file/d/12Czj1arhNA_w5IkTxKQZ_pFmrco7lagK/view?usp=sharing