

airbnb

CASE STUDY

Agenda

- Objective
- Visualization and inferences
- Conclusion
- Appendix

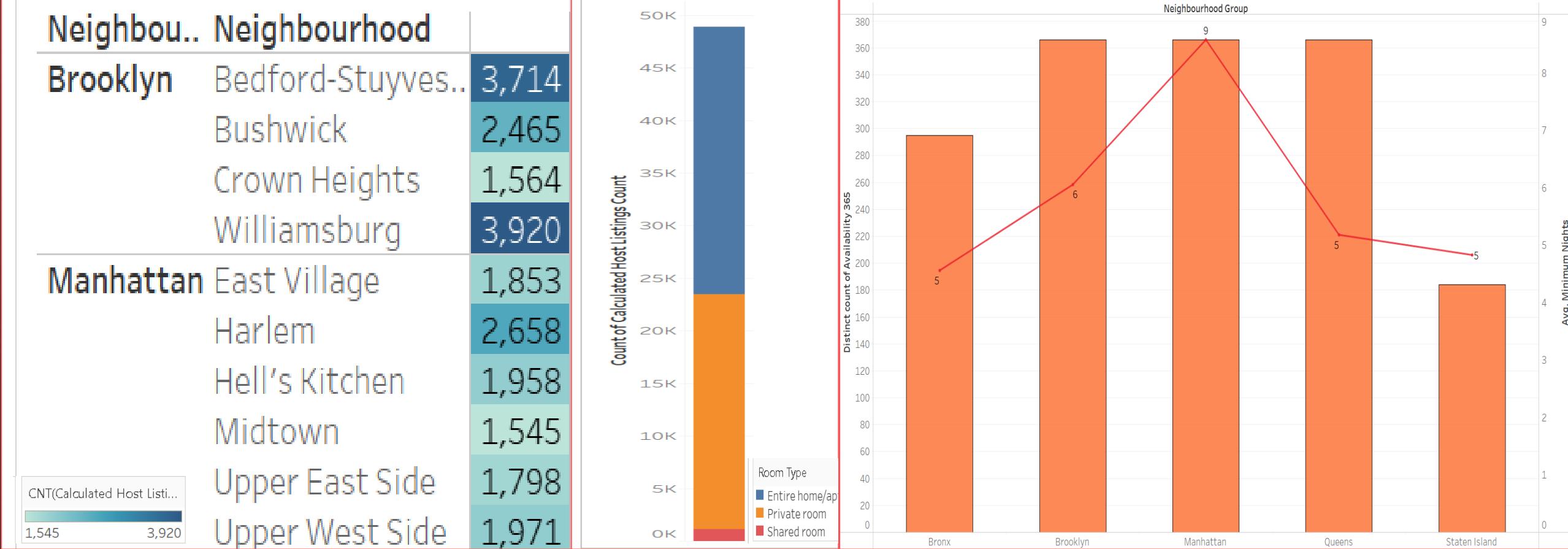
Objective

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.

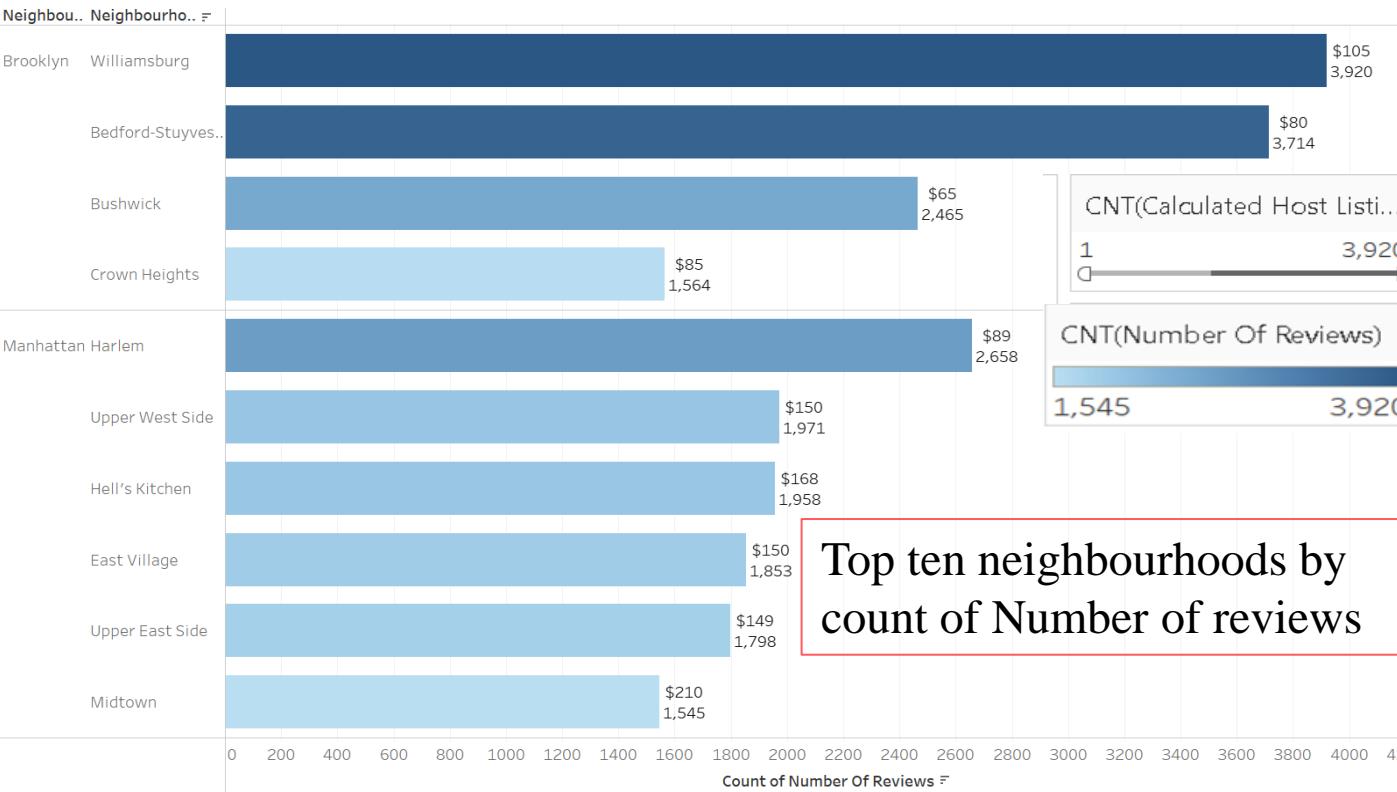
Visualization and inferences

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.

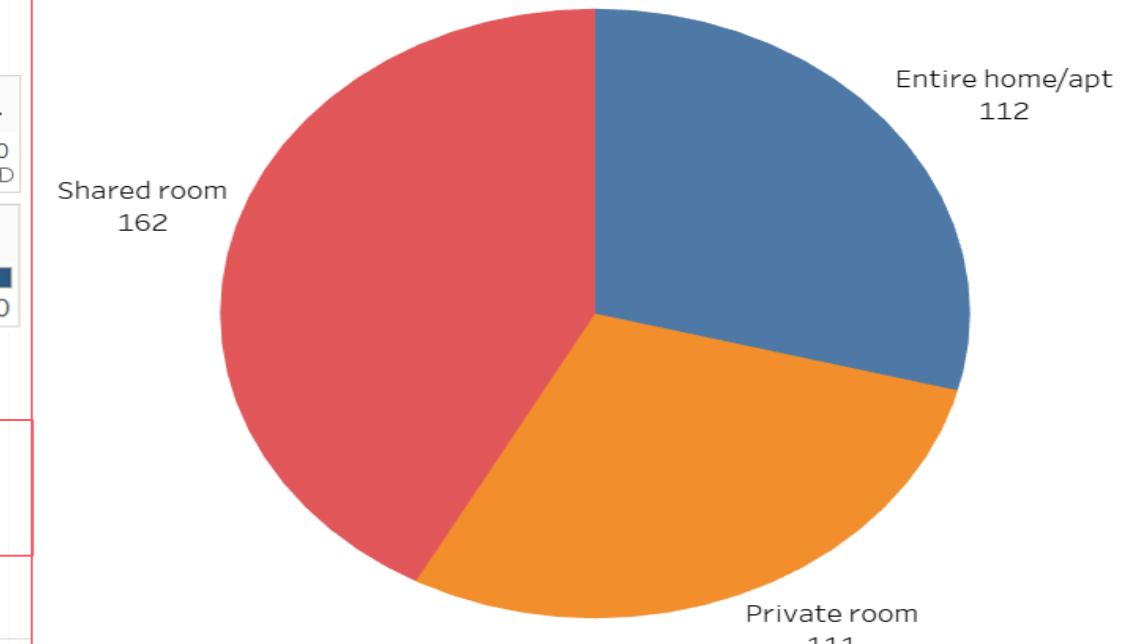


Inferences from the graph:

- We can observe that the top ten neighbourhoods with the most listings are concentrated in Brooklyn and Manhattan. The most popular room types are Entire home/apartment or Private room,
- Manhattan, Brooklyn, and Queens have the highest number of hosts available year-round, with average minimum stays ranging from five to nine days, with Manhattan having the highest average.



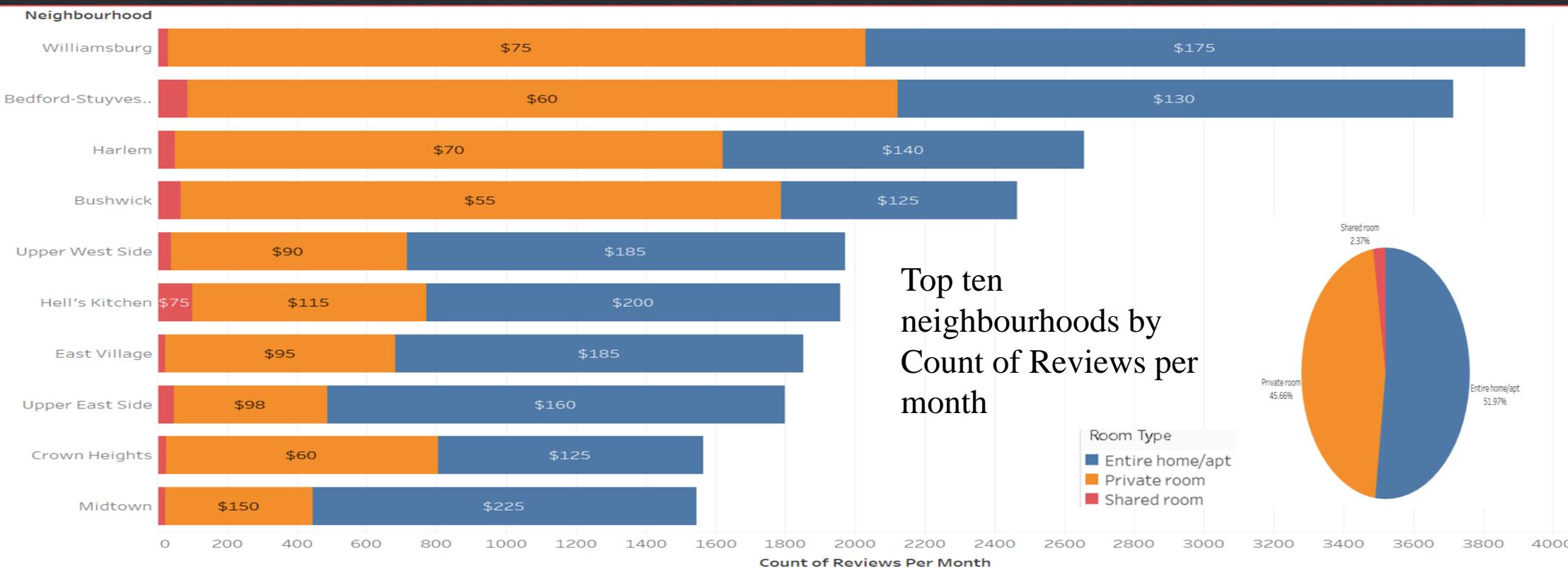
Average of availability_365 by room_type



Inferences from the graph:

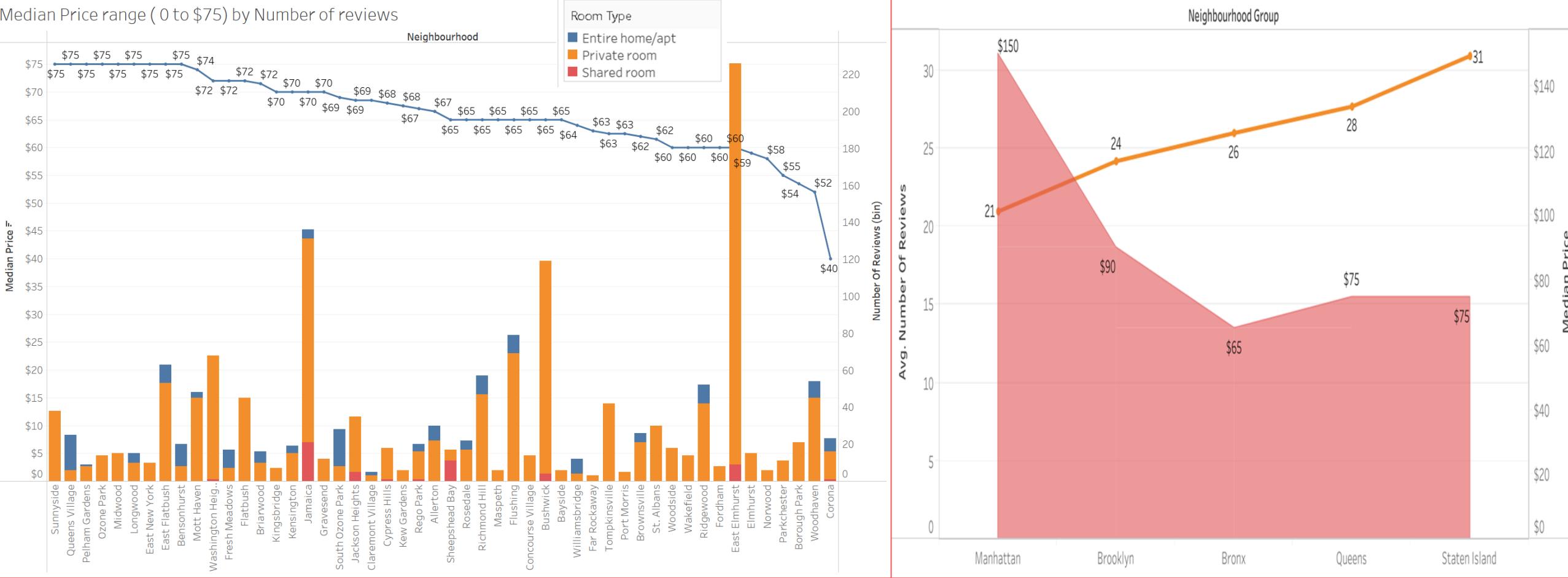
- The top ten neighbourhoods with the highest number of reviews and listings were identified for both Brooklyn and Manhattan. Williamsburg in Brooklyn and Harlem in Manhattan had the highest number of reviews. The price range for these neighbourhoods varied from \$105 to \$85 in Brooklyn and \$210 to \$89 in Manhattan, indicating fluctuations in prices across the neighbourhoods.
- There is fluctuations in 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 shows that Shared rooms are the most frequently available type of accommodation throughout 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.



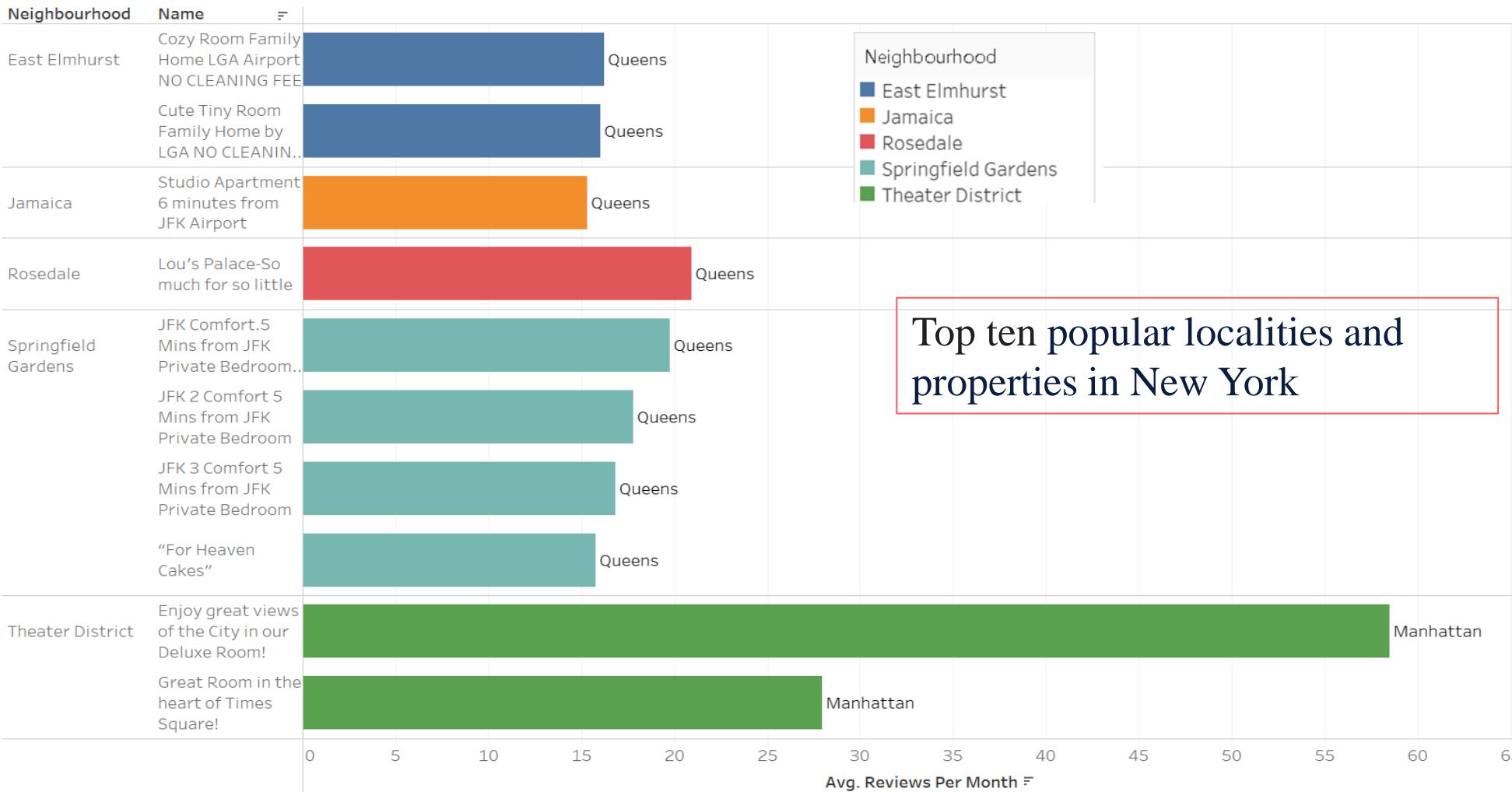
Inferences from the graph:

- The top ten neighbourhoods with the highest reviews per month in New York City are Williamsburg, Bedford-Stuyvesant, Harlem, Bushwick, Upper West Side, Hell's Kitchen, East Village, Upper East Side, Crown Heights, and Midtown. The preferred accommodation types for guests are Entire home/Apartment, Private Room, and Shared Room, with 51.97%, 45.66%, and 2.37% respectively.



Inferences from the graph:

- According to the data, it was found that private rooms with a price below \$75 had the highest number of bookings. The price range of \$40 to \$60 had 100 to 180 number of reviews, while the price of \$60 to \$75 had 180 to 220 number of reviews. East Elmhurst had the highest number of reviews with a price of \$60, followed by Jamaica and Bushwick with prices of \$70 and \$65 respectively. 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.

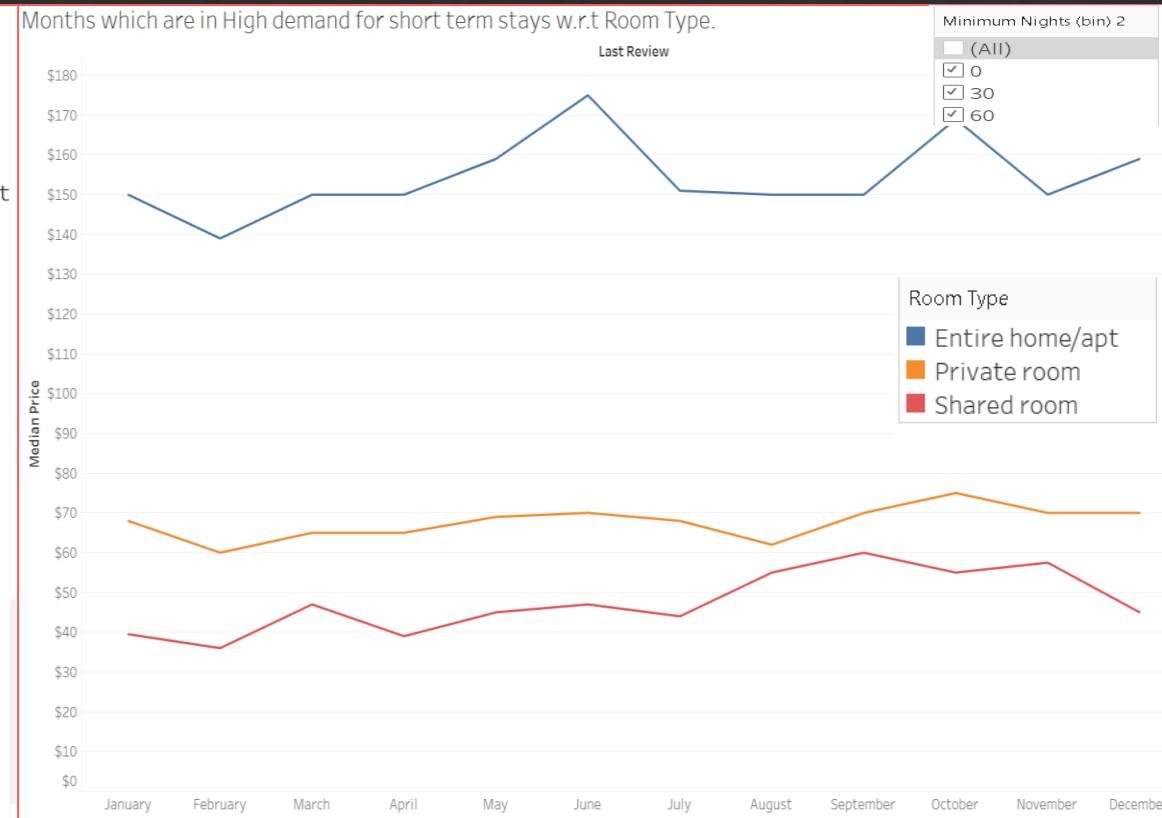
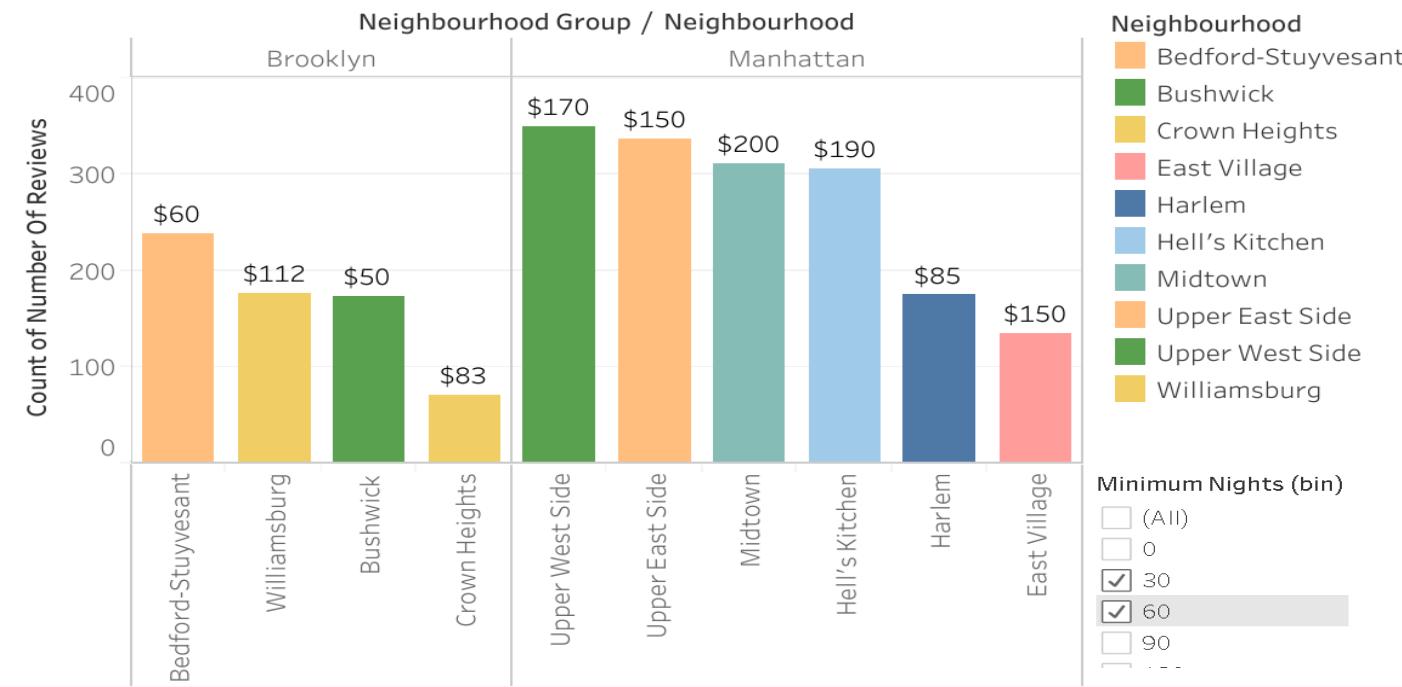


Inferences from the graph:

- Based on the data, it was found that the neighbourhoods of East Elmhurst, Jamaica, Rosedale, Springfield Gardens, and Theatre District are the most popular areas for vacation rentals in New York City. Two of the most popular properties are located in Manhattan and Queens, while the remaining eight most popular properties are also situated in these two boroughs.

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.

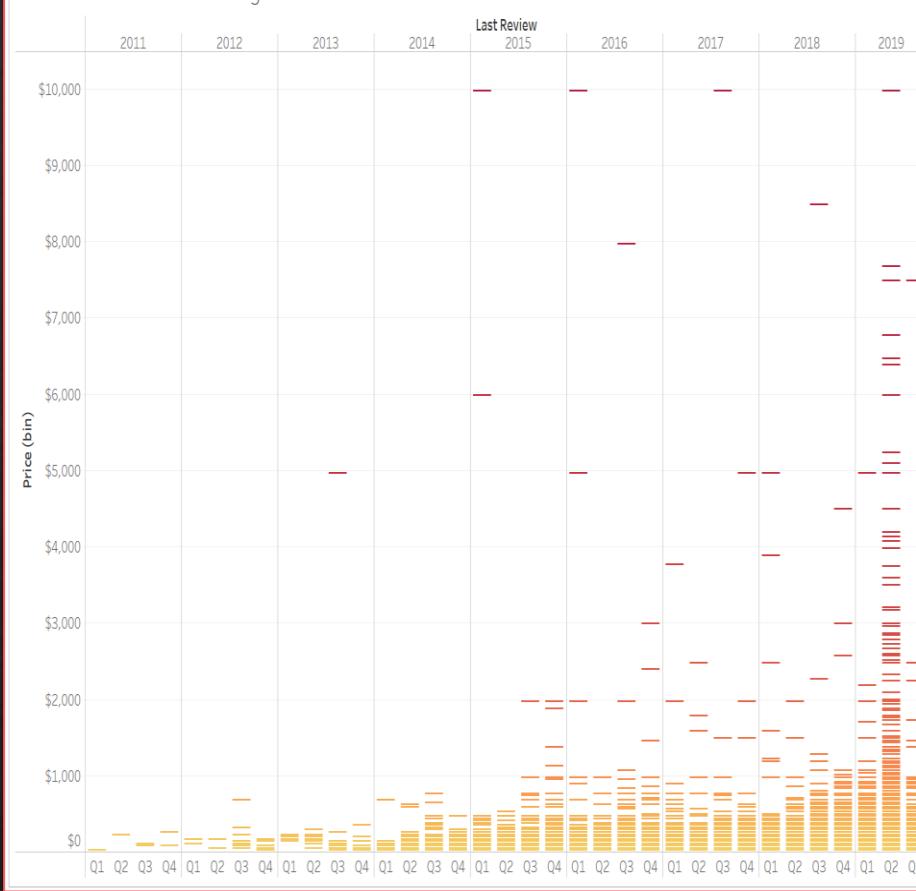


Inferences from the graph:

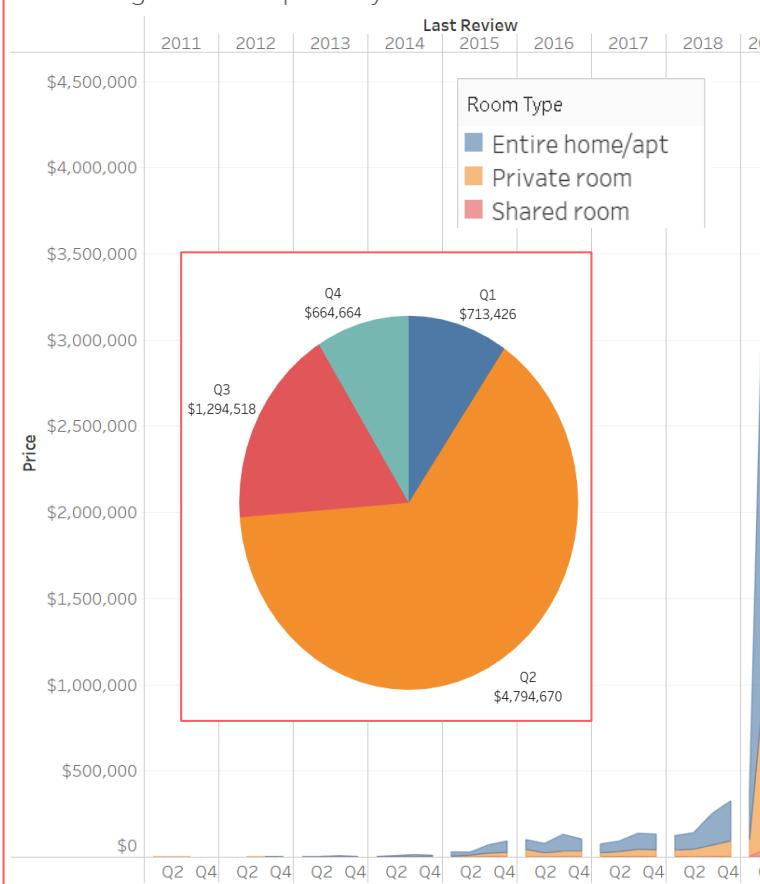
- This analysis provides valuable insights for short-term rentals, particularly those interested in Manhattan neighbourhoods. The data shows that Bedford-Stuyvesant, Williamsburg, Bushwick, and Crown Heights are the most popular areas for short-term stays between 30 to 60 days.
- The data also reveals that Bushwick has the lowest average price, making it an attractive option for budget-conscious travellers, while Midtown has the highest average price, making it an ideal choice for those looking for premium accommodations. Additionally, June and November are the high-demand months for short-term stays between 30 to 60 days, and the most popular listing type is Entire home/Apartment.

Analysis on Prices of Airbnb Rentals to gain Insights.

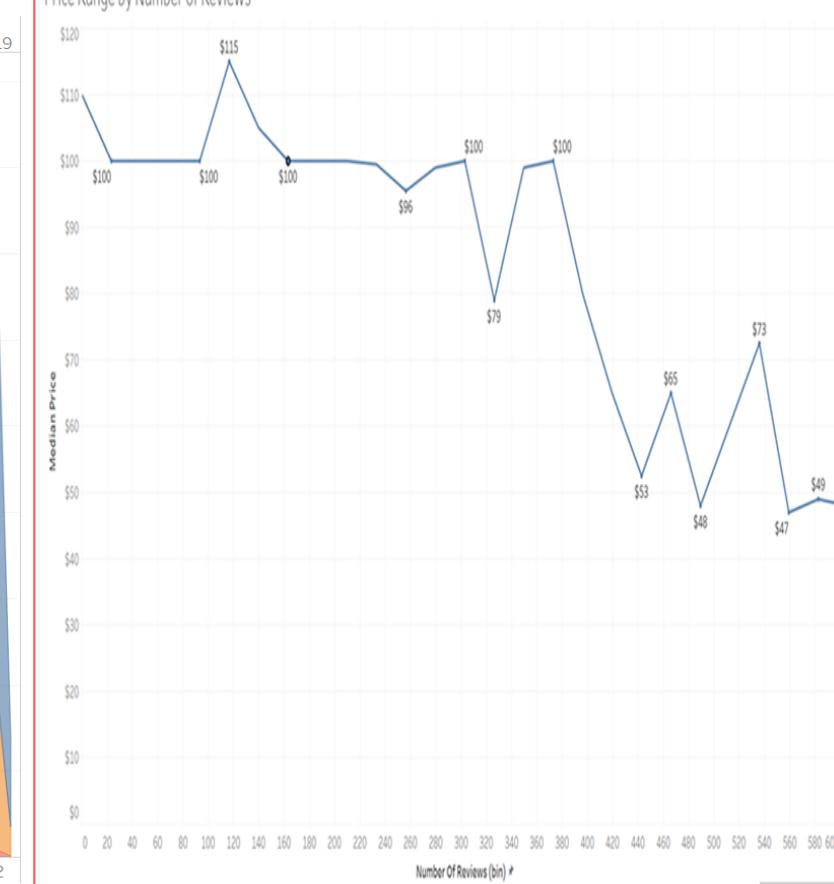
Seasonal Trend of Price Range.



Revenue generated quarterly.



Price Range by Number of Reviews



Inferences from the graph:

- Over time, the rental prices have increased, indicating a rise in demand for rental properties. This could also be due to a shortage of available short-term rental properties, which has caused an increase in prices. The second quarter of 2019 was a profitable period for Airbnb, and the most popular types of listings were Entire Home/apartment and private rooms. For properties in the median price range of \$75 to \$50, there are the highest number of reviews, suggesting that this price range is attractive to customers.

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 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 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 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_pFmrc07lagK/view?usp=sharing