

Insights of Airbnb in New York City

Project Goals

This project aims to explore and analyze a dataset containing 30,478 Airbnb listing in New York city with Tableau. By analyzing this dataset, our goal is to gain a comprehensive understanding of various aspects of the listing and uncover meaning patterns, trends, and valuable insights. These insights will provide a valuable knowledge of Airbnb market in New York city, benefiting both Airbnb hosts and potential guests.

Questions Addressed

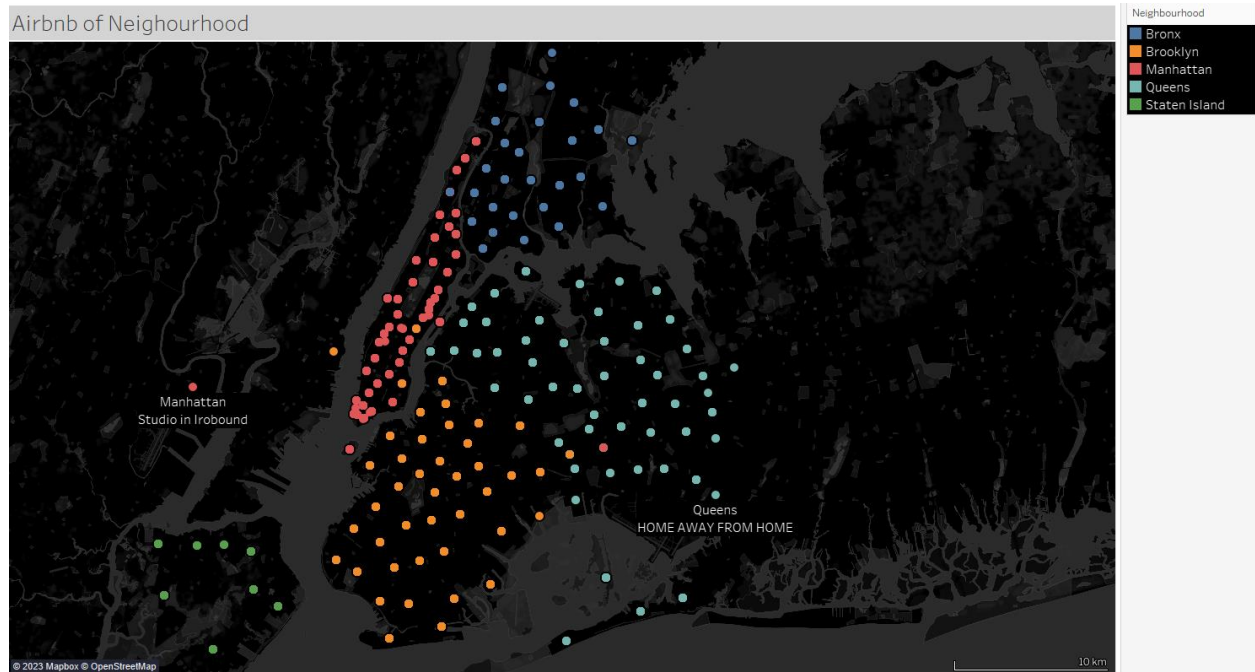
By exploring this dataset, we can answer questions such as:

1. Which are the popular neighborhoods, and what's the number of different room type of listings?
2. Which neighbourhood has highest rating and review?
3. How is the pricing varying with location and property type?
4. What are the correlations between average price and average rating score?
5. What's the trend of the average price per year for each neighbourhood?
6. What are the trends of Airbnb hosts number in different neighbourhoods?

Throughout the project, I created several visualizations to gain insights into the Airbnb listings dataset. Each visualization was designed with a specific purpose in mind, aiming to address a particular data question or explore a specific aspect of the data.

Data Visualization and Insights

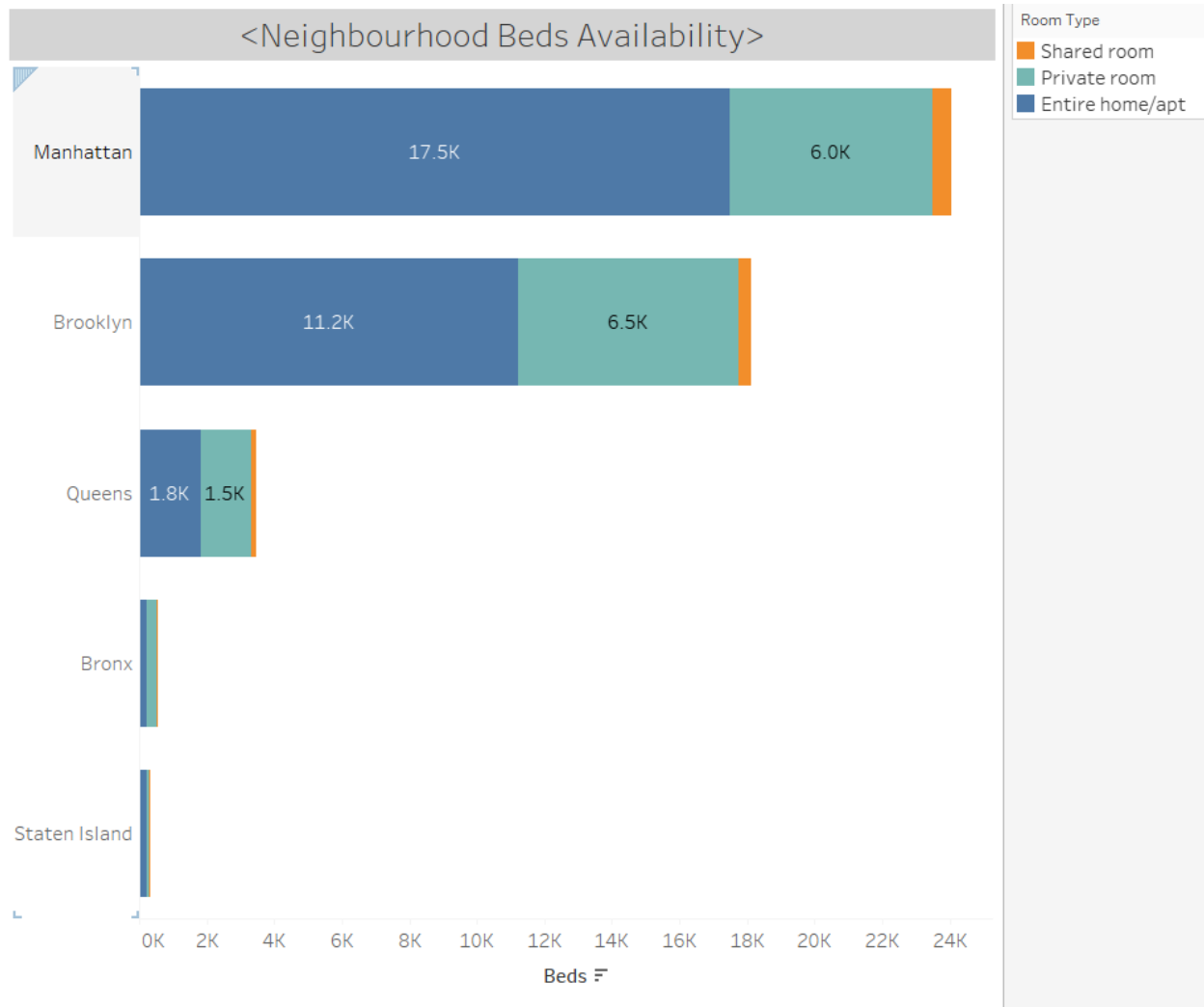
1. Map visualization



Map Visualization of Airbnb Listings by Neighborhood with Scatter Plot:

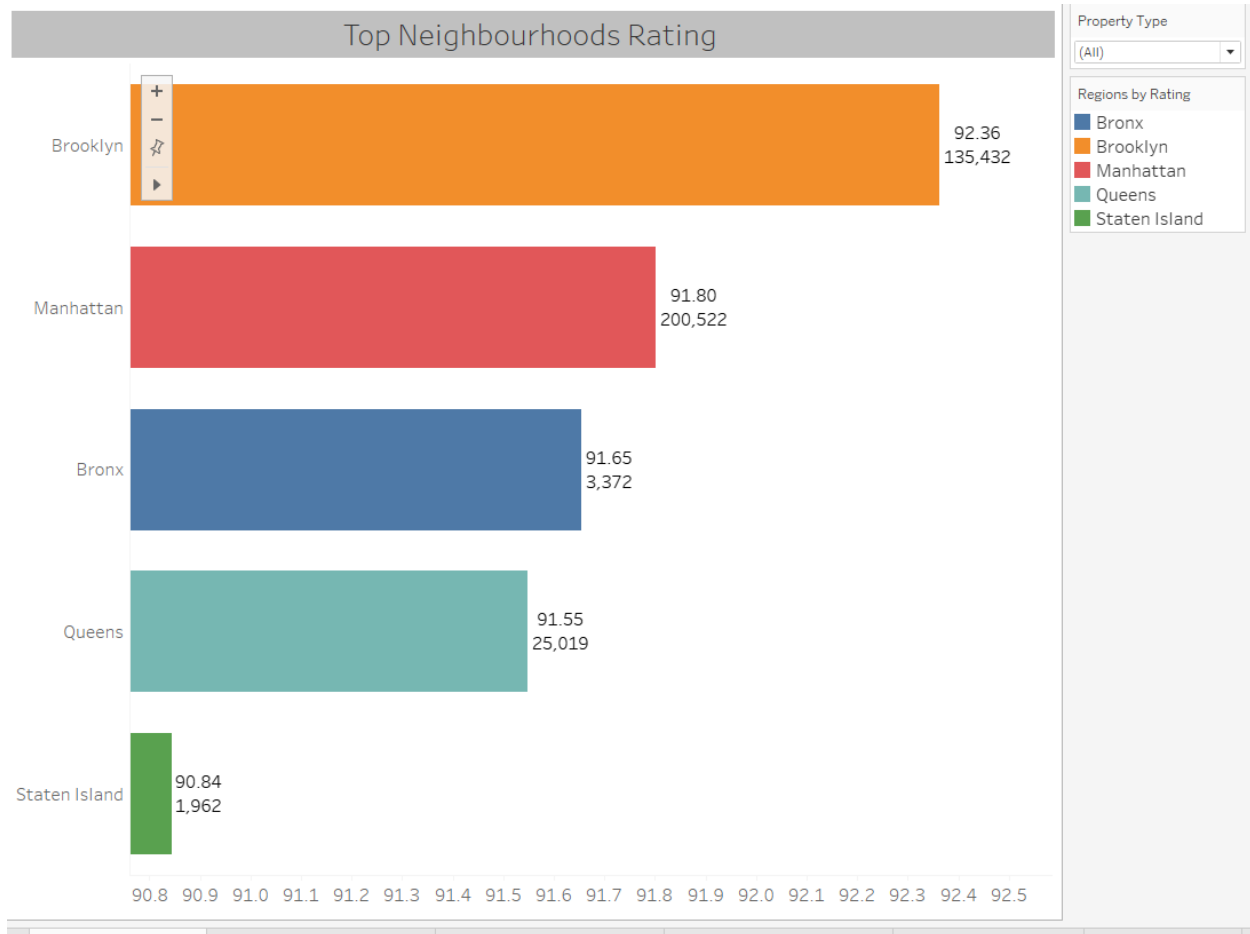
By utilizing a map visualization with a scatter plot, we can gain a comprehensive understanding of the geographical distribution of Airbnb listings across different neighborhoods. Additionally, by using interactive features, we can dynamically display additional information such as the listing name, price, room type, and other relevant details.

2. Beds availability for each room type



From this Beds availability chart, we can see the most listings are in Manhattan and Brooklyn. Queens comes in the third most listing but are not close to the number of listings in Manhattan and Brooklyn. Bronx and Staten Island have very few listings compared to the other 3 regions.

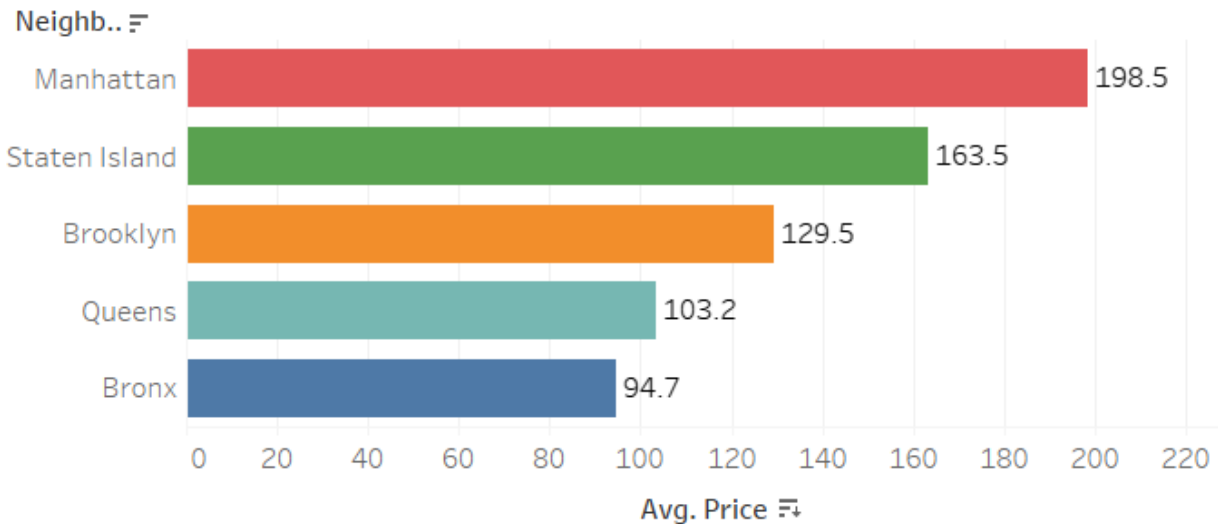
3. Review and average ratings of each neighbourhood



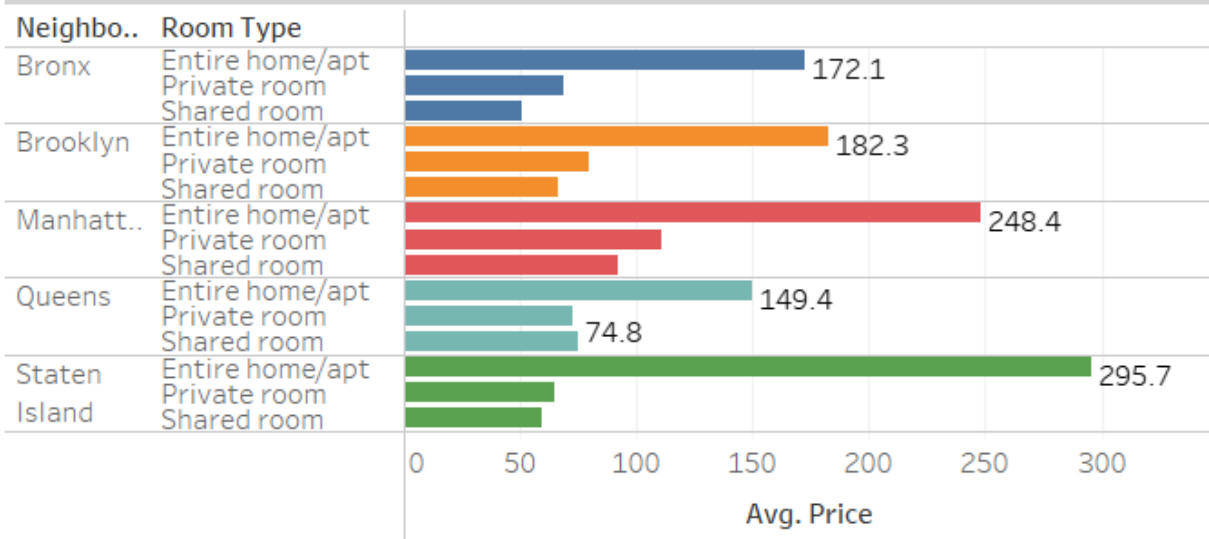
Here, we can observe the total number of reviews and average review ratings. All regions have and average rating greater than 90%, with Brooklyn receiving the highest rating of 92.36.

4. Average price by room type and neighbourhoods

Average Price by Neighborhoods

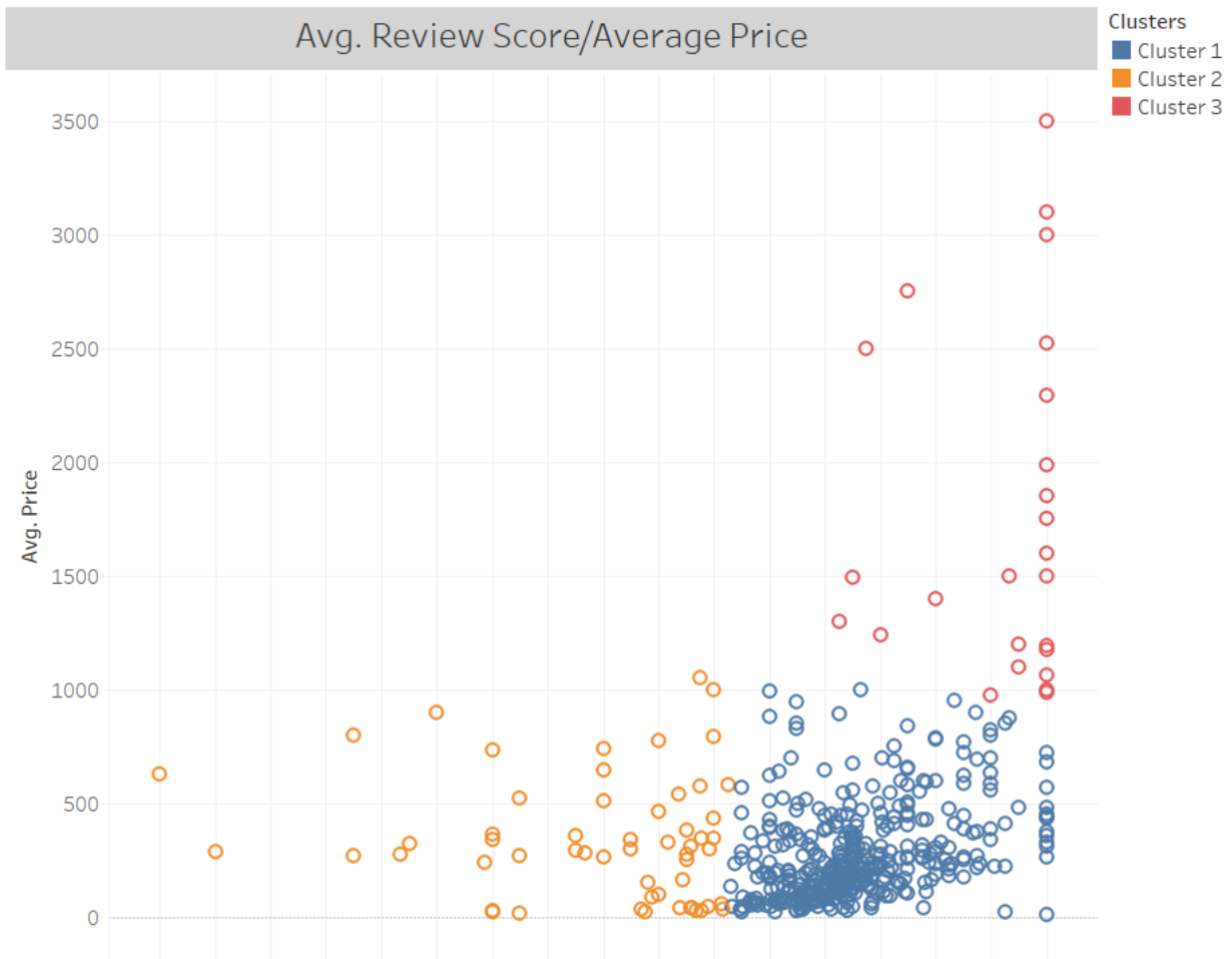


Average Price by Room Type of Neighborhood



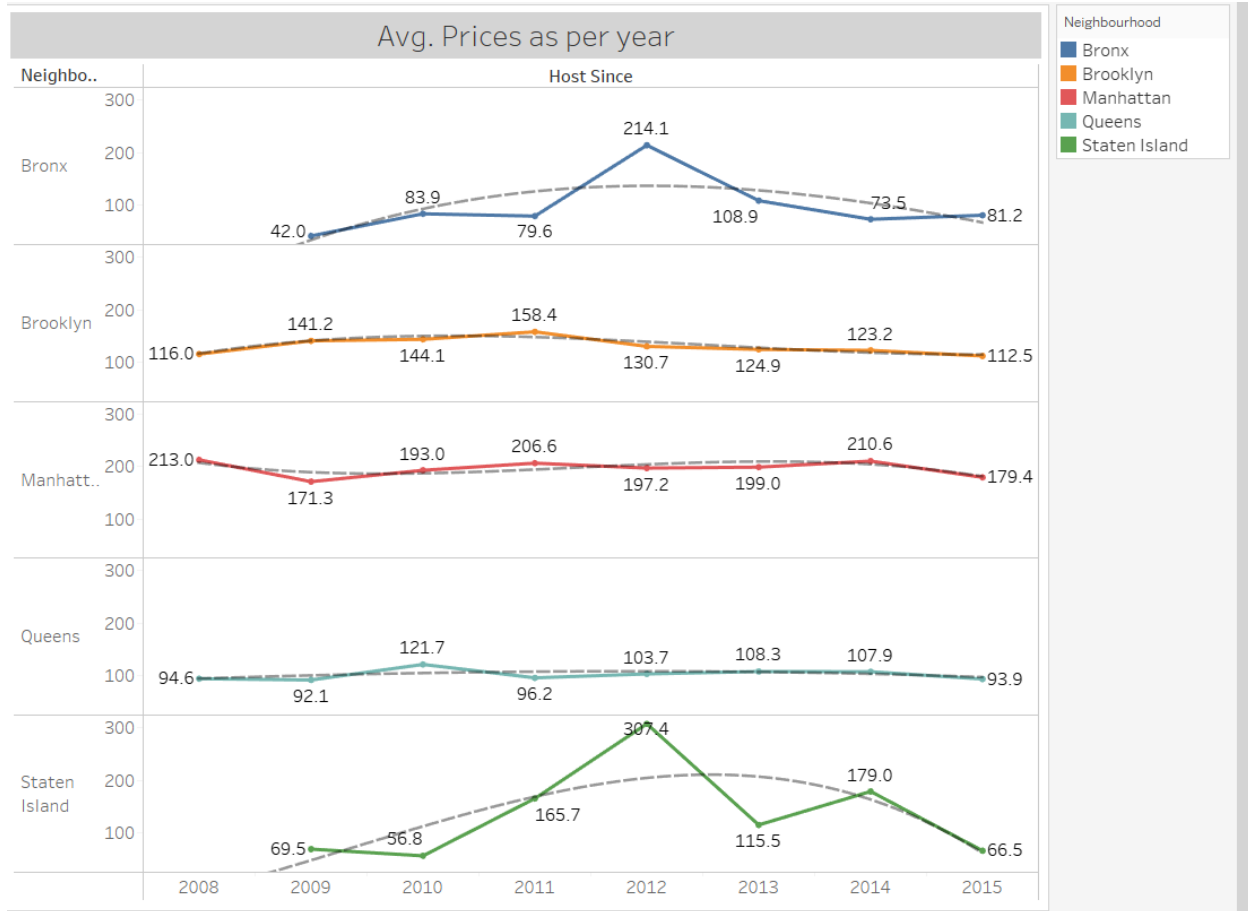
From those Average price by Neighbourhoods and by room type, we observed that Manhattan area has the highest price average (\$198.5) with Bronx having the lowest (\$94.7). Interestingly, when it comes to entire homes and apartments, Staten Island takes the lead with an average price of 295.7.

5. Correlation of Average review score and average price



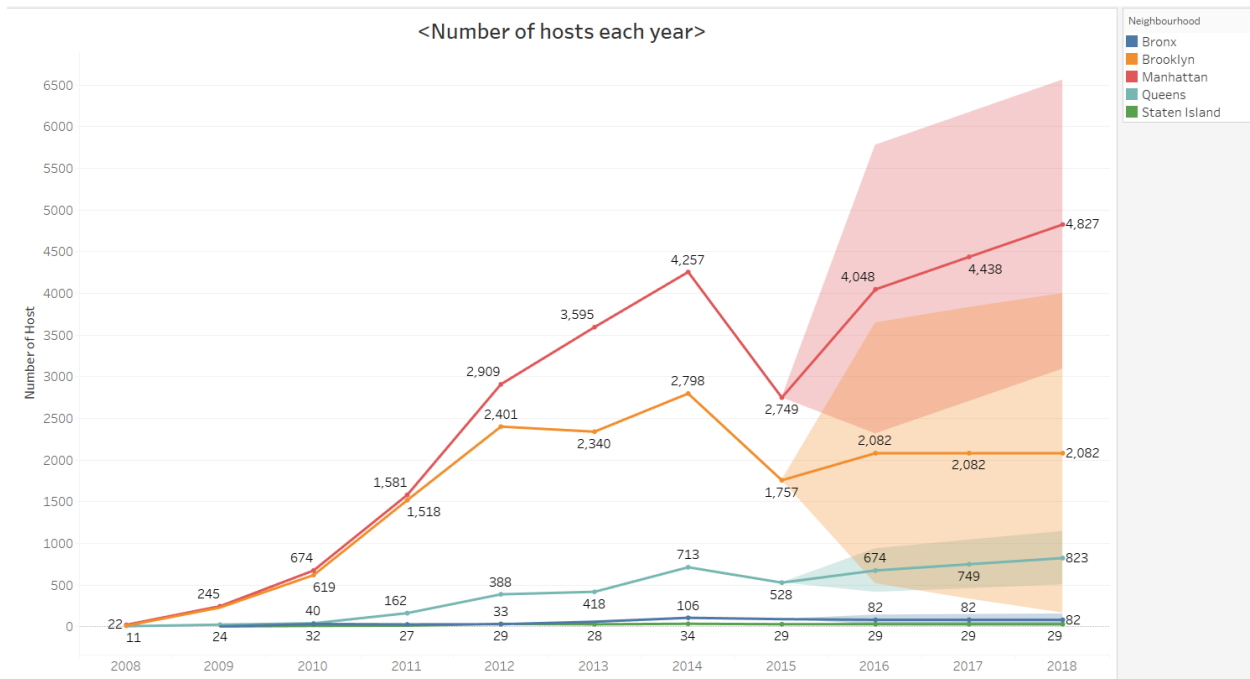
This cluster scatter plot effectively illustrates the positive correlation between average price and average review score. As the price increases, there is a corresponding increase in the review score.

6. Average price per year and trends



Here, we can observe the average price for each year and the corresponding trend line for each neighborhood. In the case of Brooklyn and Manhattan indicate a reliable forecast of the trend.

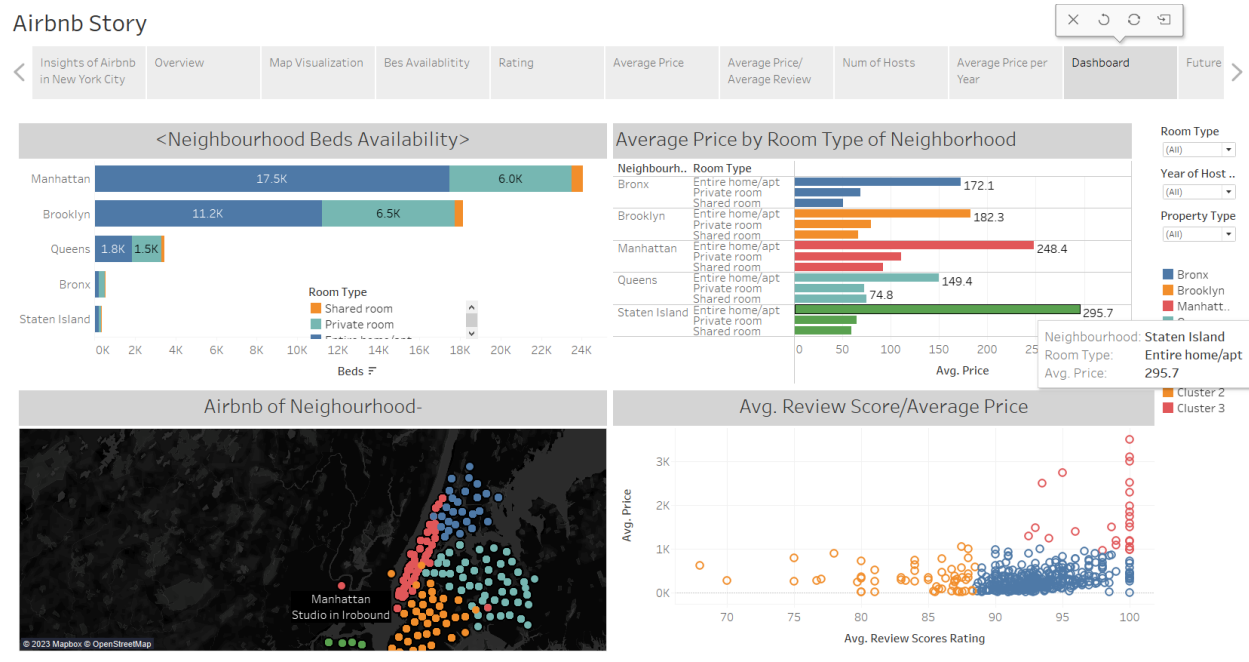
7. Number of hosts each year and trends



Utilizing a line chart, I analyzed the growth of hosts joining Airbnb from 2008 to 2015. In Manhattan and Brooklyn, there was a remarkable increase in the number of hosts between 2008 and 2014, followed by a decline in 2015. On the other hand, the remaining three regions displayed a consistent upward trend in host numbers throughout the entire period. These trends forecast a growth for all for all regions in the next three years.

8. Dashboard

Airbnb Story



Conclusion

After conducting these analysis of Airbnb data in New York City, we can get several significant findings:

- **Strong Demand:** New York City exhibits a high demand for Airbnb accommodations, with over 30,000 of listings.
- **Price Variation:** The prices of Airbnb listings in New York City display considerable variation, influenced by factors such as location, property type, and room type.
- **Popular Neighborhoods:** More than 85% of the listings are in Manhattan and Brooklyn. Queens comes in at third most listings but are not close to the number of listings in Manhattan and Brooklyn. Bronx and Staten Island have very few listings compared to the other 3 regions.
- **Positive Guest Reviews:** Overall, guests have provided positive reviews for their Airbnb experiences in New York City, indicating a satisfactory level of accommodation and host quality.