



Airbnb Case Study

NYC

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Objective:

1 Goal

To conduct a thorough analysis of Airbnb dataset

2 Revenue Loss

Airbnb experienced significant revenue losses during the COVID-19 pandemic.

3 Recovering Business

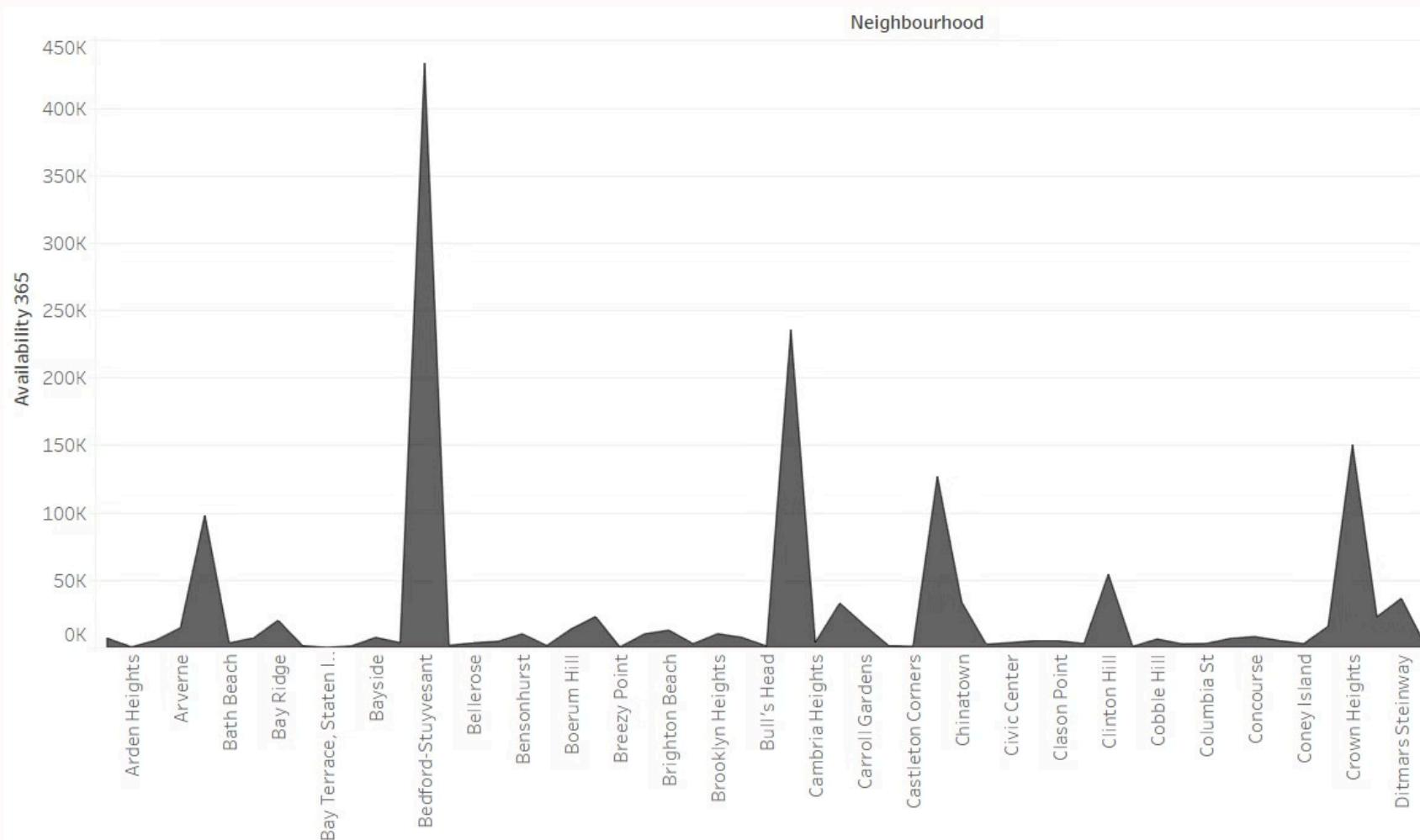
With travel resuming, Airbnb is now focused on reviving its business and is prepared to offer services to its customers once more.



Data Preparation

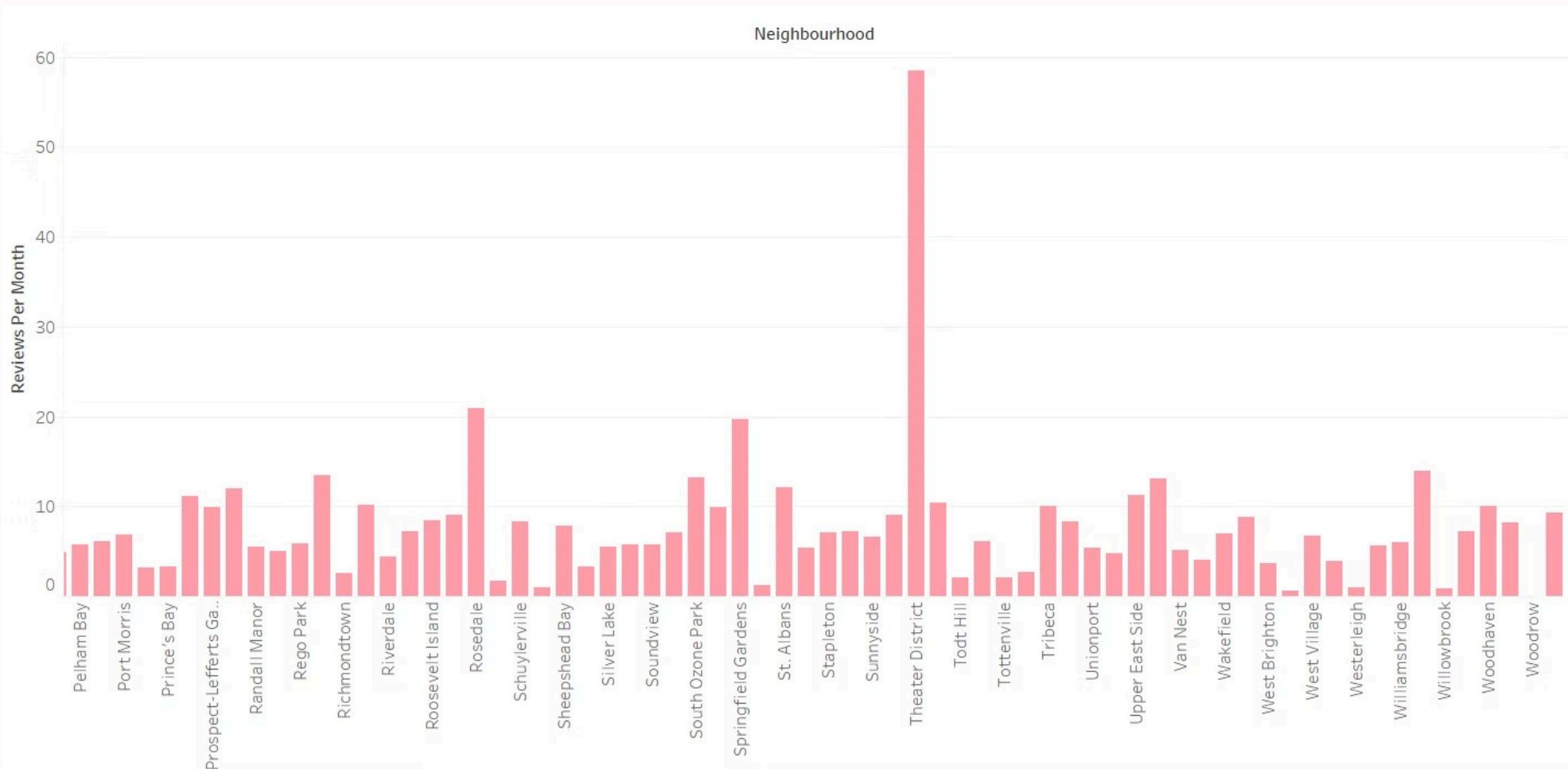
- 1 Data Cleaning
Cleaned data to remove any missing values and duplicates.
- 2 Outlier Identification
Identified outliers
- 3 Data Visualization
Visualize the data through Tableau and Python

Neighbourhood vs Availability:



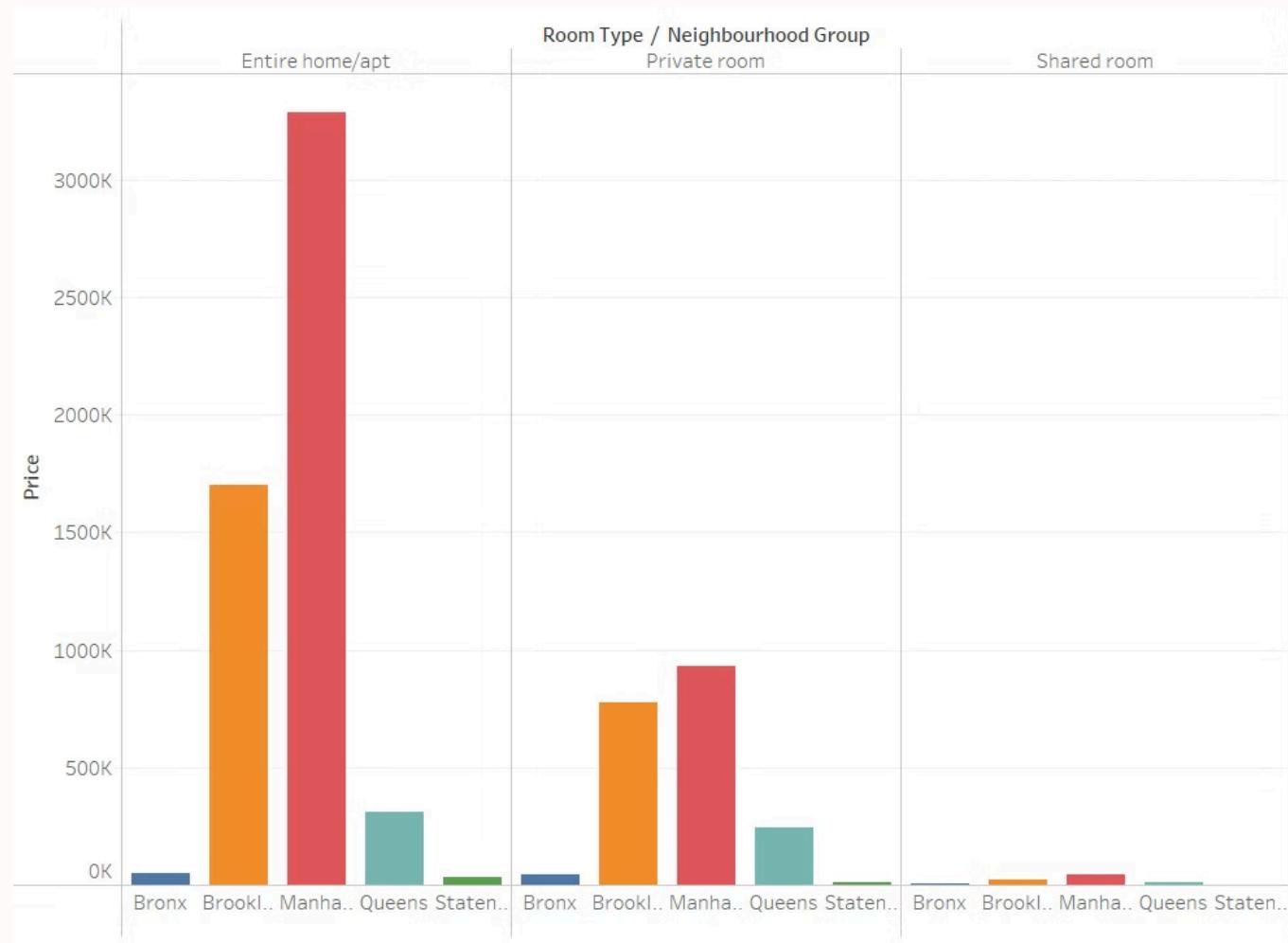
Bedford has the highest availability.

Neighbourhood and Review:

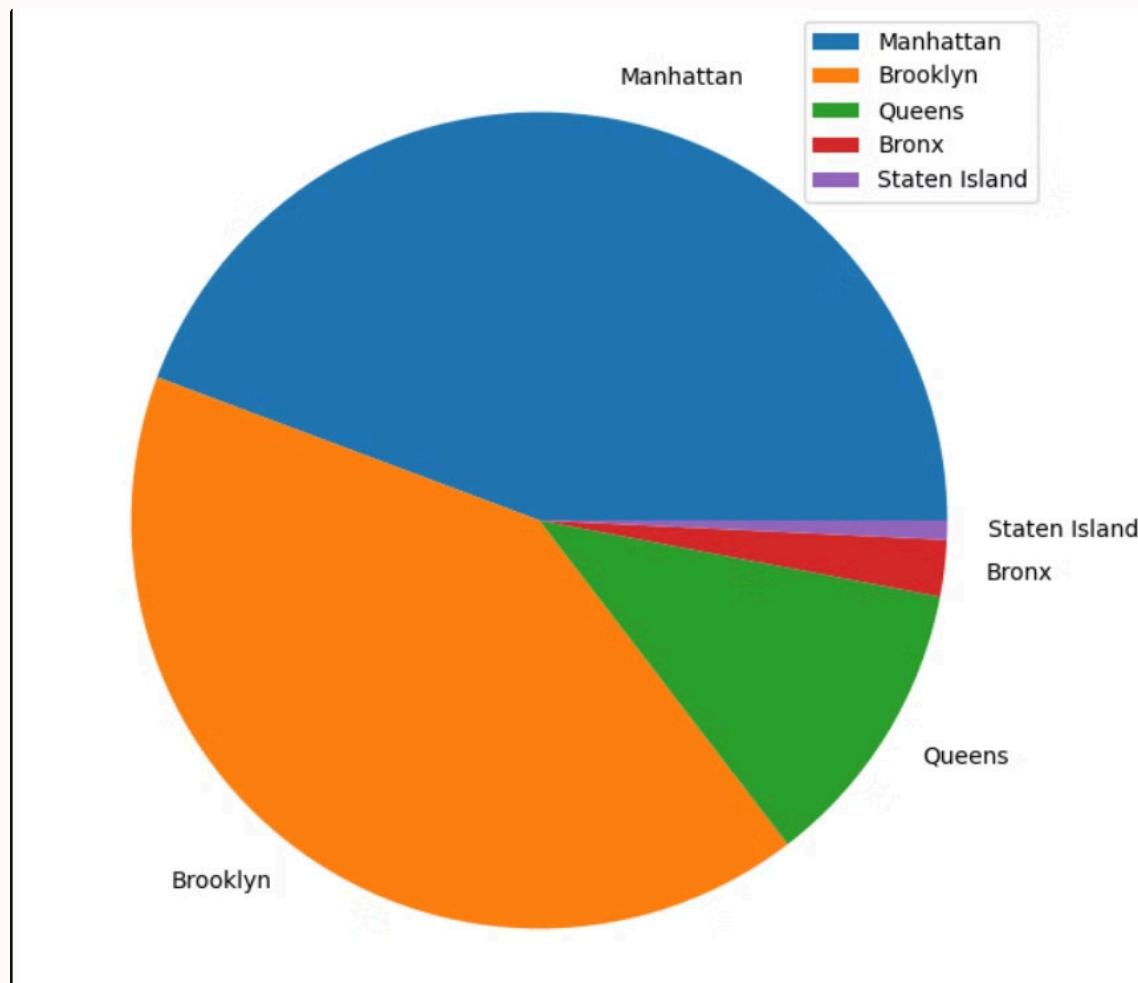


The Theatre District has the highest number of reviews per month.

Price vs Neighbourhood vs Room Type:

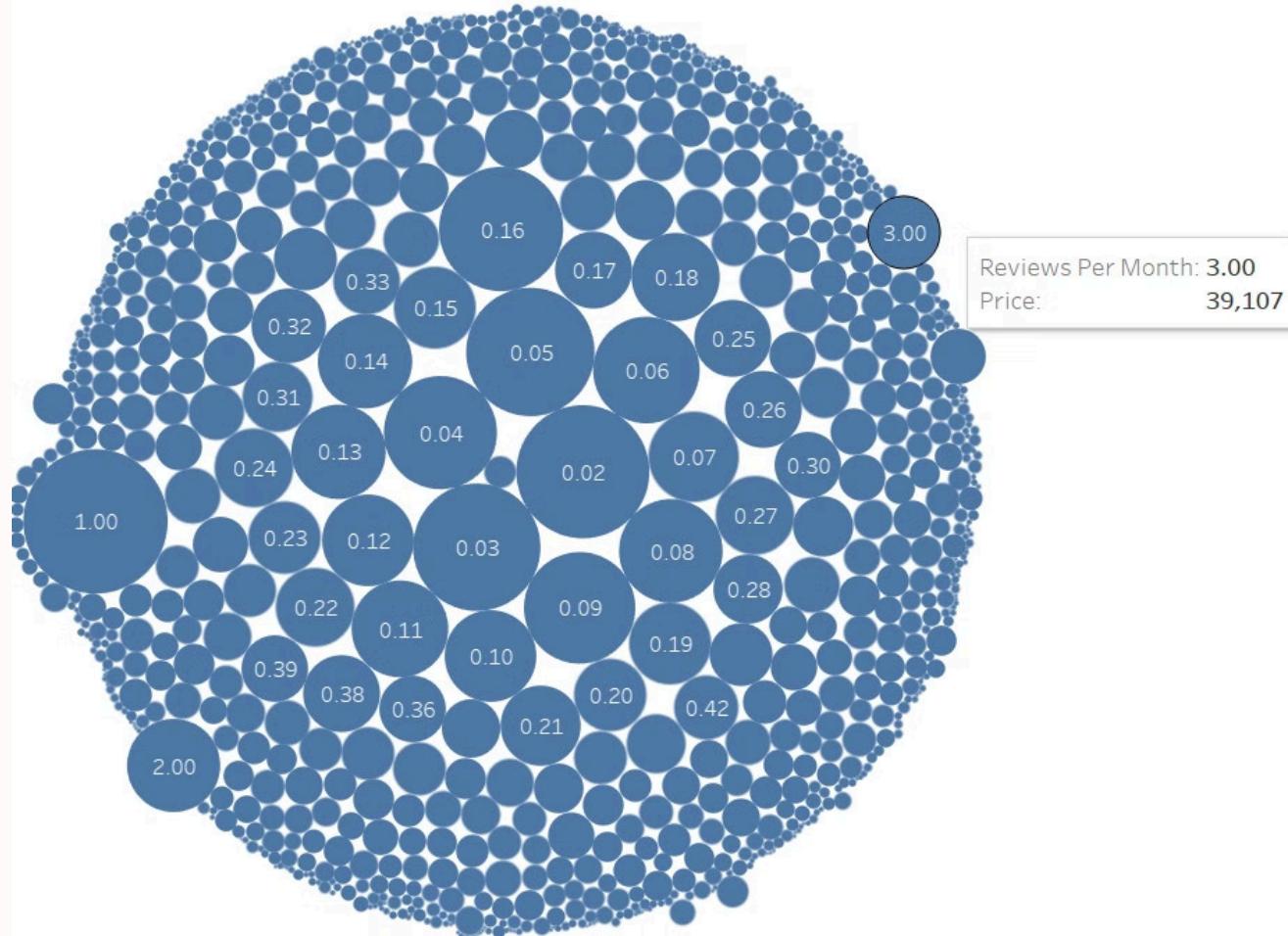


Popular Neighbourhood:

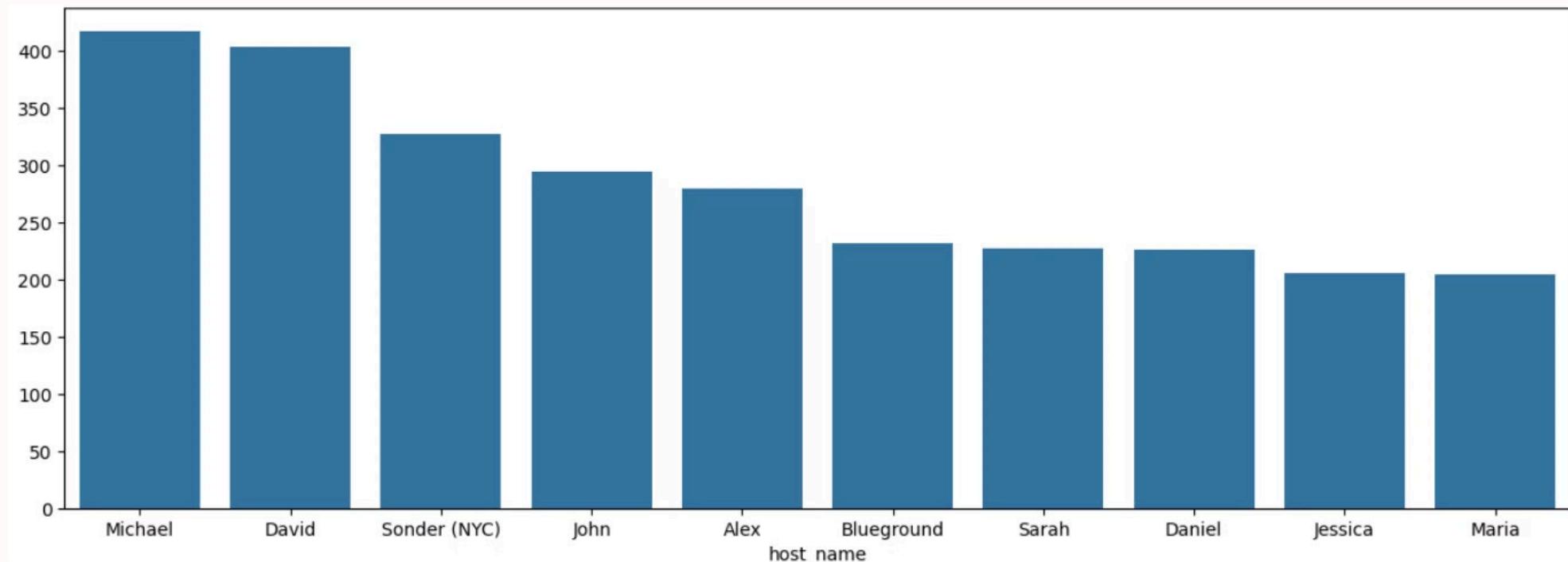


80% of the listings are from Brooklyn and Manhattan

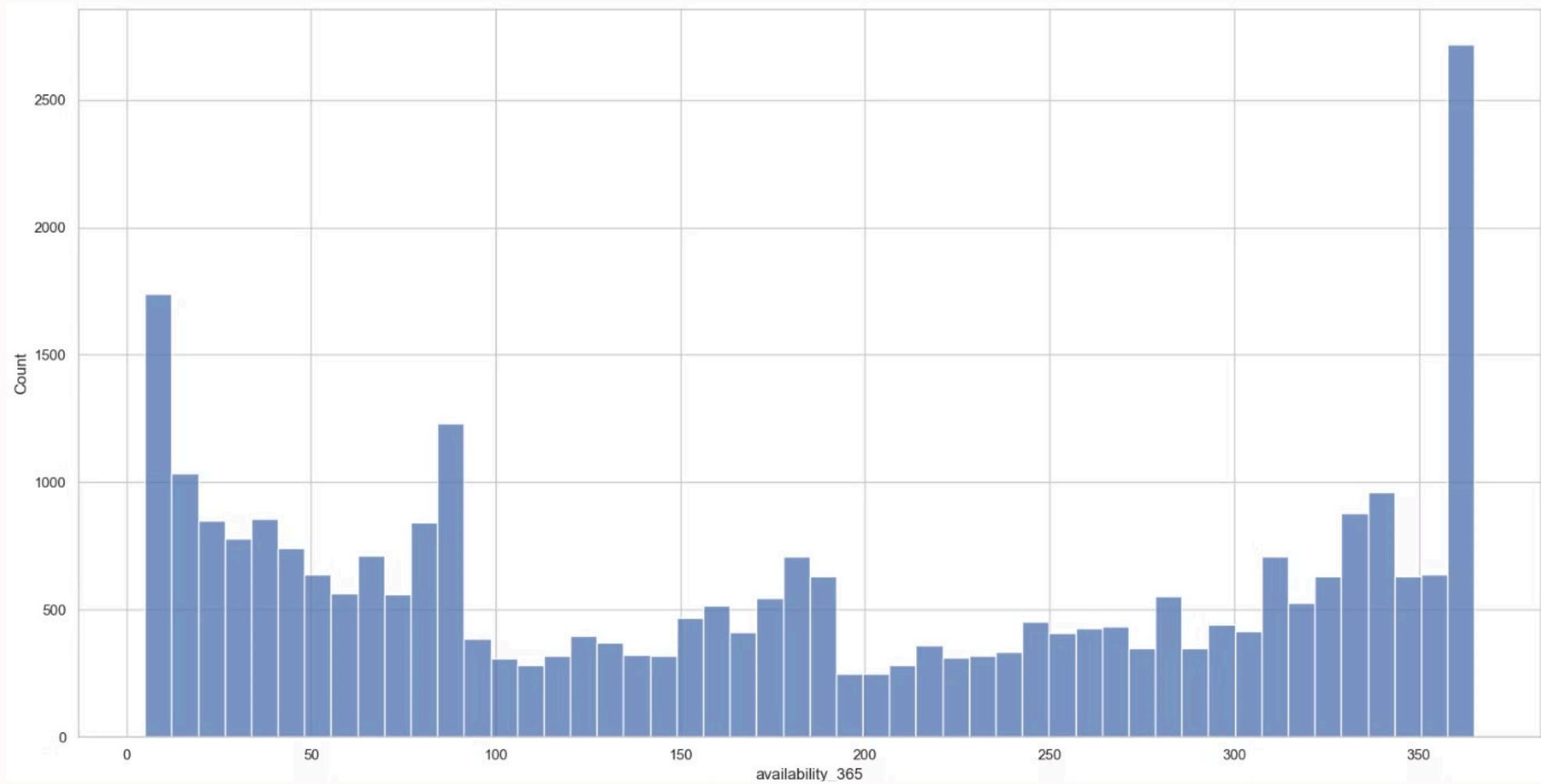
Price w.r.t Review:



Top 10 Host:



Availability and Minimum Nights:



Conclusion

1 Revenue Impact

Airbnb suffered major financial losses during the COVID-19 pandemic as global travel came to a halt, drastically reducing demand for accommodations.

2 Business Objective

Airbnb's primary goal is to provide a platform for individuals to rent out unused properties, offering travelers unique and flexible lodging options.

3 Recovery Efforts

As travel resumes, Airbnb is actively working to regain its market presence and is prepared to offer services to meet the increasing demand for accommodations.



Appendix- Data Sources

The columns in the dataset are self-explanatory. You can refer to the diagram given below to get a better idea of what each column signifies.

Note: The price column contains the price/night.

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

Dataset Description

Variable Categories:

Variables can be classified into four main types: **categorical**, **numeric**, **location**, and **time**. Choosing the right plot depends on the variable type. **Categorical** variables are best visualized with bar or pie charts, while **numeric** variables suit histograms, box plots, and scatter plots. **Location** variables work well with maps and geospatial plots, and **time** variables are effectively represented with line charts or time series plots. Understanding these distinctions helps in selecting the most appropriate visualization for the data.

```
Categorical Variables:  
- room_type  
- neighbourhood_group  
- neighbourhood  
  
Continuous Variables(Numerical):  
- Price  
- minimum_nights  
- number_of_reviews  
- reviews_per_month  
- calculated_host_listings_count  
- availability_365  
- Continuous Variables could be binned in to groups too  
  
Location Variables:  
- latitude  
- longitude  
  
Time Varibale:  
- last_review
```

Variable Categories

Data Methodology:

- **Data Collection:** Gather Airbnb data
- **Data Cleaning:** Clean the data using Python (`pandas`), handling missing values, duplicates, and converting data types (e.g., dates, prices).
- **Exploratory Data Analysis (EDA):** Use Python (`matplotlib`, `seaborn`) to analyze trends in pricing, occupancy rates, reviews, and booking patterns.
- **Tableau Visualization:** Import the cleaned data into Tableau to create interactive dashboards visualizing booking trends, revenue changes, and customer behavior.
- **Insights & Recommendations:** Use the visualizations to highlight key findings, such as Airbnb's recovery trends, pricing strategies, and customer preferences, and provide actionable recommendations.