

Storytelling Case Study: **Airbnb, NYC**

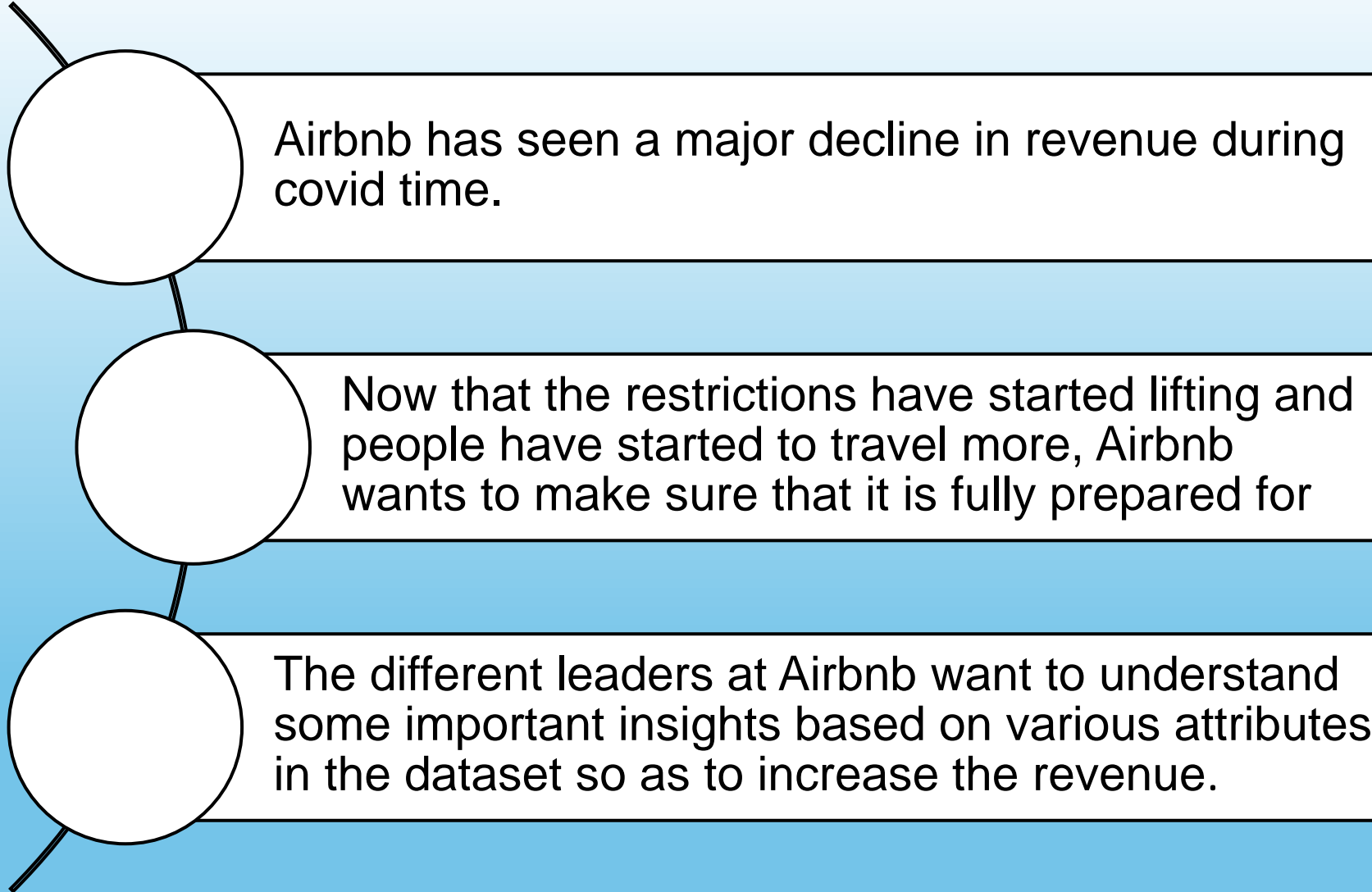
Submitted By:

Khushi Vora

Manish Kumar Pandit

Dhruv Gaur

Background



Objectives

1.

- To provide insights into current market situation

2.

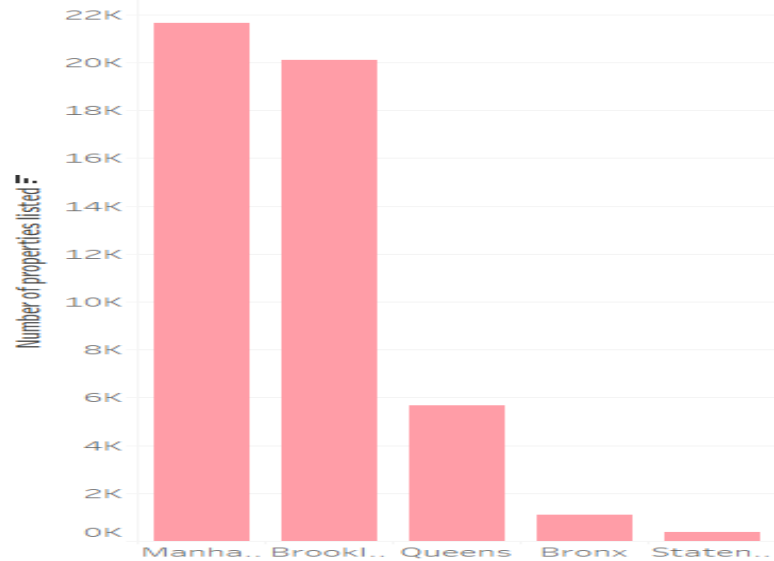
- Enhance understanding of hosts, properties, operations and customer preferences

3.

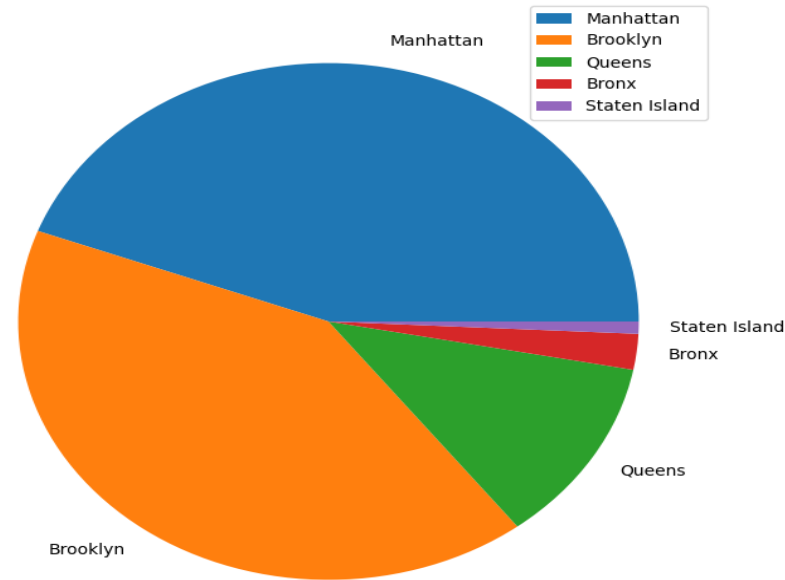
- Providing recommendations to grow in market and increase their revenue.

Which Neighbourhood Groups has maximum Properties listed?

Max Properties listed Neighbourhood Group



Number of properties listed for each Neighbourhood Group.



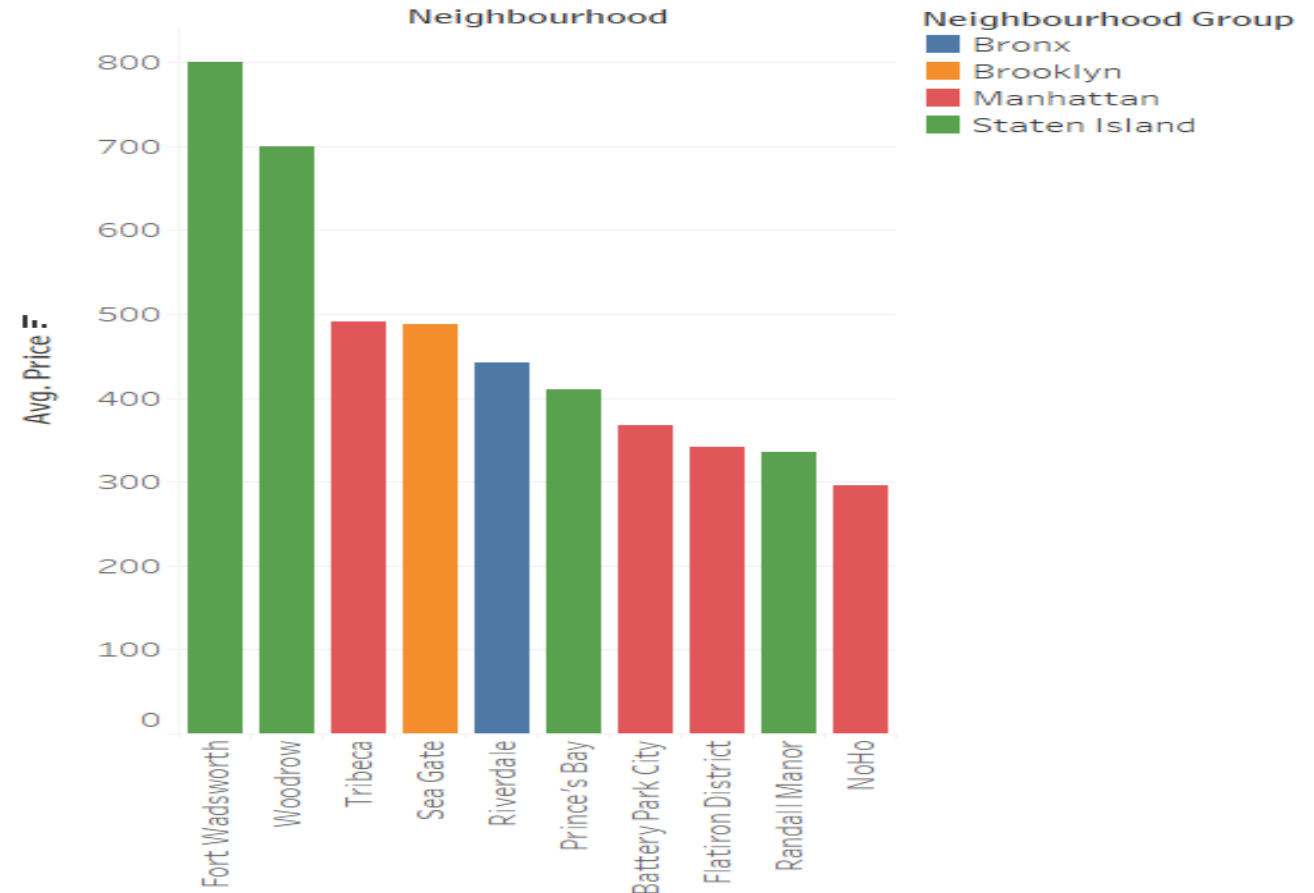
Neighborhood group percentages

Manhattan	44.301053
Brooklyn	41.116679
Queens	11.588097
Bronx	2.231312
Staten Island	0.762859

- 85% of listings are **Manhattan and Brooklyn** Neighbourhood Groups.
- **Staten Island** has the lowest contribution.

Which Neighbourhood has the highest Price ?

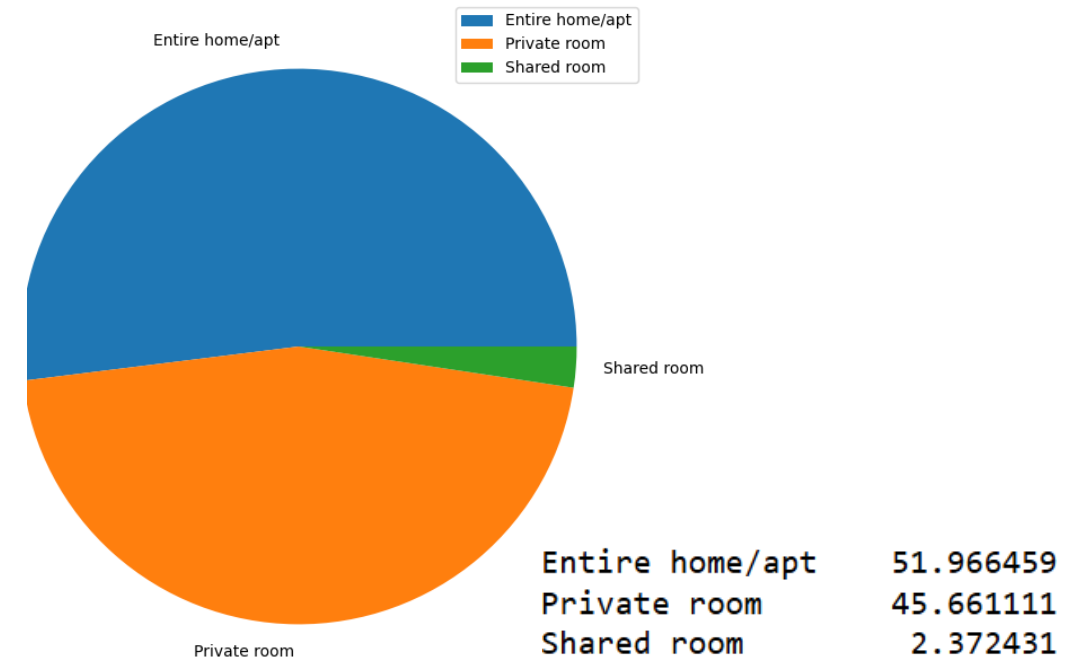
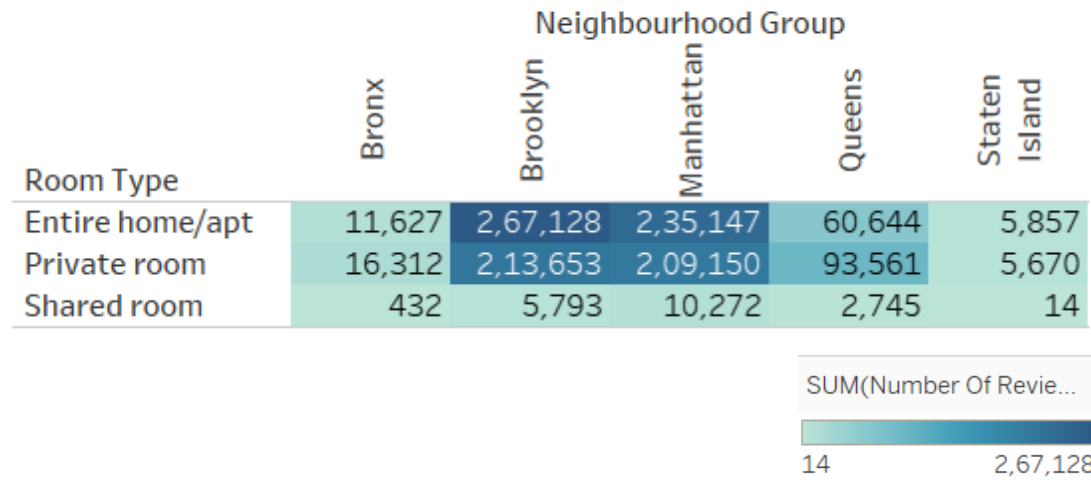
- Average Price is highest for **Fort Wadsworth and Woodrow** Neighbourhoods.
- The low number of listings in **Staten island** but high prices indicates an untapped market. Increasing the number of properties in Staten Island could meet demand and potentially drive more bookings.



Average of Price for each Neighbourhood. Color shows details about Neighbourhood Group. The view is filtered on Neighbourhood, which keeps 10 of 221 members.

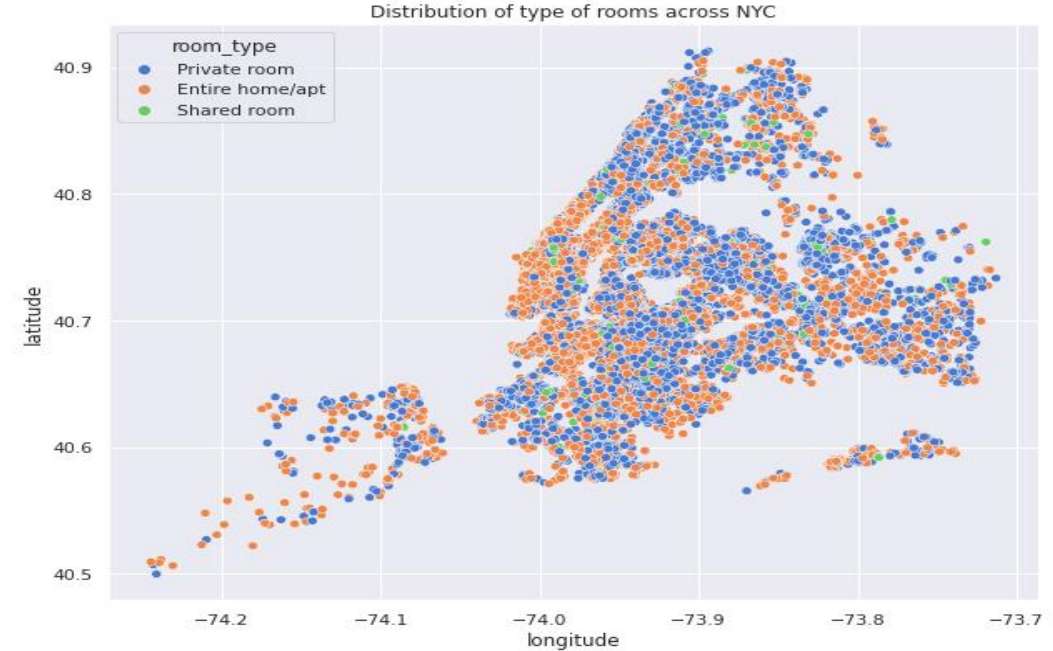
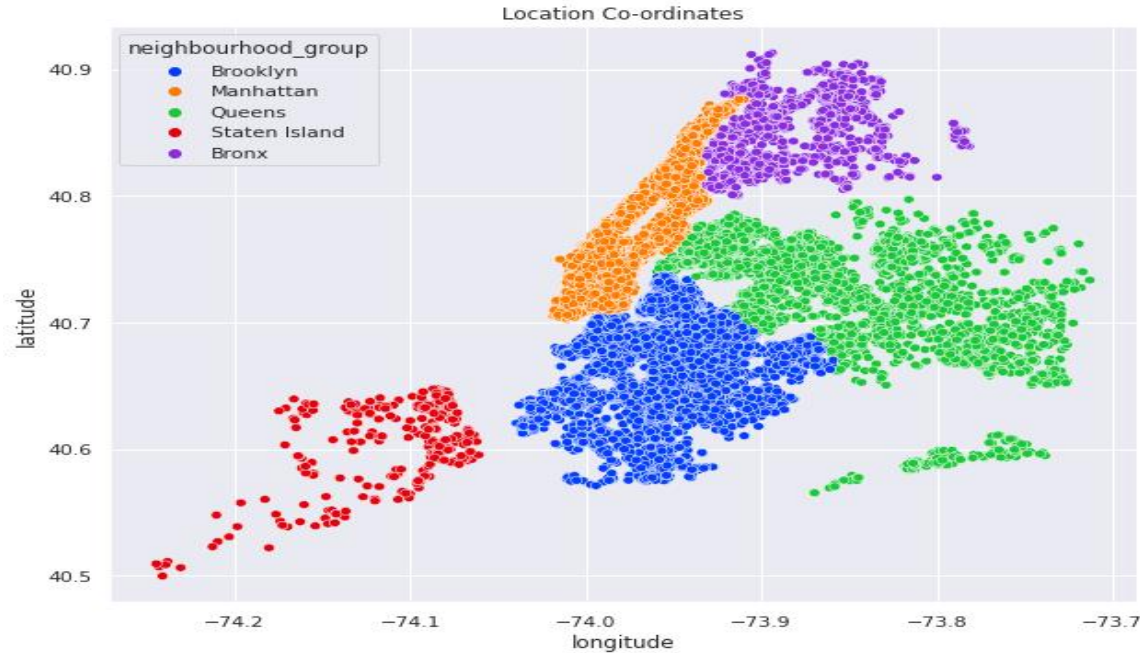
Which is the most preferred Room Type?

Most Preferred Room Type in Neighbourhood Groups



- Looks like a property/listing with **Entire home/apt** as room type wins the show at NYC followed by private rooms.
- **Manhattan** and **Brooklyn** has the highest number of reviews for room types with **Entire home/apt** ranging to nearly 200000+, followed by **Private room**.
- **Shared Rooms** are only 2% of all the room types and are least likely to be reviewed , maybe due to customer dissatisfaction

Distribution of Neighbourhood Group and Types of Rooms in NYC

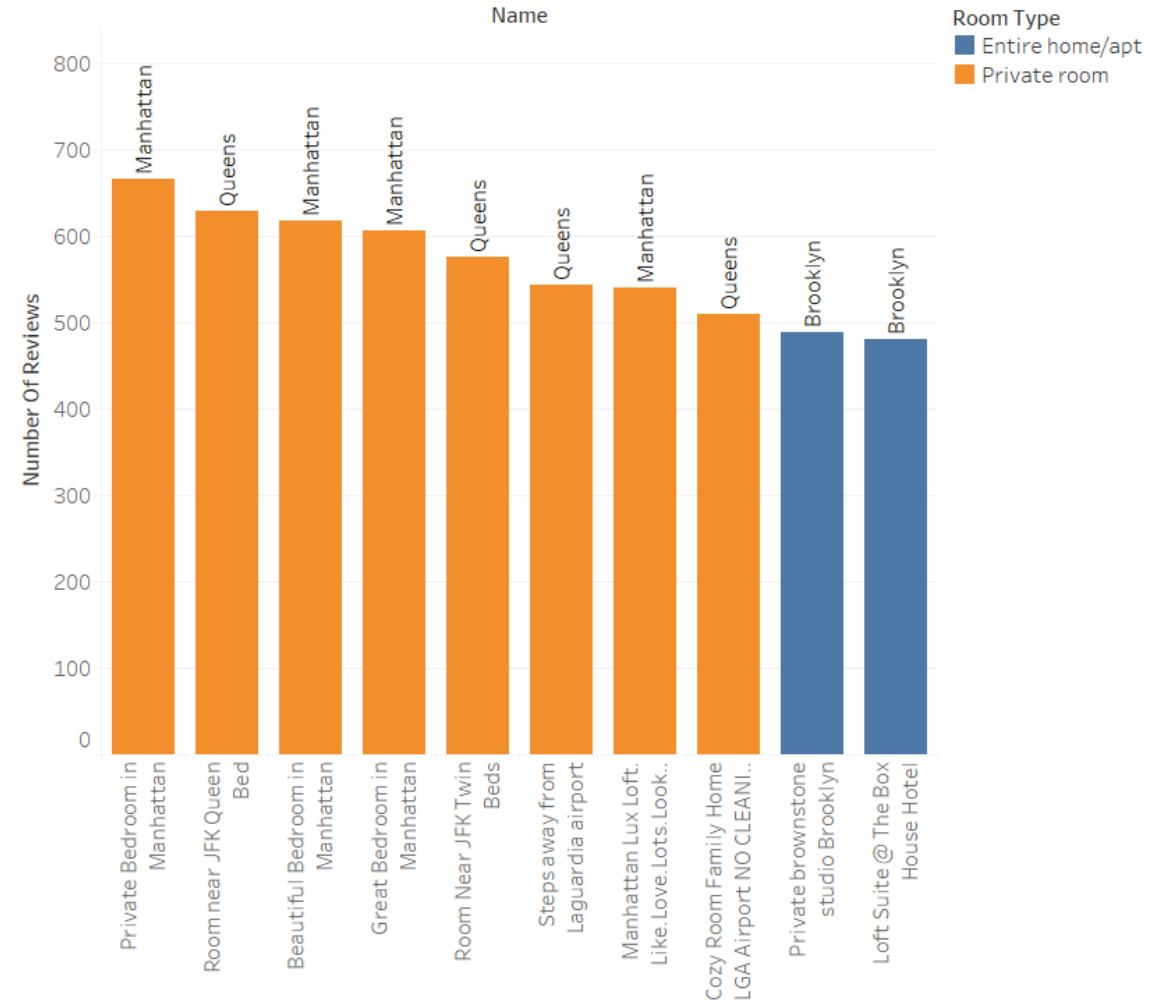


- ❑ From the scatterplots of latitude vs. longitude, we can infer that there are **very few shared rooms** throughout NYC compared to private rooms and entire homes/apartments.
- ❑ **95% of Airbnb listings** are either **private rooms** or **entire homes/apartments**, with only a small number of guests opting for shared rooms. Additionally, guests generally prefer these room types when booking on Airbnb, as our previous analysis indicated.

Which Properties have maximum Number of Reviews?

- ❑ Maximum Number of Reviews have been received by Properties in **Manhattan, Queens and Brooklyn.**
- ❑ **Private Rooms** have received the maximum Reviews.
- ❑ **Private Room in Manhattan** is the property which has Highest Number of Reviews.
- ❑ Low/Very low price categories are preferred by customers as they have highest number of Reviews

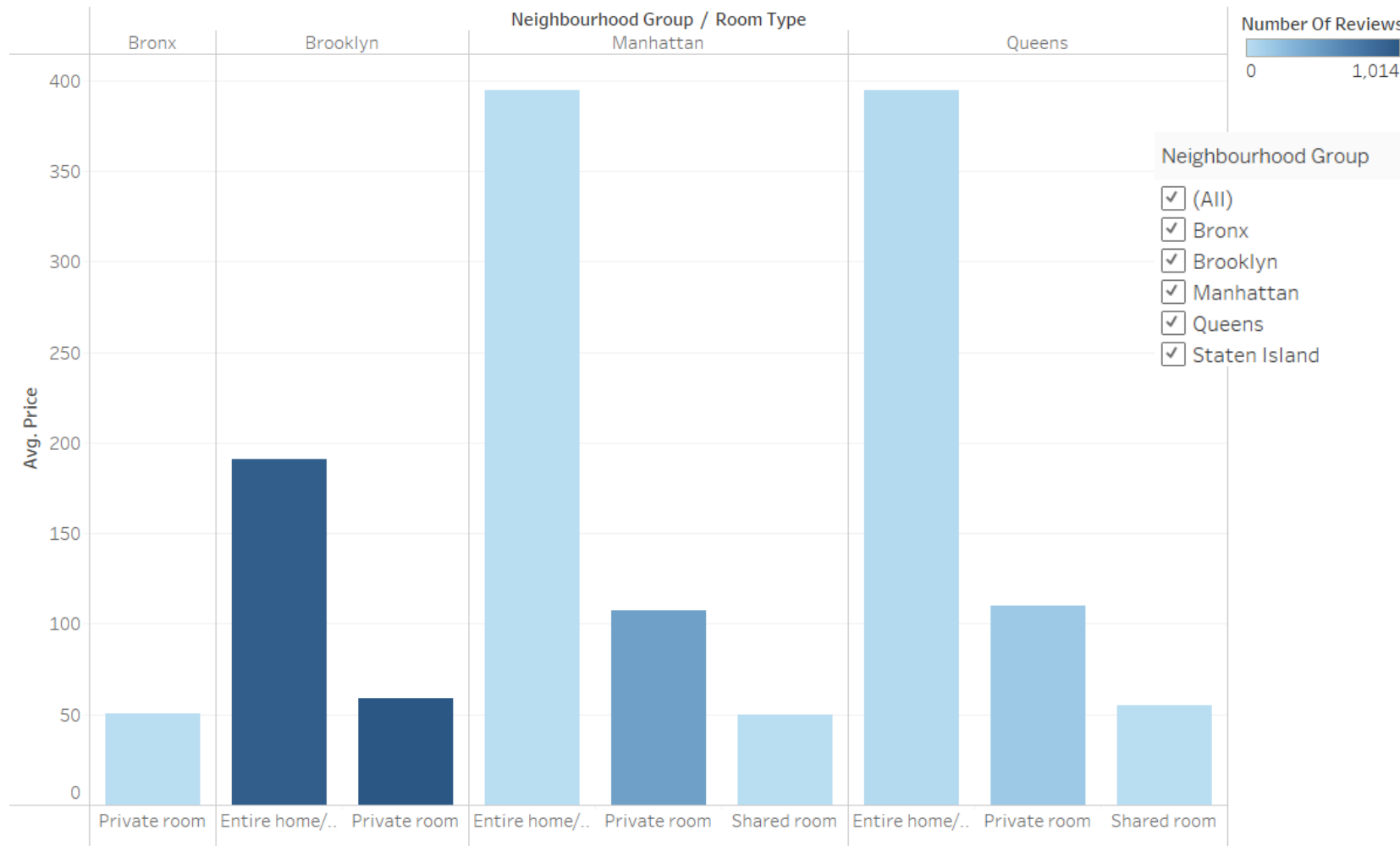
Maximum Reviews in Properties



What is the average price of different Properties listed?

- ❖ **High Price listings** have lower number of reviews.
- ❖ **Brooklyn** has highest number of reviews, making it most preferable by customers as the price is not too high.

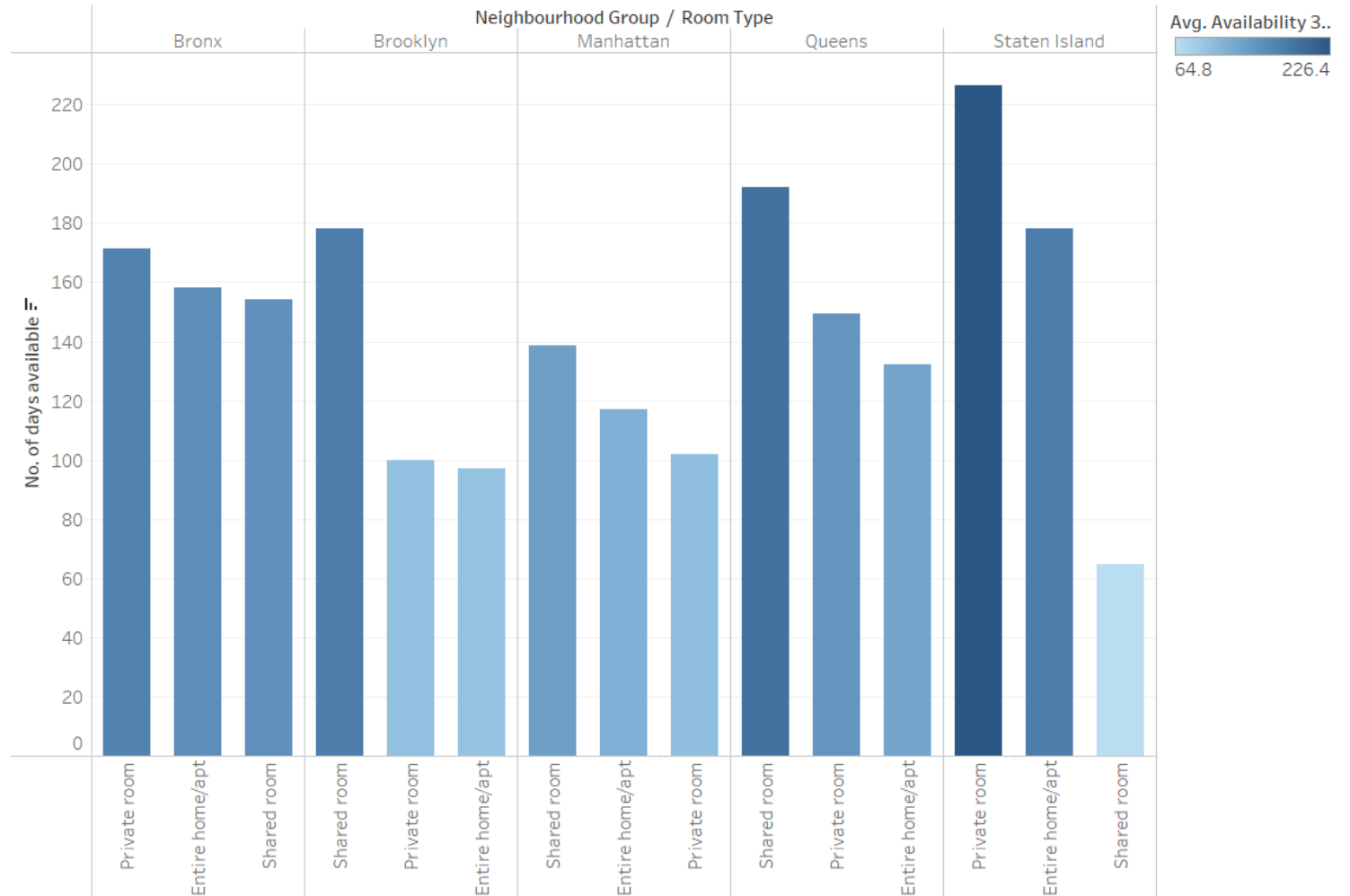
Average Price of Different Room type and Neighbourhood Group



What is the total availability based on the Room type for neighbourhood groups?

- ✓ **Private Rooms** in **Staten Island** are most available
- ✓ Airbnb could launch **targeted marketing campaigns** to promote the benefits of private rooms, such as affordability and a more local experience. Highlighting these aspects may help attract guests who are seeking budget-friendly options.

Room Type Availability



Recommendations and Conclusion:

Enhance Value for Money:

- Offer competitive pricing with high-quality facilities.
- Highlight premium amenities in property descriptions and photos.

Optimize Pricing in High-Demand Areas:

- Implement dynamic pricing in Brooklyn and Manhattan.
- Use promotions during off-peak times and adjust rates based on demand

Enhance Private Room Experience:

Improve and promote private rooms as an affordable yet comfortable option, appealing to solo travelers and couples

Expand Shared Room Listings:

Increase the number of shared room options to attract budget-conscious travelers and solo adventurers, filling a gap in the current market

Promote Staten Island's Unique Selling Points:

Highlight Staten Island's attractions, such as scenic views and cultural sites, in marketing materials.

APPENDIX-DATA DICTIONARY

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

APPENDIX-DATA METHODOLOGY

- Understanding the business problem
- Reading the dataset in Python
- Categorisation of features for easy analysis
- Data Wrangling:
 - ❑ Checking the Duplicates
 - ❑ Verifying the data types: Numerical, categorical, date and time
 - ❑ Missing values analysis
- Univariate analysis
- Bivariate analysis
- Using processed data to visualize further in Tableau.

- Please find attached the document for the methodology: