DCS 52 : Airbnb NYC Storytelling Assignment - Heads

Prepared by :

1)Dharshak Chandra P

2)DigmaKumari Tarunkumar Patel

3) Divya Darshini

AGENDA

- Aim of Analysis
- Problem Statement
- Background
- Key Analysis
- Appendix:
  - Data sources
  - Data methodology

Aim of Analysis

- The different leaders at Airbnb want to understand some important insights based on various attributes in the dataset so as to increase the revenue such as -
- Which type of hosts to acquire more and where?
- The categorisation of customers based on their preferences.
  - What are the neighbourhoods they need to target?
  - What is the pricing ranges preferred by customers?
  - The various kinds of properties that exist w.r.t. customer preferences.
  - Adjustments in the existing properties to make it more customer-oriented.
- What are the most popular localities and properties in New York currently?
- How to get unpopular properties more traction?

Problem Statement

- Airbnb is an online platform using which people can rent their unused accommodations.
- During the covid time, Airbnb incurred a huge loss in revenue.
- People have now started travelling again and Airbnb is aiming to bring up the business again and ready to provide services to customers.

Background

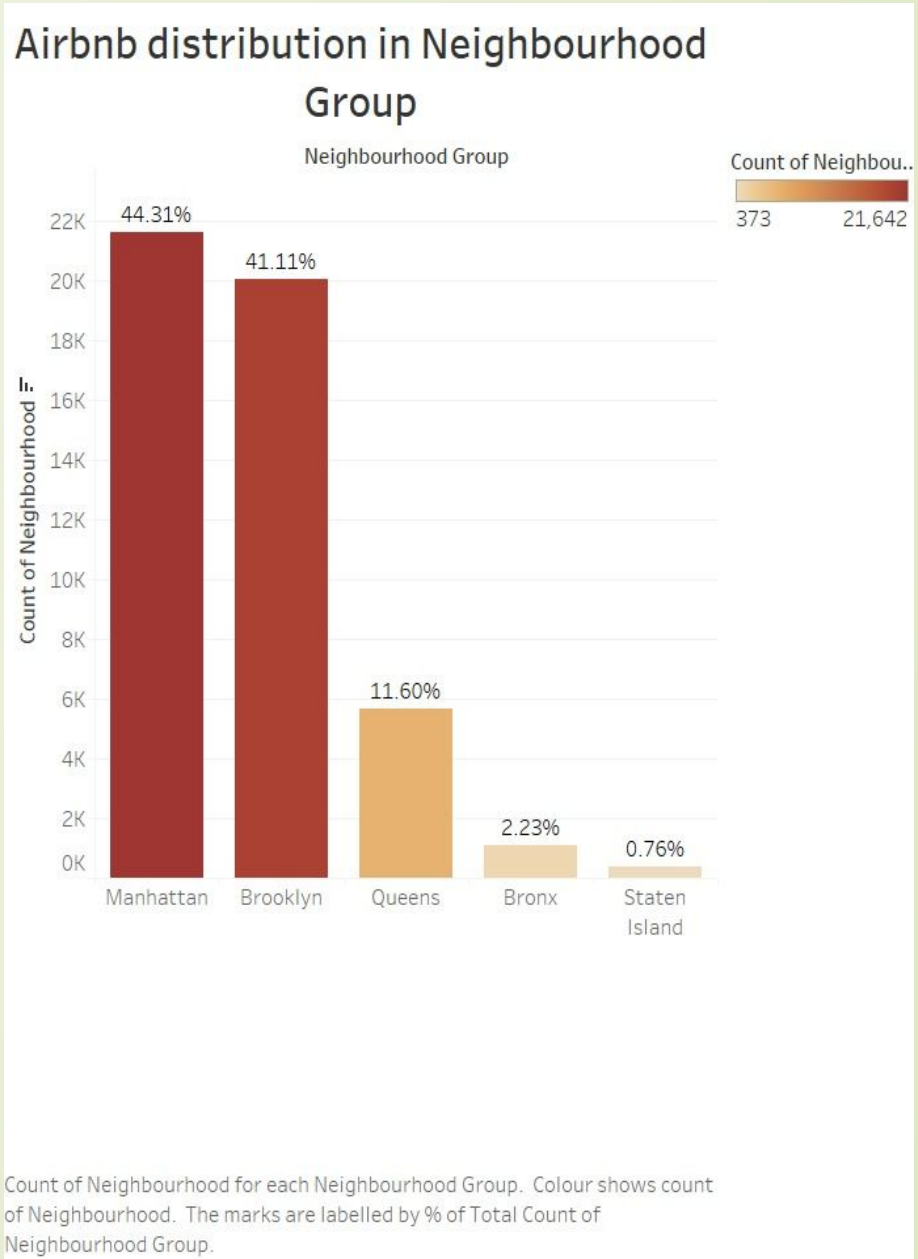
- For the past few months, Airbnb has seen a major decline in revenue.
- Now that the restrictions have started lifting and people have started to travel more, Airbnb wants to make sure that it is fully prepared for this change.
- So, analysis has been done on a dataset consisting of various Airbnb listings in New York.

Key Analysis

1. Popular neighbourhood groups
2. Customer booking w.r.t minimum nights
3. Airbnb availability in different Neighbourhood groups with respect to Minimum nights
4. Price range preferred by customers
5. Neighbourhood group vs availability w.r.t Price range
6. Understanding price variance w.r.t neighbourhood group
7. Room type w.r.t individual neighbourhood group

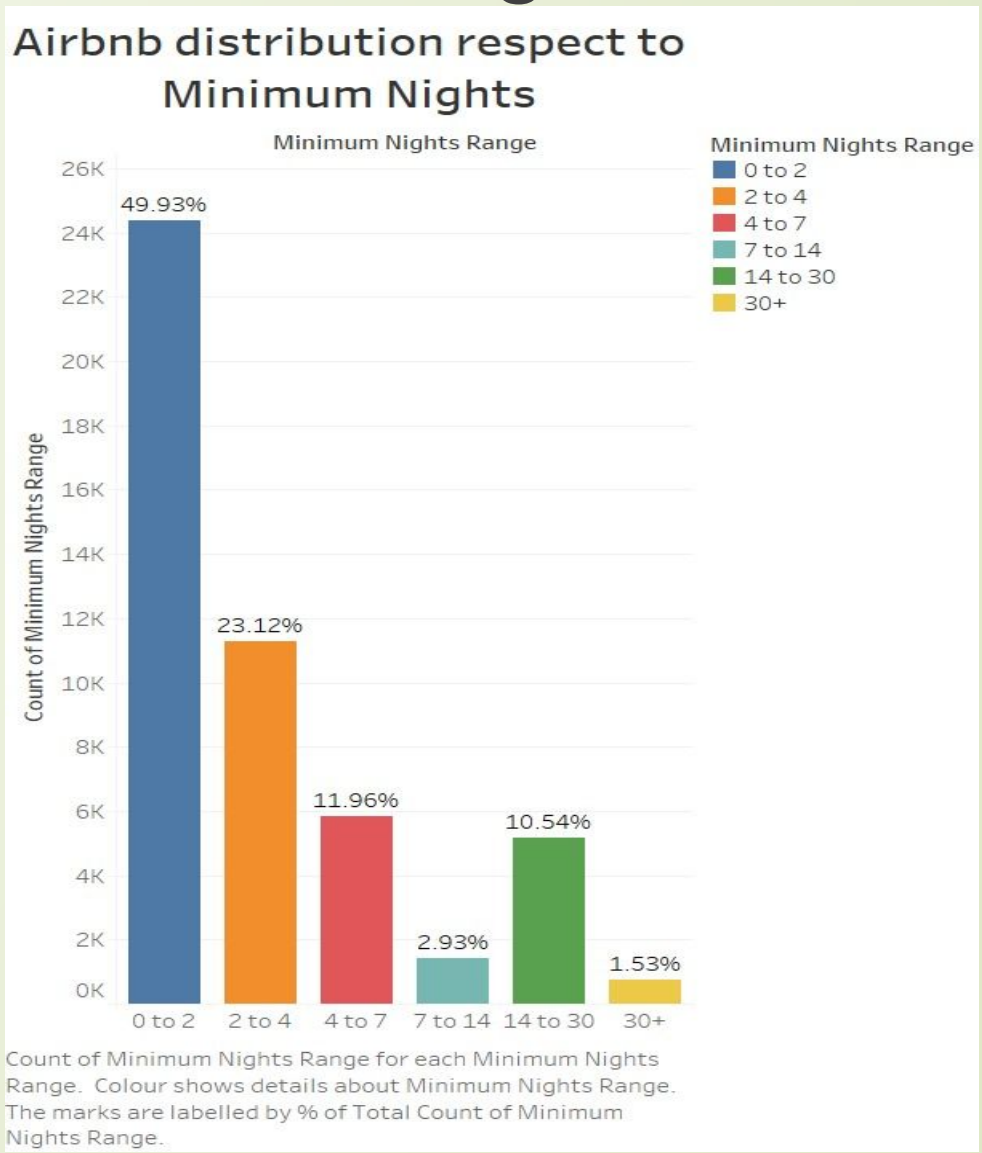
Popular neighbourhood

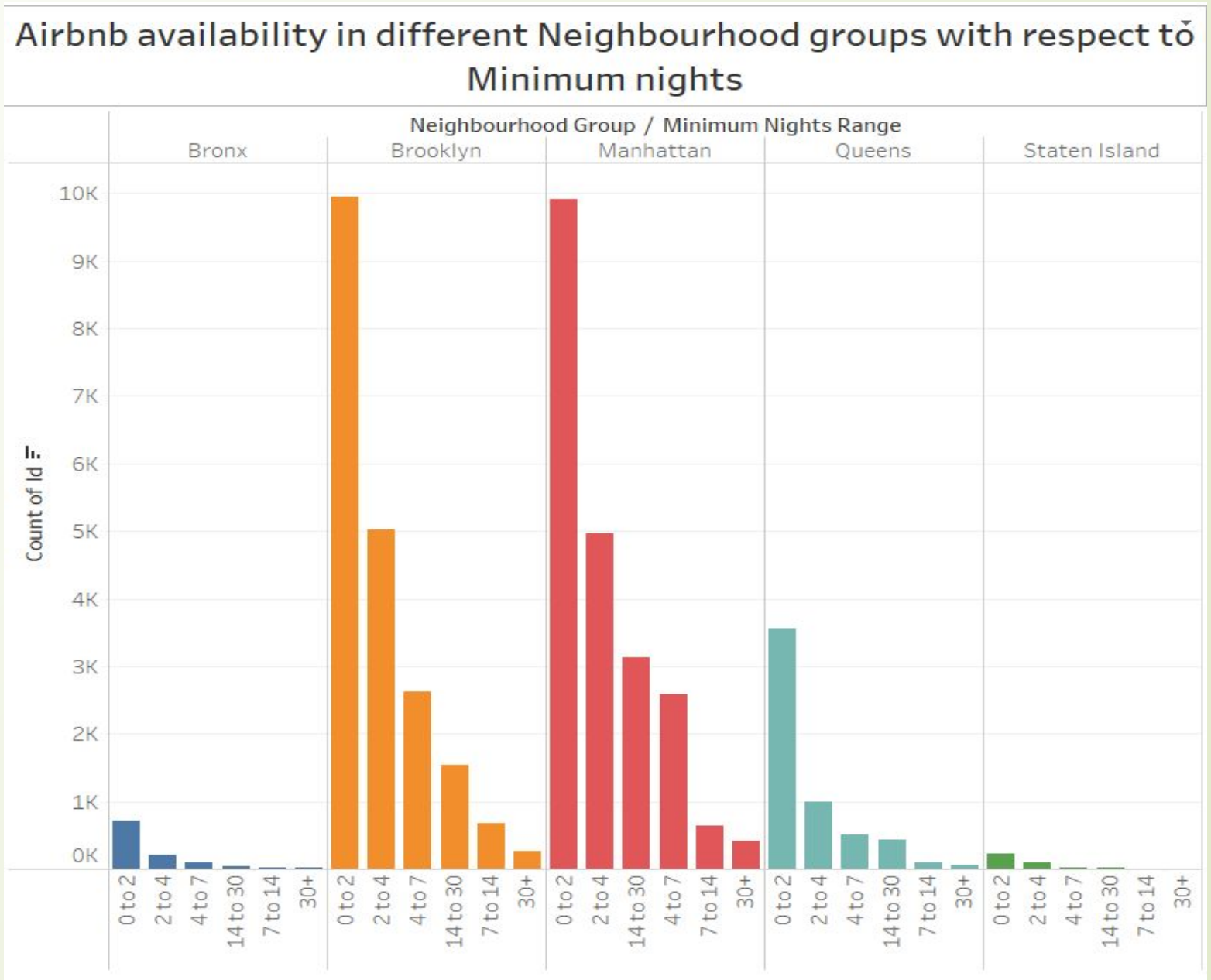
- Manhattan & Brooklyn have the highest share of Airbnb listings in the New York.
- Staten island has the least number of listings.
- Queens is third preferred airbnb spot followed with one third being preferred in Bronx.



Customer booking w.r.t minimum nights

- A very huge hike rate could be seen for Airbnb booking for 0-2 days listing out 2-4 days at just 50 % of previous one.
- 7 -14 & 20+ has a very ower bar followed with 4-7 & 14 - 20.

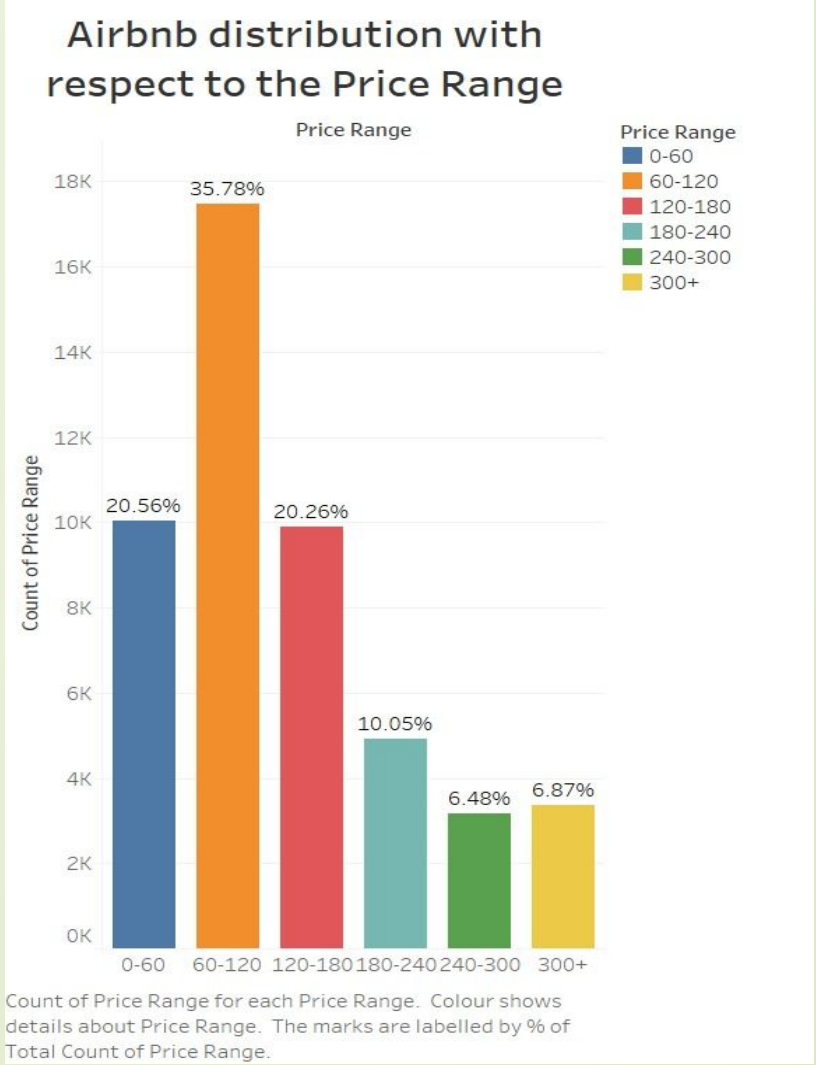




- Most of the listings in all the different Neighbourhood groups have the Minimum nights requirement to be between 0 to 4 days.

Price range preferred by customers

- 35.78% of customer prefer price between 60 -180 ; followed by 0-60 & 120-180 on a range of 20.26% respectively.
- However, the preferences becomes lesser when going more further beyond 180 to 320+ which is nearly nil.

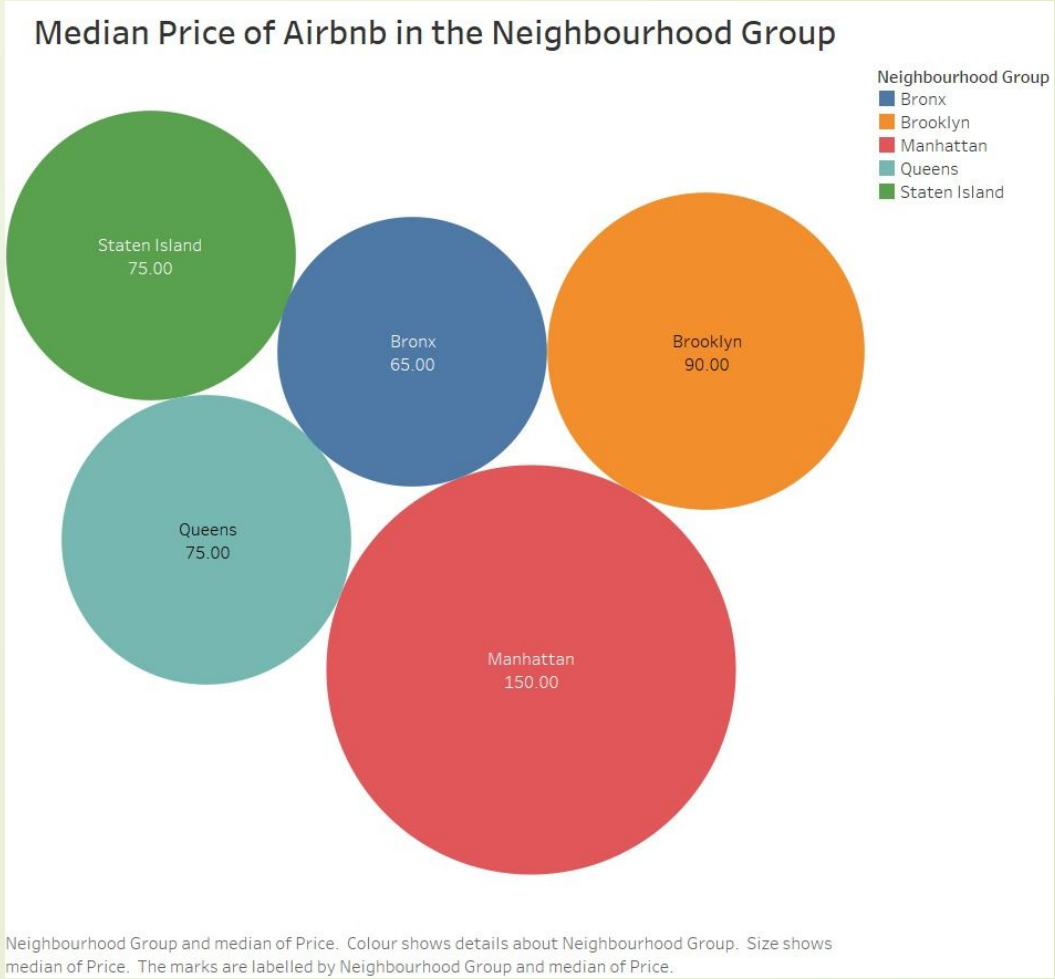


Neighbourhood group vs availability w.r.t Price range

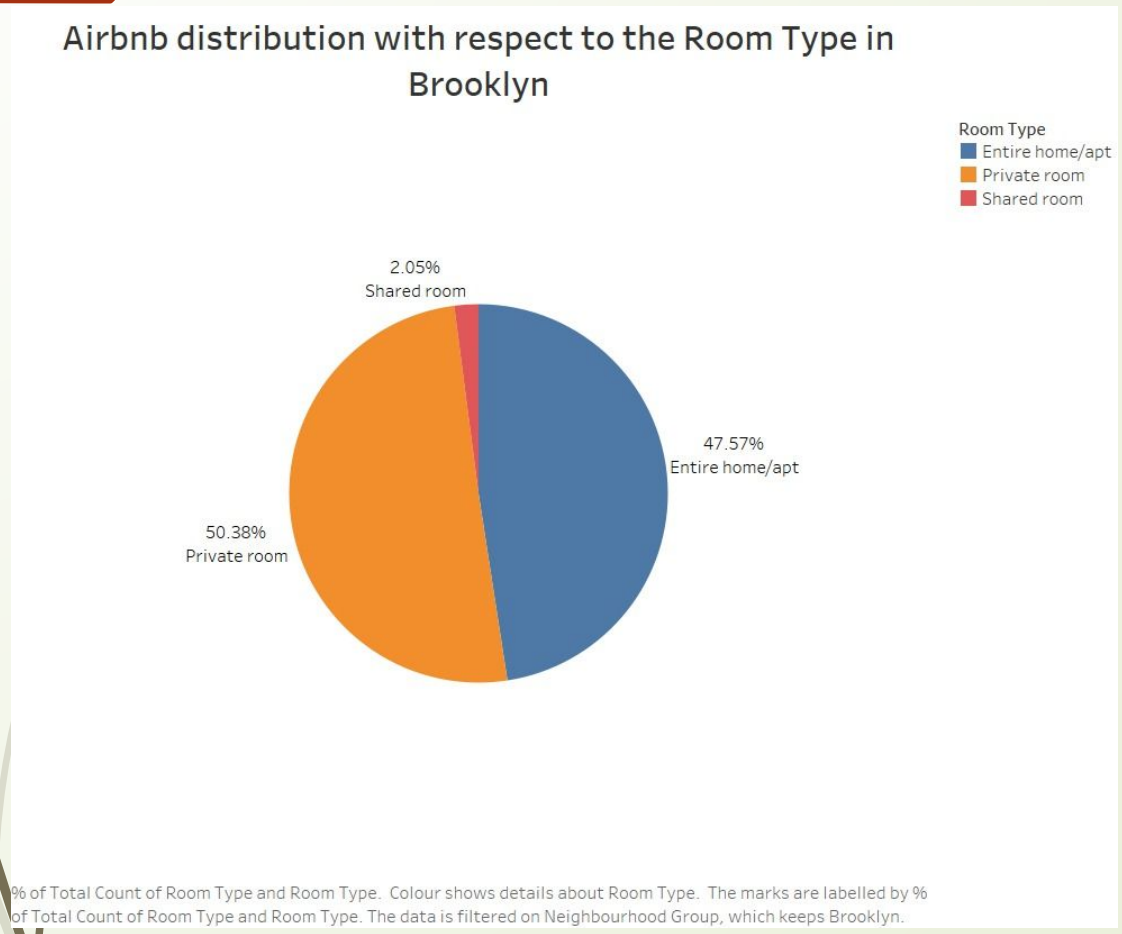
- From graph , maximum availability for rooms is in Brooklyn & Manhattan.
- However in both the neighbourhood groups maximum price range preferred is 60 - 180.

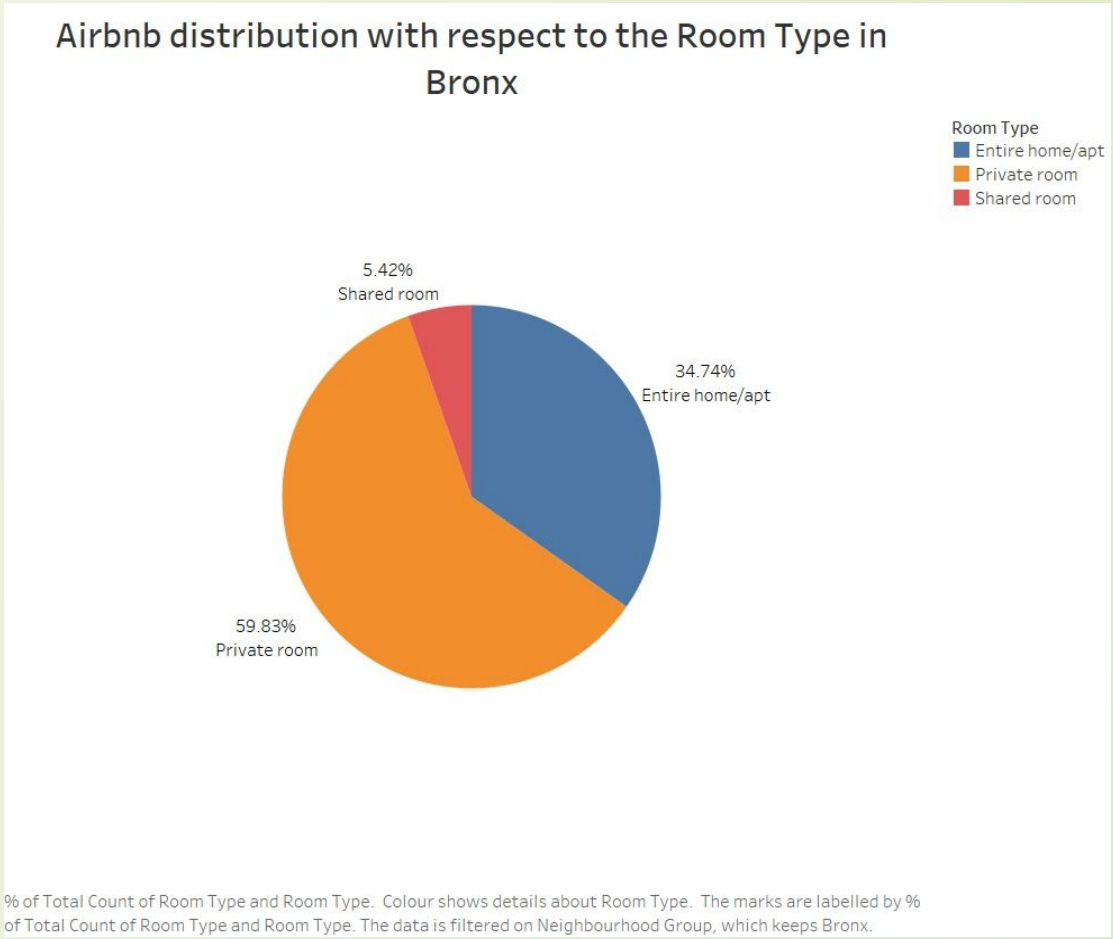
Understanding price variance w.r.t neighbourhood group

- From the data we see that Manhattan has higher median price than the other Neighbourhood Groups.
- Brooklyn has the 2nd highest median price.
- Bronx is the least.



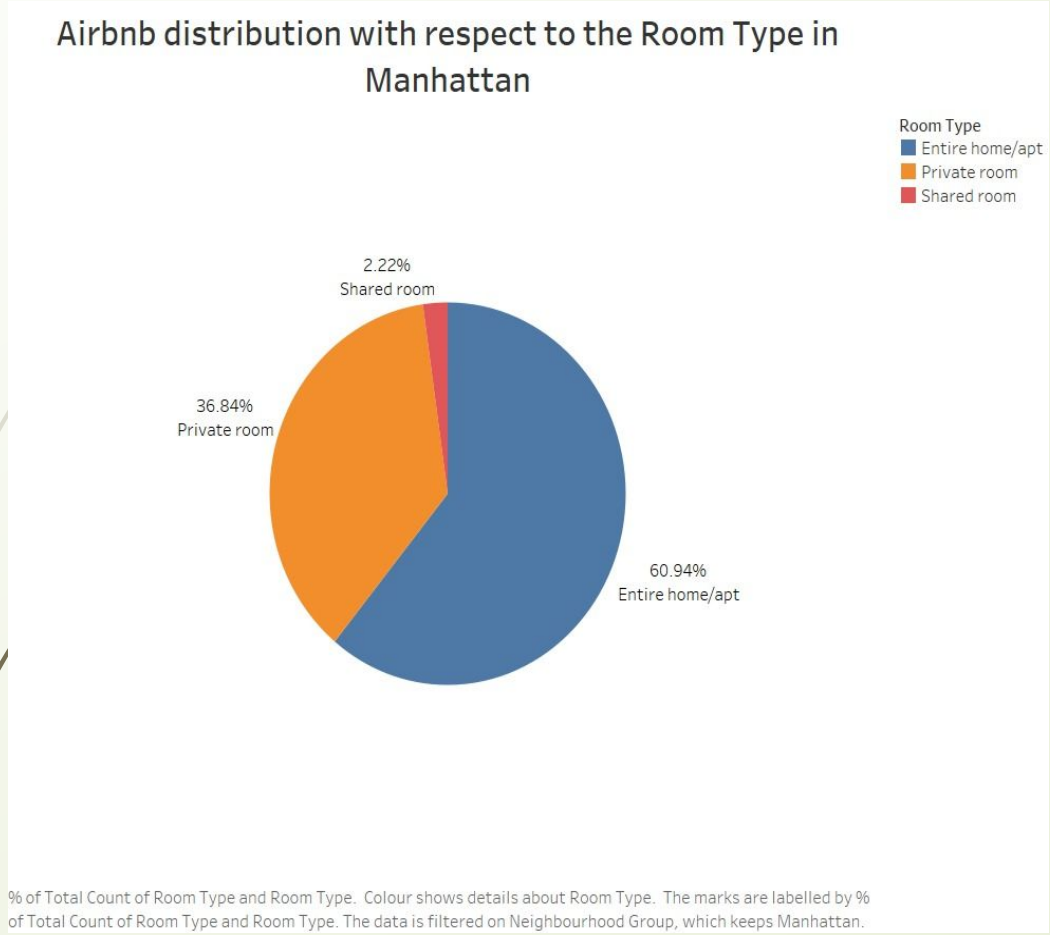
Room type w.r.t individual neighbourhood group

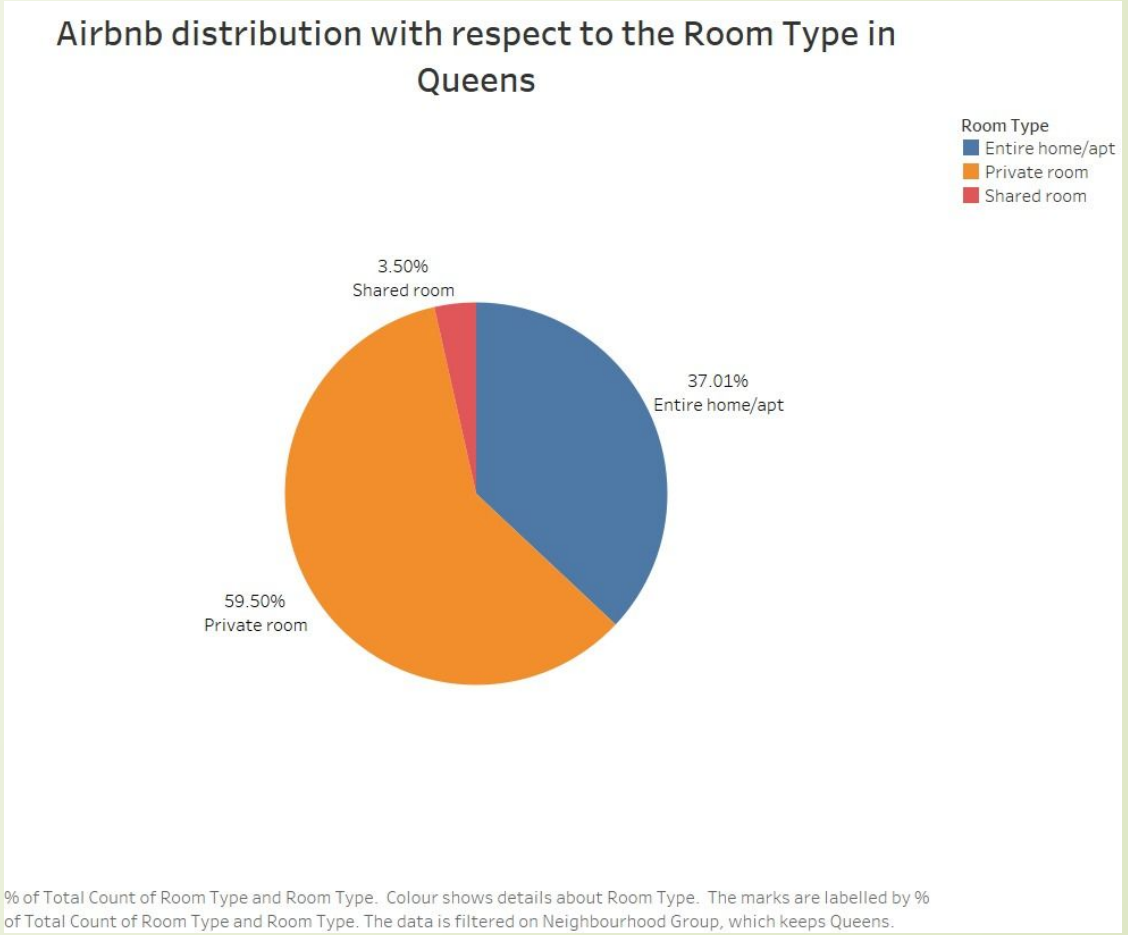




- **The preference for shared & private room is nearly same in Brooklyn where as in Bronx private room preference is 60% & that of shared room is 34 %.**

Room type w.r.t individual neighbourhood group

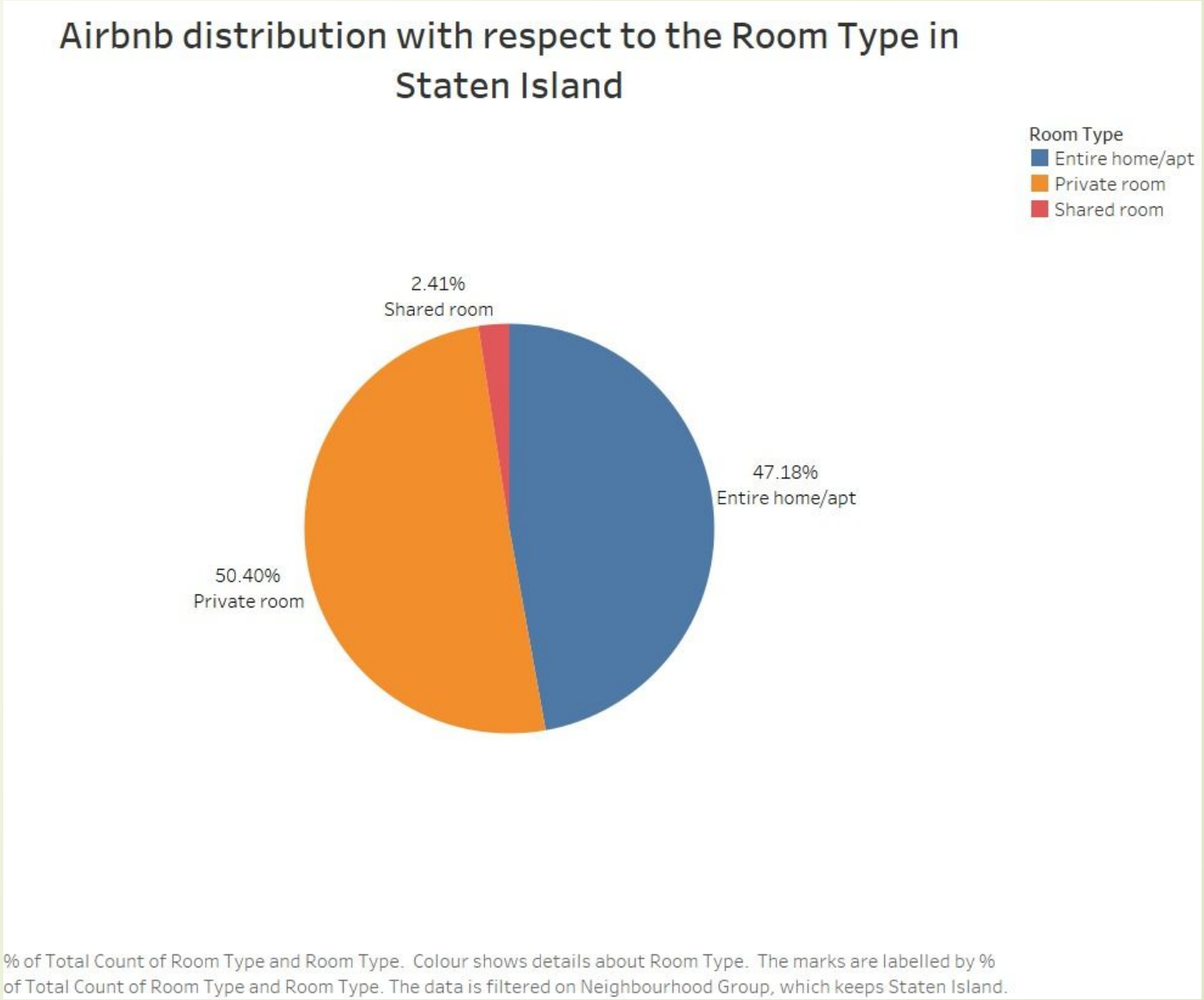




- From chart seems the private and Entire home occupies is more preferred by customer than share room i.e 2.22% in Manhattan.
- In Queens, highly preferred are private rooms consisting of approximately 60 % where as only 37% is for Shared rooms

Room type w.r.t individual neighbourhood group

- From chart seems the private and Entire home occupies more preferred by customer than share room i.e 2.41% in Staten Island.



Appendix- DATA SOURCES:

- Dataset Overview: The dataset contains Airbnb listings' details, including hosts, locations, prices (per night), and various attributes.
- Column Explanations: Columns are self-explanatory; reference the provided diagram for specific meanings.

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

Appendix - Data Methodology

Conducted a thorough analysis on the given Airbnb dataset. The process included:

- Cleaning the dataset using Python with the help of Pandas library.
- Created new columns to convert numerical columns to categorical columns which helps in providing more precise information.
- Created the visualization charts using Tableau.