



# Storytelling Case Study

**Airbnb, NYC**

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**Presentation II**

# Agenda

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# Background

- Airbnb is an online platform that allows individuals to rent out their unused accommodations.
- In recent months, Airbnb has experienced a significant drop in revenue due to COVID-19.
- 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 facilitate this, an analysis has been conducted on a dataset containing various Airbnb listings in New York.

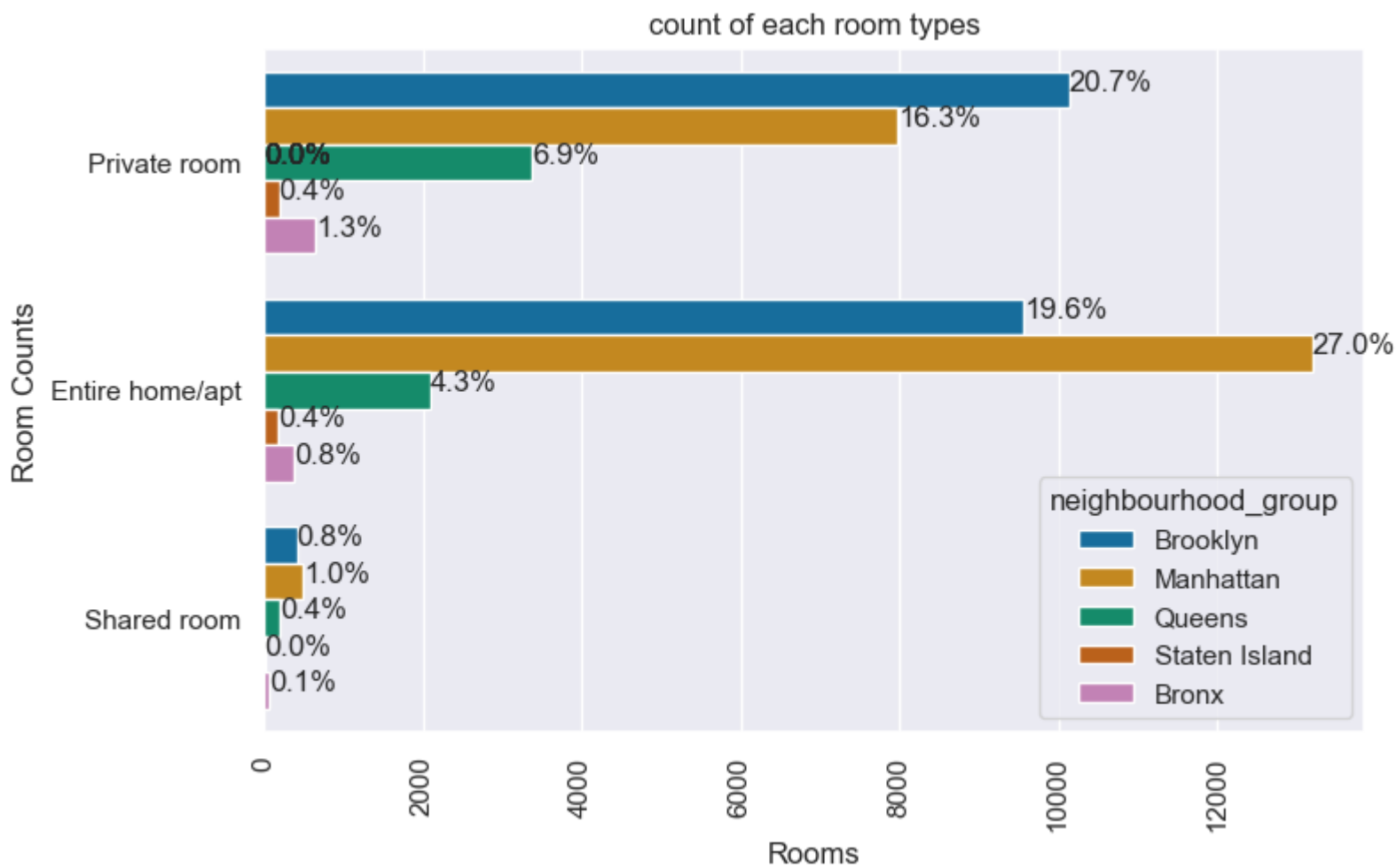


# Objective

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- To offer insights into the present market conditions.
- Deepen our understanding of property and host acquisitions, operations, and customer preferences
- Provide recommendations to our marketing and operations teams on how to adapt to changes following the pandemic.

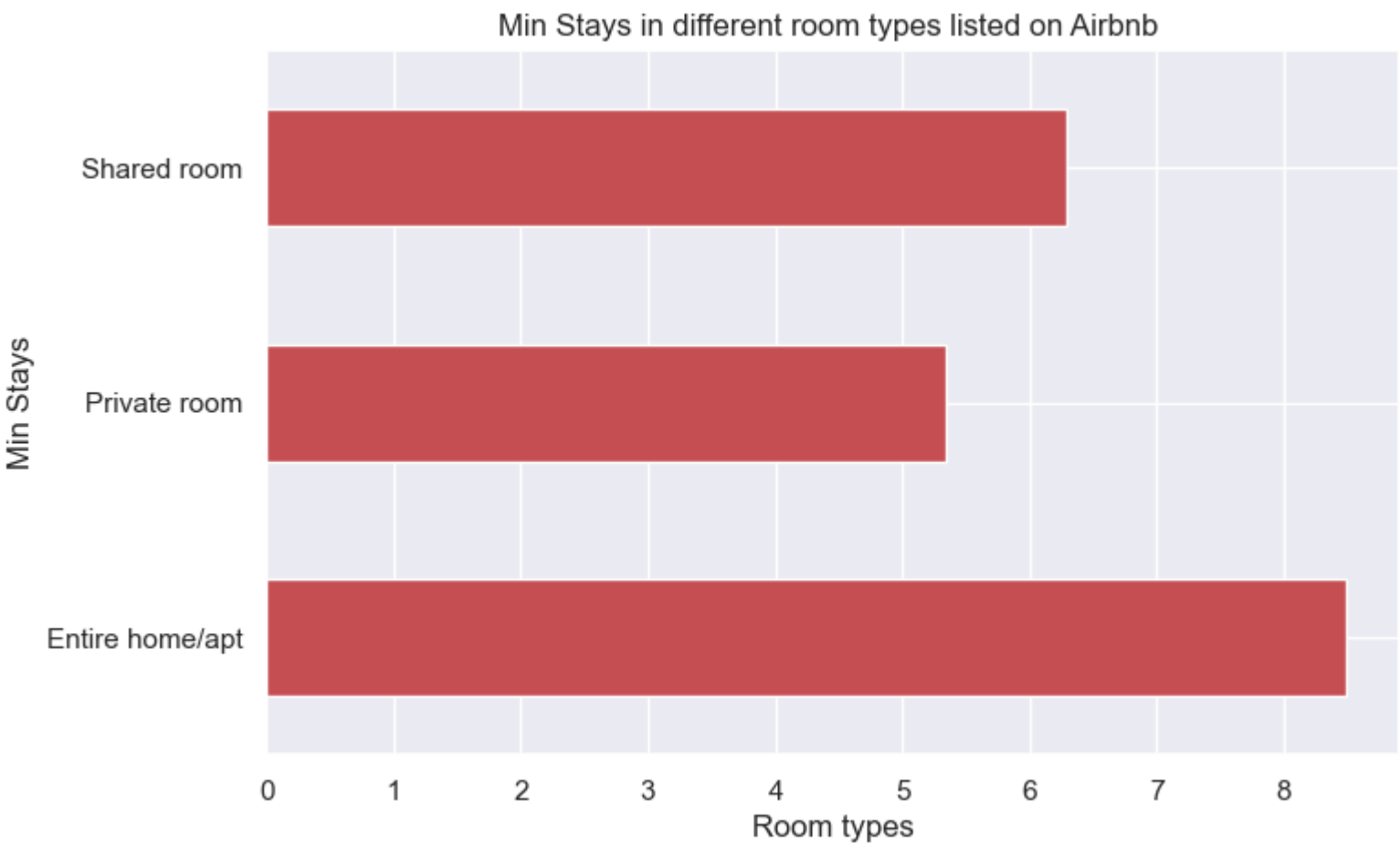
Key findings from “Room Types”



- Shared rooms represent only 2% of the total room.
  - Private rooms are more prevalent in Brooklyn, followed by Manhattan
  - Entire home/apt are listed 27% in Manhattan and Brooklyn comes in second with about 19.6%
- ⇒ **Manhattan has more properties listed than any other areas**
- ⇒ **The total number of shared rooms listed on Airbnb is quite limited, with very few available in Staten Island and the Bronx, where shared rooms are negligible or extremely rare.**

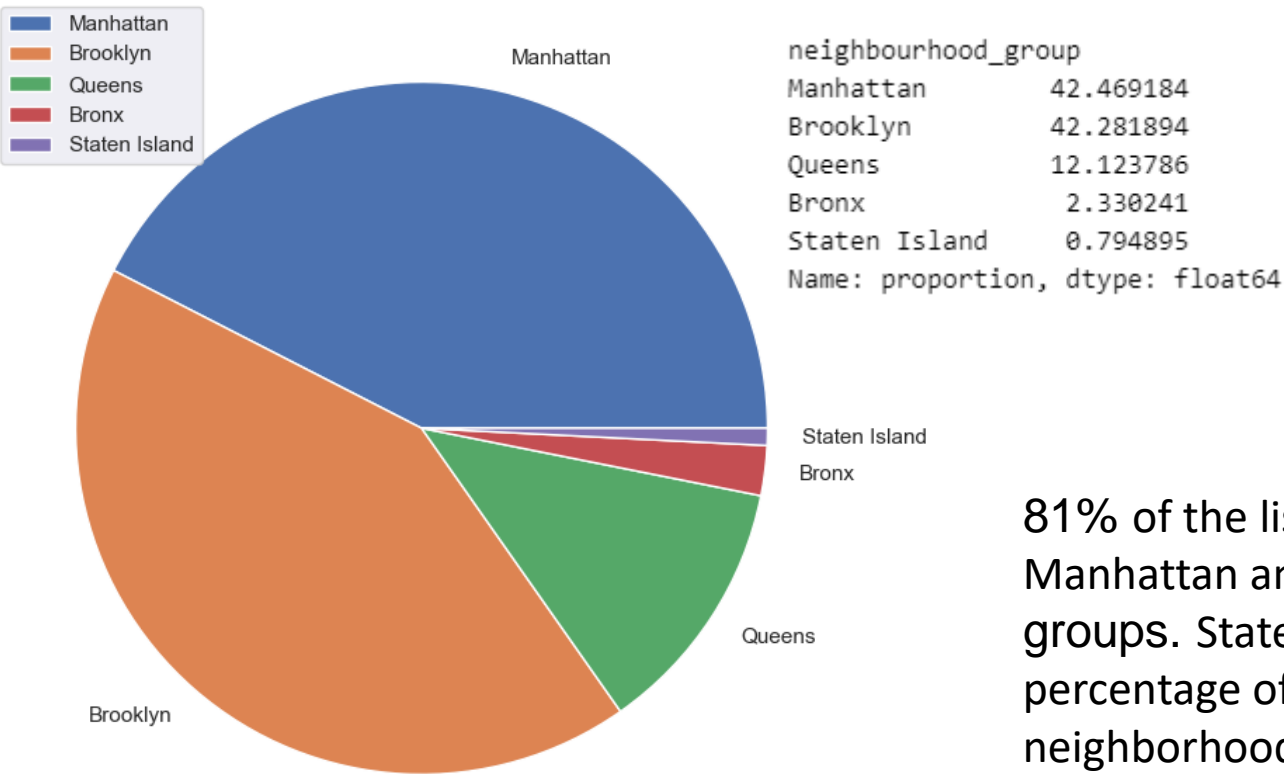
On an average for how many nights people stayed in each room\_types

Generally people prefer staying in an Entire home or apartment, with an average duration of over 8 nights. In contrast, guests who choose shared rooms typically stay for an average of 6 to 7 nights.



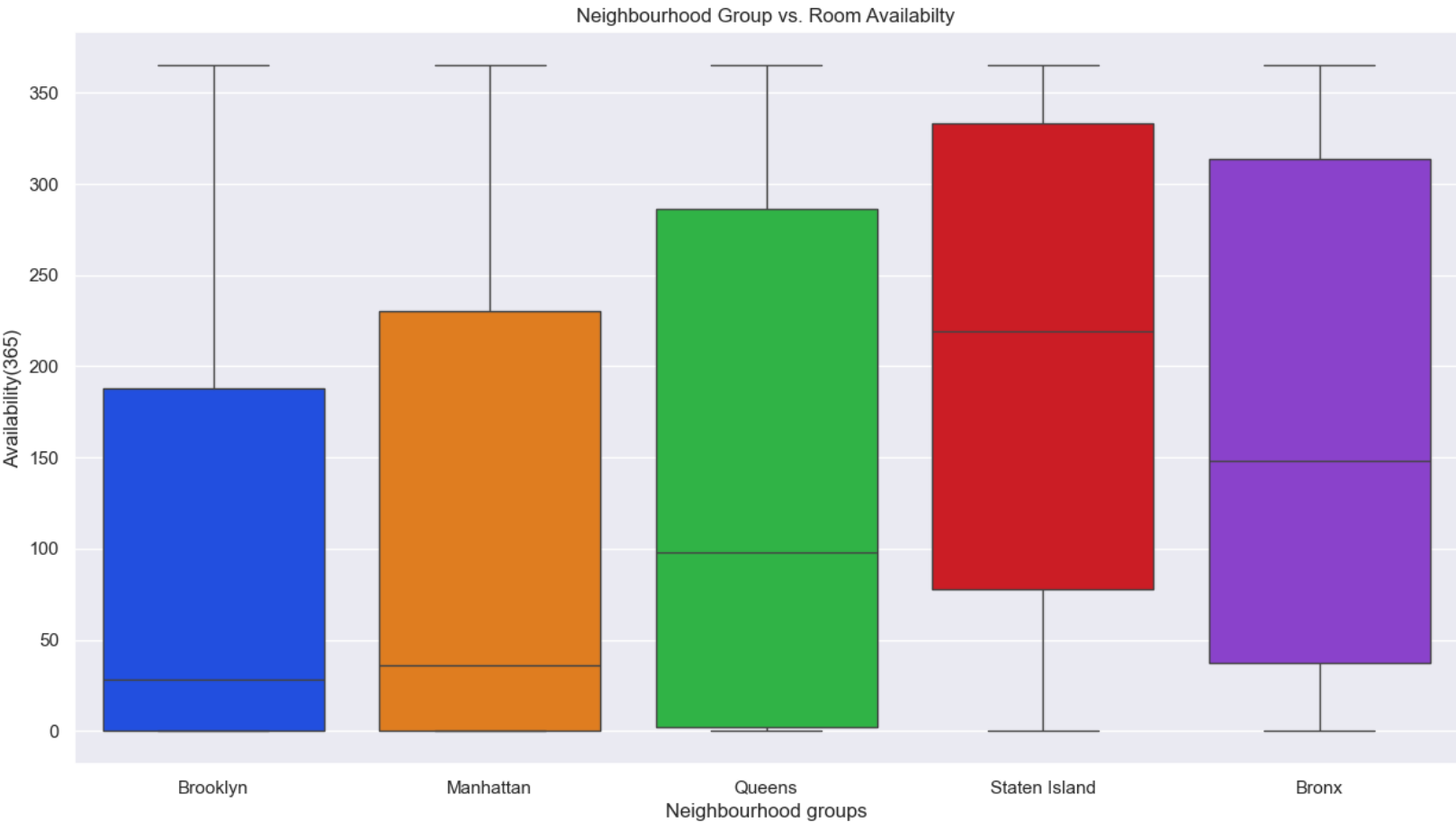


## Key findings from “Neighborhoods”

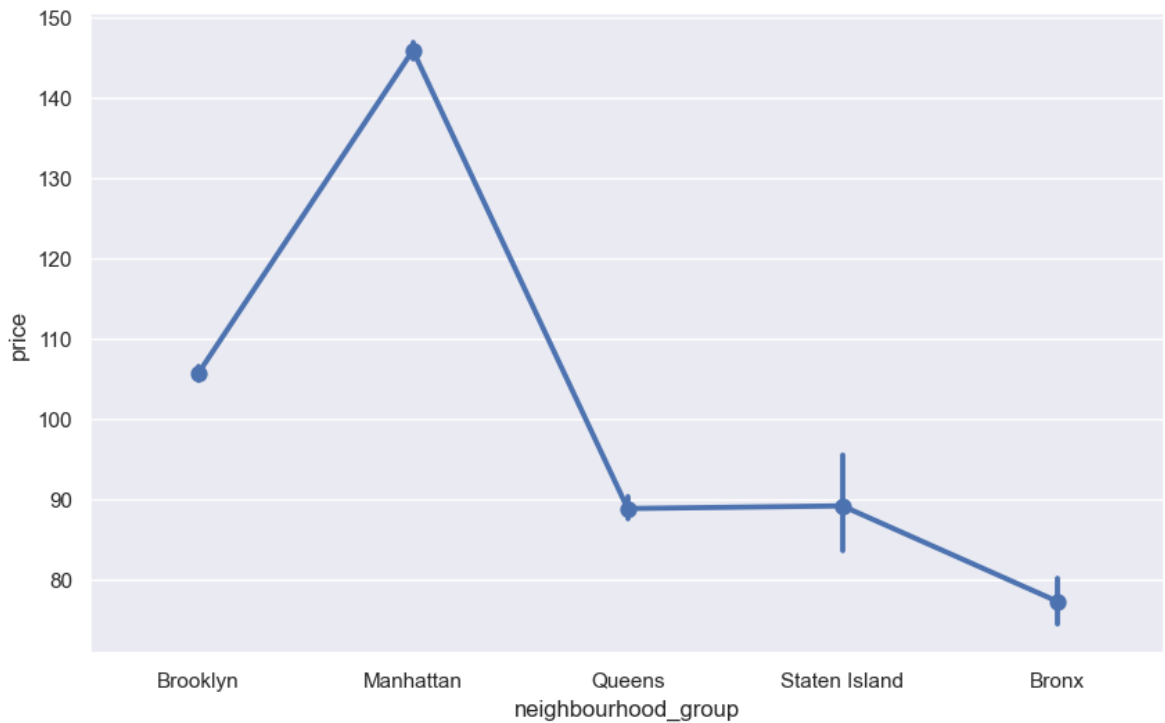


81% of the listings are from the Manhattan and Brooklyn neighborhood groups. Staten Island has the lowest percentage of contributions among the neighborhood groups

- Staten Island is higher availability throughout the year, often exceeding 300 days. On average, these listings are available for about 210 days per year.
- Following Staten Island, the Bronx exhibits an average availability of around 150 days for its listings each year.



## The average price each neighborhood groups



- Manhattan remains the most expensive area, with average listing prices exceeding \$140. Brooklyn follows, with an average price of around \$80.
- Queens, Staten Island and Bronx have similar average prices for their listings, indicating a more affordable market compared to Manhattan and Brooklyn.

## Deep dive into cost of living

- Top 5 most expensive listings belongs to Manhattan (being the most expensive place of living in NYC)
- Top 5 cheapest listings mostly comes from Brooklyn, Queens and all are private rooms

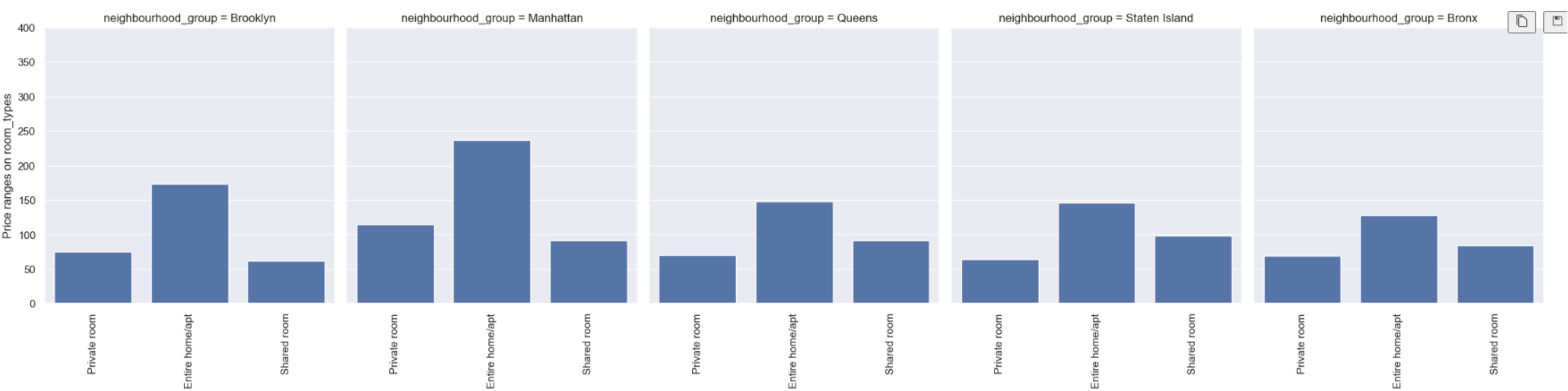
### <Top 5 most expensive>

	name	neighbourhood_group	neighbourhood	host_name	room_type
38498	LUXURIOUS 5 bedroom, 4.5 bath home	Manhattan	Upper West Side	Lisa	Entire home/apt
48304	Next to Times Square/Javits/MSG! Amazing 1BR!	Manhattan	Hell's Kitchen	Rogelio	Entire home/apt
46533	Amazing Chelsea 4BR Loft!	Manhattan	Chelsea	Viberlyn	Entire home/apt
30824	Designer's Beautiful 2BR Apartment in NOLITA/SOHO	Manhattan	Nolita	Ilo And Richard	Entire home/apt
22992	Modern Townhouse for Photo, Film & Daytime Events	Manhattan	Upper West Side	Lanie	Entire home/apt

### <Top 5 most cheapest>

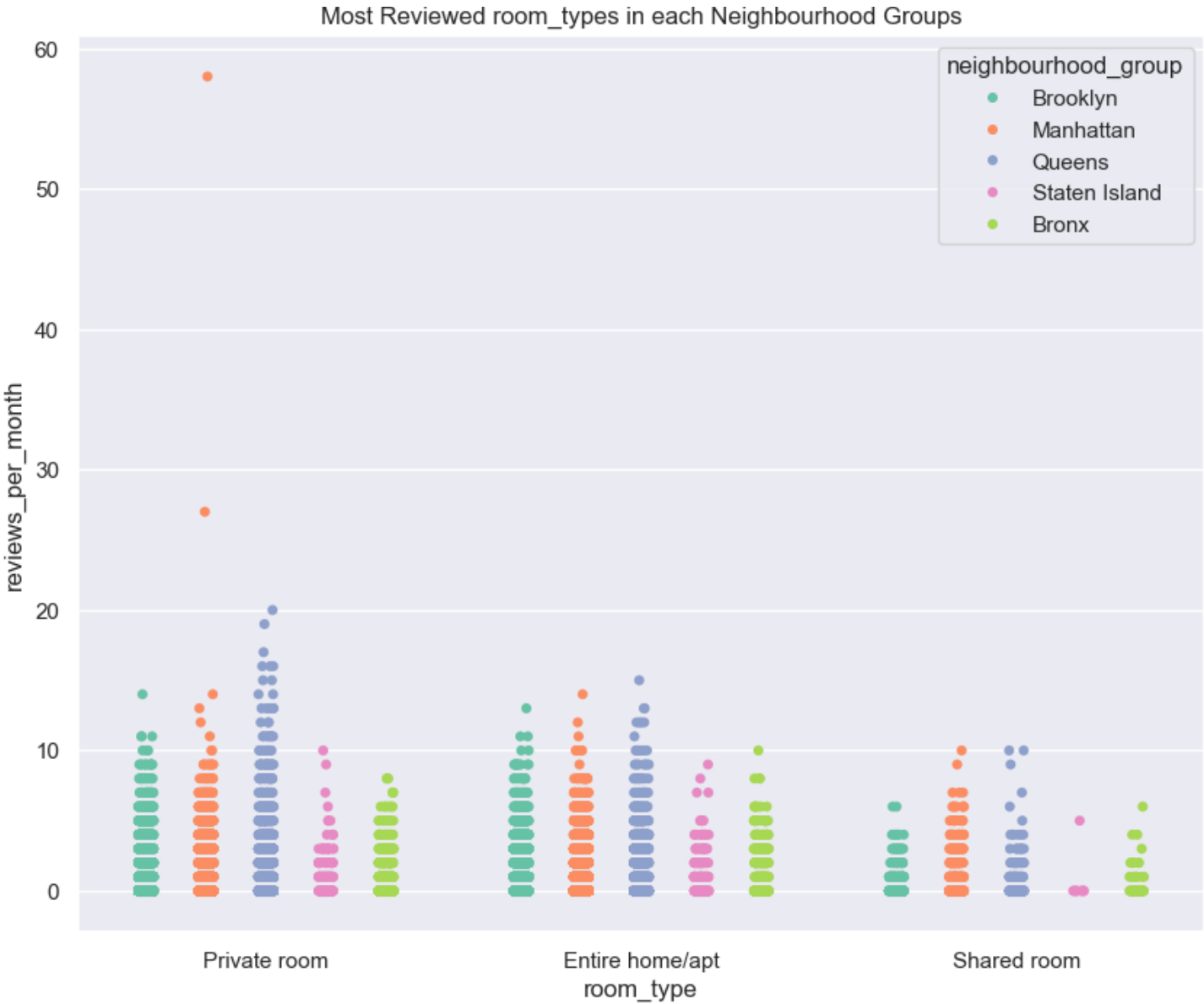
	name	neighbourhood_group	neighbourhood	host_name	room_type
12516	cute and cozy room in brooklyn	Brooklyn	Bedford-Stuyvesant	Ornella	Private room
7864	Comfortable and Large Room	Brooklyn	Flatbush	Kay	Private room
29967	Large bed room share bathroom	Queens	Elmhurst	Cha	Private room
39100	15 minutes From Times Square!!	Manhattan	Washington Heights	Ari	Private room
28700	Cozy room in Loft Apartment - Brooklyn	Queens	Ridgewood	Estefani	Private room

### <Room\_types vs price on different neighborhood groups>

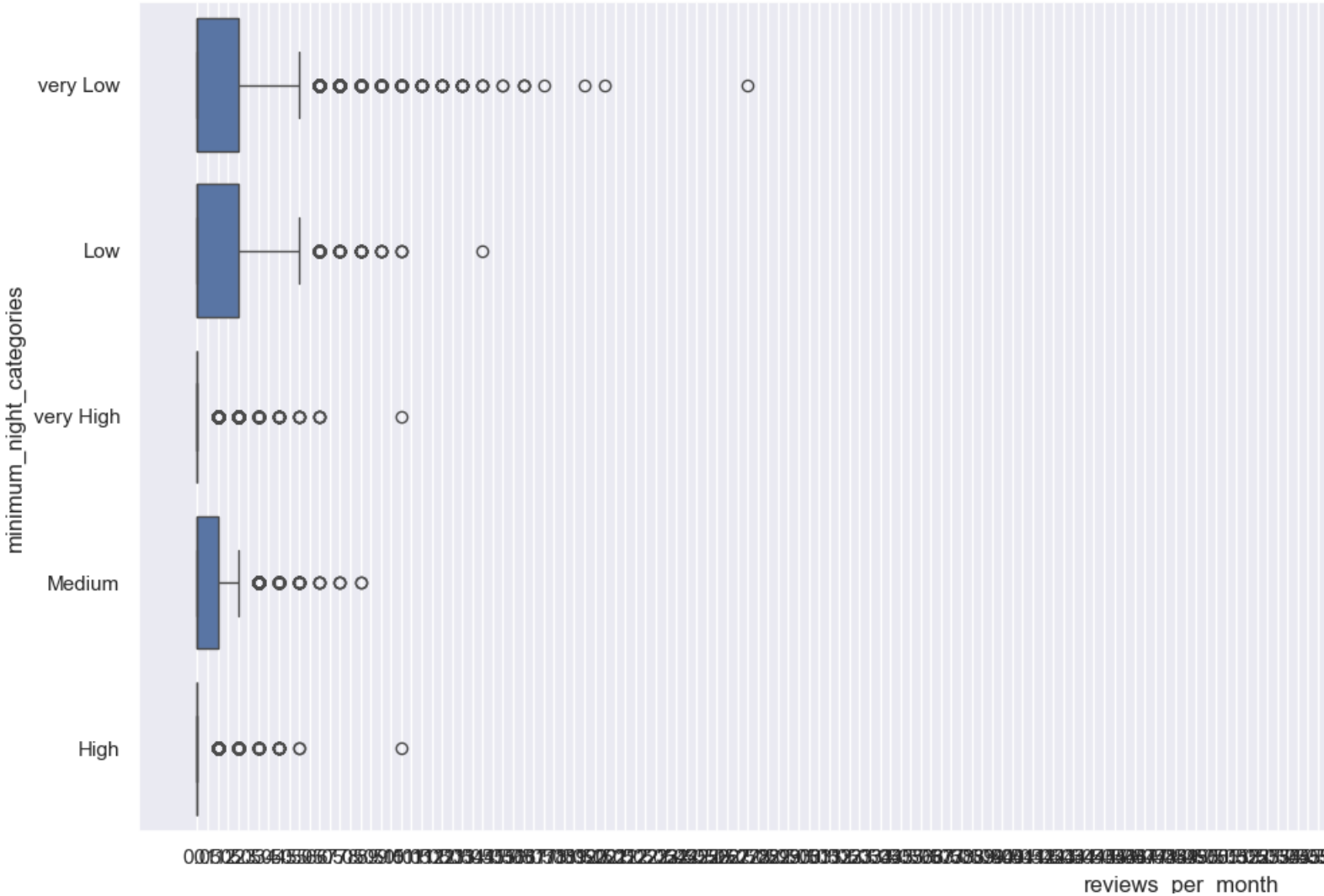


- Room Type Popularity: Entire homes/apartments are the most sought-after, indicating a preference for privacy and space
- Manhattan has the highest price for room types with Entire home/apt ranging to nearly 240 USD/night, followed by Private room with 110 USD/night. And it's obvious being the most expensive place to live

Examine how monthly reviews differ by room types across each neighborhood group



- Private rooms received the highest number of reviews per month, with Manhattan leading at over 50 reviews monthly, followed closely by other areas.
- For the Entire home/apt category, both Manhattan and Queens received the most reviews.
- In contrast, shared rooms garnered significantly fewer reviews, primarily from Staten Island, followed by the Bronx.



Customers are more likely to leave reviews for lower number of minimum nights.



# Recomendations

- 90% of the listings on Airbnb consist of either private rooms or entire homes/apartments, with very few guests choosing shared rooms. Additionally, our previous analysis showed that guests primarily prefer these room types when seeking rentals on Airbnb. Thus, it need to make a requirement further inspection for Shared rooms
- Shared room have fewer listings but more availability and lower process , so they can be maximized
- Over 80% of the listings come from the Manhattan and Brooklyn neighborhood groups.
- The prices vary widely across Manhattan, which is the most expensive area to stay in NYC.
- The minimum night requirement should be set lower to make properties more customer-friendly.

# Appendix

## Data Source

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

- Conducted a thorough analysis of New York Airbnb Dataset.
- Data Cleaning
- Used group aggregation, pivot table and other statistical methods.
- Created charts and visualizations
- Tool: Python

## Data Assumptions

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

Variable Categories

- The company does not expand into new market in NYC