



Presentation 1

Pre-pandemic Airbnb Data Analysis

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Agenda

- Objective
- Background
- Data Preparation
- Key Insights
- Appendix
 - Data Sources
 - Assumptions

Objective

- To prepare ourselves for the post-pandemic period as restrictions have started lifting and people have started to travel.
- To analyze pre-pandemic data and derive insights regarding customer and user experience trends.
- Relay this information as actionable insights to the following:
 - Head of Acquisitions & Operations, NYC
 - Head of User Experience, NYC

Background

Owing to the Covid-19 pandemic and the associated travel restrictions, Airbnb has seen a major decline in revenue over the past few months.

Now that restrictions have been relaxed and people have been travelling again, we want to make sure we are fully prepared for this change.

Therefore, we are tasked with analyzing pre-pandemic data to derive insights that could help increase revenue in this post-pandemic period.

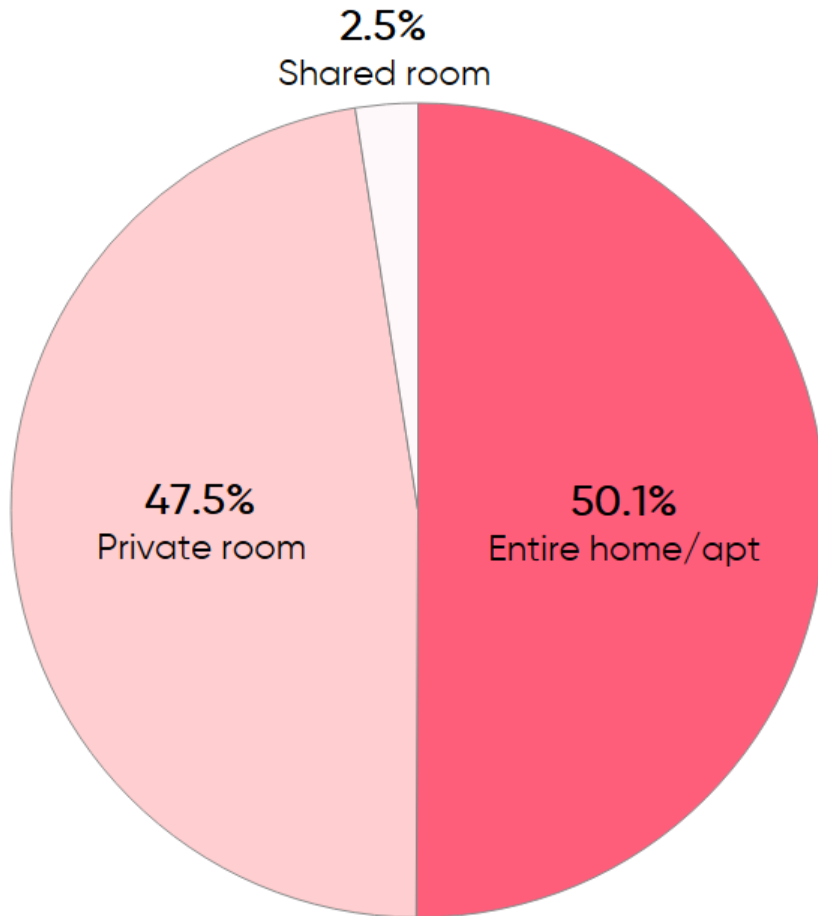
Data Preparation

The following steps were followed to prepare the data for analysis:

- Cleaning the data for missing values and outliers
- Exporting the cleaned dataset as a CSV file
- Imported the clean dataset into Tableau
- Performed a join with Borough Boundaries data from NYC Open Data before commencing analysis

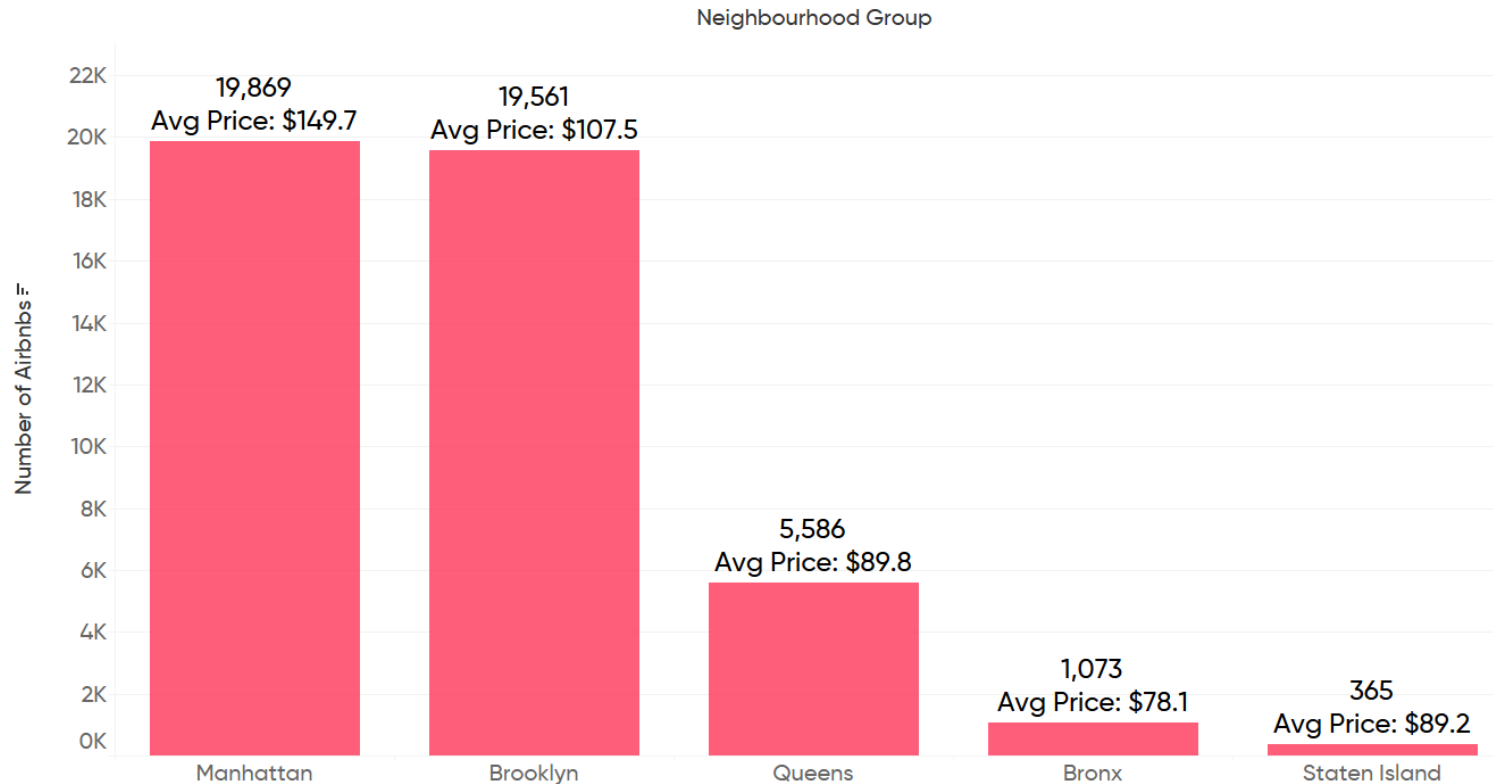
Key Insights

Customer preferences of Room Types



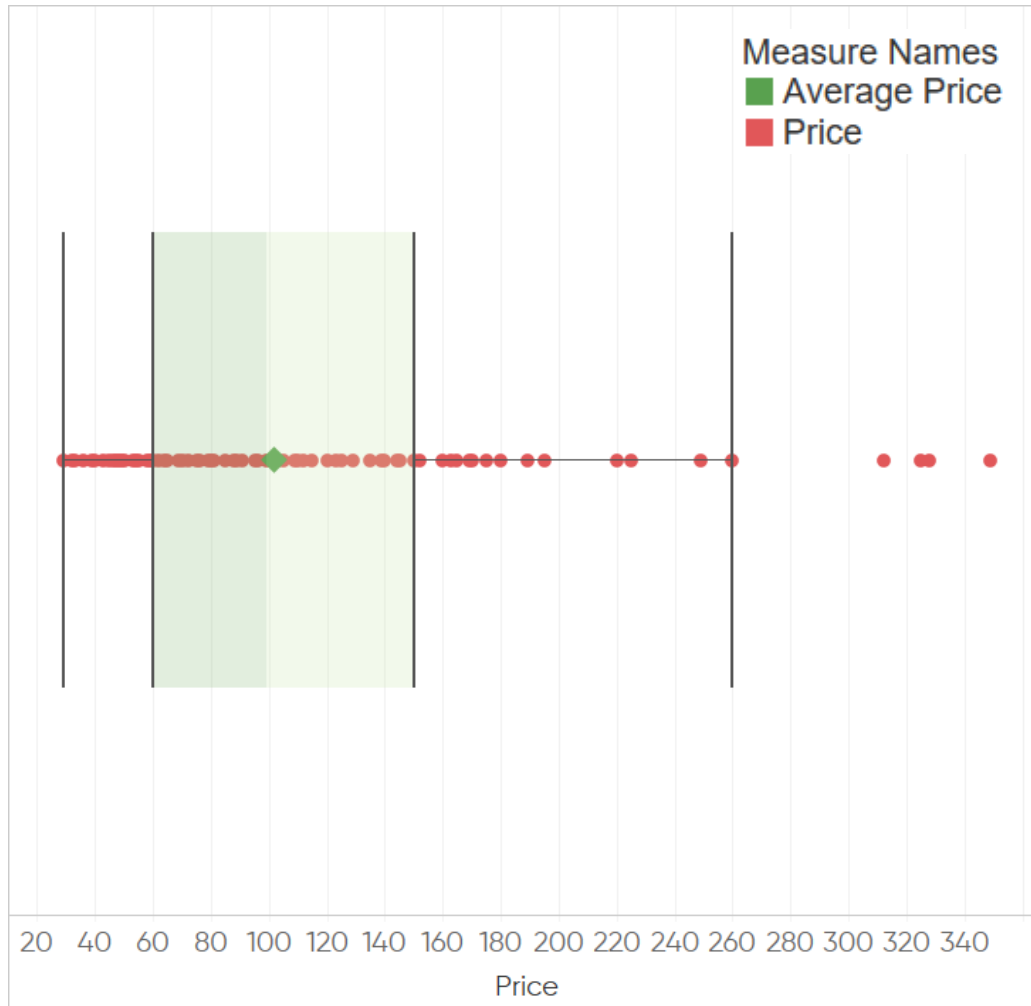
- Private rooms and Entire Homes/Apartments accounted for a major portion (~ 97.5%) of the listed properties in NYC
- Shared rooms account for only 2.5% of all the property listings

Distribution of listings across boroughs



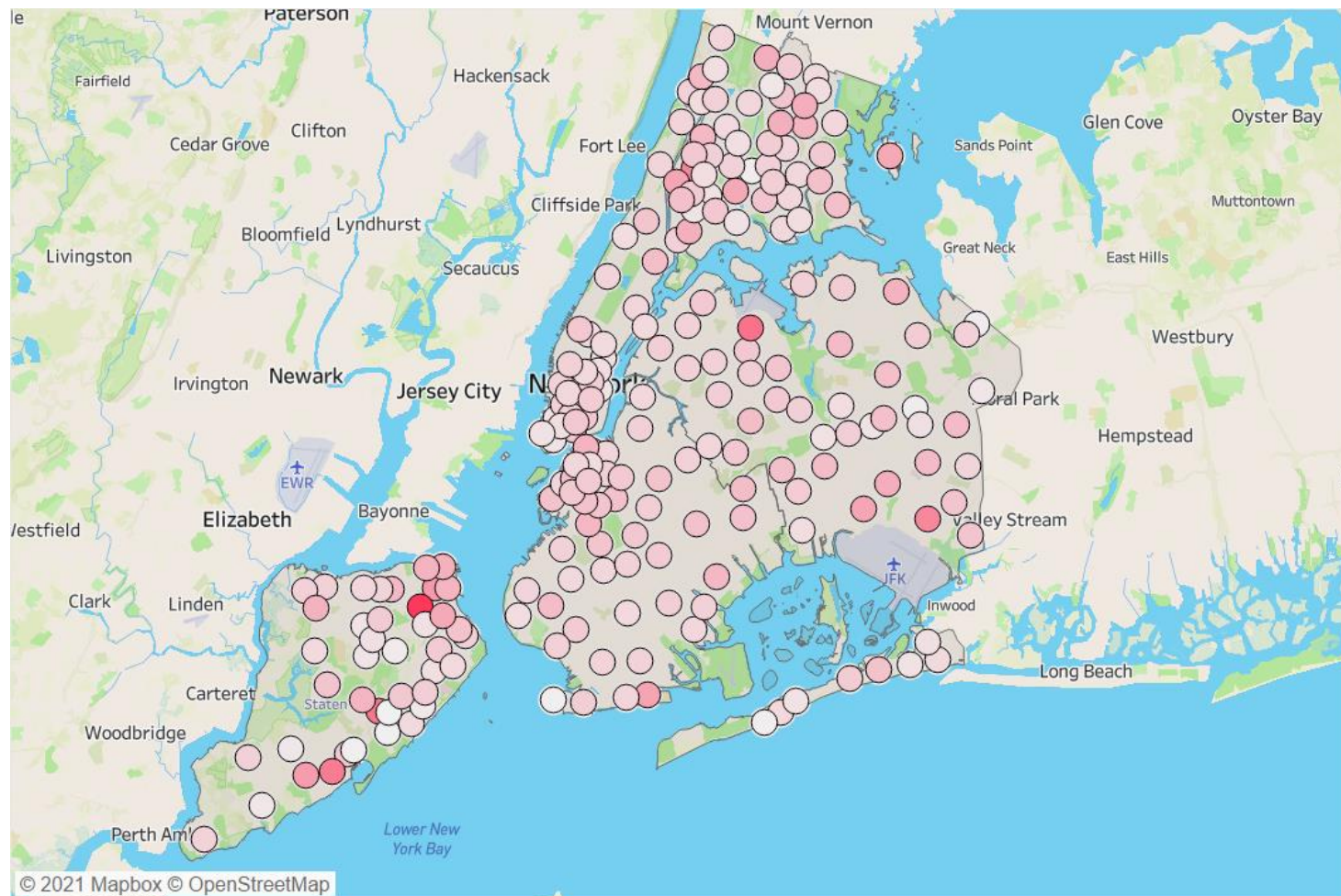
- Manhattan and Brooklyn have the most listings by a significant margin.
- They also have the highest average price per night.

The most reviewed listings and distribution of their prices



- The most reviewed listings are listings which have at least 300 reviews. We are using the number of reviews as a measure of popularity.
- Almost all the properties have their prices lying in the range \$29 - \$260

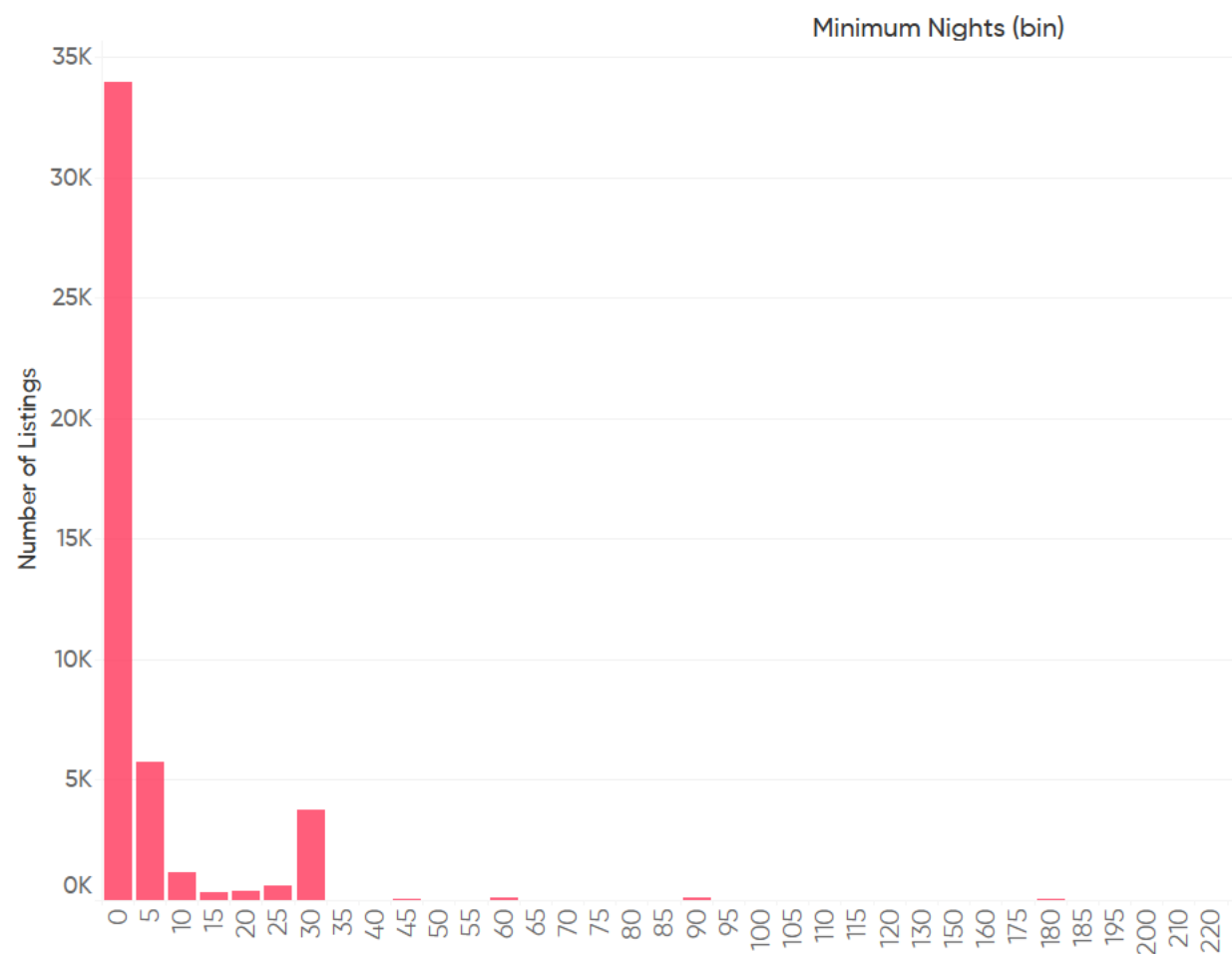
Average prices per night for each neighborhood



*The color represents the average number of reviews.

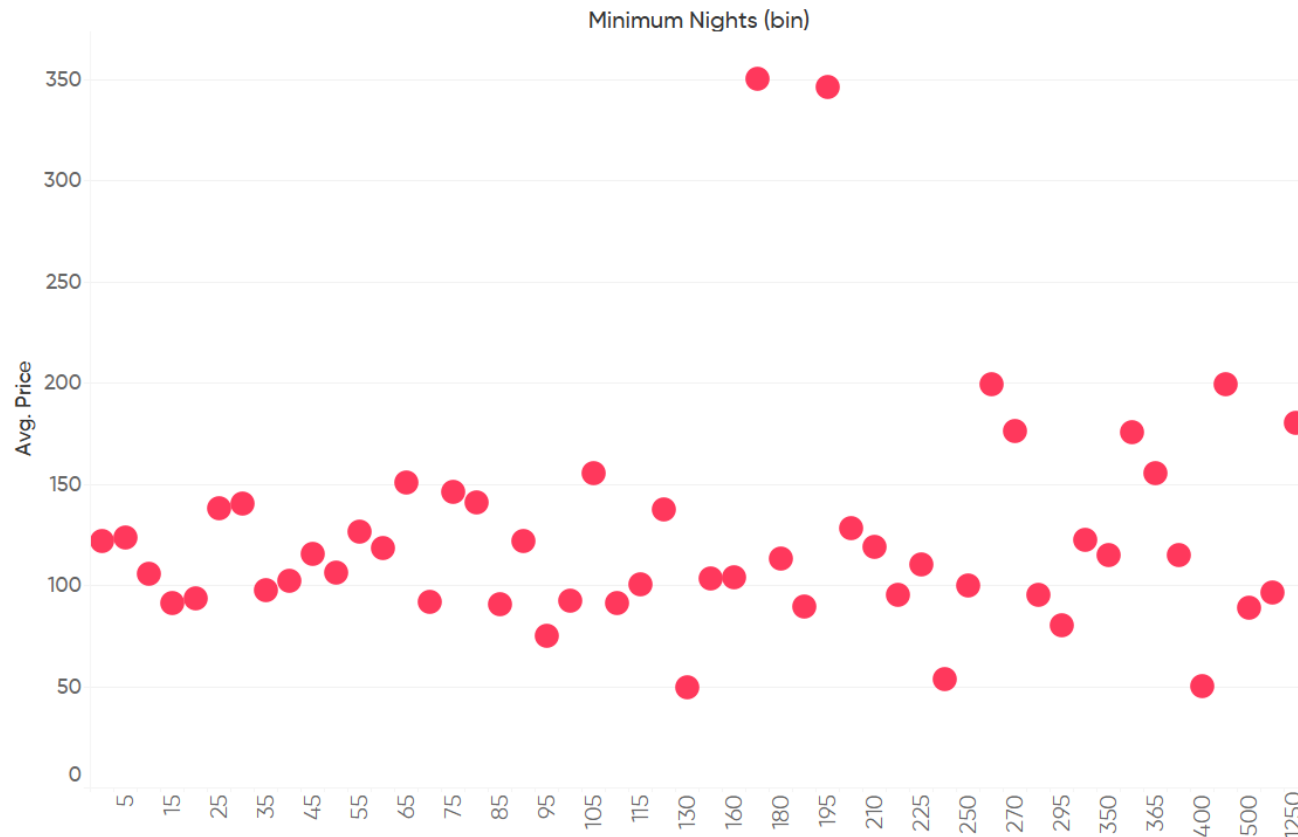
- Neighborhoods closer to JFK and LGA airport have higher number of average reviews
- Silver Lake in Staten Island also has the highest average number of reviews of all neighborhoods.

Minimum nights of stay and number of listings



- The majority of our listings were offering minimum nights of stay from 0 to 5 nights. They also have the most number of reviews
- There is also a significant number of listings requiring minimum nights of stay to be 30 nights.

Minimum nights of stay versus number of reviews



- Listings with higher minimum nights of stay have higher prices
- Properties with higher number of minimum nights and high price have a lower average number of reviews

Appendix

Data Sources

- Airbnb Dataset provided by upGrad

This dataset contains information about different Airbnb listings along with their hosts, locations, prices and other attributes.

- [NYC Borough Boundaries](#)

GIS data: Boundaries of Boroughs (water areas excluded). Used to display borough boundaries on map.

Data Methodology

The analysis process involved the following steps:

- Data cleaning, treating for missing values and outliers using Python
- Exported the cleaned dataset as a CSV file
- Imported the cleaned dataset into Tableau to conduct EDA
- Created visualizations that best suited our objective

Assumptions

- We assumed the data provided to us was prior to the Covid-19 period and was achieving the desired revenue.
- Since we lack information regarding the sentiment of reviews, we assumed the number of reviews represent the popularity of a listing.



Thank You