

## **PILLOW PALOOZA DATA INSIGHTS**

### **Company Background:**

Pillow Palooza is a start-up that wants to shake up the regular real estate market. They focus on providing short-term rental options for people traveling to New York City. Recently, there has been a surge in demand for short-term rentals in the city, and Pillow Palooza wants to make the most of this opportunity by understanding the market better.

To gain insights into the market, Pillow Palooza has gathered data from various sources about Airbnb listings in New York City. Now, they plan to analyse this data to give recommendations on how to optimize their business strategy and increase both revenue and occupancy rates for their short-term rental properties.

### **My Role:**

As a Data Analyst for Pillow Palooza, my role involves analysing data related to the short-term rental market in New York City to provide valuable insights that can drive the growth and success of the company.

### **My responsibilities included:**

1. Exporting and Cleaning data in Python  
*separate PDF containing Python code included with the submission.*
2. Exploring and Analysing data with SQL  
*Separate PDF containing SQL code included with the submission.*
3. Presenting Findings for Business impact using Tableau.

### **INSIGHT 1: MOST EXPENSIVE BOROUGH**

**Manhattan is the most expensive of all the boroughs.**

**upper whisker: 396.7**

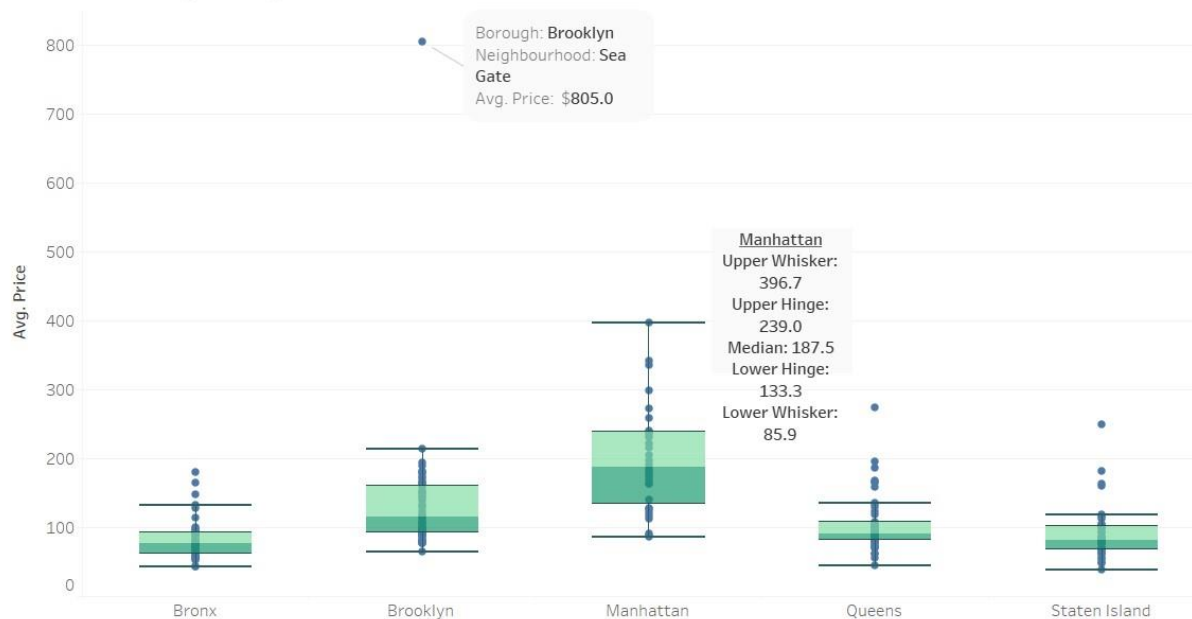
**upper Hinge: 239.0**

**Median: 187.5**

**lower Hinge: 133.3**

**lower whisker: 85.9**

Price vs Borough Box plot



The box plot provides a visual representation of the data distribution, allowing for several observations:

**Skewness:** The data in Manhattan is positively skewed or right-skewed, as indicated by the longer upper whisker compared to the lower whisker. This suggests that there are relatively more listings with higher property prices in Manhattan than lower-priced listings.

**Central Tendency:** The median value (\$187.50) represents the center of the data distribution. Half of the data points fall below this value, and the other half falls above it. The median provides insight into the typical or central value of the dataset.

**Spread of Data:** The interquartile range (IQR), calculated as the difference between the upper hinge (239.0) and the lower hinge (133.3), gives information about the spread or variability of the data. A larger IQR indicates a greater spread of data points within the middle 50% of the dataset.

**Outliers:** Comparing the upper whisker (396.7) to the upper hinge (239.0), it appears that there are outliers present in the dataset. Outliers are data points that fall significantly outside the overall pattern of the data. Tribeca, Flatiron District, NoHo, SoHo, Midtown, West Village, and Murray Hill are mentioned as some of the outliers for Manhattan.

Overall, this insight suggests that Manhattan has a positively skewed distribution of property prices, with a relatively high number of listings having higher prices compared to the median. Additionally, the presence of outliers further emphasizes the higher-end property market in areas like Tribeca, Flatiron District, NoHo, SoHo, Midtown, West Village, and Murray Hill.

## INSIGHT 2: TOP 10 EXPENSIVE NEIGHBOURHOODS

The most expensive neighbourhoods are all located in Manhattan. Please note Sea Gate (Brooklyn) is an outlier.

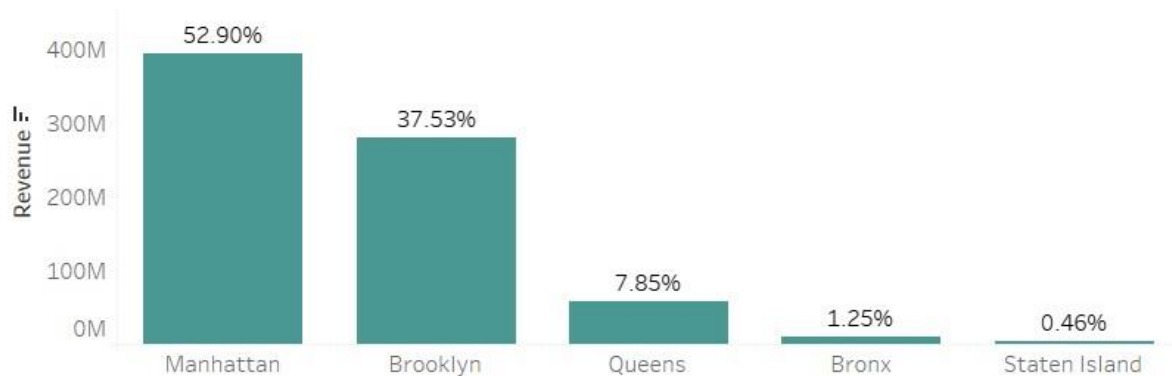
### Top 10 Expensive Neighbourhoods

Borough	Neighbourhood	Avg. Price	Count of Listing Id (Room T..	Number Of Reviews
Brooklyn	Sea Gate	805	2	7
Manhattan	Tribeca	397	61	1,667
	Flatiron District	342	36	1,245
	NoHo	335	41	749
	SoHo	299	191	6,460
	Midtown	272	608	16,655
	West Village	259	358	12,185
	Murray Hill	240	188	3,778
Queens	Neponsit	275	3	46
Staten Island	Willowbrook	249	1	9

## INSIGHT 3: REVENUE DISTRIBUTION

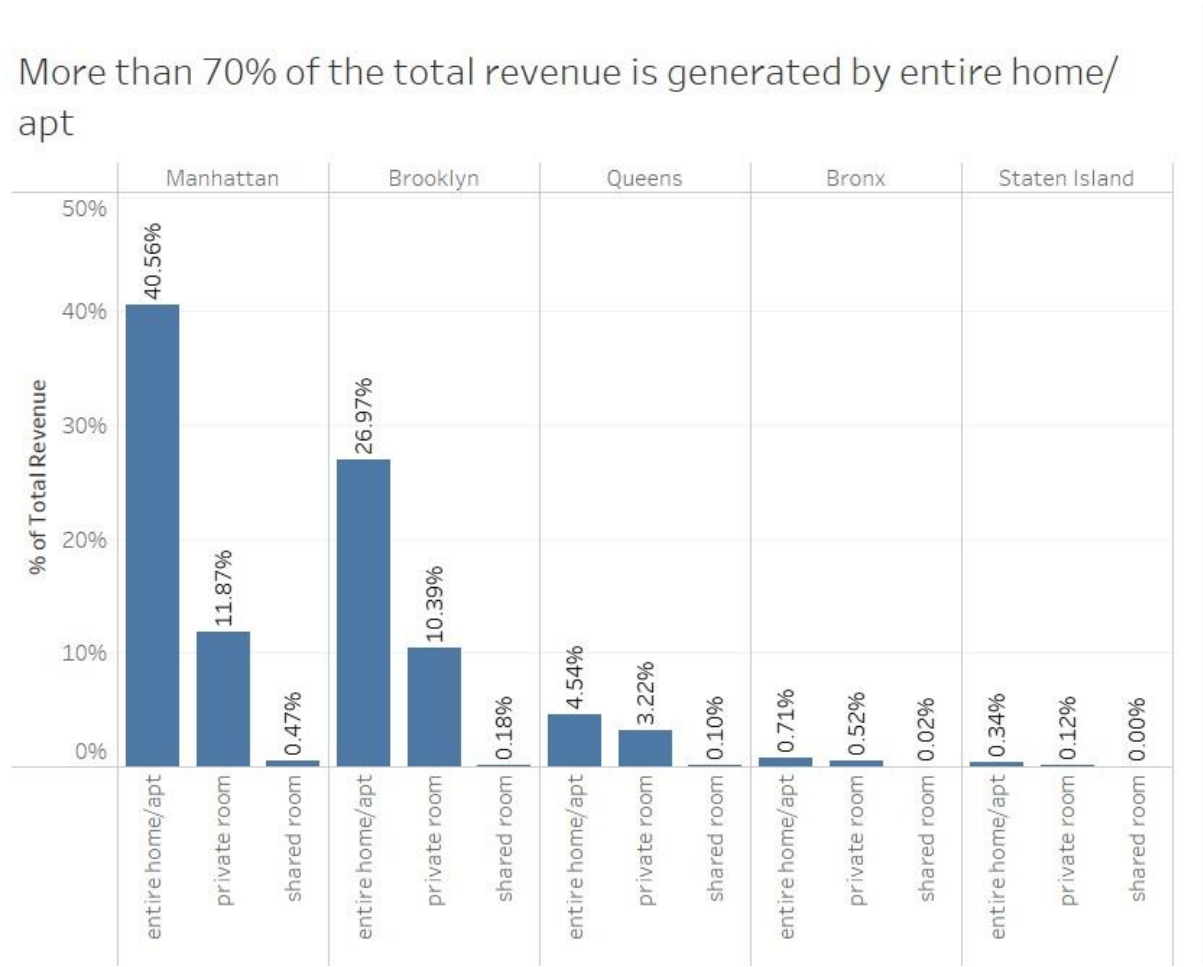
Revenue by Borough:

More than 50% of the revenue are generated from Manhattan



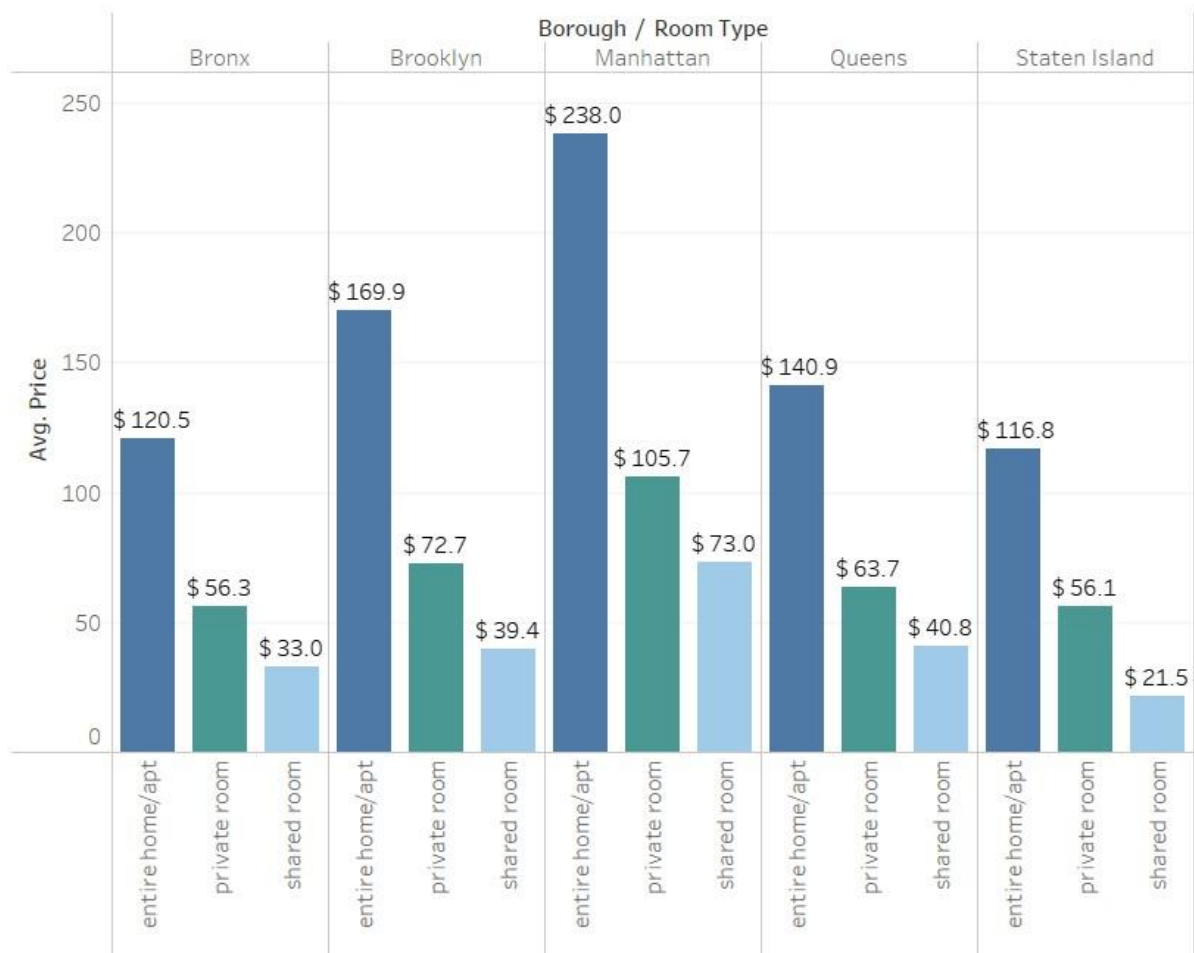
Most of the revenue (52.90%) is generated in Manhattan, followed by Brooklyn (37.53%). With 52.90% of the total revenue being generated in Manhattan indicates that this borough is the most significant contributor to the overall revenue. This suggests that Manhattan has the potential for continued growth.

Revenue by Type of Accommodation:

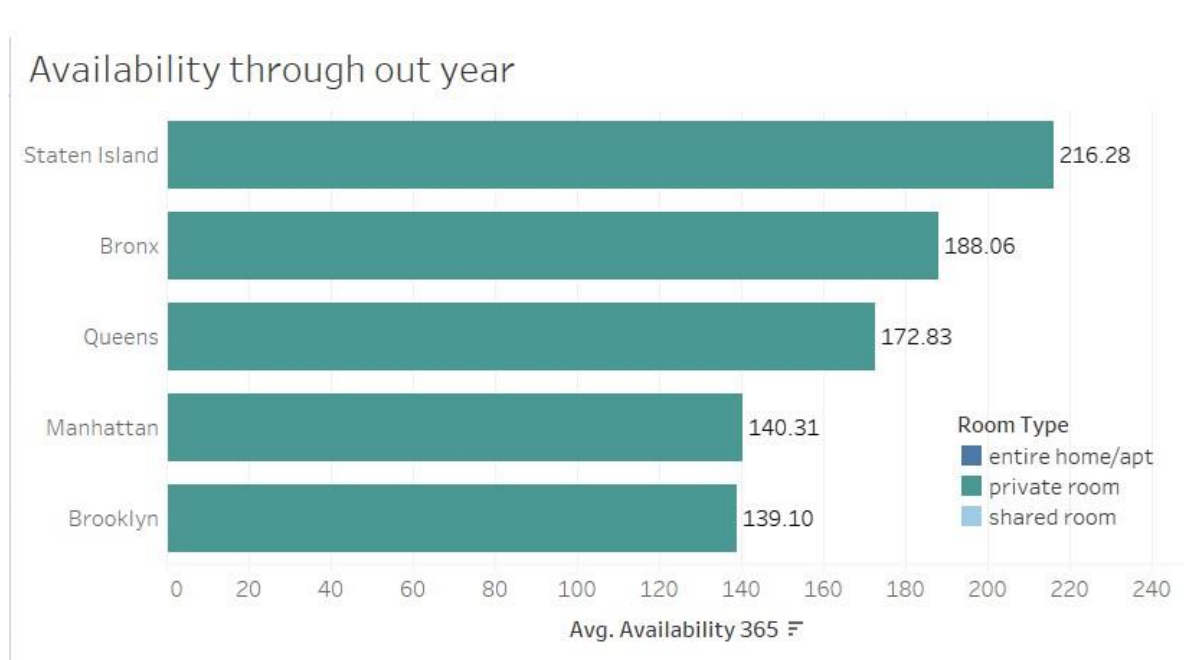


67% of the revenues come from entire homes/apartments in Manhattan and Brooklyn. Manhattan and Brooklyn are popular tourist destinations, attracting visitors from around the world. The demand for entire homes/apartments indicates that tourists prefer the comfort and convenience offered by such accommodations over Private rooms or shared spaces.

#### INSIGHT 4: AVAILABILITY AND LOCATION



Though Manhattan has higher short-term rental prices, still people prefer to live in this borough. One of the reasons might be its proximity to NYC tourist attractions.



Looking at the availability, Staten Island and Bronx have listings that are most available throughout the year compared to other boroughs. Also note, Manhattan and Brooklyn are the most desirable boroughs.

#### Conclusions & Recommendations:

1. Focussing on Manhattan and Brooklyn presents a greater opportunity for Revenue generation.
2. 70% of the revenues come from entire homes/apartments. These segments outperform shared rooms and private rooms in terms of occupancy rates. The demand for entire homes/apartments indicates that tourists prefer the comfort and privacy offered by such accommodations over private homes or shared spaces. Emphasizing entire homes/apartments and private rooms can enhance revenue performance.
3. Manhattan emerges as the most expensive borough in New York City, with a concentration of higher-priced listings and a positively skewed distribution. The top expensive neighborhoods, such as Tribeca, Flatiron, and Noho, are all located in Manhattan. Despite the higher rental prices, Manhattan and Brooklyn remain popular due to their proximity to NYC tourist attractions.
4. Manhattan and Brooklyn are considered the most desirable boroughs overall. Manhattan and Brooklyn consistently exhibit strong occupancy rates, indicating high demand for accommodations. Investing in properties within these boroughs can lead to positive returns and minimize risk.

However, it is important to acknowledge that Airbnb dynamics are influenced by multiple factors and market conditions that can vary over time. Conducting further analysis with more comprehensive and up-to-date data is necessary for a more precise understanding of the Airbnb market in New York City.