

# Insights from Airbnb Analysis from Pre-COVID Period

Target Group : Data Analysis Managers, Lead Data Analyst

# Agenda

- Objective
- Background
- Key Findings
- Appendix:
  - Data Sources
  - Data Methodology
  - Data Assumptions

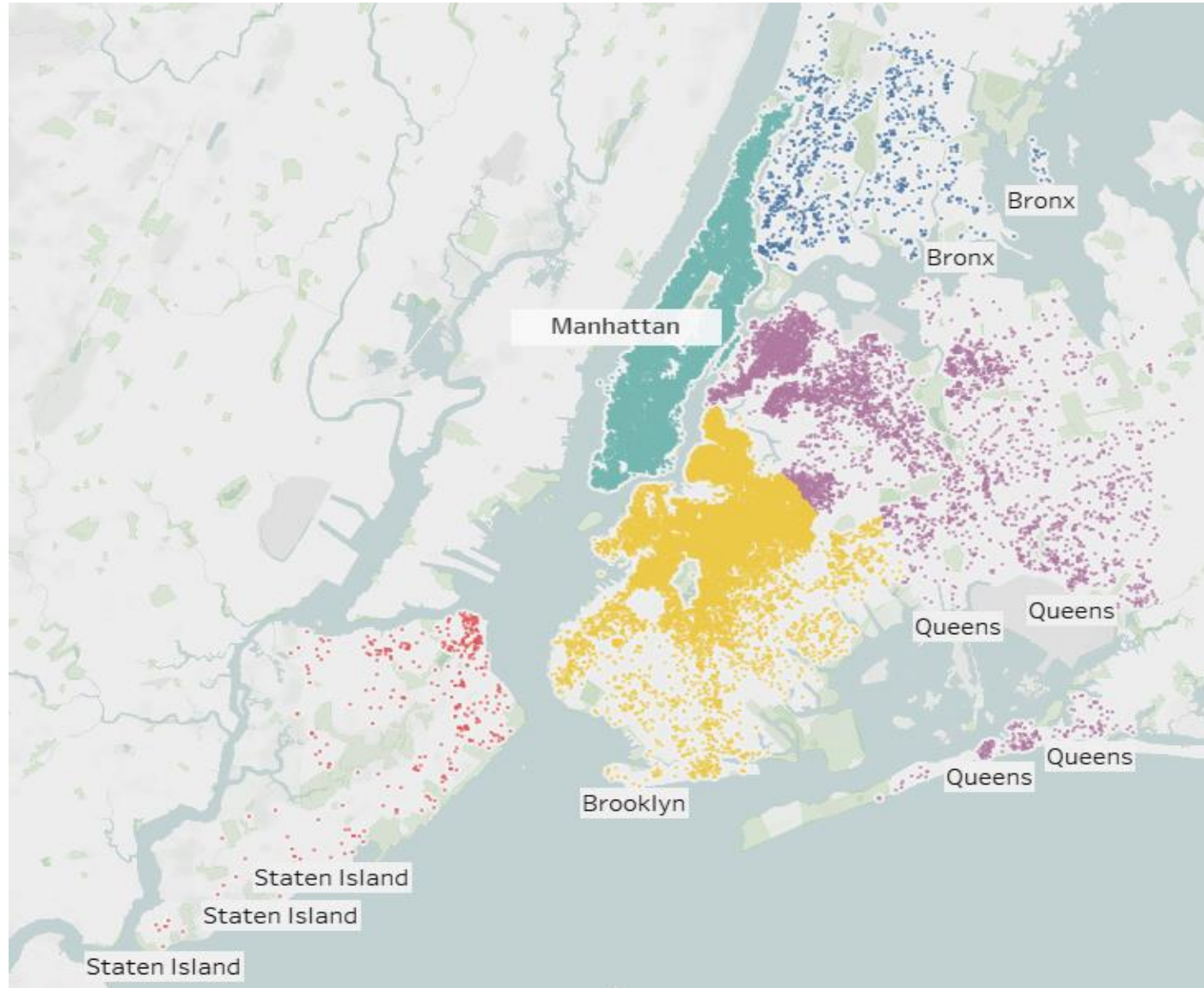
# Objective

- Improve our shared understanding about the market conditions
- Improve shared understanding about our customers and their preferences
- Identify the factors affecting the decline in revenue and formulate A strategy to overcome the decline in revenue in the upcoming months.

# Background

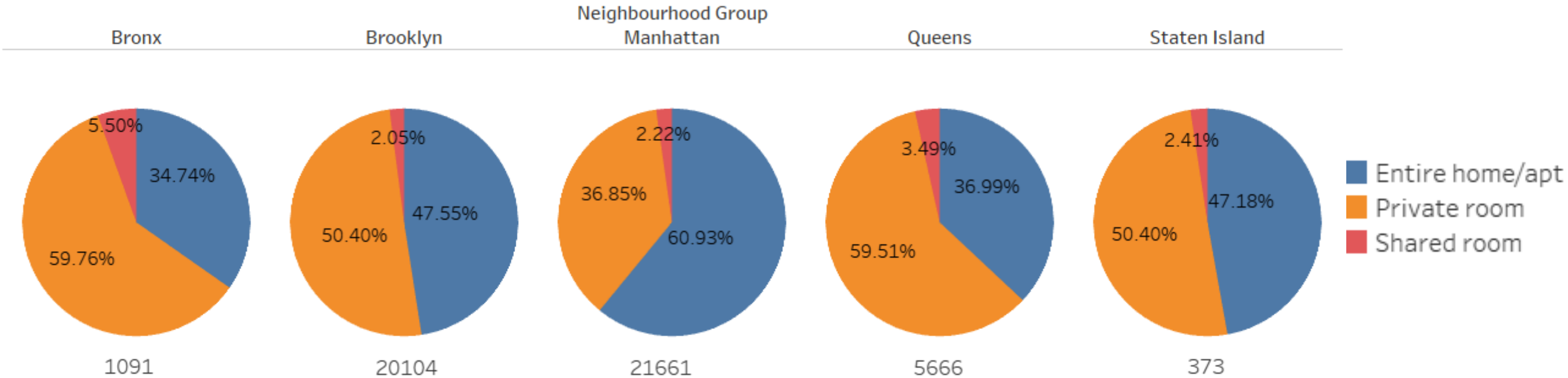
- For the past few months, Airbnb have seen A major decline in revenue.
- The decline in revenue is partially because of pandemic and partially because of some internal factors
- Now the restrictions have started lifting and people have started to travel more, Airbnb need to be fully prepared to capitalize this change and recover the lost revenues.

# Market Penetration



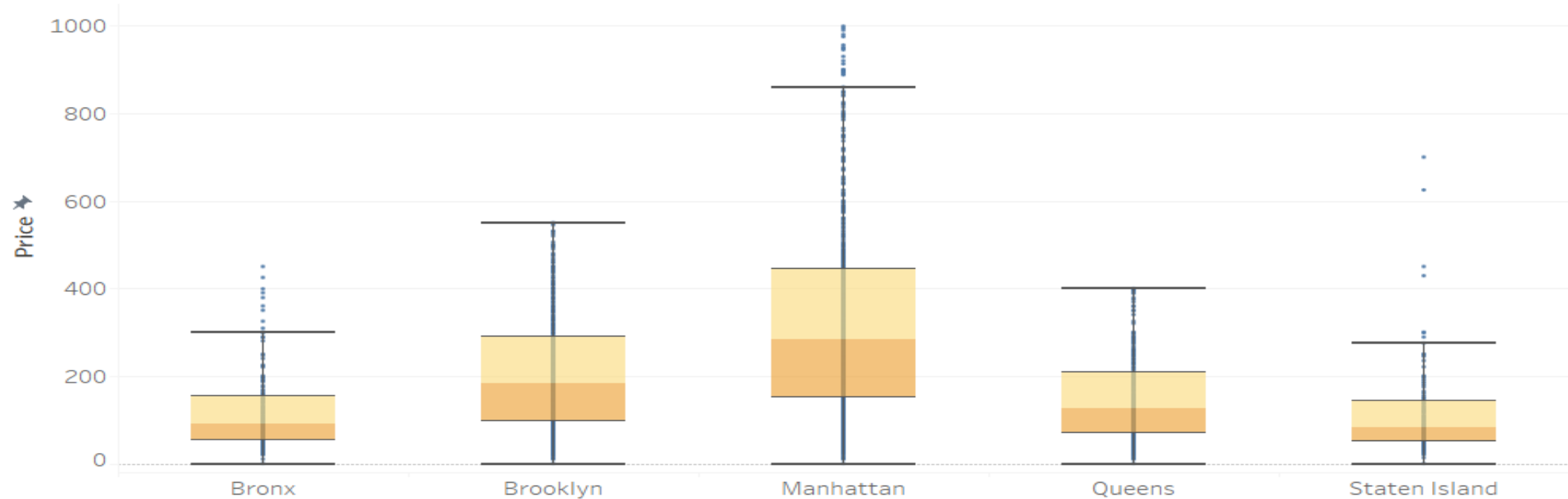
- Manhattan has the highest market penetration, followed by Brooklyn
- Queens and Bronx still have some untapped areas
- Staten Island has the lowest market penetration

# Manhattan and Brooklyn should be our main target



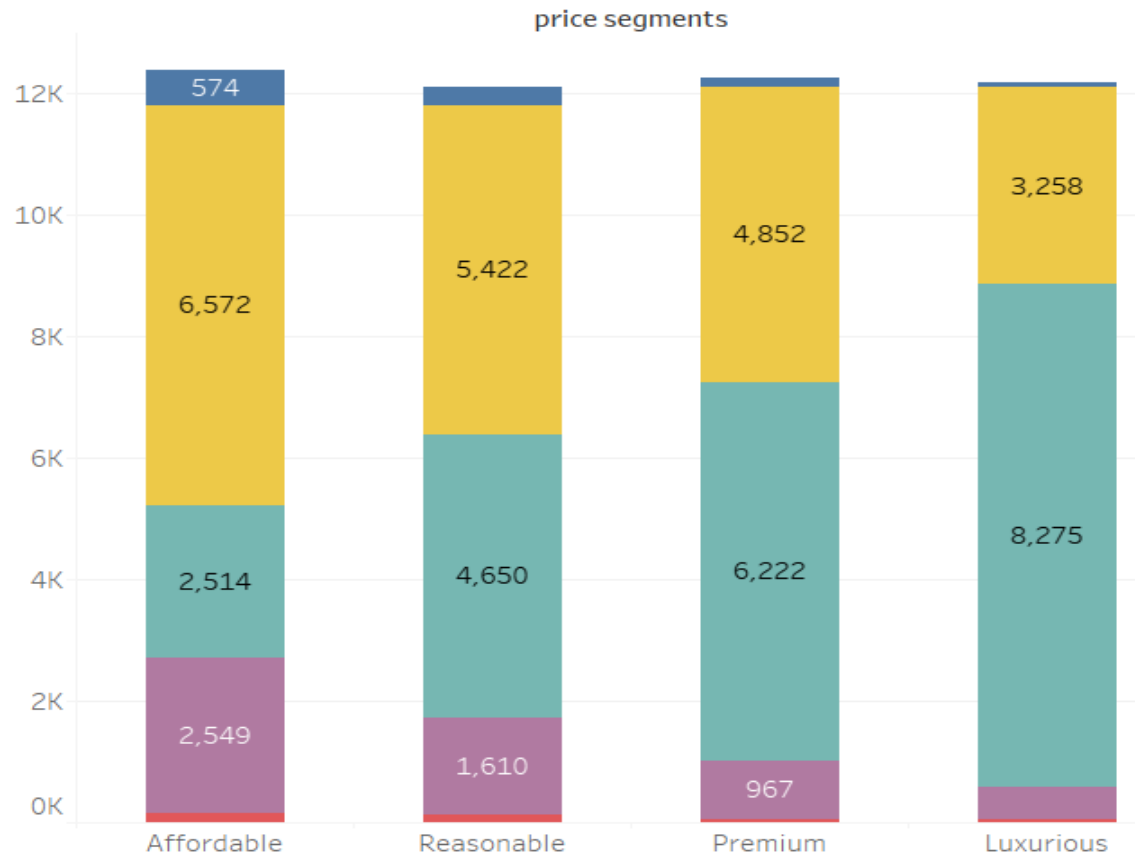
- In Manhattan, Entire home/apt are preferred over private room by the customers, whereas in rest of the locations, customers prefer private rooms.
  - The contribution of shared rooms is consistently lower across all the locations.
  - Entire home/apt and private room from Manhattan and Brooklyn are the major contributors to the business.
- Any impact on these can affect business significantly.

# Listing count directly refers to price



- Manhattan have the highest median price (\$284), followed by Brooklyn (\$184), Queens (\$128), Bronx (\$90). Staten Island (\$84) have lowest median price.
- From above and previous graph, we can say that the median price is directly proportional to the number of listings in that location.
- Considering price variation, Manhattan and Brooklyn comparatively caters to wide range of customers.

# Location preference is dependent on Price Segment



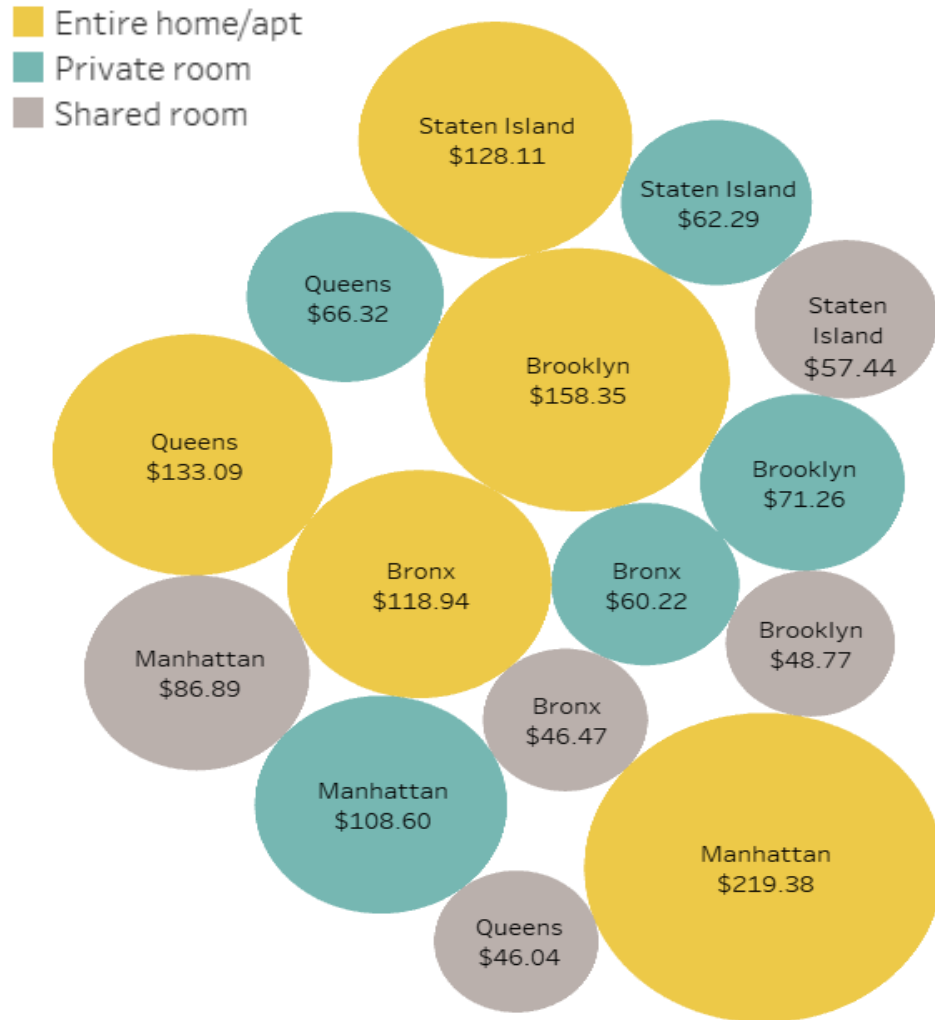
Segment	Price
Affordable	Less than equal to \$69
Reasonable	More than \$69, Less than equal to \$106
Premium	More than \$106, Less than \$175
Luxurious	More than \$175

Neighbourhood Group	
Bronx	
Brooklyn	
Manhattan	
Queens	
Staten Island	

- Brooklyn have the most number of affordable rooms(6,572), Manhattan have most number of Luxurious rooms(8,275).
- Except Manhattan, there is a declining trend in number of rooms from affordable to luxurious.
- There are high chances that customers prefer a location based on the budget of rent.



# Room type preference is affected by location



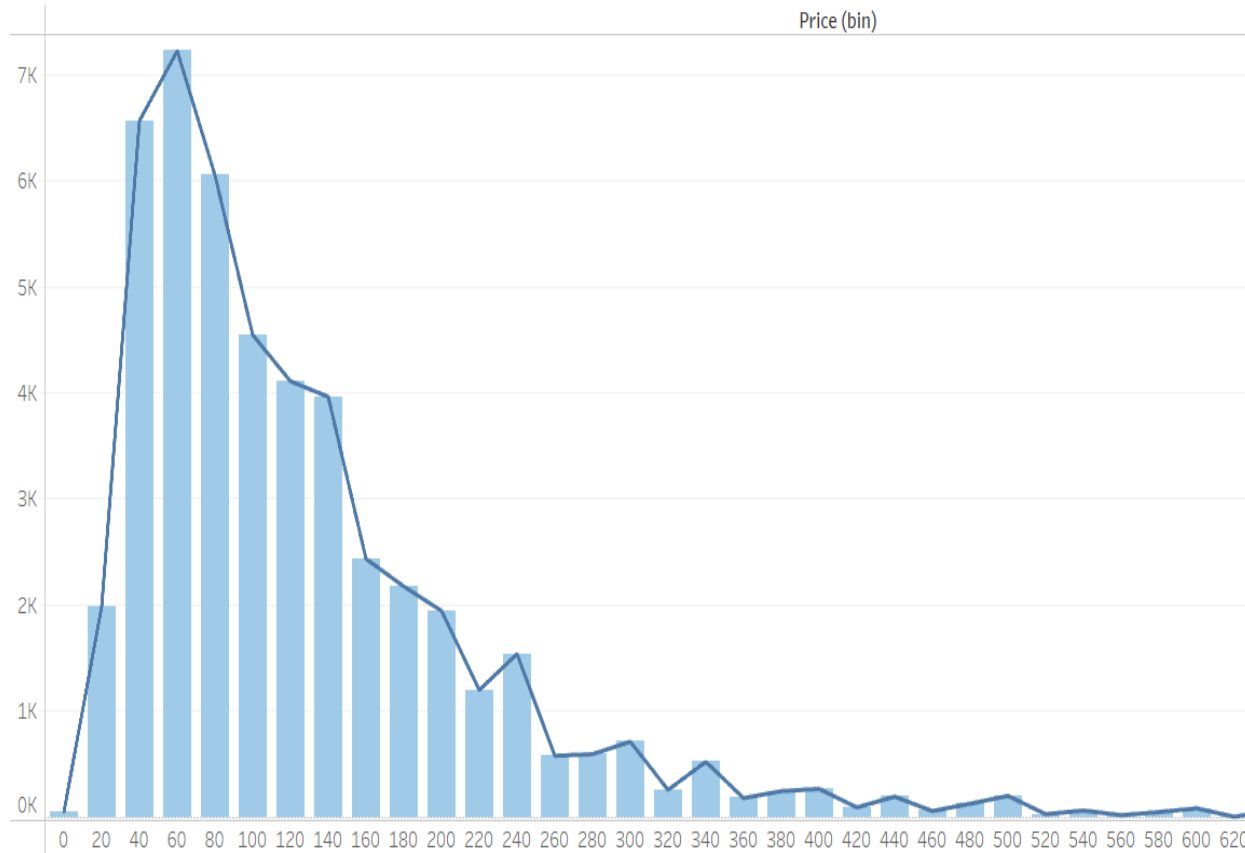
Room Type	Neighbourhood Group				
	Bronx	Brooklyn	Manhattan	Queens	Staten Island
Shared room	46.5	48.8	86.9	46.0	57.4
Private room	60.2 29.6%	71.3 46.1%	108.6 25.0%	66.3 44.0%	62.3 8.4%
Entire home/apt	118.9 97.5%	158.4 122.2%	219.4 102.0%	133.1 100.7%	128.1 105.7%

Average Price

46.0 219.4

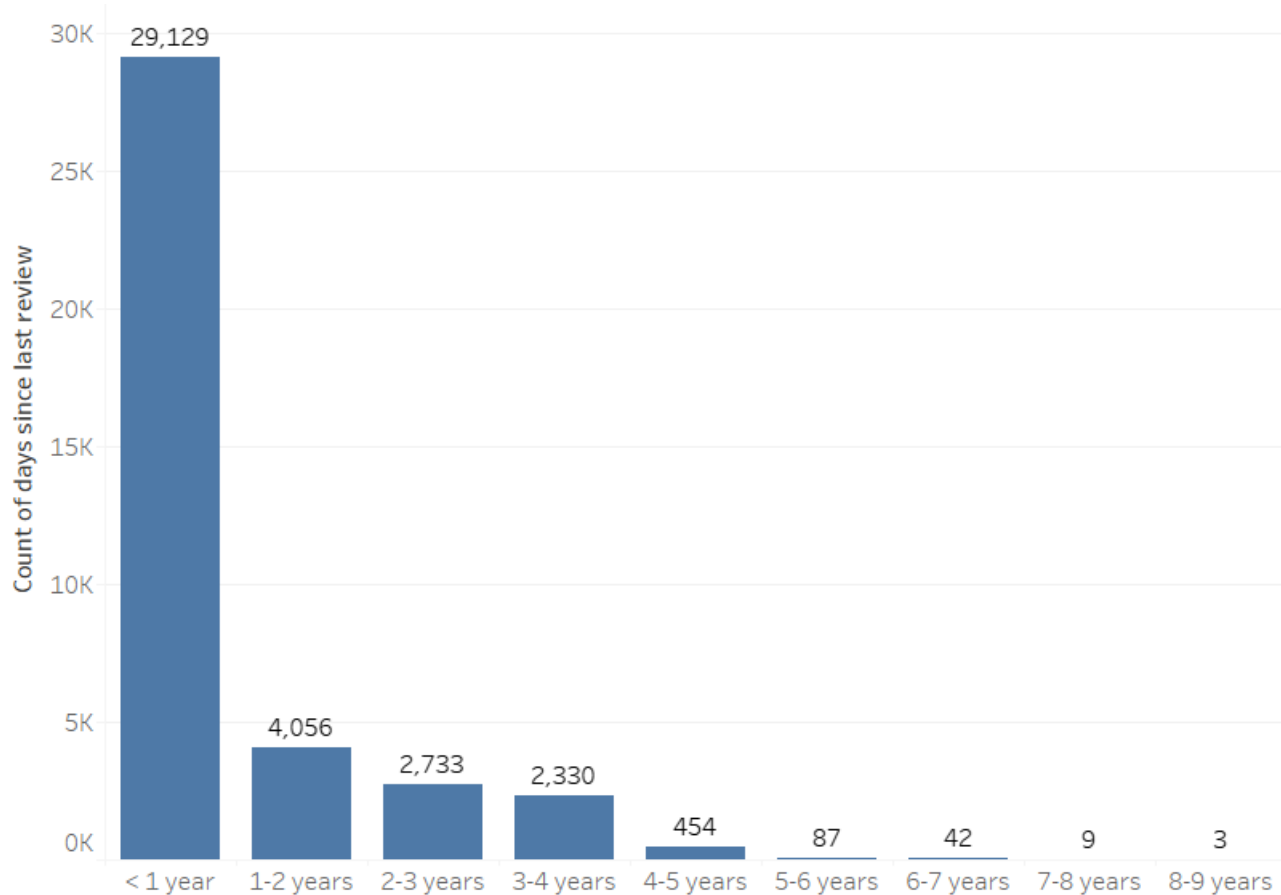
- At all locations, On an average, Entire home/apt is roughly 2 times costlier than private room.
- In Staten Island, private rooms are only 8.4% costlier than shared rooms.
- Instead of opting for shared room in Manhattan, one can rent private room at any other location at lower cost.

# Affordable properties are mostly preferred by customers



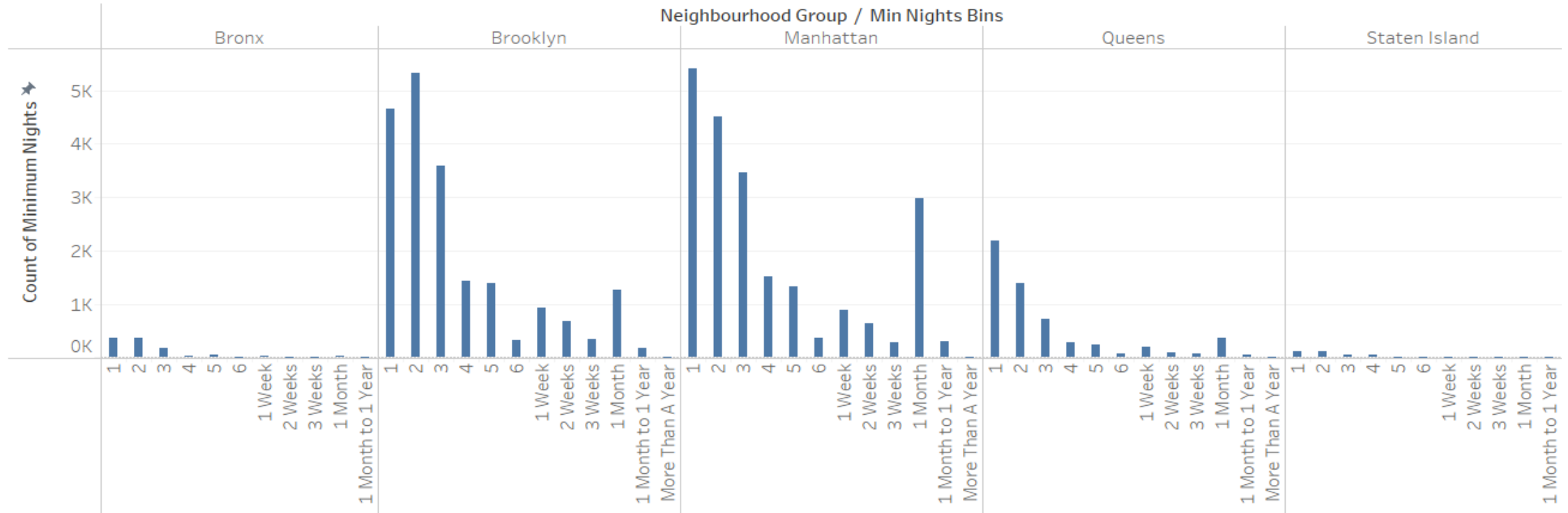
- Majority of the listings falls under the price bracket of \$20 to \$240.
- Out of total listing prices, only 1.2% of the listings are above \$700.
- \$60 seems to be the most preferred price by the hosts to list their property and 40% of the total listings belongs to \$40-\$60.

# High number of not booked properties are contributing to revenue loss



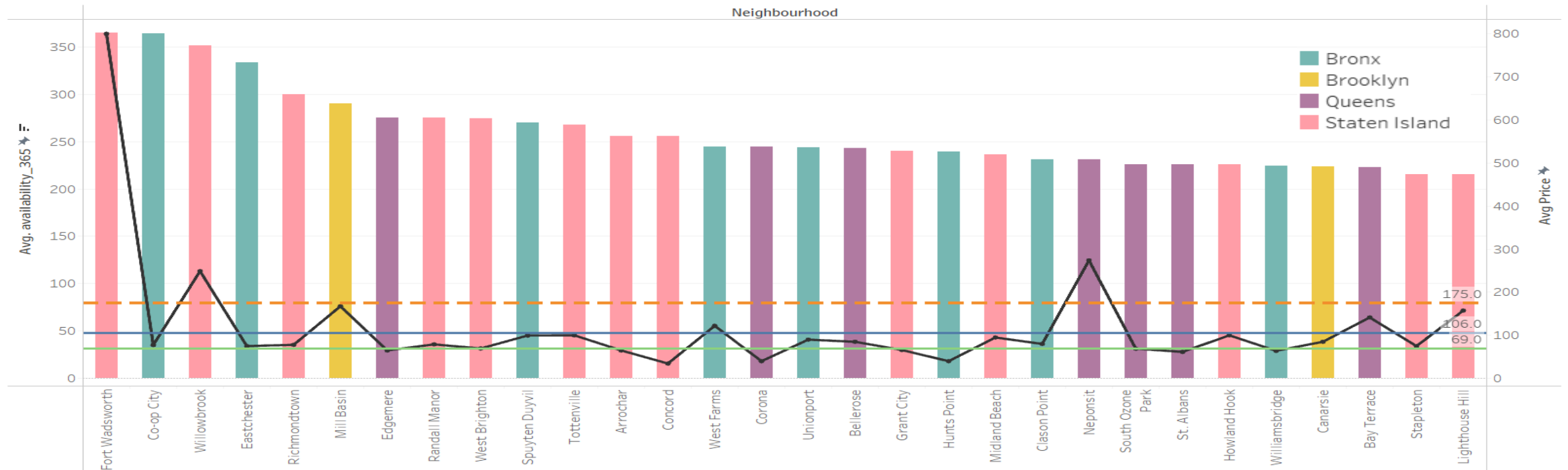
- 29,129 properties were reviewed in the past 1 year.
- Considering review as measure of traction, only 59.57% properties got bookings in the past 1 year
- Around 12% properties haven't got any reviews since more than 2 years.

# Customers prefer shorter trip/vacation



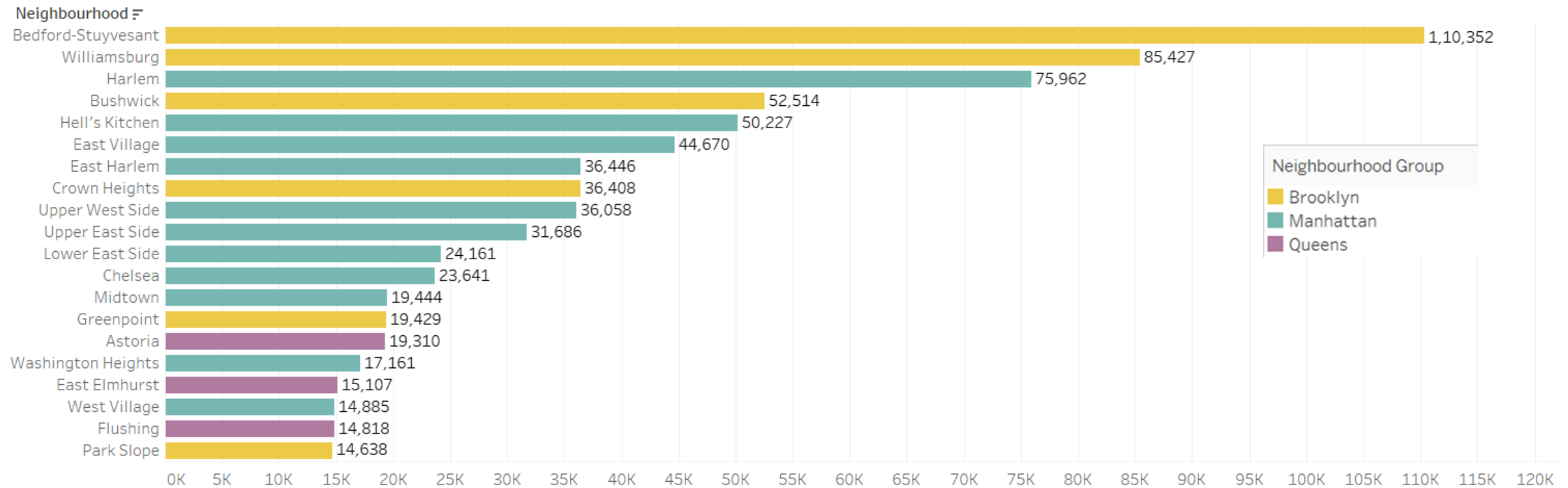
- Most of the listings are for 1 to 5 nights.
- Majority of the customers prefer 3 or less nights stay.
- In Manhattan, Brooklyn & Queens, the spike at 1 Month could be because of customers staying on monthly basis

# Manhattan still has huge potential to cater to customers



- In top 30 available areas, properties at Fort Wadsworth are available for everyday, but comes under premium segment.
- The areas, falling below the green line are highly affordable (e.g. Co-op city, Eastchester ), Between green and blue line are reasonable areas (e.g. Spuyten Duyvil, Totteville), Between blue and orange line are premium areas, and above orange line are luxurious areas.
- It is surprising that even after being the most dense market, no area from Manhattan comes under top 30 available areas.

# Neighbourhood popularity among customers



- In top 20 popular neighbourhoods based on total number of reviews, Manhattan has 11 areas, Brooklyn has 6 areas and Queens has 3 areas.
- Most popular neighbourhood is Bedford-Stuyvesant (1,10,352 reviews) followed by Williamsburg (85,427 reviews), and both the areas are in Brooklyn.
- Higher number of reviews signifies higher customer satisfaction in the area.

# Appendix

## ❖ Data Sources :

1) Here is a snapshot of the data dictionary

- Host listing information like host name, id, neighbourhood, latitude and longitude etc.
- Customer preference information like number of reviews and number of reviews per month

2) The provided data is captured from the CRM tool used by Airbnb. (till date 08-07-2019).

## ❖ Data Methodology : (*\*detailed methodology is attached in a separate file. [Methodology document.pdf](#)*)

- Checked and Cleaned the data for any duplicate, insignificant values.
- Capped price field at 99 percentile to handle outliers.
- Used Tableau for visualization of data and created appropriate calculated fields to get the insights.

## ❖ Data Assumptions :

- Number of reviews assumed to be a base measure to find customer preferences.
- The reviews are assumed to be positive.
- Null values in “number of reviews” column are assumed to be 0.