

URL: <https://jessicalrsparacio.github.io/TheBronx/>

## TheBronx

### Welcome to The Bronx!

by Jessica Sparacio, Sowjanya Sritharasarma, Shayaan Mohammed, and Jason Wu

Though it may be the second-to-the-smallest borough of NYC's five, the Bronx is still home to some of NYC's most diverse communities and attractions.

#### Our Project

The aim of our project was to explore Airbnb data in the Bronx to better understand the nature of short-term rentals in NYC. We planned to compare the Airbnb statistics in our Borough with the statistics in all Airbnb's across NYC, as well as explore four specific Bronx neighborhoods.

We prepared three separate data-frames that we were going to compare throughout our project. Our first dataframe `airbnb` is the original dataset of all airbnb data for all four boroughs. Using `groupby`, we created two more sets, `bronx`, which contained the data just for all the neighborhoods in the Bronx, and `my_bronx`, which contained all of the data for our four specific neighborhoods.

#### Price Matters!

We decided as a group that the information about price was the most relevant when discussing airbnbs, so we wanted to approach our data analysis from this angle. When considering our neighborhoods and our borough, we wanted to primarily concentrate on correlations between price and other factors.

#### Some statistics...

To first approach our data, we wanted to get an idea of some of the basic price statistics in our three data sets. We printed out the following:

```
Number of listings in all boroughs: 48895
Number of listings in Bronx: 1091

Number of listings in all boroughs: 48895
Number of listings in Bronx: 1091
Number of listings in our Bronx neighborhoods: 225

Price stats in all boroughs:
Mean: 152.7206871868209
Max: 10000
Min: 0

Price stats in all Bronx neighborhoods:
Mean: 87.4967919340055
Max: 2500
Min: 0

Price stats in our Bronx neighborhoods:
Mean: 79.19111111111111
Max: 450
Min: 21
```

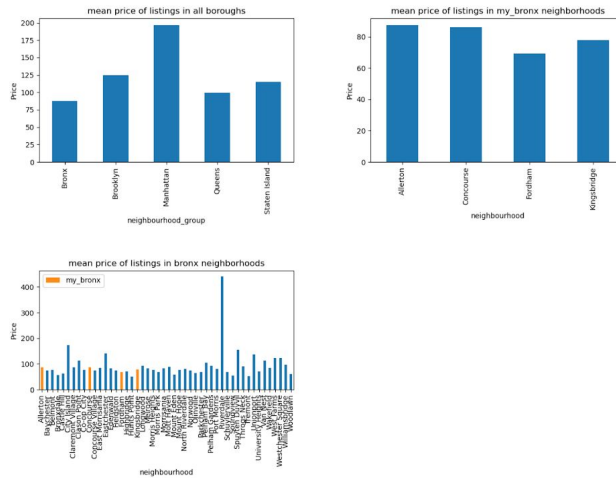
#### Visuals, Visuals, Visuals

Now that we had the preliminary price information, we wanted to visualize this data we had collected. We decided that it might be interesting to graph the mean price for each borough in NYC, each neighborhood in the Bronx, and finally each of our four neighborhoods.

##### 1. Visualizing Mean Price

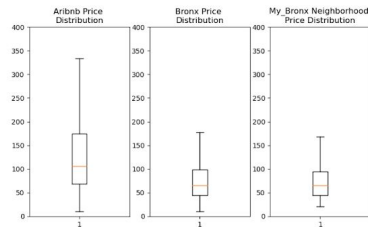
We first made bar graphs comparing the mean price of Airbnb's across New York City's five boroughs, in all the Bronx neighborhoods, and in our four specific neighborhoods for our project. This data shows us that our four neighborhoods are quite similar in terms of mean price, but in comparison to the rest of the Bronx neighborhoods, our average prices fall on the shorter side.





## 2. Price Distribution Exploration

We then decided comparing mean prices was too simplistic. So, we used box plots in order to compare the prices in terms of medians and quartiles between Airbnb's in all New York City neighborhoods, all Bronx neighborhoods, and our four neighborhoods.

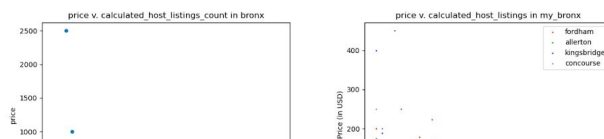


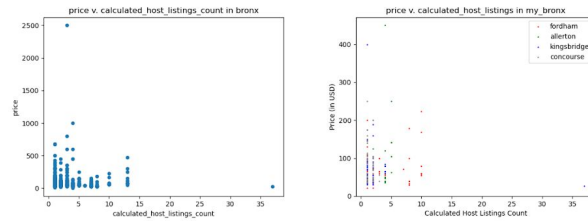
## 3. Correlational Exploration

After finding that there were some obvious distributional trends, we wanted to go a step further and see if any other factors had a strong correlation with the price of Airbnb. We knew that prices in the Bronx were generally lower, but *why*?

### Number of Host's Other listings vs. Price

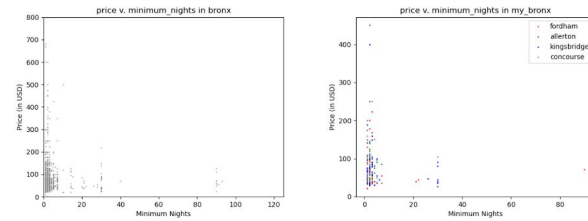
- We also graphed scatter plots to show the distribution of the data, as well as the minimum, maximum, and median values. This information is more useful because the median value is calculated in spite of the outlier prices.
- These scatter plots show price distribution versus the host listings count for the Bronx as a whole, and for our four neighborhoods. The trend for both distributions seems to indicate that the fewer the listings a host has, the more expensive the Airbnb will be.





#### Minimum Nights vs. Price

- Our other two scatter plots shows the distribution between price and minimum nights offered, for the Bronx neighborhoods and our four neighborhoods. Our data showed that most of the airbnb locations in both our four neighborhoods and in the Bronx in general tend to stay within \$200 dollars in price and about a week for minimum nights.



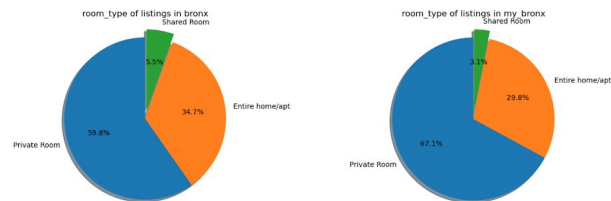
#### Room Type vs. Price

- Finally, we also decided to compare prices to the types of rooms that the airbnb locations offered in our neighborhoods and in the Bronx. We first printed the price statistics for each room type, and then made pie charts to compare the number of room types available in our two data sets.

price stats for each room_type in bronx:								
room_type	count	mean	std	min	25%	50%	75%	max
Entire home/apt	379.0	127.506596	95.027102	28.0	80.0	100.0	140.0	1000.0
Private room	652.0	66.788344	107.009071	0.0	40.0	53.5	70.0	2500.0
Shared room	60.0	59.800000	101.798871	20.0	28.0	40.0	55.5	800.0

price stats for each room_type in my_bronx:								
room_type	count	mean	std	min	25%	50%	75%	max
Entire home/apt	67.0	122.358209	69.508818	47.0	87.5	100.0	143.5	450.0
Private room	151.0	61.132450	29.571986	21.0	40.0	55.0	75.0	200.0
Shared room	7.0	55.571429	35.743797	22.0	33.5	55.0	57.5	130.0



## The Breakdown

The Bronx is an incredible borough on it's own, but a borough is really only as much as the sum of its parts! Each member of our team explored the statistics of Airbnb in four individual Bronx neighborhoods: **Kingsbridge, Fordham, Allerton, and Concourse**. Please click through to deep dive into each team member's project!

### FORDHAM

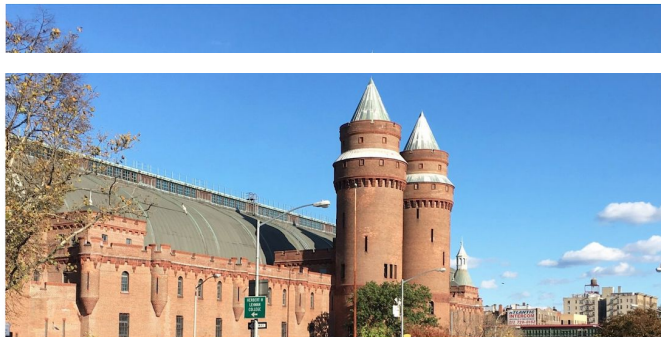
by: Jessica Sparacio



[Click here to learn more about Fordham!](#)

### KINGSBRIDGE

by: Sowjanya Sritharasarma



[Click here to learn more about Kingsbridge!](#)

### CONCOURSE

by: Shayaan Mohammed



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### ALLERTON

by: Jason Wu



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***Thanks for checking out the Bronx! Come back soon!***