



Group 6- Project 3:

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# Project Overview

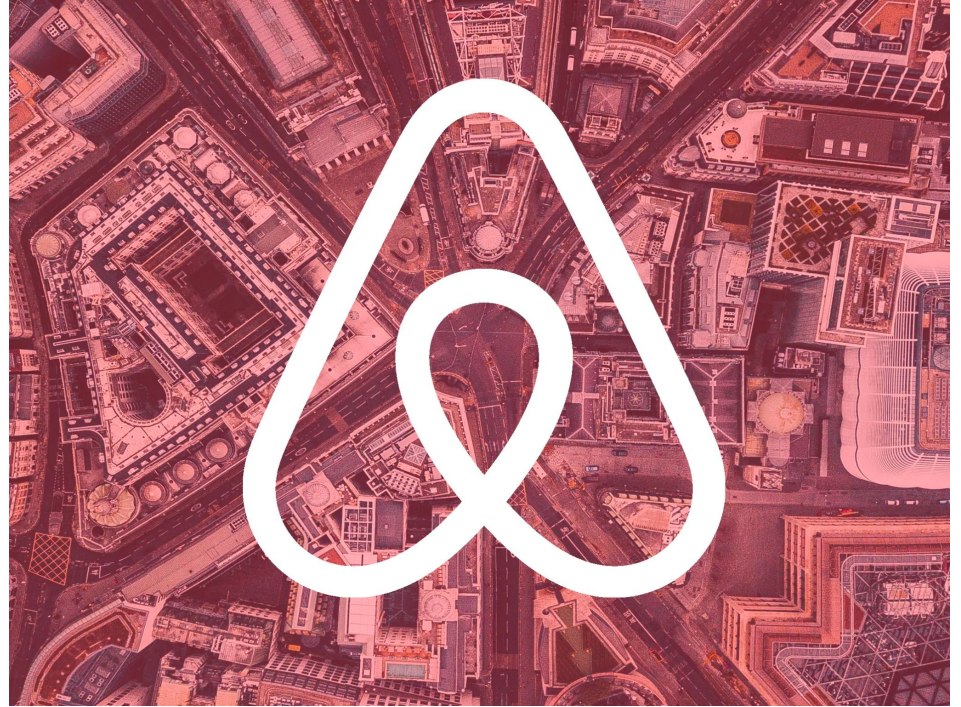
- Analyzed Airbnb Listings in New York City
- 102,600 rows of data
- 13 columns

| id      | Name   | Borough   | Neighbourhood | Lat      | Lon       | Instant_Booking | Cancellation_Policy | Room_Type       | Construction_Year | Price_Per_Night | Rating | House_Rules                                       |
|---------|--|-----------|---------------|----------|-----------|-----------------|---------------------|-----------------|-------------------|-----------------|--------|---|
| 1001254 | Clean & quiet apt home by the park               | Brooklyn  | Kensington    | 40.64749 | -73.97237 | False           | strict              | Private room    | 2020.0            | \$966           | 4.0    | Clean up and treat the home the way you'd like... |
| 1002102 | Skyliit Midtown Castle                           | Manhattan | Midtown       | 40.75362 | -73.98377 | False           | moderate            | Entire home/apt | 2007.0            | \$142           | 4.0    | Pet friendly but please confirm with me if the... |
| 1002403 | THE VILLAGE OF HARLEM.....NEW YORK!              | Manhattan | Harlem        | 40.80902 | -73.94180 | True            | flexible            | Private room    | 2005.0            | \$620           | 5.0    | I encourage you to use my kitchen, cooking and... |
| 1002755 | NaN  | Brooklyn  | Clinton Hill  | 40.68514 | -73.95976 | True            | moderate            | Entire home/apt | 2005.0            | \$368           | 4.0    | NaN   |
| 1003689 | Entire Apt: Spacious Studio/Loft by central park | Manhattan | East Harlem   | 40.79851 | -73.94399 | False           | moderate            | Entire home/apt | 2009.0            | \$204           | 3.0    | Please no smoking in the house, porch or on th... |

Source: <https://www.kaggle.com/datasets/arianazmoudeh/airbnbopendata>

# Airbnb: A Snapshot

- Accommodated over 1 billion guests since its founding in 2008. (Source: Airbnb)
- Over 150 million users globally (Source: Airbnb)
- Over 7 million listings and 4 million hosts worldwide (Source: Airbnb)
- Airbnb's market capitalization was valued at over \$80 billion in 2021.



# New York City Tourism

- NYC welcomed 56.7 million visitors in 2022
  - ◆ Leisure: 47.8 million (84%)  
(source: NYC & Company)
  - ◆ Business: 8.9 million (16%)  
(source: NYC & Company)
- \$40 Billion In Direct Visitor Spending (source: NYC & Company)
- Hotel Performance -
  - ◆ 33.6 Million room nights sold in 2022  
(source: NYC & Company)
  - ◆ 18.9 Million room nights sold 2023 YTD (Jan-May)  
(source: NYC & Company)

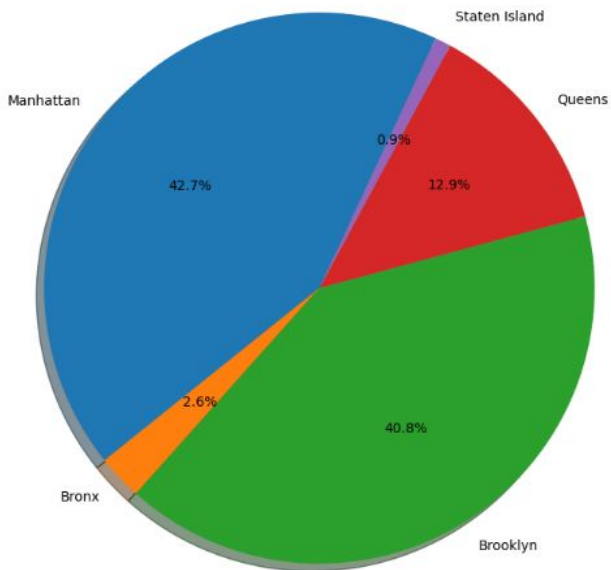
# Data Breakdown

## Total Listings by Borough:

Total Listings: 102,600

- Manhattan: 43,793
- Brooklyn: 41,843
- Queens: 13,267
- Bronx: 2,712
- Staten Island: 955

Distribution of Listings by Borough



## Total of 224 Neighborhoods

- Neighborhood count does not reflect the size nor population of the Borough

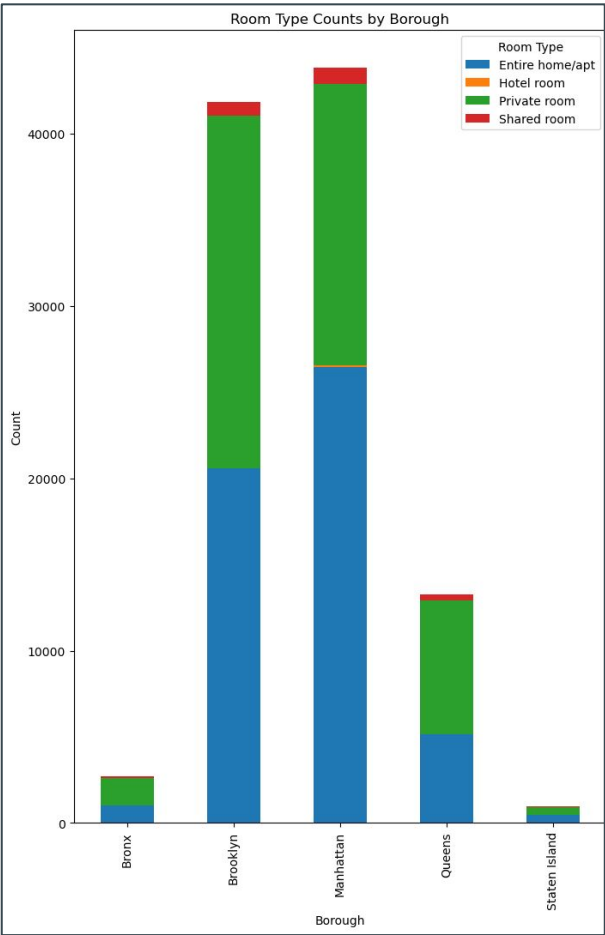
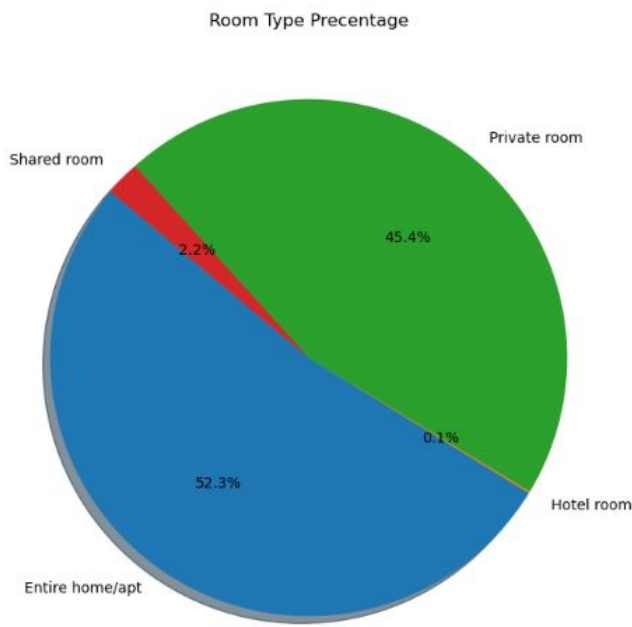
|   | Borough<br>character varying | Number_of_Neighborhoods<br>bigint |
|---|------------------------------|-----------------------------------|
| 1 | Queens                       | 52                                |
| 2 | Bronx                        | 48                                |
| 3 | Brooklyn                     | 48                                |
| 4 | Staten Island                | 44                                |
| 5 | Manhattan                    | 32                                |



# Data Breakdown: Room Types

## Room Type Count

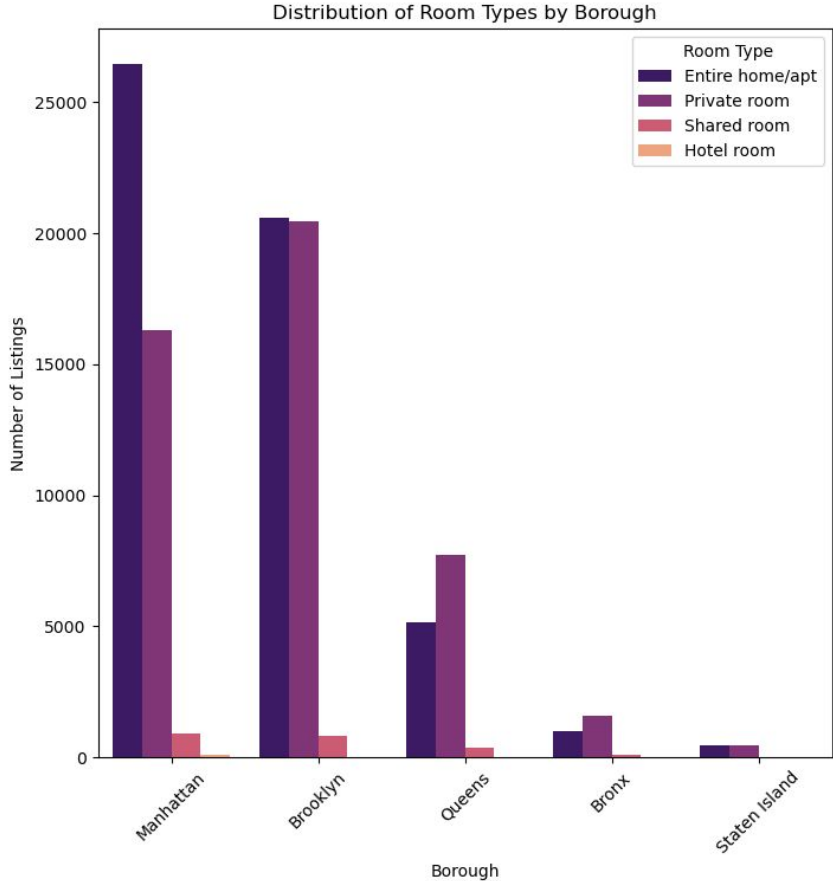
- Entire home/apt: 53,701
- Private room: 46,556
- Shared room: 2,226
- Hotel room: 116



## Room Types By Borough

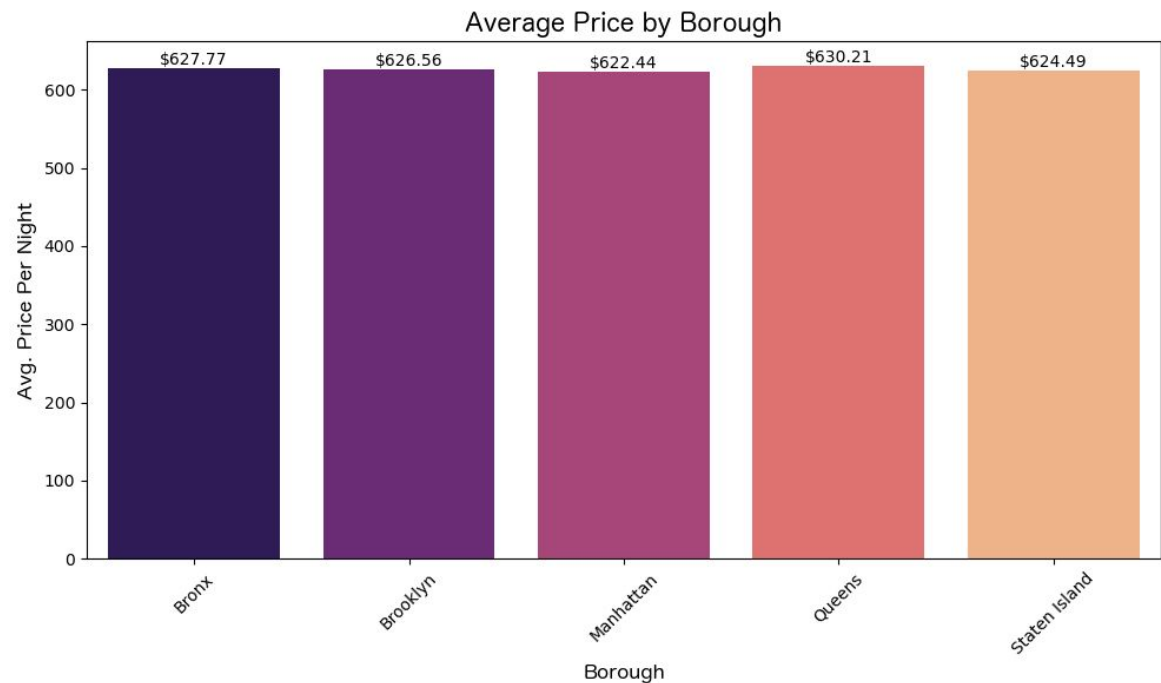
- Brooklyn and Manhattan make up 83.5% of all listings
  - Home to 73.8% of private rooms (43.8% - 33%)
  - Home to 82.5% of Entire home/apt (38.3% - 49.2%)
- Queens:
  - Home to 16.6% of private rooms
  - Home to 9.5% of entire home/apt
- The Bronx and Staten Island:
  - Have a total of 3,667 listings combined
    - Less than the amount of entire home/apt listings in Queens by 1,479

# How Does Listing Type Vary by Borough?



|    | Borough<br>character varying | Room_Type<br>character varying | Count_Property_Types<br>bigint | Avg Rating<br>double precision |
|----|------------------------------|--------------------------------|--------------------------------|--------------------------------|
| 1  | Manhattan                    | Entire home/apt                | 26473                          | 3.2758071850841293             |
| 2  | Brooklyn                     | Entire home/apt                | 20575                          | 3.2503777355363845             |
| 3  | Brooklyn                     | Private room                   | 20435                          | 3.2645009323780547             |
| 4  | Manhattan                    | Private room                   | 16313                          | 3.27755905511811               |
| 5  | Queens                       | Private room                   | 7751                           | 3.3155849203264673             |
| 6  | Queens                       | Entire home/apt                | 5146                           | 3.3491538611165144             |
| 7  | Bronx                        | Private room                   | 1573                           | 3.3297055057618437             |
| 8  | Bronx                        | Entire home/apt                | 1022                           | 3.3464566929133857             |
| 9  | Manhattan                    | Shared room                    | 907                            | 3.2574585635359115             |
| 10 | Brooklyn                     | Shared room                    | 825                            | 3.3369829683698295             |
| 11 | Staten Island                | Entire home/apt                | 474                            | 3.329087048832272              |
| 12 | Staten Island                | Private room                   | 466                            | 3.4794816414686824             |
| 13 | Queens                       | Shared room                    | 362                            | 3.3777777777777778             |
| 14 | Bronx                        | Shared room                    | 117                            | 3.264957264957265              |
| 15 | Manhattan                    | Hotel room                     | 100                            | 3.5                            |
| 16 | Staten Island                | Shared room                    | 15                             | 3.5333333333333333             |
| 17 | Queens                       | Hotel room                     | 8                              | 3.75                           |
| 18 | Brooklyn                     | Hotel room                     | 8                              | 3.75                           |

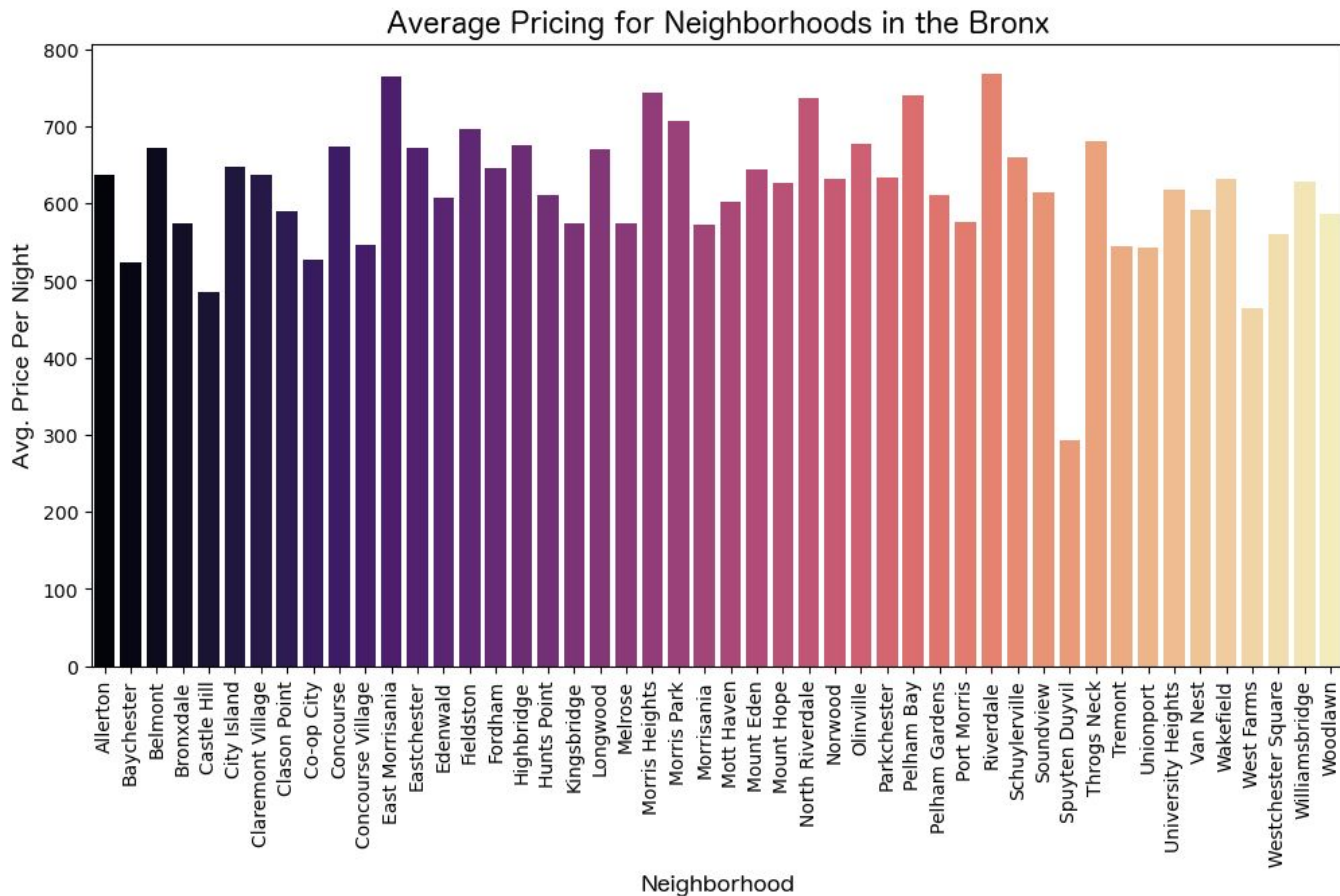
# How Does Pricing Vary by Borough?



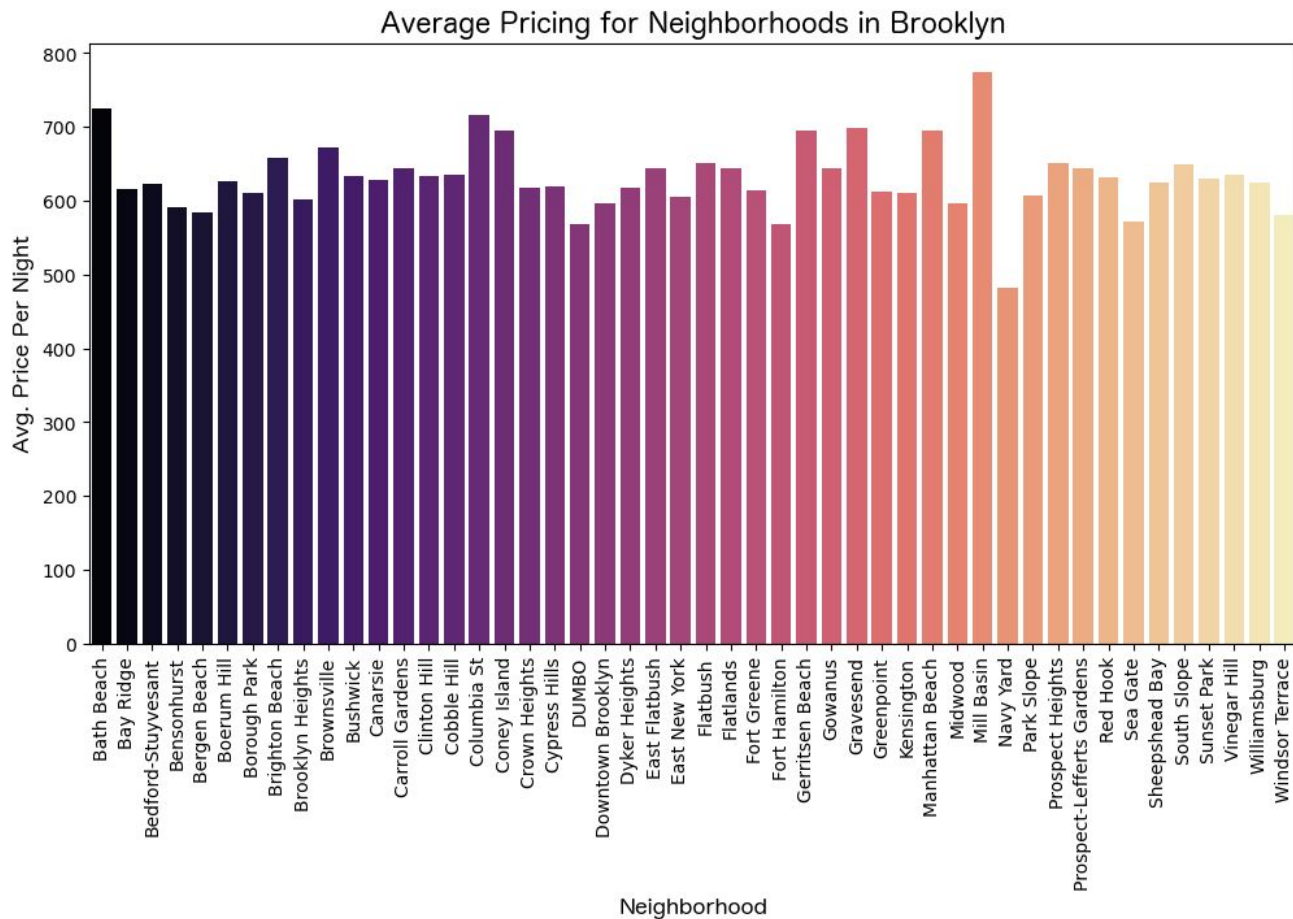
|   | Borough<br>character varying | Avg Price<br>double precision |
|---|------------------------------|-------------------------------|
| 1 | Queens                       | 630.2076469699259             |
| 2 | Bronx                        | 627.7663585951941             |
| 3 | Brooklyn                     | 626.5610778443114             |
| 4 | Staten Island                | 624.4905462184873             |
| 5 | Manhattan                    | 622.4365084815603             |



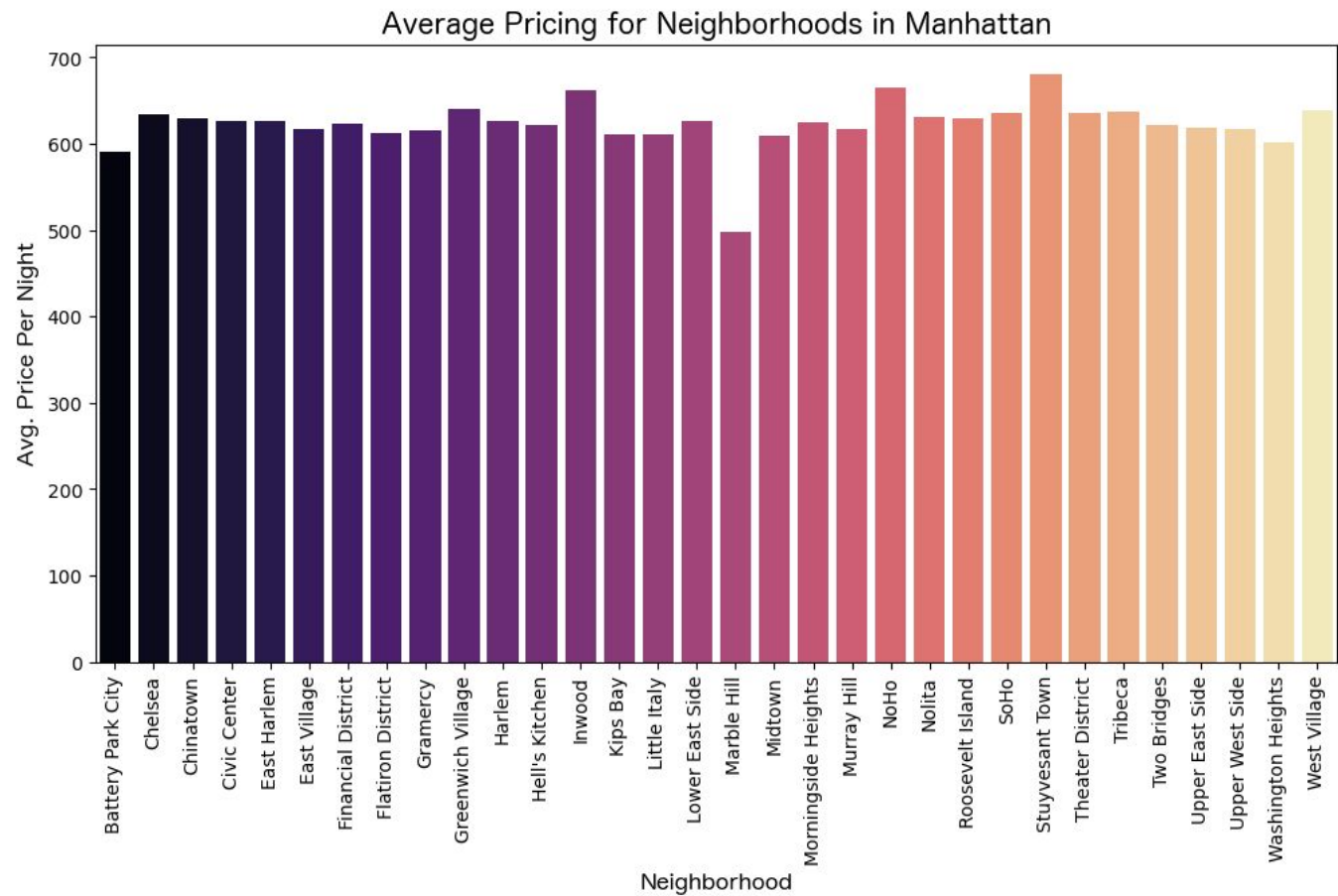
# Snapshot: Average Pricing by Neighborhood



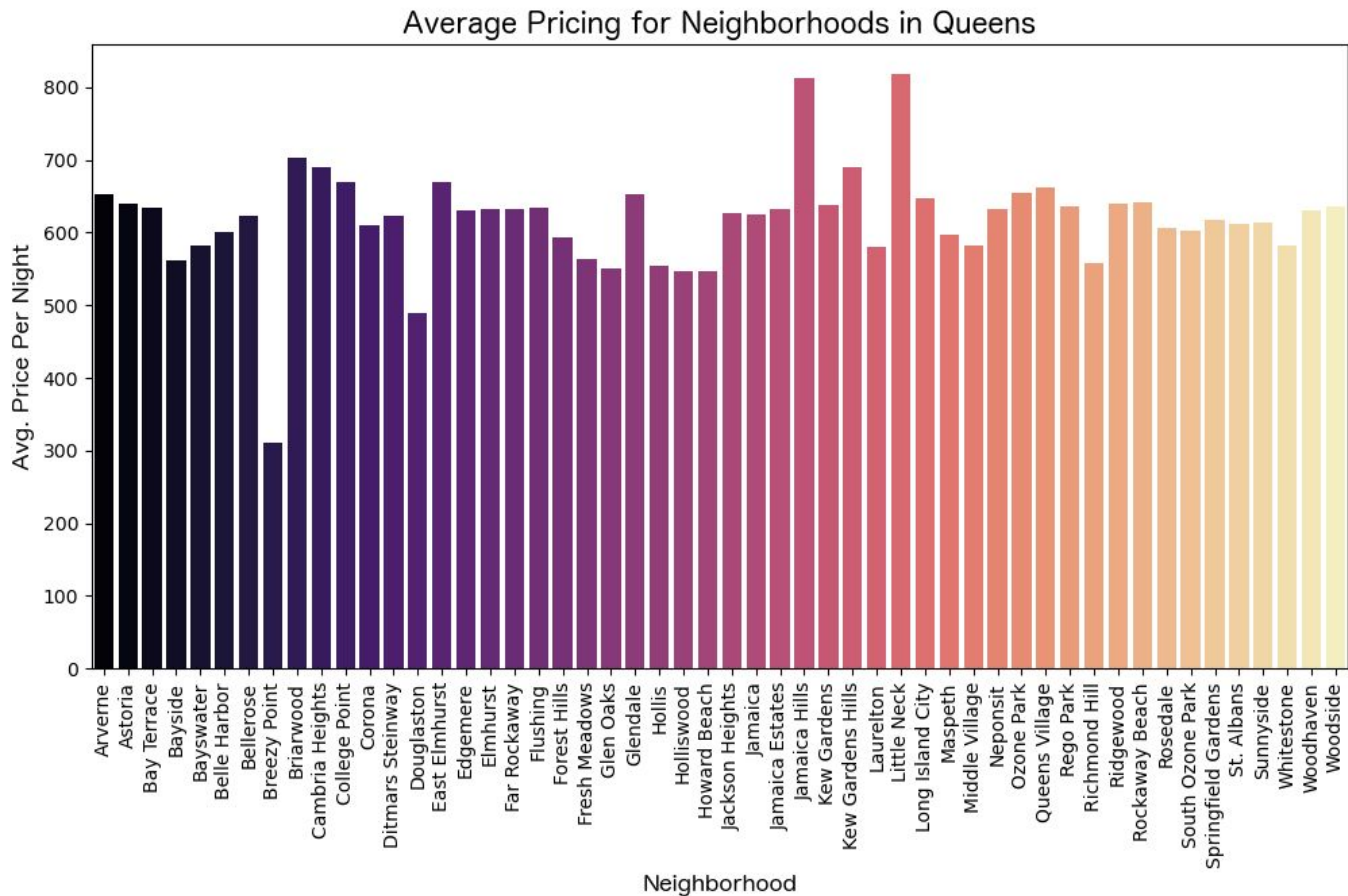
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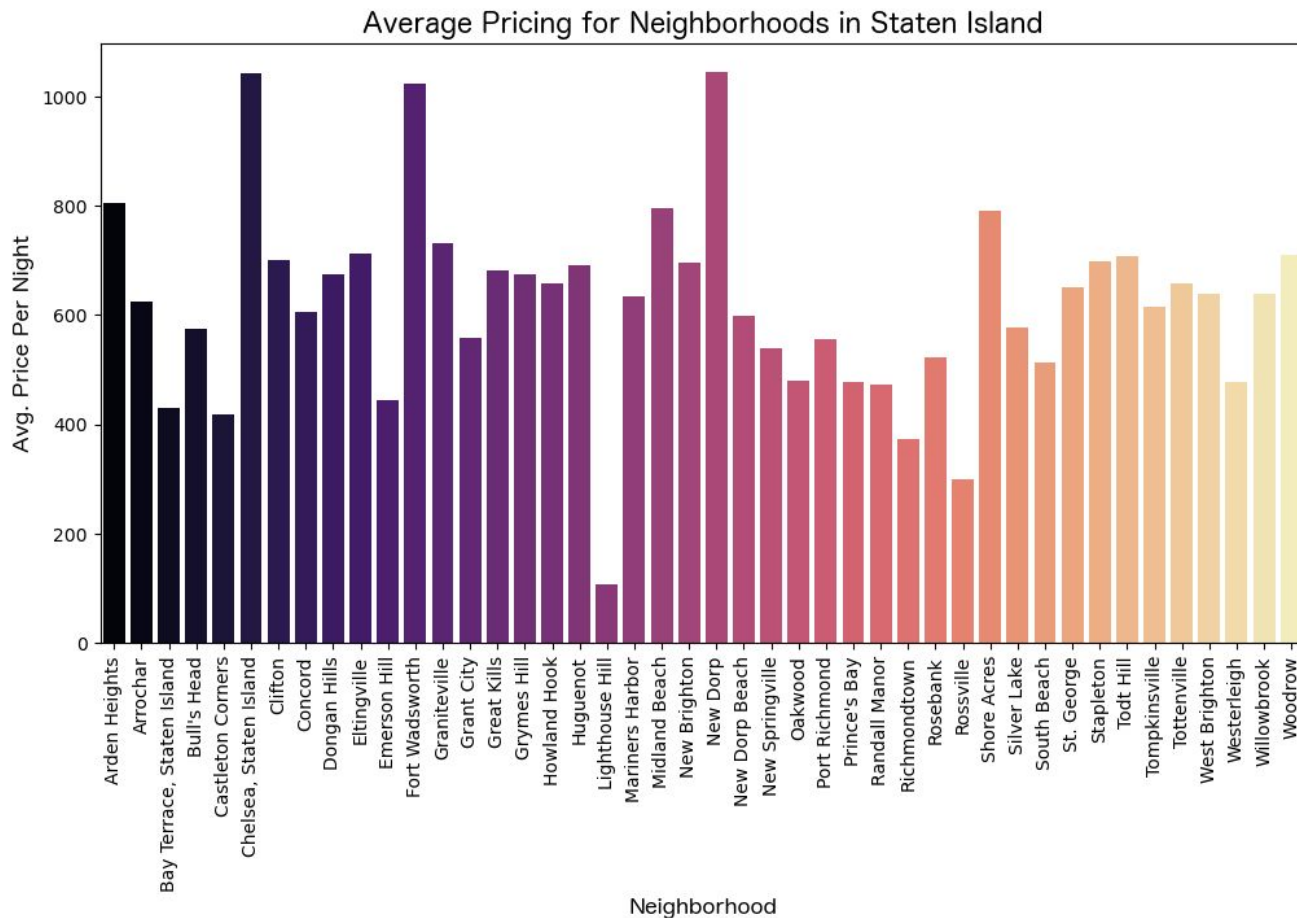
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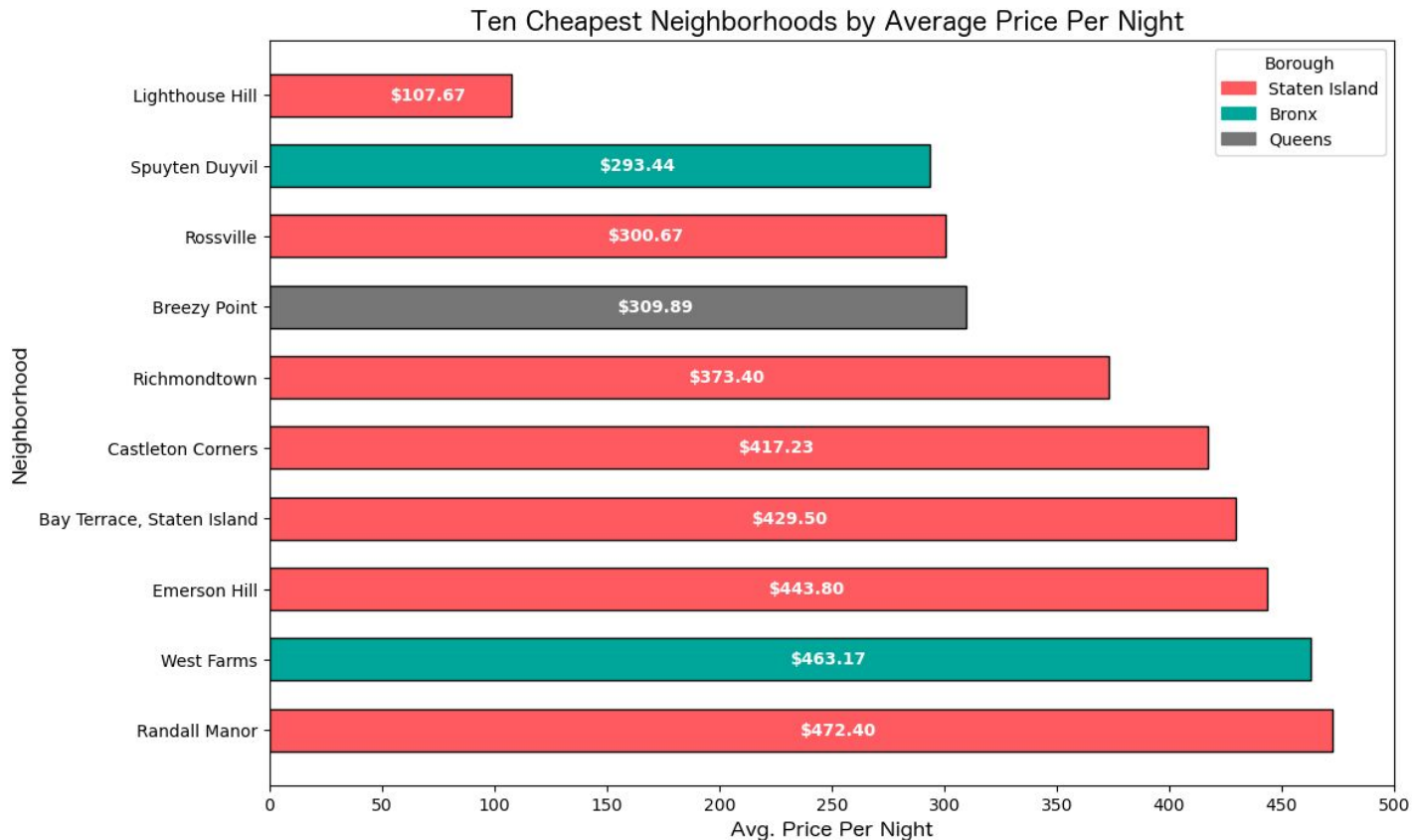
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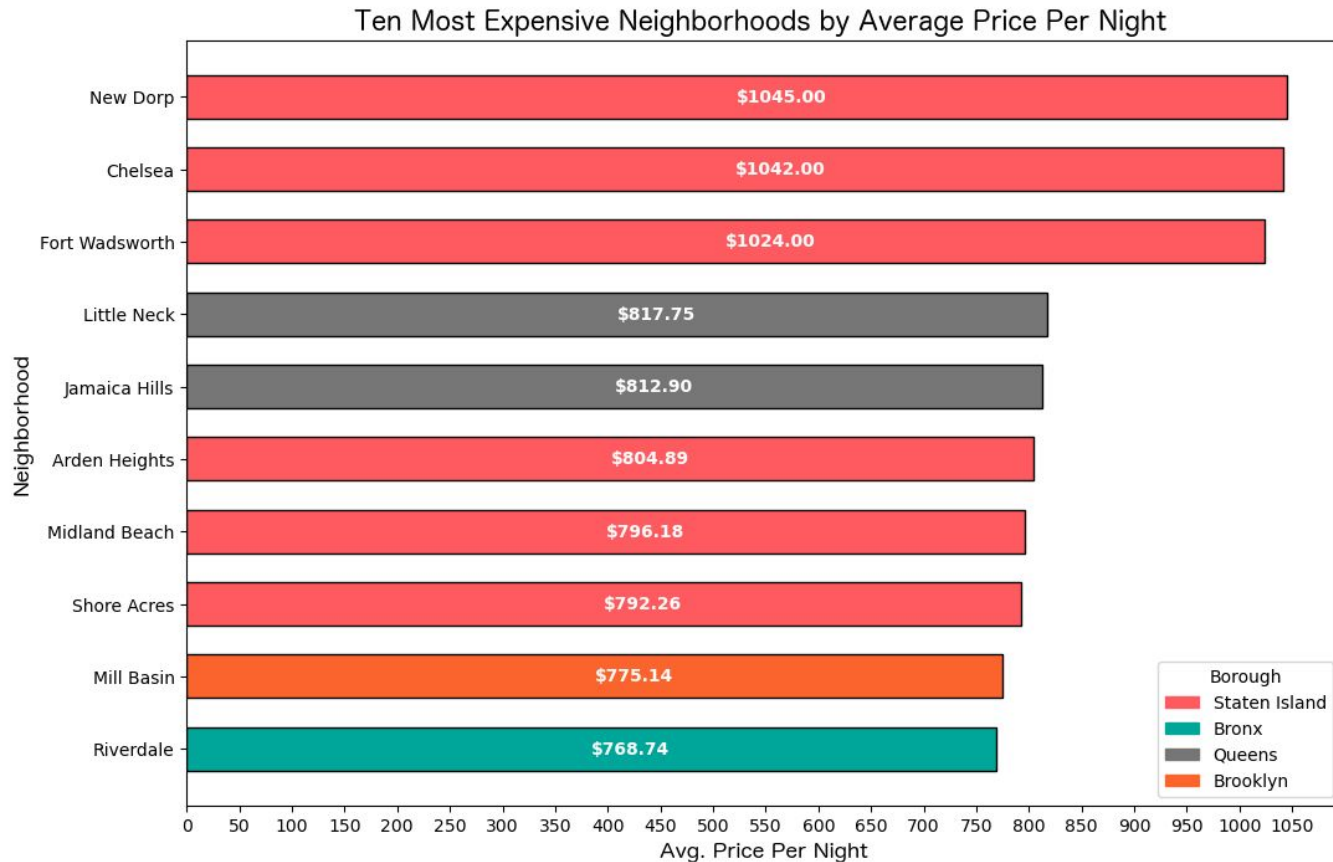


# What neighborhoods have the lowest average pricing?



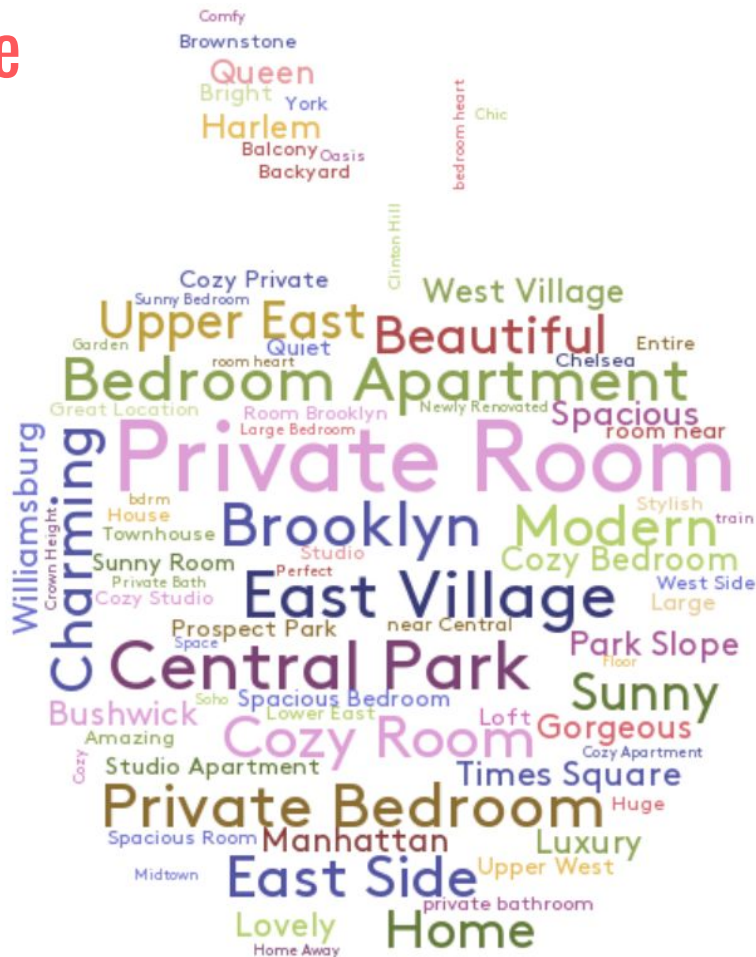


# What neighborhoods have the highest average pricing?



## Common Phrasing in Listing Name

- Room Type
  - ◆ "Private Room"
  - ◆ "Bedroom Apartment"
  - ◆ "Home"
  - ◆ "Private Bedroom"
- Describe Location or Proximity
  - ◆ "Central Park"
  - ◆ "Upper East"
  - ◆ "Brooklyn"
  - ◆ "East Village"
  - ◆ "East Side"
- Space Description
  - ◆ "Cozy"
  - ◆ "Modern"
  - ◆ "Spacious"
  - ◆ "Sunny"
  - ◆ "Charming"



## Common Phrasing in 5-Star Listing Name

→ Room Type

- ◆ "Private Room"
- ◆ "Room"
- ◆ "Bedroom"
- ◆ "Apartment"
- ◆ "Studio"

→ Location/Proximity

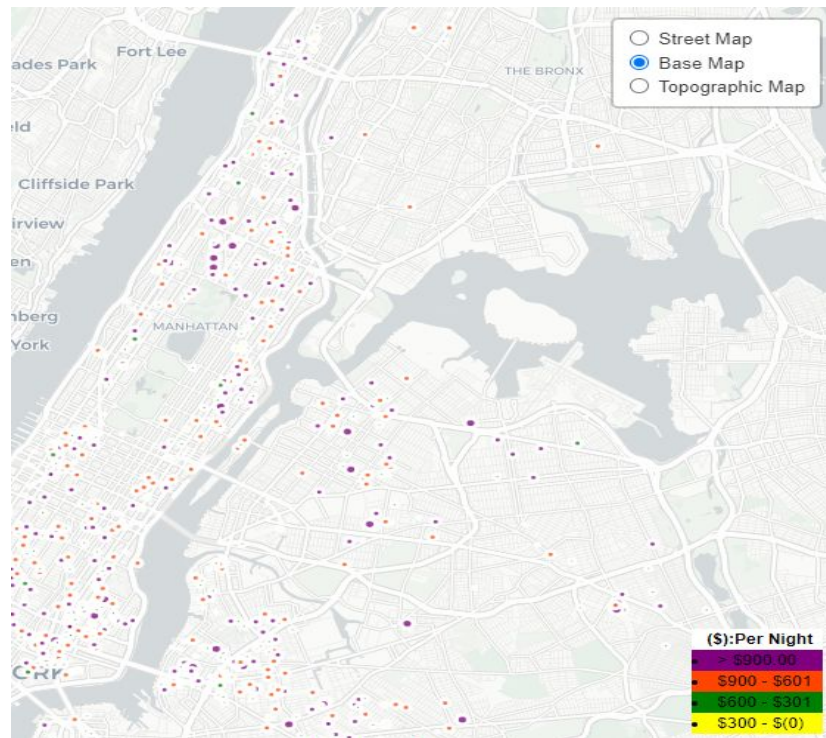
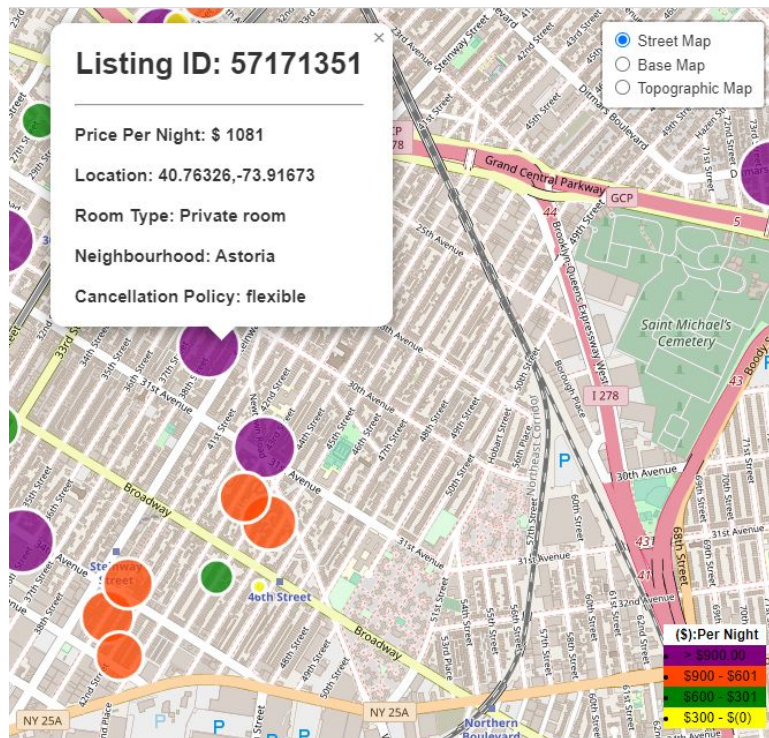
- ◆ "Manhattan"
- ◆ "Brooklyn"
- ◆ "Central Park"
- ◆ "Williamsburg"
- ◆ "East Village"

## → Space Description

- ◆ "Cozy"
- ◆ "Modern"
- ◆ "Spacious"
- ◆ "Beautiful"
- ◆ "Bright"



# Leaflet JavaScript Map: Overview of Price Per Night for Listings



# Conclusion

- 83% of the listings are found In Manhattan or Brooklyn
- 97.7% of the listings are Entire home/apt or Private rooms
- Pricing averages are similar across boroughs, indicating consistency in overall pricing trends.
  - ◆ Staten Island presents an interesting dynamic where you could potentially find great deals, but you could also end up paying more than in other boroughs
- There are substantial differences in listing counts across the boroughs, reflecting variations in availability and demand.
- Phrasing in listing name shows little to no significant difference, indicating consistency in the way hosts present their properties regardless of rating.

