AIRBNB PRICES IN NYC

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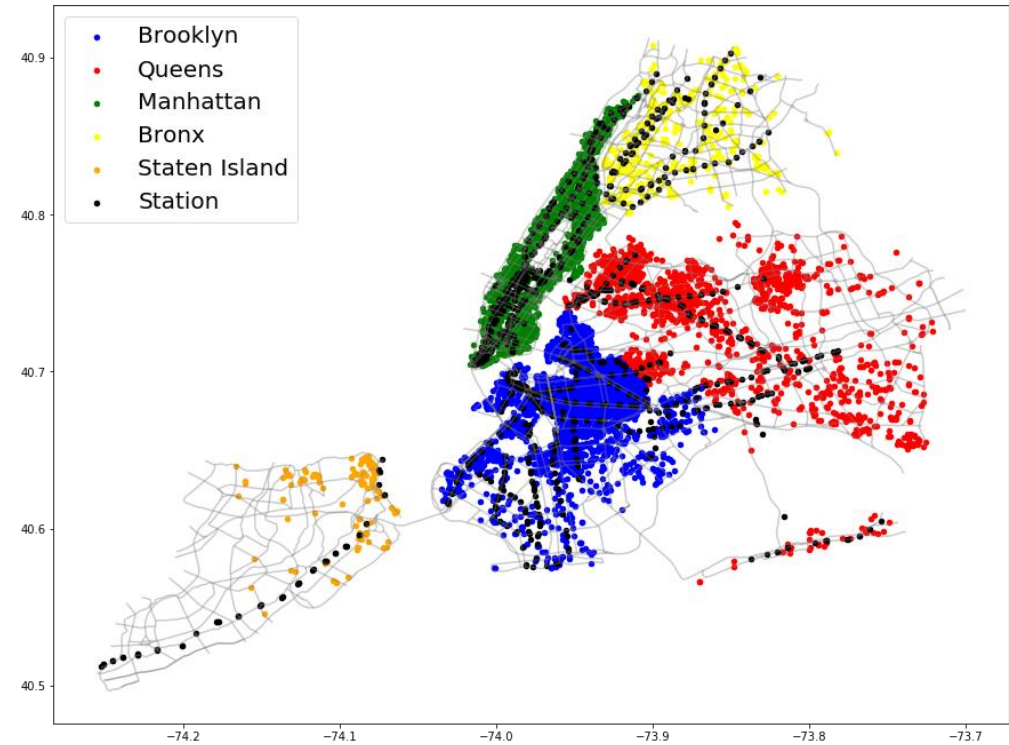Anna-Lena Schaub, 01451379

RESEARCH QUESTIONS

Is the proximity of an AirBnB to any Subway Station directly related to its price, and if so, does an apartment with more proximity to any subway station automatically equal a higher price?

Can an AirBnB have a higher price due to the proximity to a specific subway station, and if so which attributes of the subway station (location, number of lines, city center) are found to influence the pricing most?
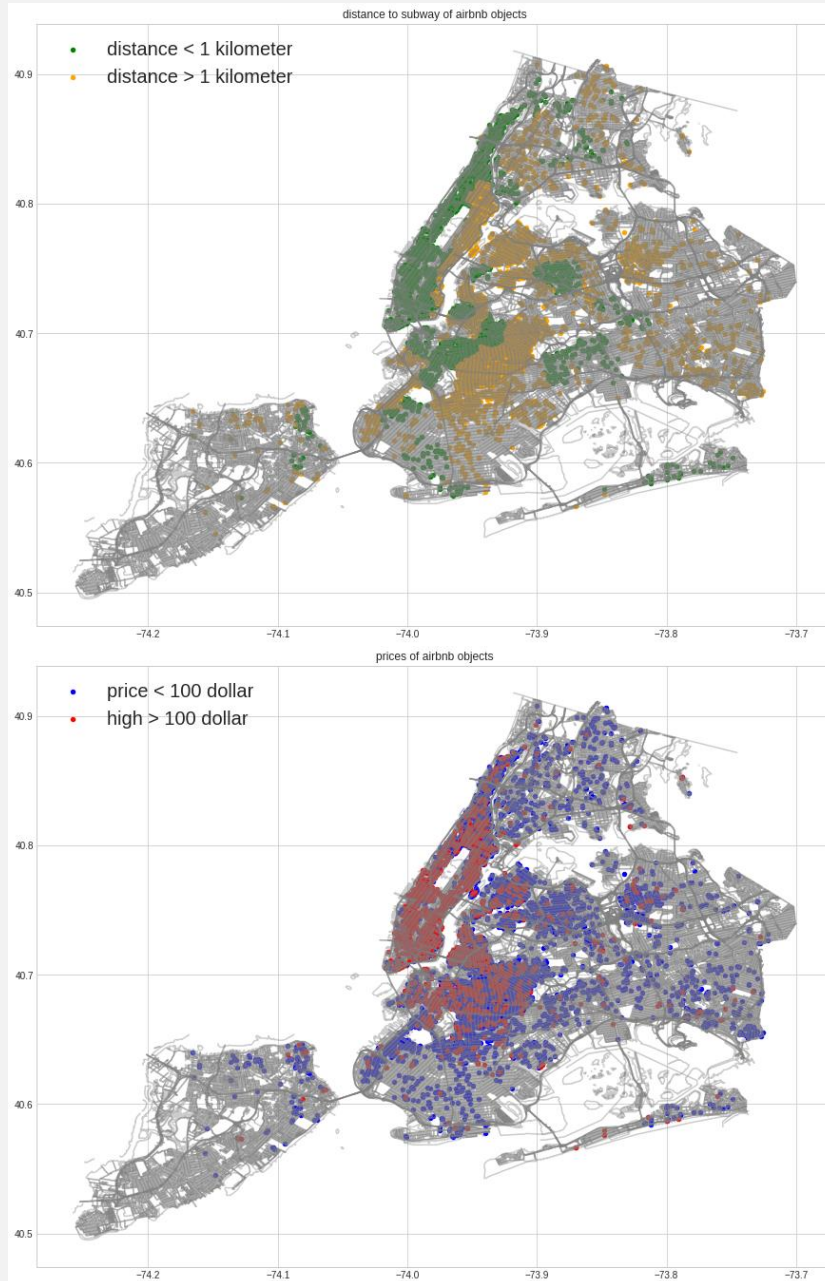
Which independent variables in the Data are more influential to the pricing than the proximity to a subway station?

STEPS AND TOOLS

- Pandas (e.g. Creating various Data Frames and adjusting them)
  - Filtering Data Sets (e.g. only Private Rooms)
  - Sorting Values (e.g. Having only active AirBnB listings)
  - Missing Values, Duplicates, creating a Dataframe with one location for each Station
- MatPlotLib (e.g. Sorting Stations/AirBnBs to their neighbourhood, Scatterplots)
- GeoPandas (e.g. plotting the Maps with geographical Data
- Filtering the different Neighbourhoods, and computing the distances one Neighbourhood at a time.

distance to subway of airbnb objects
- distance < 1 kilometer
- distance > 1 kilometer

prices of airbnb objects
- price < 100 dollar
- high > 100 dollar

RESULTS

- Is the proximity of an Airbnb to any Subway Station directly related to its price, and if so, does an apartment with more proximity to any subway station automatically equal a higher price?

  - No, the proximity of a listing to any Subway Station does not seem to be directly related to its price.

- Can and Airbnb have a higher price due to the proximity to a specific subway station, and if so which attributes of the subway station (location, number of lines, city centre) are found to influence the pricing most?

  - Yes and No, we discovered that Manhattan in general has more expensive listings than other neighbourhoods in NYC, therefore if a listing is located in Manhattan and closer to the subway stations there, it is more likely to be pricey. However, we found that the location of the Subway Station, specifically which neighbourhood it is in has the highest influence on the price.

- Which independent variables in the Data are more influential to the pricing than the proximity to a subway station?

  - An Independent Variable which we found had the most influence on the price was the neighbourhood in which the AirBnB was in.

LIMITATIONS AND LESSONS LEARNED

- Computing the distances between Stations and Listings turned out to be expensive and time consuming.

- In order to make a definite statement about what influences the pricing of AirBnBs the most, more and different Data would have been required.

- There link between the proximity of Subway Stations and pricing was not as strong as we thought initially

- Other aspects, such as the density of stations in certain neighbourhoods could have been taken into account