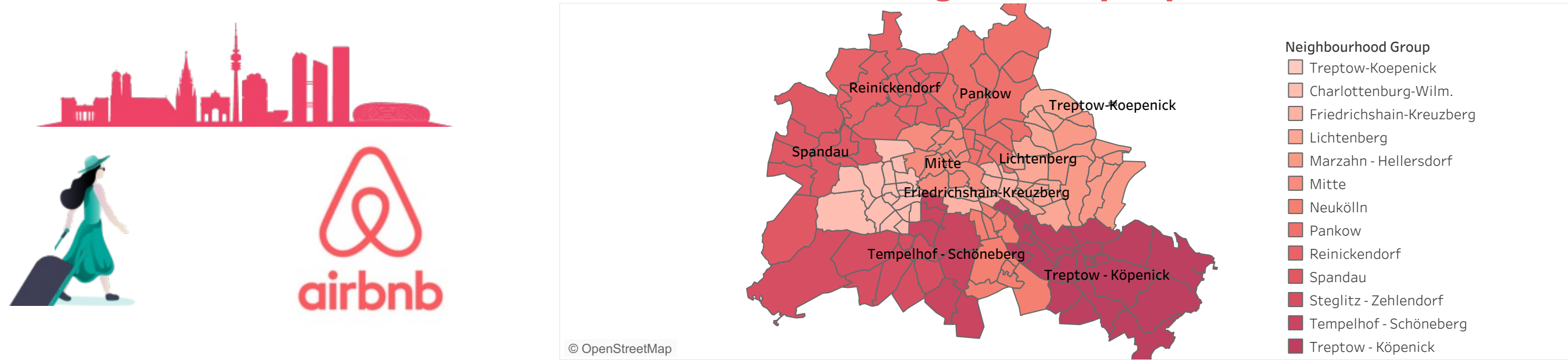


Airbnb Berlin - Rental Data Analysis

Introduction	Popular Neighborhoods	Data Analysis	Accommodation Prices & Room Types
--------------	-----------------------	---------------	-----------------------------------

Inside Airbnb Berlin: Accommodating 36.800 people



Berlin is a metropolis of approximately 3.5 million people as of 2022. Since the mid 2000s, the city’s population has rapidly grown same as the visitors that come into the city looking for a place to stay.

MOTIVATION: A lot of people like to use AirBnB to find accomodation for holidays. In this analysis, we investigate the connections between rating, prices and various other attributes.

OBJECTIVE: To explore what can influence the travelers when choosing an accomodation through AirBnB

Key Questions:

1. What is the average price breakdown by neighborhood in Berlin?
2. How does the type of room (private room, entire apartment, shared room) impact the pricing of Airbnb listings in Berlin?
3. Are the top districts in Berlin same as the ones that have the highest average minimum nights for accommodations?

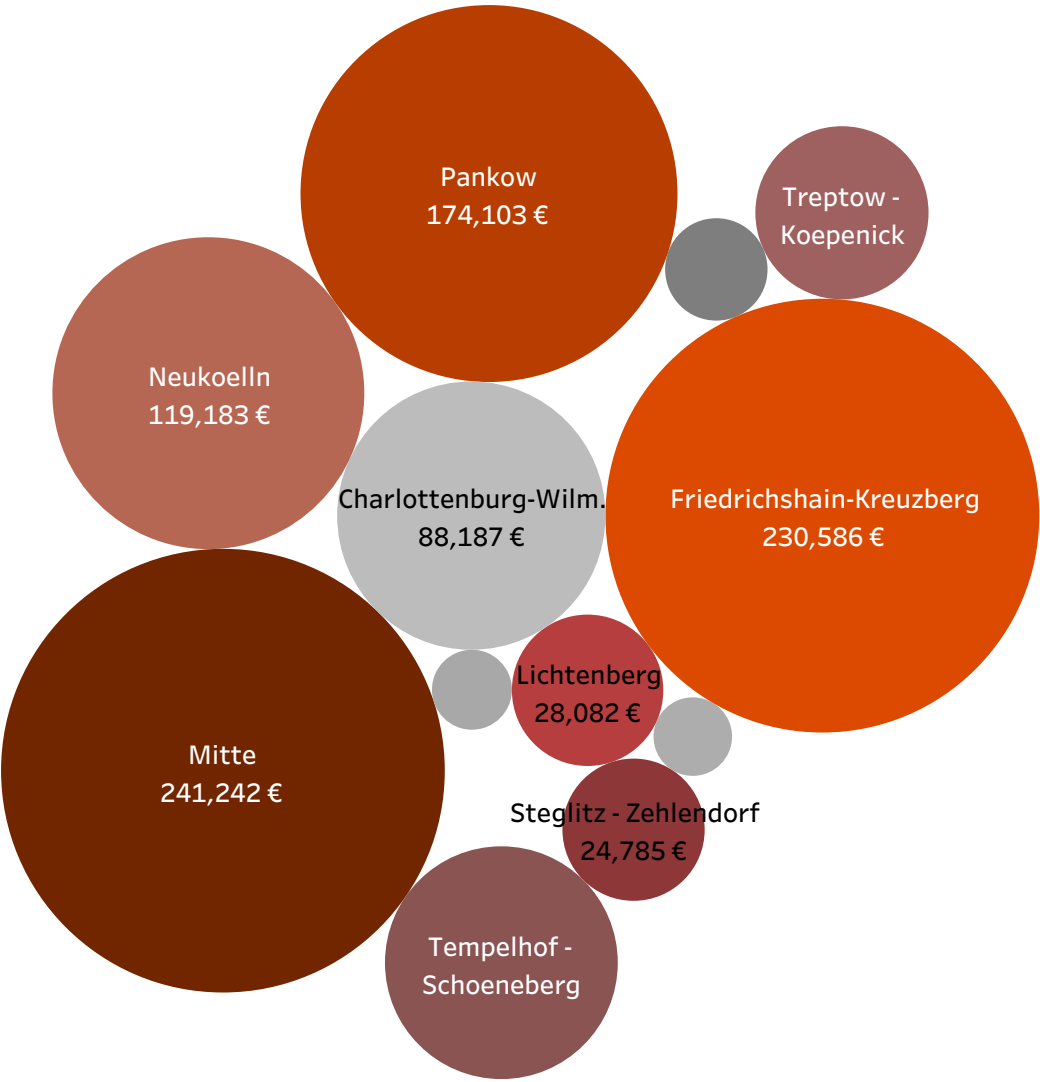
Data: The data was collected from AirBnB.com and contains reviews from 2012 to 2022, together with informations about the listing like Price, Geographical data and all necessary details about the listing.

Further informations about the data can be found here: <https://github.com/loanaMRusu>

Airbnb Berlin - Rental Data Analysis

Introduction	Popular Neighborhoods	Data Analysis	Accommodation Prices & Room Types
--------------	-----------------------	---------------	-----------------------------------

Where the Money Goes?



Neighborhood: Avg. Price vs Avg Number of Reviews

Neighborhood Group	Avg. Price	Avg. Nr. of Reviews
Charlottenburg-Wilm.	67.16	24.35
Friedrichshain-Kreuzberg	63.47	24.02
Lichtenberg	53.90	20.37
Marzahn - Hellersdorf	64.70	26.40
Mitte	70.11	29.01
Neukoelln	52.55	15.69
Pankow	68.38	28.33
Reinickendorf	54.20	26.05
Spandau	58.99	19.30
Steglitz - Zehlendorf	64.21	20.13
Tempelhof - Schoeneberg	61.25	23.67
Treptow - Koepenick	62.71	16.90

Three hypotheses:

1. If an accommodation has an increased price, then it will also have a higher number of reviews.
2. Further, if a host has more accommodation listings, the prices will be higher.
3. If there are more reviews per month, the more affordable the accommodation.

Airbnb Berlin dataset (pictured left): **Top 3 profitable areas were 1. Mitte, 2. Friedrichshain, and 3. Pankow.** Total EUR value spent during this time amounted to approx. EUR 1.3 million.

Further, we see that the **average costs of stay are most expensive in 1. Mitte, 2. Pankow, and 3. Charlottenburg-Wilmerdorf** (pictured above). Generally, the more expensive neighborhoods tend to have somewhat higher averages regarding the number of reviews.

Airbnb Berlin - Rental Data Analysis

Introduction

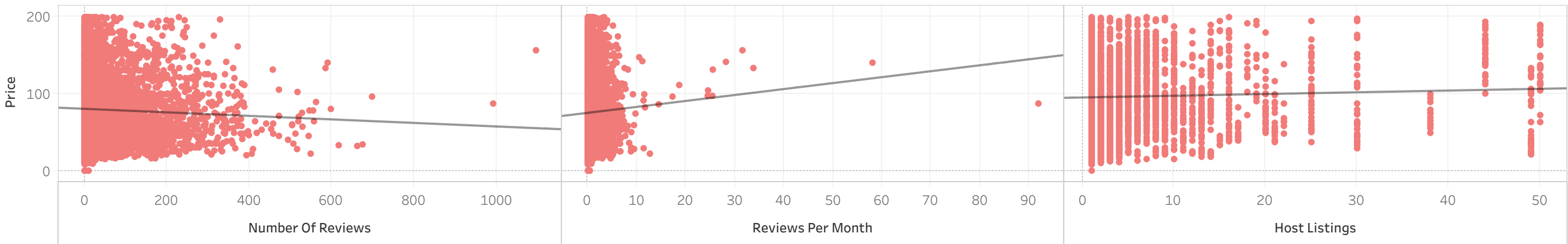
Popular Neighborhoods

Data Analysis

Accommodation Prices & Room Types

Key Findings & Next S..

Regression Analysis: Price vs Most Correlated Variables



Based on the number of reviews, the price range can vary greatly. The correlation details that the price would decline when the number of reviews increases, meaning that *accommodations that are more affordable are most likely to have more reviews*.

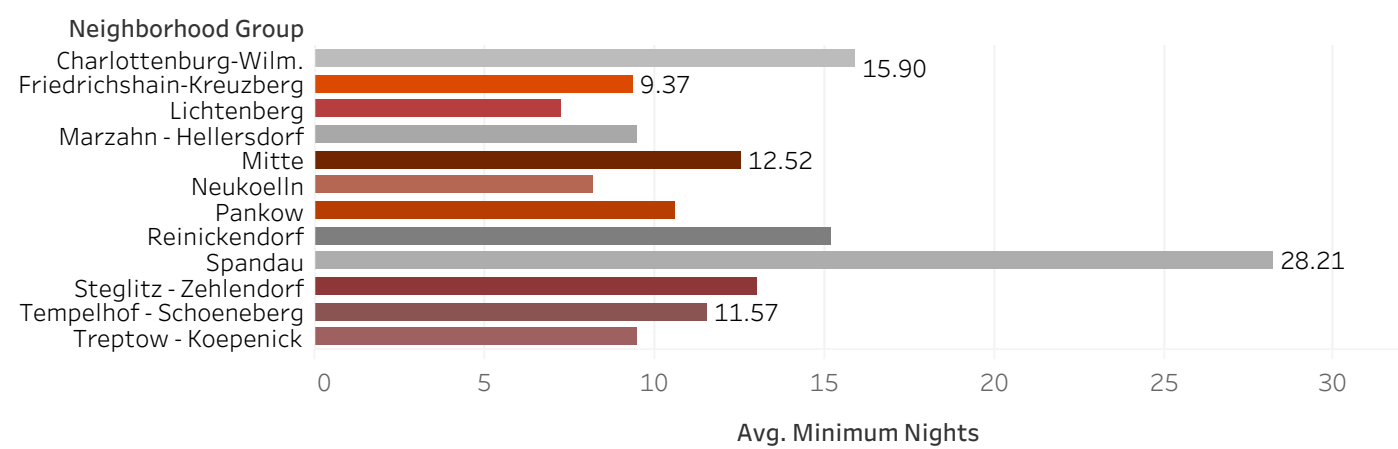
Most locations have between 1 to 10 reviews per month with a few outliers. However, based on this testing, it appears that *more reviews per month would mean higher prices*, which is conflicting with our testing regarding the total number of reviews.

For the number of host listings, the graph details a broad range of results. Many host listings have less than 20 listed accommodations and have wide ranging prices. Here we see a "slight" trend line that indicates that the *increased number of listings would lead to a slightly higher price*.

Overall, the correlation testing undertaken shows no distinct or reliable trends. Rather, there is a broad variety in the prices for accommodations regardless of the variables tested. However, we shall also consider the neighborhood group and what impact this has on prices.

The **average nights stay** is the highest in **Spandau** Neighborhood, followed by **Charlottenburg**. By seeing this we can anser one of the top question and see that even though *Mitte and Friedrichshain-Kreuzberg are the most popular Districts, people do not tend to stay for a long period*.

Avarage Nights Stay per Neighborhood



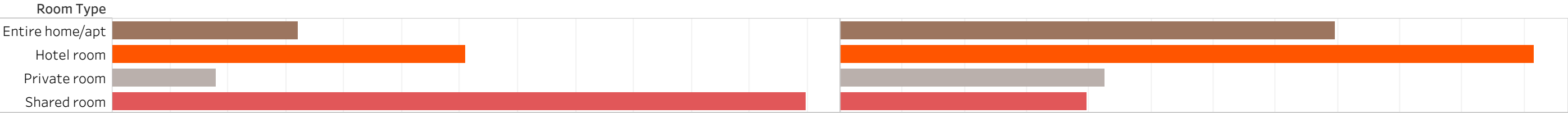
Airbnb Berlin - Rental Data Analysis

Popular Neighborhoods	Data Analysis	Accommodation Prices & Room Types	Key Findings & Next Steps
-----------------------	---------------	-----------------------------------	---------------------------

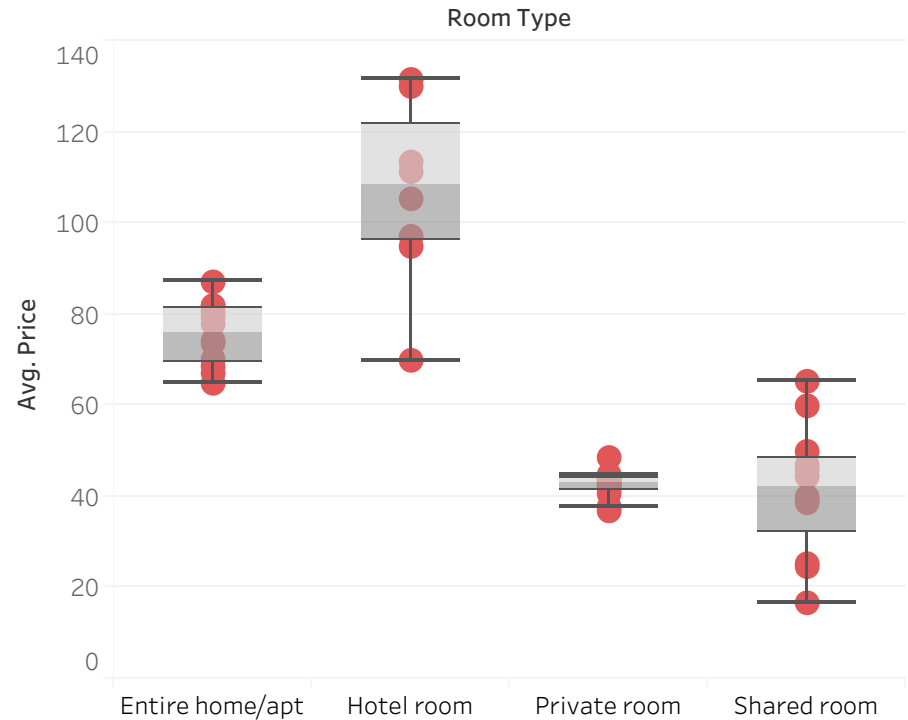
Where you stay matters

Avarage Host Rating

Avarage Price



Room Type and Average Prices



Hotel rooms offered via Airbnb are generally more expensive stays than a whole home/apt. The average price for a stay in a private or shared room tends to be generally the most affordable option, but then means of course that there is a lack of privacy. and amenities.

There is a general trend that accommodations are more expensive towards the center of the city. Moreover, the most expensive accommodations tend to be in the most popular neighborhoods of Mitte, Friedrichshain-Kreuzberg, and Pankow.

Berlin Prices for Accommodations per Neighborhood Group



Airbnb Berlin - Rental Data Analysis

Popular Neighborhoods	Data Analysis	Accommodation Prices & Room Types	Key Findings & Next Steps
-----------------------	---------------	-----------------------------------	---------------------------



Avarage Minimum Nights: 6

Count of Listing: 16264

Count of Hotel Room: 127

Count of Entire Home: 9138

Key Findings and Further Questions



Avarage Nr. of Reviews: 19

Count of Private Room: 6793

Count of Shared Room: 206

Average Price: 43 euro

Key Findings:

1. Accommodation prices are generally higher towards the city center.
2. Most profitable areas were near the city center - Mitte, Friedrichshain-Kreuzberg, and Pankow. (*These areas are also known for their tourist attractions, bars, cafes, and clubs*).
3. Shared rooms offer the most affordable stays on average, whereas hotel rooms listed on AirBnB are the most expensive.
4. The most profitable areas are not also the ones where people tend to spend more nights, most probably due to higher prices.

Project Limitations:

1. The quantitative variables available had no clear correlation or impact on the price of an accommodation.
2. Due to local data privacy regarding rental contracts and fees, it is difficult to obtain reliable and accurate rental information in Germany. However, it is possible that this information may be shared from local authorities upon request.

Next Steps:

1. Request rental data from a local rental agency or local governmental institute to possibly have more accurate rental information, which may also include more detailed information such as apartment size, balcony, built-in kitchen, etc, which may more clearly impact rental prices.
2. Consider rental prices/rates in Berlin vs. other German cities that have also seen considerable growth in past years.

Data Sources:

- > Data was sourced via Airbnb: <http://insideairbnb.com>
- > Project scripts and documents can be found on GitHub: <https://github.com/loanaMRusu>