AIRBNB
PROPERTY MANAGEMENT OPTIMIZATION

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❖ What is AIRBNB

Airbnb is an online marketplace that connects people who want To rent out their property with people who are looking for accommodations, typically for short stays. Airbnb offers hosts Alternatively easy way to earn some income from their property. Guests often find that Airbnb rentals are cheaper and homier than hotels.

HISTORY

2008

Airbnb, founded in 2008 by Brian Chesky, Joe Gebbia, and NathanBlecharczyk, emerged from a simple idea to rent out air mattresses in their living room to earn extra income. Initially known as "Air Bed and Breakfast," it started as a solution to a rent payment problem.

2009

In early investments in 2009, Airbnb expanded its platform, allowing individuals to rent out spare room service entire properties to travellers. Over time, it evolved into a global market place offering diverse accommodations

NOW

Through innovative features strategic growth, and a focus on community and safety, Airbnb revolutionized the hospitality industry, becoming a widely recognized and influential player inthe travel accommodation sector.

❖ Problem Statement : Airbnb Property Management Optimization

▶ As a Data Analyst at Airbnb, your primary objective is to optimize rental strategies, enhance customer satisfaction, and maximize revenue for property owners. Airbnb aims to leverage data-driven insights by developing a Tableau dashboard that provides a comprehensive view of various factors affecting its property management system. The dashboard should help hosts make informed decisions about pricing ,property types, and seasonal trends to improve their business outcomes.
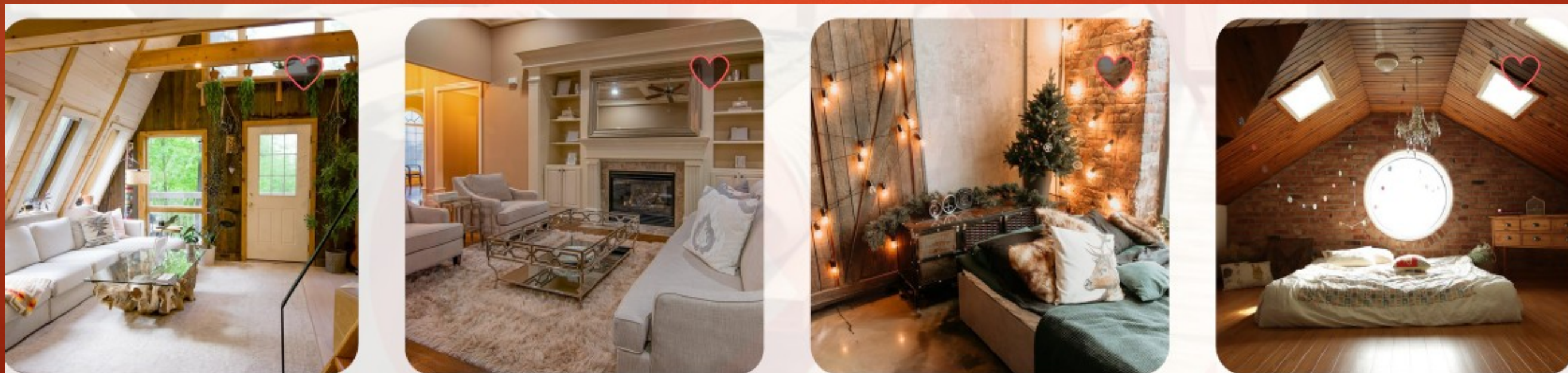
1. Listings Overview

The Listings Overview dashboard aims to analyze the distribution of Airbnb listings across different cities, neighborhoods, property types, and seasons.
It provides insights into the volume of listings available and identifies patterns based on property type and geographic concentration.
This helps in understanding listing density and market opportunities for strategic decision-making.

☐ Questions

Total Listings : Analyze the total number of listings available across all cities.

1.Listings by Property Type: How many listings are available for each property type

2. Listings by Neighborhood: Which neighborhoods have the most listings?

3. Listings by Season: How does the number of listings vary by season?

4. Listings by City: How many listings are available in each city?
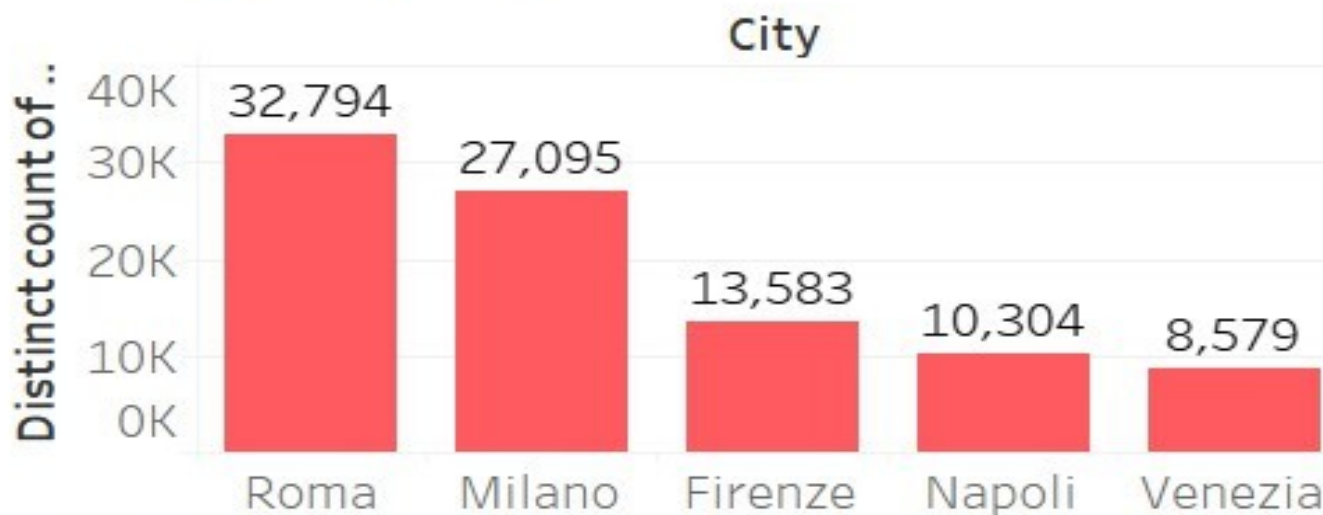
Airbnb Listings Overview

Pricing Insights

Host Insights

Rating & Review Analysis

Booking Insights

Property Features

Cities	Listings	neighbourhood
5	92,355	195

Listings by city

City

City	Distinct count
Roma	32,794
Milano	27,095
Firenze	13,583
Napoli	10,304
Venezia	8,579

Listings by neighbourhood

neighbourhood

neighbourhood	Distinct count
I Centro..	16,735
Centro ..	9,862
Vii San ..	2,633
Ii Pariol..	2,359
Buenos ..	2,194

Listing by property type

Property type

Property type	Distinct count
Entire ho..	73,064
Private ro..	18,338
Hotel room	811
Shared ro..	493

Listing by Season

Early Autumn	Early Winter
Early Summer	Early Spring

Topn neighbourhood

5

City

- ☑ (All)
- ☑ Firenze
- ☑ Milano
- ☑ Napoli
- ☑ Roma
- ☑ Venezia

Key Insights

- ❖ 92,355 listings acr̶o̶s̶s̶ ̶...̶5̶ neighborhoods, showing strong Airbnb presence.

- Entire homes dominate with 73,064 listings (~79%), indicating preference for full- property rentals.

- I Centro Storico (Rome) is the top neighborhood with 16,735 listings, highlighting concentration in historic areas.

- Early Autumn and Early Summer seasons have the highest number of listings, suggesting peak travel periods.

- Rome leads with 32,794 listings, contributing about 35% of the total inventory.

2.Prising Insights

This dashboard provides a comprehensive analysis of Airbnb pricing trends across seasons, property types, and listings.
 It identifies how average prices vary by season, examines the relationship between price and guest ratings, highlights the most expensive listings, and explores how pricing is influenced by the number of bedrooms.
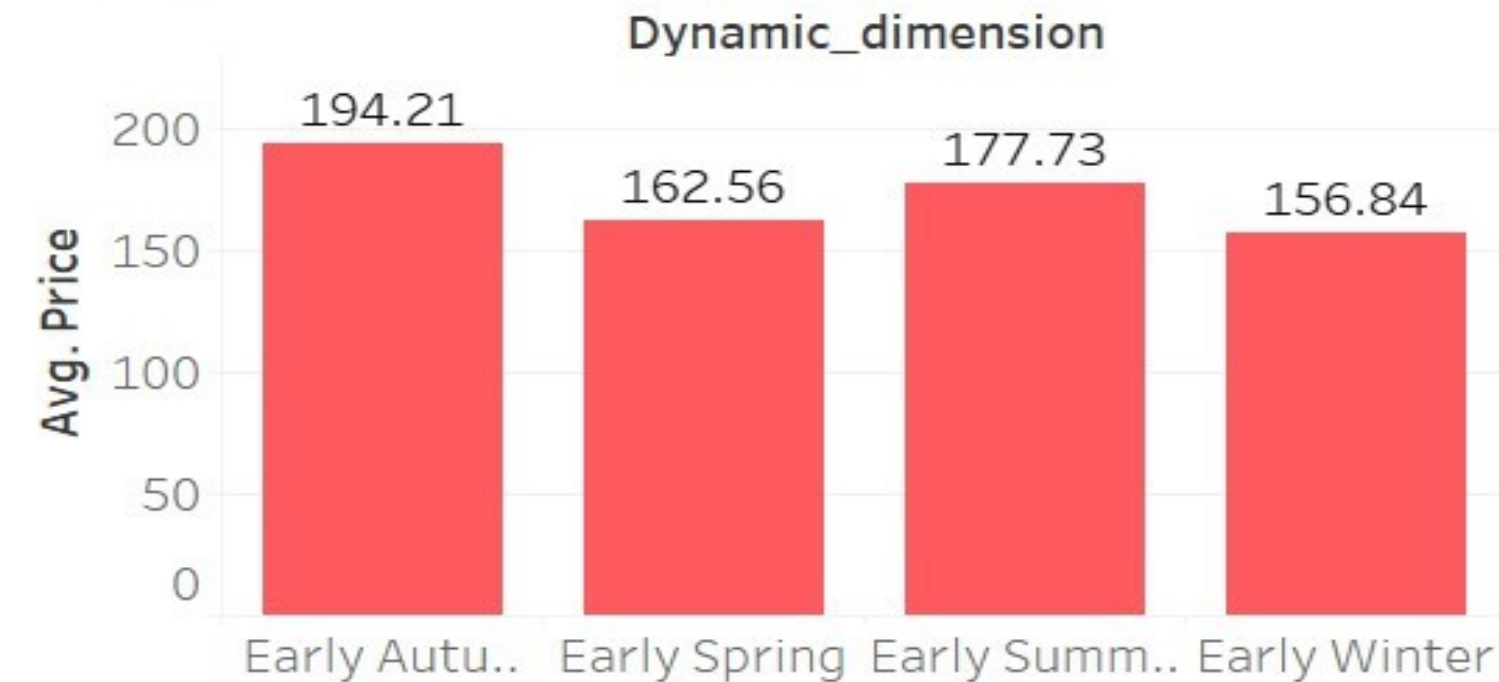
☐ Questions.

6. Average Price: What is the average price of listings by property type?

7. Price Range: What is the price distribution across listings?

8. Price by Season: How does the average price vary by season?

9. Price vs. Rating: Is there a correlation between listing price and rating score?

10. Top Expensive Listings: Which are the top 5 most expensive listings and their hosts?
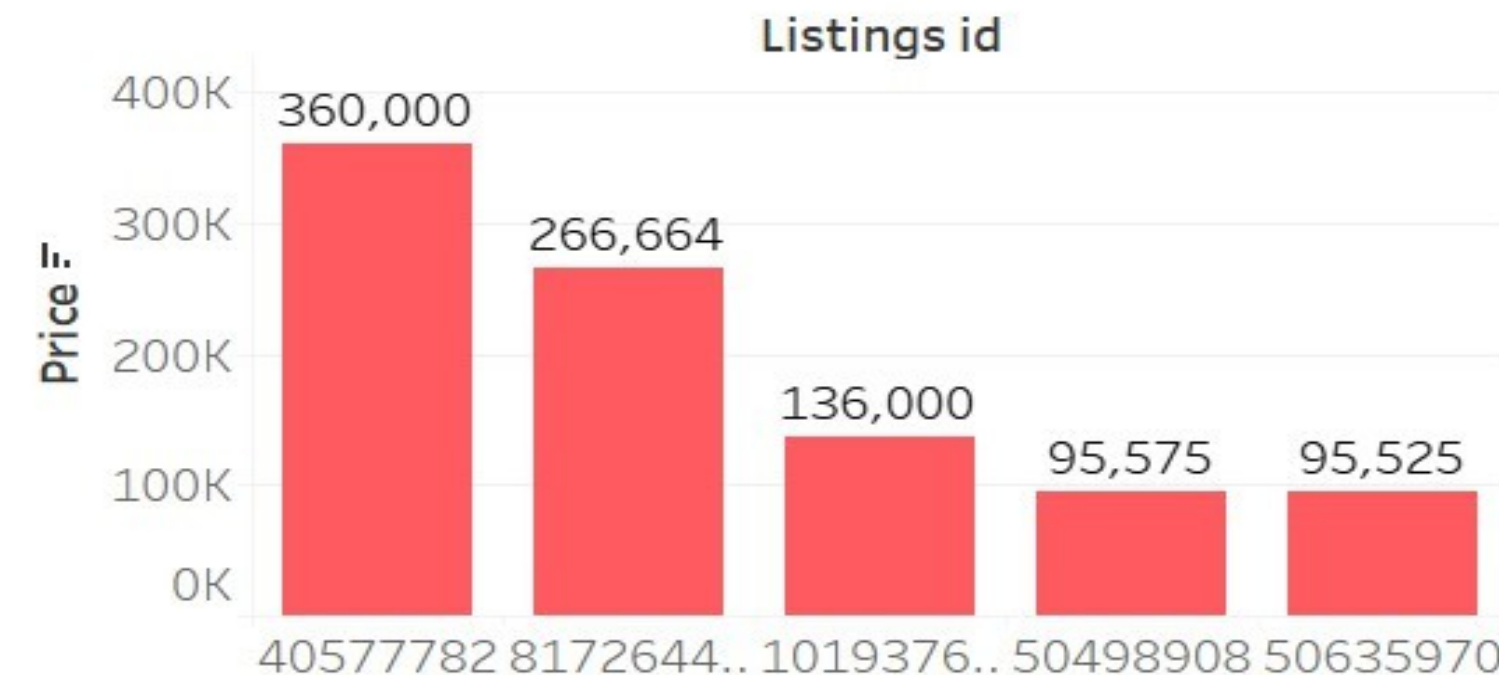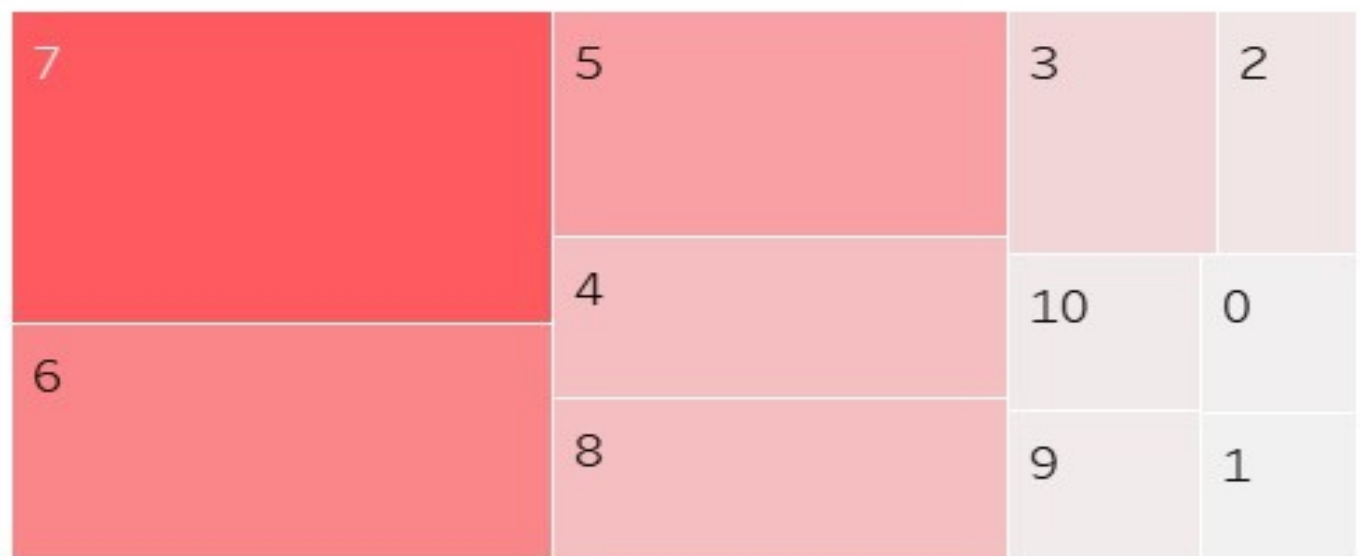
Airbnb Pricing Insights

Avg price by Season

Dynamic_dimension

- Early Autu.. — 194.21
- Early Spring — 162.56
- Early Summ.. — 177.73
- Early Winter — 156.84

Correlation between listing price and rating score

Top 5 Expensive Listing

Listings id

- 40577782 — 360,000
- 8172644.. — 266,664
- 1019376.. — 136,000
- 50498908 — 95,575
- 50635970 — 95,525

Average Price by Number of Bedrooms

Avg. Price
139.8 — 1,046.2

Property type
- Entire home
- Hotel room
- Private room
- Shared room

Dynamic Dimensions
Season

Key Insights

- Early Autumn has the highest average listing price at $194.21, suggesting a peak travel period.
- Early Winter has the lowest average price at $156.84, offering potential seasonal discounts.
- Minimal correlation between price and rating — higher prices don't guarantee better ratings.
- Listings with 7 bedrooms have the highest average prices, followed by 6 and 5 bedrooms.
- Entire homes dominate the expensive listing category, confirming luxury full- property rentals are highly priced.

3. Host Insights

This section provides an analysis of host activity and characteristics within the Airbnb platform. It highlights the distribution between Superhosts and regular hosts, evaluates the hosting scale by analyzing the number of listings managed by top hosts, and examines the impact of Superhost status on pricing and ratings

❑ Questions

11. Add a littleHost Type: What percentage of listings belong to Superhosts vs. Regular Hosts?

12. Host Listings Count: How many listings does each host have?

13. Top Hosts: Who are the top 5 hosts with the most listings?

14. Superhost Impact: What is the average price and rating for Superhost vs. Regular Host listings?

15. Host Since: How does the number of hosts vary by the year they joined?

Airbnb Host Insights

Percentage of listings for Superhosts vs. Regular Hosts

- Host
- Superhost

37.30%

62.70%

Avg price and rating for Superhost vs. Regular Host listings

Host is superhost

Avg. Pri..
100
0

Avg. Rating s..
4
2

Host   Superhost

Top 5 listing by number of host

Listings id

24,805   21,287   21,287   14,185   14,180

Host number of listings

25K
20K
15K
10K
5K
0K

5816762.. 50123976 48795324 9025890.. 5582066..

Number of hosts vary by the year they joined

Distinct count of Lis..

10K
5K
0K

11,792
10,499   10,074
5,252   7,051 6,961   6,859 6,141 6,442
2,281   4,026
18 55   2,949   4,048
      587

2012   2017   2022

Year of Host since
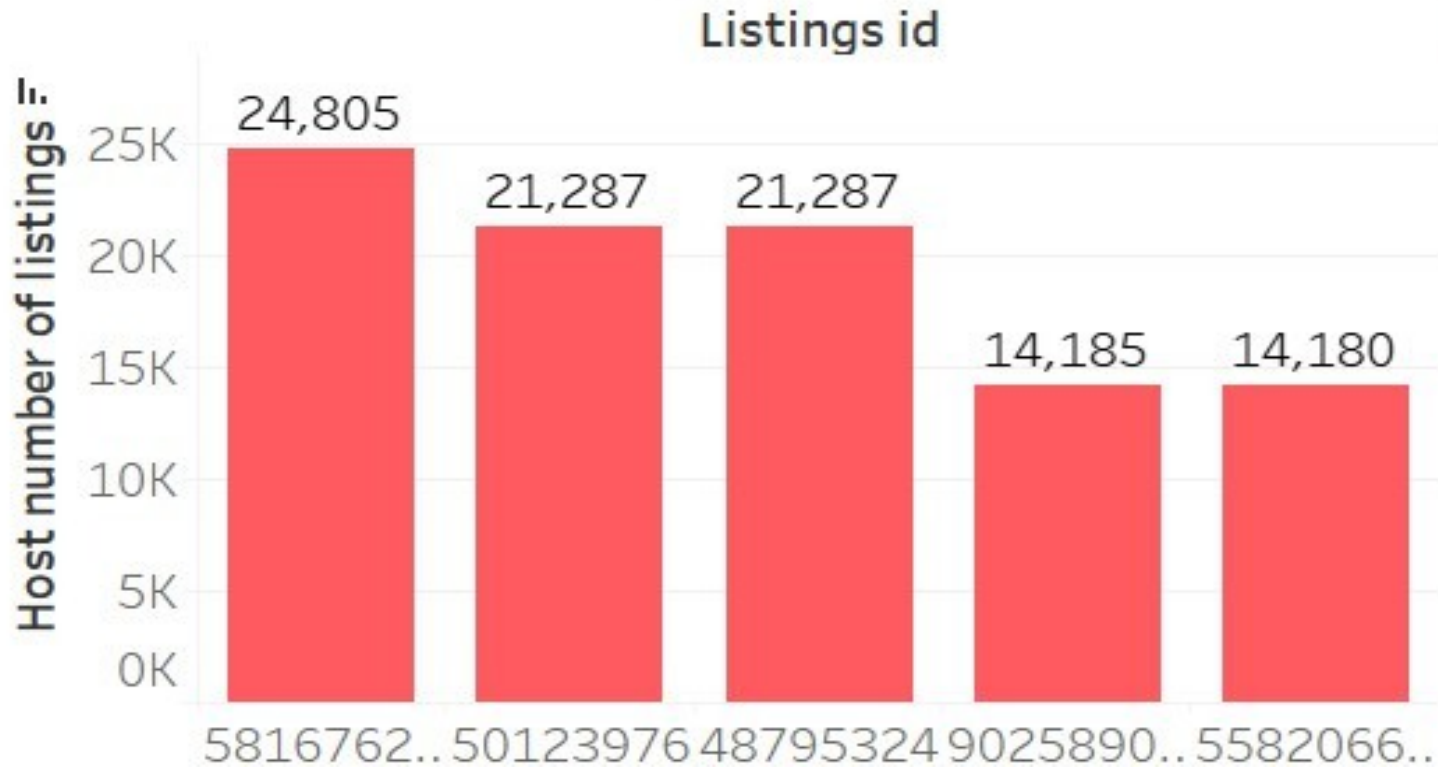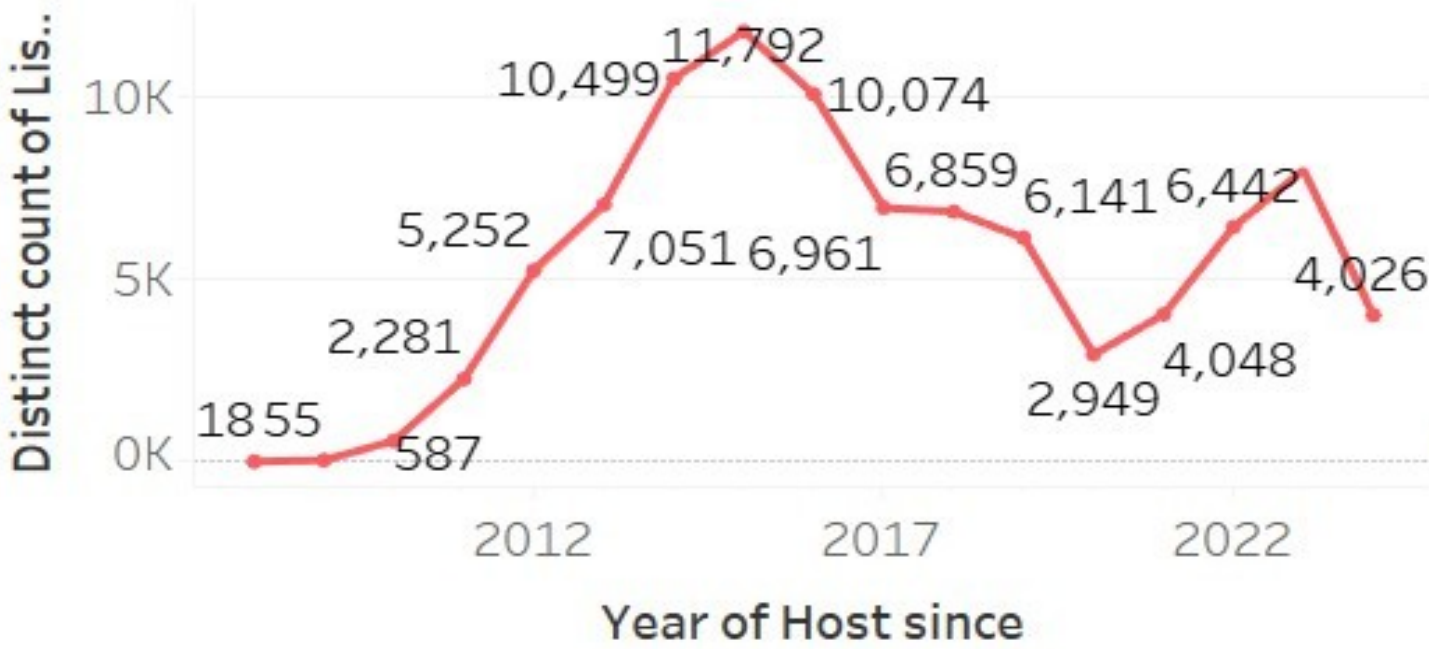
Host is superhost

- ☑ (All)
- ☑ Host
- ☑ Superhost

% of Total Count of Listings id

100.00%

Key Insights

- 37% of listings belong to Superhosts, while 63% are from Regular hosts. Regular hosts still dominate the platform.

- The top 5 hosts individually manage a very large number of listings, with the highest host managing ~24,800 listings.

- Superhosts charge slightly lower average prices but achieve higher average ratings compared to regular hosts.

- Better quality experience at relatively competitive

- pricing. Maximum host registrations peaked around 2015-

- 2016.

  Registrations declined during 2020 , but recovered again

4. Rating & Review Analysis

This analysis evaluates the quality of Airbnb listings by focusing on average ratings, guest satisfaction across property types, cleanliness, value for money, and review frequency. It provides a comprehensive understanding of customer feedback trends, helping identify areas for maintaining service excellence and enhancing guest experiences.

❑ Questions

16 Average Rating: What is the average rating across all listings?

17.Rating by Property Type: How does the average rating differ across property types?

18.Review Frequency: How many reviews do listings receive per month?

19Rating Breakdown: How do the different rating categories (cleanliness, value, location) compare?

20.High-Rating Budget Listings: Which listings have a value-for-money score above 4.8 but are priced below the median?

Airbnb Rating & Review Analysis

average rating across all listings

4.721

Average rating across property types

Property type

Avg. Rating score: Entire home, Hotel room, Private room, Shared room

comparing cleanliness, value, location

| 4.7437 | 4.7445 | 4.6358 |

Avg. Location S.. | Avg. Cleanliness.. | Avg. Value Score

Reviews per month by property type

Entire home | Private room

Value-for-money score above 4.8 but are priced below the median

High-Rating Budget Listing

| 80,256 | 22,901 |

Others | High Rating Budget
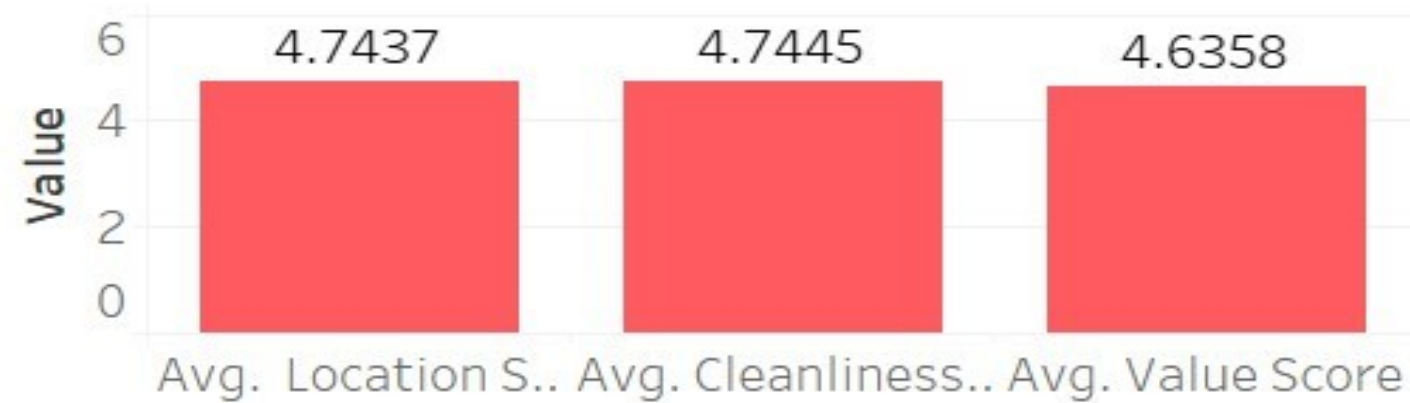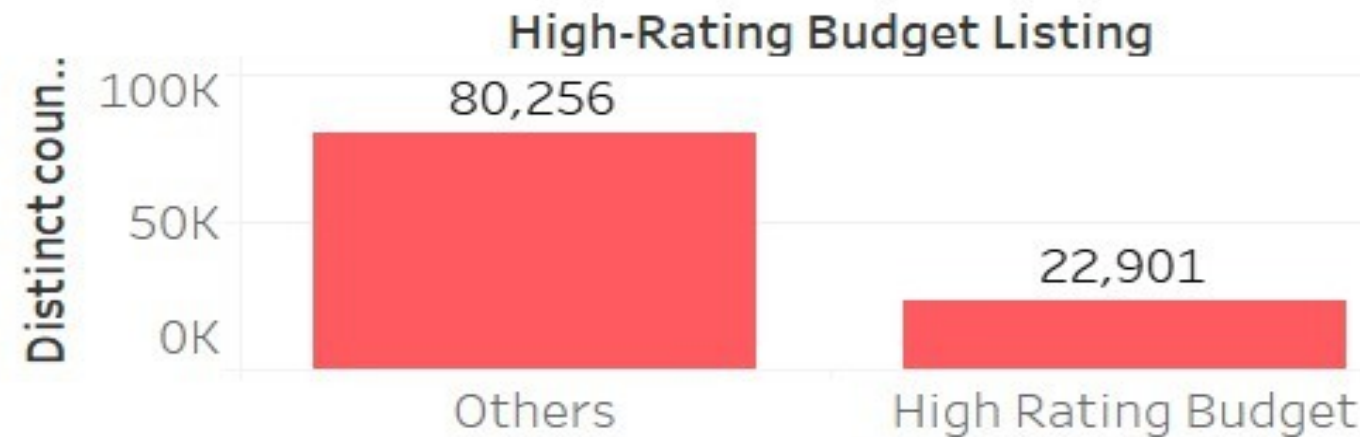
Reviews per month

2,197 — 401,477

Property type

- ☑ Entire home
- ☑ Hotel room
- ☑ Private room
- ☑ Shared room

Key Insights

- Average rating across all listings is very strong at 4.72, indicating overall high customer satisfaction.

- Ratings across property types are fairly consistent, with Private rooms slightly outperforming others.

- Cleanliness and location ratings are above 4.7, while value scores are slightly lower at 4.63, suggesting guests value experience but are somewhat sensitive to pricing

- Majority of monthly reviews come from Entire Home listings, highlighting their popularity and frequent turnover.

5. Availability & Booking Insights

This dashboard analyzes Airbnb listing availability and booking trends. It highlights seasonal booking fluctuations, top-performing cities, recent active listings, and host longevity patterns. The insights provide a clear view of availability dynamics, helping optimize listing strategies and understand booking behaviors across seasons.

❏ Questions

21. Seasonal Booking Trend: How does the number of bookings change over the months?

22. Booking by City: Which city has the highest number of bookings?

23. Review Count by Season: How do reviews vary by season?

24. Active Listings: How many listings were active in the last 3 months?

25. Longest-Running Hosts: Which hosts have been active for the longest period?
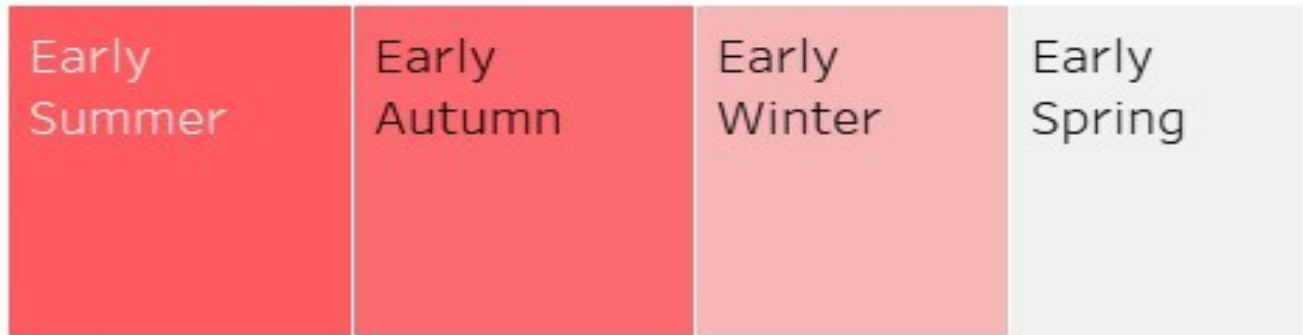
![airbnb logo]

Availability & Booking Insights

How many listings were active in the last 3 months?
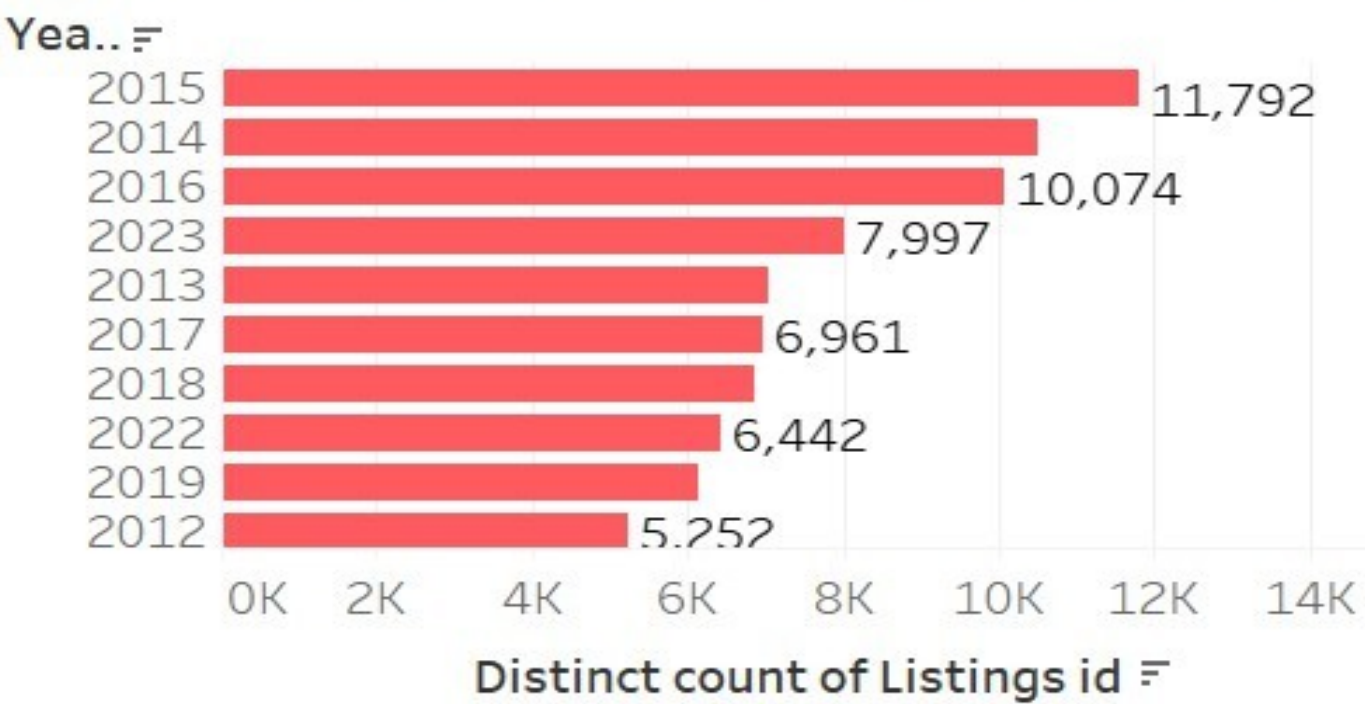
92,355

Bookings change over the months

Early Summer	Early Autumn	Early Winter	Early Spring

Reviews vary by season

Season

44,91,926   41,52,762   43,87,965   42,04,963

Total reviews: 4M, 2M, 0M

Early Autu..   Early Spring   Early Sum..   Early Winter

Highest number of bookings

City

67,43,402
31,49,102
27,44,895
14,71,227

Total reviews: 6M, 4M, 2M, 0M

Roma   Firenze   Milano   Venezia   Napoli

Host active for the longest period

Yea..

Year	Distinct count of Listings id
2015	11,792
2014	
2016	10,074
2023	7,997
2013	
2017	6,961
2018	
2022	6,442
2019	
2012	5,252

0K 2K 4K 6K 8K 10K 12K 14K

Distinct count of Listings id

Season

- ☑ (All)
- ☑ Early Autumn
- ☑ Early Spring
- ☑ Early Summer
- ☑ Early Winter

Key Insights

- Around 92,355 listings were active in the last 3 months, indicating strong platform engagement.
- Booking volumes peak during Early Summer and Early Autumn
- seasons. Rome has the highest number of bookings among all cities, significantly higher than others like Florence and Milan.
- Seasonal reviews are relatively balanced, but Early Autumn leads slightly in total reviews.
- Hosts who joined around 2014–2015 remain the most active, showing long- term engagement.

6. Amenities & Features

The Amenities & Property Features dashboard provides a detailed view of the characteristics and facilities offered by Airbnb listings. It showcases the distribution of common property types across different neighborhoods, identifies how many listings are designed to accommodate larger groups (4+ guests), and illustrates the availability of private versus shared bathrooms. The dashboard also compares the average price and rating across property types such as entire homes, hotel rooms, private rooms, and shared rooms.

❑ Questions

26. Bedrooms & Beds: How many listings have 1, 2, 3+ bedrooms?

27. Bathroom Type: What is the distribution of private vs. shared bathrooms?

28. Max Allowed Guests: How many listings can accommodate 4+ guests?

29. Entire Home vs. Private Room: What is the price and rating difference between entire homes and private rooms?

30. Property Type by Neighborhood: What are the most common property types in each neighborhood?

Amenities & Property Features

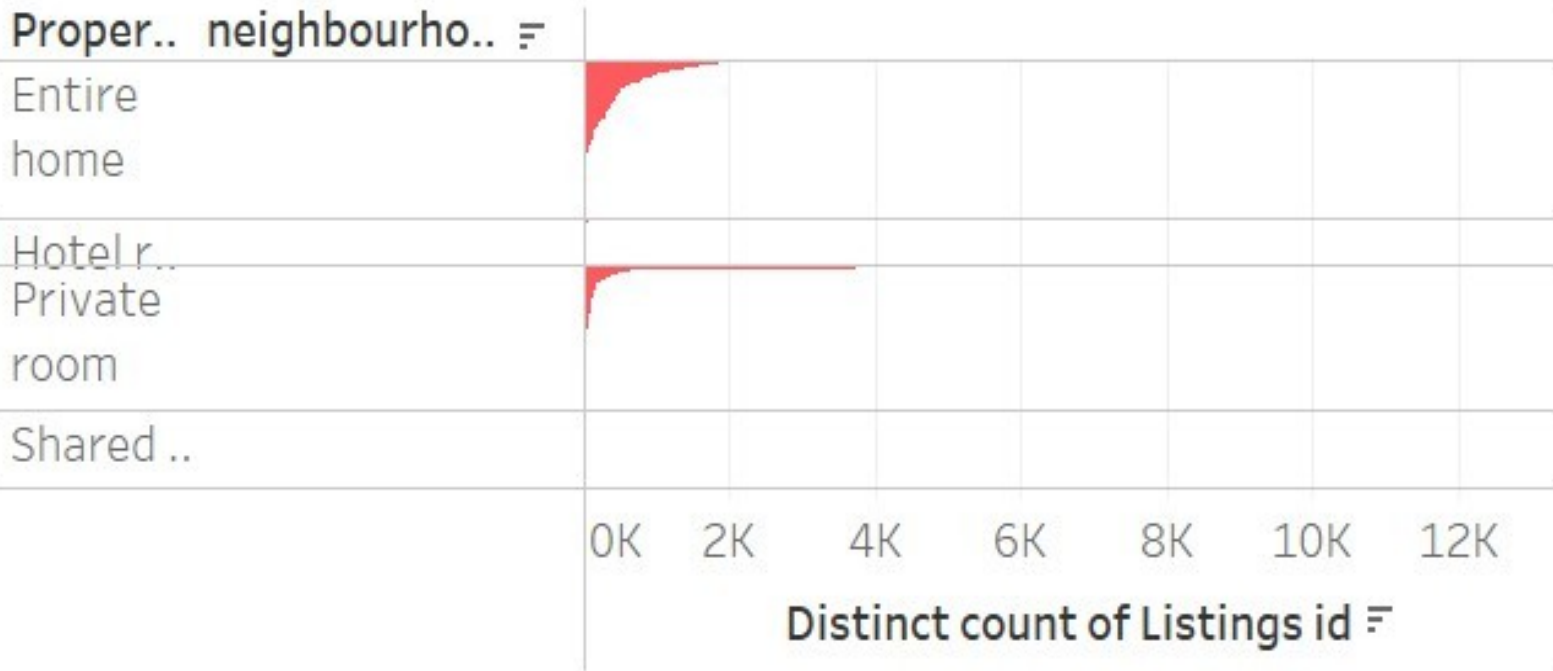## Common property types in each neighborhood

Proper..	neighbourho..
Entire home	
Hotel r.. Private room	
Shared ..	

Distinct count of Listings id

listings that accommodate 4+ guests
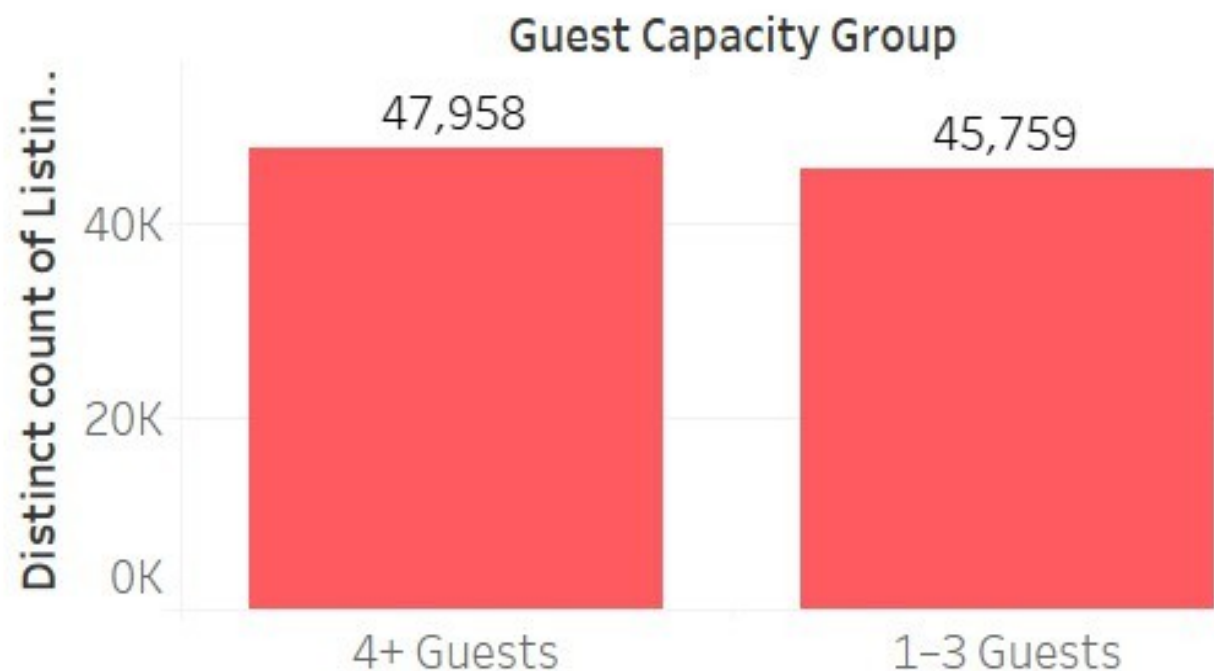
Guest Capacity Group

4+ Guests	1–3 Guests
47,958	45,759

Distinct count of Listin..

Price and rating difference between entire homes and private rooms

	Avg. Price	Avg. Rating score
Entire home	187.27	4.7282
Hotel room	150.01	4.6605
Private room	118.44	4.6990
Shared room	97.99	4.5479

No. of listings have 1, 2, 3+ bedrooms

Bedroom Category

1 Bedroo..	2 Bedroo..	3 Bedroo..	3+ Bedro..	Other
69,526	27,810	7,510	1,677	2,589

Distinct count..

Bathro.. ■ private ■ shared

Distribution of private vs. shared bathrooms
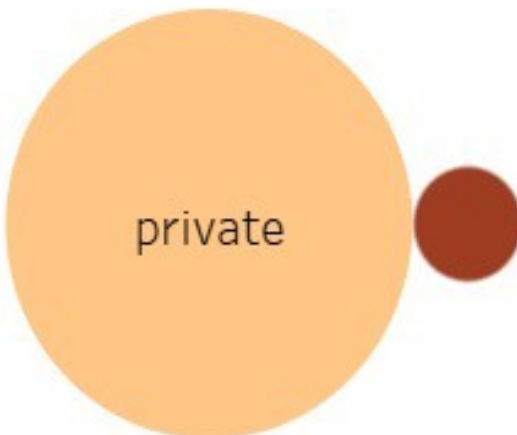
private

Key Insights

- Entire homes are the most common property type across neighborhoods, followed by hotel rooms and private rooms.
- Entire homes have the highest average price but also achieve strong average ratings.
- Shared rooms are the most affordable option but have comparatively lower ratings than other property types.
- Listings with one bedroom dominate, significantly outnumbering 2-bedroom and 3+ bedroom properties.
- Private bathrooms are far more common than shared bathrooms across all listings.
- Most neighborhoods show a preference for listing entire homes over other types.

Conclusion

▶ This dashboard highlights clear trends in property distribution, booking seasons, and neighborhood preferences. By leveraging these insights, Airbnb hosts can optimize their strategies to enhance customer satisfaction, maximize revenue, and improve their competitive edge. Manhattan and Brooklyn should remain the focal points, while less popular neighborhoods can benefit from strategic promotions and pricing adjustments.