

# AIRBNB PROJECT

## POWERBI DASHBOARD

### • INTRODUCTION

This report presents an analytical exploration of Airbnb data sourced from the Inside Airbnb platform. As one of the most widely used online marketplaces for short-term lodging and homestays, Airbnb generates vast amounts of user-generated data. The objective of this project is to derive meaningful insights from this data with interactive dashboards and visualizations. By analyzing key metrics such as listing prices, availability, host activity, and neighborhood trends, the project aims to better understand the dynamics of the Airbnb marketplace. This analysis not only helps in identifying patterns in user behavior and pricing strategies but also assists stakeholders in making data-driven decisions for optimizing listings and improving guest experiences.

### • CHICAGO

#### → Data Description

##### **Dataset Source:**

The dataset used in this project is from [Inside Airbnb](#), a platform providing detailed data on Airbnb listings globally.

##### **Location Covered:**

Chicago

##### **Key Features:**

- **Property Details:**
  - Listing ID
  - Name
  - Room type
  - Location (neighborhood, latitude, longitude)
- **Host Details:**
  - Host name
  - Host ID
- **Pricing & Availability:**
  - Price per night
  - Minimum nights
  - Availability (calendar-based data for 365 days)
- **Customer Engagement:**

- Number of reviews
- Review scores (various dimensions like cleanliness, communication, etc.)
- **Neighborhood Information:**
  - Neighborhood name
  - Neighborhood group
- **Timeframe of Data:**
  - Data reflects listings active during a specific snapshot in time.

## → **Methodology / Approach**

To analyze the Airbnb listings in Chicago, the following steps were followed:

### **1. Data Cleaning:**

- Removed missing or inconsistent entries.
- Standardized data formats for price, date, and availability
- Converted price values from strings to numerical format for analysis.

### **2. Filtering for Active Listings:**

- Excluded listings with zero availability or no reviews.

### **3. Dashboard Creation:**

- Used Power BI
- Created visualizations to highlight key insights such as:
  - Availability trends by month.
  - Price comparisons by neighborhood and room type
  - Review scores distribution
  - Geographic heatmaps showing listing density.

## → **Key Insights from the Dashboard**

### **-->> Room Type Trends**

- Entire Home/Apt dominates the market with 172 listings (87%), indicating that most hosts offer full properties rather than shared spaces.
- Private Rooms make up only 26 listings (13%), showing a clear preference among guests and hosts for more privacy.

### **-->> Pricing Insights**

- The average price of listings is \$267.45, suggesting a mid-to-premium range offering.
- Listings priced between \$0–\$1000 get the highest number of reviews, implying travelers tend to prefer more affordable options.
- There are listings priced up to \$3000, but these receive significantly fewer reviews, possibly due to lower demand at luxury price points.

### **-->> Availability**

- The total availability across listings is around 35,000 days, which indicates that listings are relatively open for booking throughout the year.
- With 198 total listings, that's roughly 177 days per listing on average, suggesting moderate availability.

### **-->> Host Behavior**

- About 54% of hosts are super hosts, highlighting a strong presence of experienced and highly-rated hosts.
- This may reflect positively on guest experience and quality control in New Orleans.

### **-->> Geographical Distribution**

- Listings are densely clustered around central New Orleans, especially near tourist-heavy areas like the French Quarter, Bywater, and Garden District.
- This confirms that travelers prefer staying close to popular spots, and hosts target high-time zones.

### **-->> Customer Engagement**

- The average number of reviews per month is 2.24, indicating a steady flow of bookings and guest feedback.
- The review trend by year shows a significant spike post-2022, likely due to the recovery of tourism after COVID-19.

### **-->> Property Type Breakdown**

- Entire apartments and condos lead in property types, followed by private rooms in

houses and townhouses.

- Uncommon property types like tents, lofts, and bungalows exist but form a very small part of the market.

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## • NEW ORLANDS

### → **Data Description**

The dataset used for this analysis is sourced from Inside Airbnb, focusing on short-term rental listings in New Orleans, Louisiana, USA. It contains detailed information to explore trends in pricing, availability, host behavior, and customer engagement.

### -->> **Key Characteristics:**

- Number of Records: 198 listings
- Number of Columns/Features: 20+ features including:
  - Listing Details: id, name, room\_type, property\_type, price, availability\_365
  - Host Information: host\_id, host\_name, host\_is\_superhost
  - Location Info: neighbourhood\_cleansed, latitude, longitude
  - Customer Engagement: number\_of\_reviews, reviews\_per\_month, review\_scores\_rating
  - Time Features: last\_review, year, etc.

### -->> **About the Dataset:**

This dataset provides a snapshot of Airbnb activity in New Orleans, ideal for analyzing:

- Market trends
- Host performance
- Price and availability
- Neighborhood preferences

## **→ Insights**

### **-->> Room Type Distribution**

- Entire home/apartment dominates the listings at 87.56% (6,270+).
- Private rooms make up 11.35%, while shared rooms and hotel rooms are negligible.

Insight: Guests in New Orleans clearly prefer booking entire homes or apartments over other types of accommodation.

### **-->> Property Type Distribution**

- The most common property types:
  - Entire home/apt
  - Entire condominium
  - Entire townhouse
- Niche or less common types (e.g., villas, hostels, tiny houses) have minimal listings.

Insight: The platform is heavily geared toward full-unit rentals, not shared or co-living options.

### **-->> Review Trend Over Time**

- There's a massive spike in the number of reviews in recent years, especially after 2022.

Insight: Post-pandemic travel or platform popularity may have contributed to a boom in bookings and reviews.

### **-->> Price & Reviews (by Room Type)**

- Entire home/apartment commands the highest pricing and reviews volume.
- Shared rooms have the least impact in both price and review count.

**Insight:** Listings that offer full privacy are not only more common but also more frequently booked and reviewed.

### **-->> Geographical Distribution**

- High density of listings around central New Orleans, especially areas like Metairie, Chalmette, and near the Mississippi River.

Insight: Tourist-heavy neighborhoods have more listings, suggesting alignment with demand.

## -->> Superhost Analysis

- Around 54.65% of listings are by superhosts, while 42.26% are by non-superhosts.
- A small portion (3%) has missing or undefined superhost status.

Insight: A significant portion of hosts are highly rated and experienced, which boosts guest trust and likely improves booking rates.

## -->> General Stats

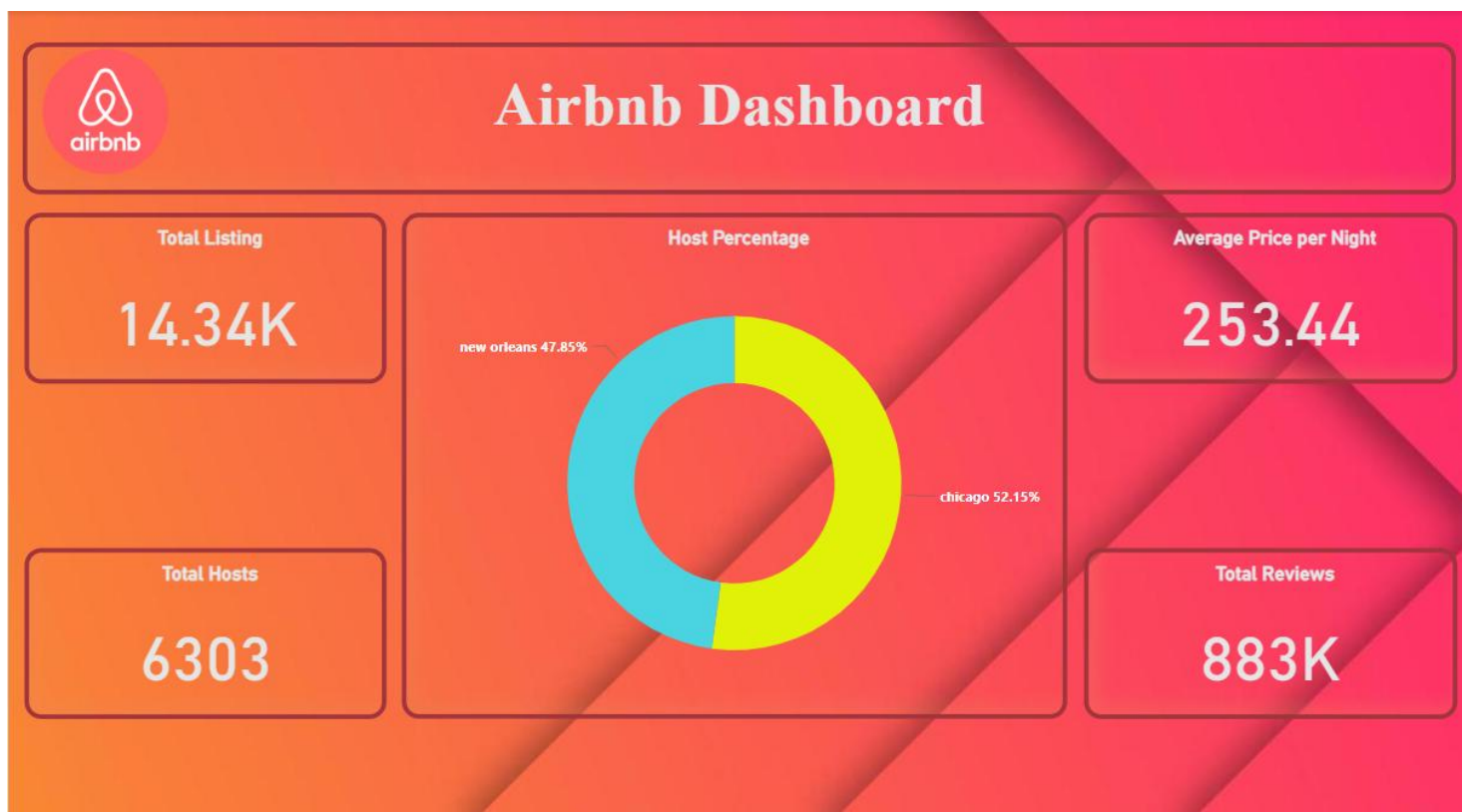
- Total listings: 7,162
- Average price: \$397.06
- Average reviews per month: 1.63
- Sum of availability\_365: Indicates listings are generally open year-round

Insight: Listings in New Orleans are relatively expensive and mostly available throughout the year, making it a highly active market.

## → COMPARISON

### 1. Total Listings

- New Orleans: 7,162 listings



- Chicago: 198 listings

New Orleans has a significantly larger Airbnb presence.

## 2. Room Type Distribution

- New Orleans:
  - Entire home/apt: 87.56%
  - Private room: 11.35%
  - Others (Hotel room, Shared room): ~1%
- Chicago:
  - Entire home/apt: 47.12%
  - Private room: 43.01%
  - Others: very few

New Orleans favors full property rentals, while Chicago has a balanced mix of private rooms and entire homes.

## 3. Average Price

- New Orleans: \$397.06
- Chicago: \$267.45

New Orleans is more expensive on average.

## 4. Availability

- New Orleans: High total availability (~1M+ days across listings)
- Chicago: Lower availability (~35K days total)

New Orleans listings are available more consistently.

## 5. Reviews by Year

- Both cities show a sharp increase in reviews around 2024–2025, possibly due to post-pandemic travel resurgence.

New Orleans has far more reviews overall (reaching 0.4M+), suggesting more tourist traffic and/or longer presence on the platform.

## 6. Reviews per Month (Avg)

- New Orleans: 1.63
- Chicago: 2.24

Chicago listings receive slightly more reviews per month, despite having fewer listings.

## 7. Price vs Reviews (Scatter Plot Insight)

- In both cities, price does not directly correlate with review count.

- New Orleans shows a more dispersed and higher-priced market, while Chicago's price range is narrower.

8. Property Type Distribution

- New Orleans: Offers diverse property types, with “Entire home/apt” dominating.
- Chicago: Fewer property types listed; less variety in options.

New Orleans has a more diversified rental market.

9. Geographic Spread

- New Orleans: Dense clustering of listings in the city center and tourist areas.
- Chicago: Also centralized but fewer total points.

New Orleans offers broader geographic coverage.

10. Superhost Status

- New Orleans:
  - Superhosts: 54.65%
- Chicago:
  - Superhosts: 54.25%

Almost equal percentage of superhosts — suggests competitive hosting standards in both.


→ CONCLUSION



New Orleans has a significantly larger and more active Airbnb market compared to Chicago. It dominates in terms of total listings, availability, average price, property diversity, and overall review volume, suggesting a more mature and tourism-driven short-term rental economy.

While Chicago offers a more balanced mix of room types and gets slightly more reviews per listing per month, its Airbnb presence is smaller in scale and scope. Both cities maintain similar superhost standards, indicating strong competition and quality hosting in each.

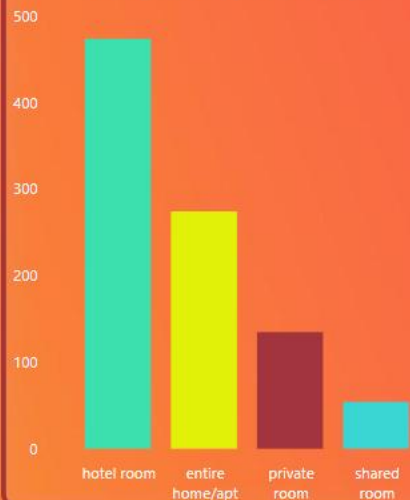
Overall, New Orleans stands out as a more prominent and diversified Airbnb market, catering mainly to tourists seeking full-property stays.



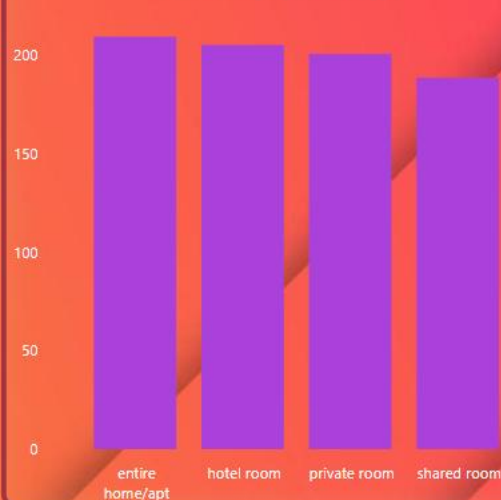


## Property Analysis

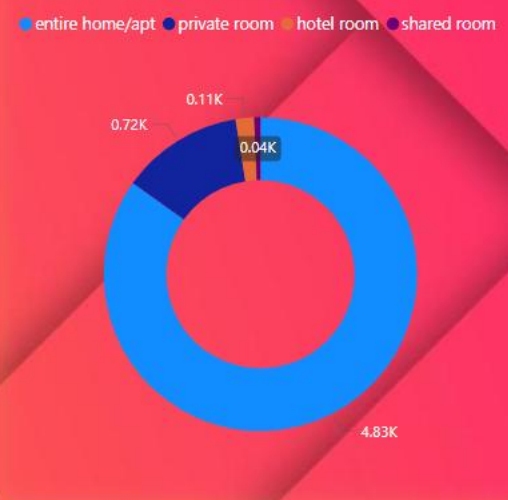
Average Price by Property Type



Availability by Room Type

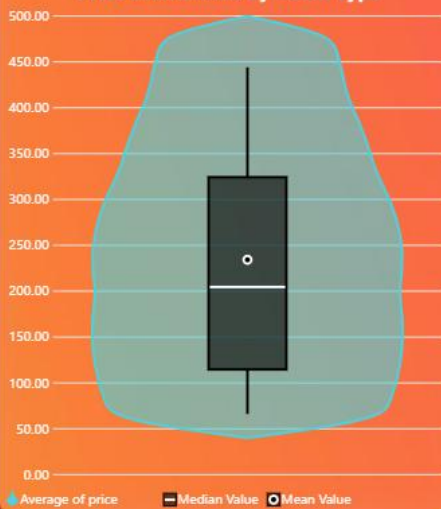


Room Type Share



## Pricing Analysis

Price Distribution by Room Type

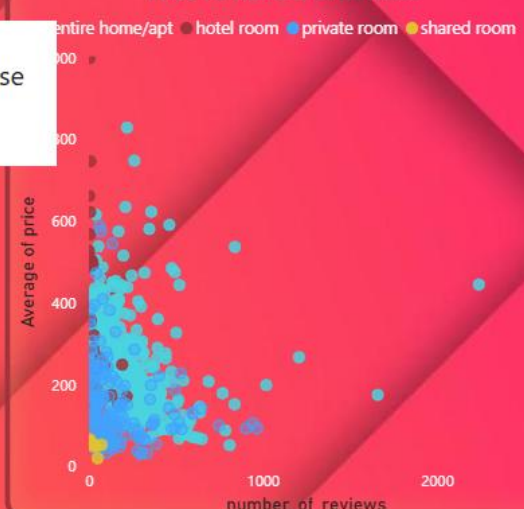


Average Price of top 10 Neighbourhood



neighbourhood u.s. naval base  
Average of price 790.50

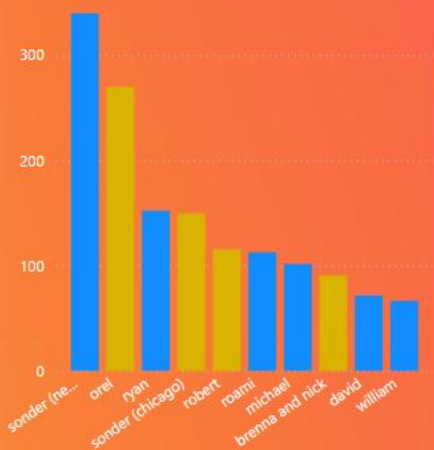
Price vs. Number of Reviews





## Host Analysis

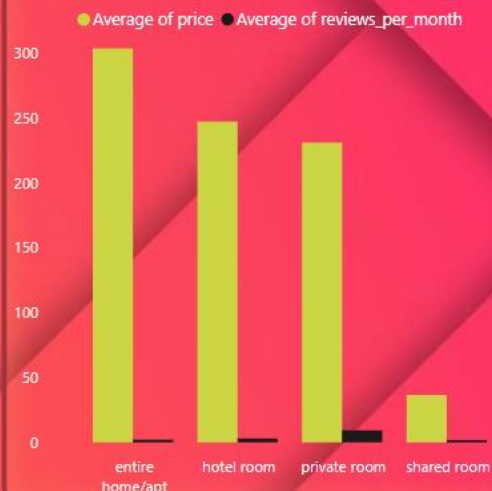
Average Review Score per Host Type



Listings per Host



Average Price and Reviews by Room Type



## Airbnb Dashboard

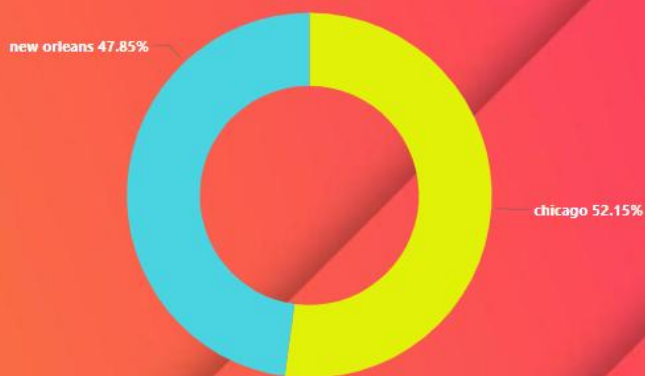
Total Listing

14.34K

Total Hosts

6303

Host Percentage



Average Price per Night

253.44

Total Reviews

883K