# **Airbnb Dashboard Analysis Report: Chicago vs. New Orleans**

**Project Name**: Transforming EDA to Dashboards - Airbnb Analysis  
**Objective**: Utiliser Tableau Desktop/Tableau Public/PowerBI to create a dashboard that facilitates comparative analysis between Airbnb operations in Chicago and New Orleans.  
**Dataset**:

Chicago dataset : <https://drive.google.com/file/d/1BnEsk4VnN_LQuk_7jYBI4hU2qvwrvE7E/view?usp=drive_link>

New\_orleans : <https://drive.google.com/file/d/1T_himWWzIJOnUHPGHAFrXlKrvSurkBlP/view?usp=drive_link>

Cleaned data : [DataVisualization.ipynb](https://colab.research.google.com/drive/1fvV_828IDtefpMoYFqRK0R3NbMC2Vwkc?usp=drive_link)

Dashboard Report : https://drive.google.com/file/d/1LTdw3J-WCJ2M-e6etwmyE42CoEraBM-w/view?usp=drive\_link

Over View Of Airbnb : <https://public.tableau.com/views/airbnbtableauproject2/OverviewofAirbnb?:language=en-US&publish=yes&:sid=&:redirect=auth&:display_count=n&:origin=viz_share_link>

Property Analysis : <https://public.tableau.com/views/airbnbtableauproject2/Propertyanalysis?:language=en-US&publish=yes&:sid=&:redirect=auth&:display_count=n&:origin=viz_share_link>

Pricing Analysis : <https://public.tableau.com/views/airbnbtableauproject2/Pricinganalysis?:language=en-US&publish=yes&:sid=&:redirect=auth&:display_count=n&:origin=viz_share_link>

Host Analysis : https://public.tableau.com/views/airbnbtableauproject2/Hostanalysis?:language=en-US&publish=yes&:sid=&:redirect=auth&:display\_count=n&:origin=viz\_share\_link

### **1. Introduction**

With the rise of short-term rental services, Airbnb has emerged as a leader, boasting over 4 million listings worldwide. This report focuses on a comparative analysis of Airbnb listings in two major urban centres: Chicago and New Orleans. Leveraging the power of Tableau Desktop/Tableau Public/PowerBI, the aim is to uncover insights into local Airbnb markets, offering a comprehensive view for stakeholders on pricing trends, host practices, and popular locations.

### **2. Data Summary**

The dataset provides a snapshot of Airbnb listings, including attributes such as:

* **Location**: Neighborhood, Latitude, Longitude
* **Property Details**: Property Type, Room Type
* **Pricing Information**: Price per night, Minimum Nights Required
* **Availability & Popularity**: Number of Reviews, Reviews per Month, Availability over 365 days
* **Host Information**: Host ID, Host Name

This structured data allows for detailed segmentation, enabling targeted analysis of key Airbnb market aspects.

### **3. Data Cleaning and Transformation Process**

**Data Cleaning**:

* **Handling Inconsistencies**: Removed null values and standardised date formats.
* **Grouping and Replacing**: Inconsistent values in "Neighbourhood" (e.g., due to casing and spelling) were standardised using the "Group and Replace" feature in Tableau Prep.

**Data Transformation**:

* **Derived Metrics**: Created columns for average prices by neighbourhood, reviews per month, and calculated metrics such as availability percentage.
* **Categorical Segmentation**: Added columns to classify listings by popularity, room type frequency, and price bands for deeper insights.

### **4. Key Dashboard Insights**

The dashboard is structured into four main categories, each providing insights relevant to decision-making in Airbnb’s operational strategy.

#### **I. Overview of Airbnb Listings**

* **Listings Density**: Interactive maps reveal that listings are concentrated in popular neighbourhoods in both cities.
* **Top Neighbourhoods**: Bar charts display top neighbourhoods by listing volume, providing a clear overview of market hotspots.

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#### **II. Property Analysis**

* **Room Type Distribution**: Visualised through pie charts, revealing the proportion of room types (e.g., Private Room, Entire Home) available in each city.
* **Neighbourhood Property Insights**: Heat maps showcase neighbourhoods by average price and listing count, allowing users to identify high-demand areas.

#### **III. Pricing Analysis**

* **Room Type Pricing**: Box plots illustrate average pricing across different room types, showing higher prices for entire homes compared to private rooms.
* **Location-Based Pricing**: Scatter plots reveal price variations across neighbourhoods, with central locations tending to command higher rates.

#### **IV. Host Analysis**

* **Host Type vs. Price**: Bar charts compare pricing between professional hosts and individual hosts, showing trends in host pricing strategies.
* **Review Patterns by Host Type**: Scatter plots illustrate correlations between host type and review count, indicating which host types tend to attract more reviews.

### **5. Recommendations**

Based on the insights obtained from the dashboard, the following recommendations are proposed for Airbnb stakeholders:

1. **Optimise Listings in High-Demand Areas**: For Chicago and New Orleans, high-demand neighbourhoods command higher average prices. It is beneficial for Airbnb to focus promotional efforts and partnerships in these areas.
2. **Strategic Pricing Adjustments**: Pricing strategies should reflect the neighbourhood dynamics, room types, and host competition to maximise revenue without pricing out potential guests.
3. **Leverage Popular Room Types**: Targeting specific room types (e.g., Entire Home listings) in central areas with competitive pricing could capture the attention of higher-paying guests looking for complete privacy.
4. **Encourage Reviews to Build Credibility**: Listings with higher review counts appear more popular. Airbnb can encourage hosts to enhance guest experiences and incentivize reviews, which in turn could drive higher booking rates.

### **6. Conclusion**

This dashboard-driven analysis provides a comprehensive comparison between Chicago and New Orleans Airbnb markets, identifying key patterns in pricing, listing popularity, and host behaviours. By leveraging Tableau Desktop/Tableau Public/PowerBI for visualisation, Airbnb stakeholders gain a clear perspective on local markets, enabling data-driven decisions to enhance business strategies in each city.