



Phase 1:

Team Name: Team Number: 7

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Data Source:

1) How did you get it?

We got the Airbnb Market Analysis and Real Estate Sales Data from Kaggle. This dataset is about the Airbnb rental market and real estate sales in different Californian areas.

Joshua Tree – 92252

Yucca Valley – 92284

Big Bear City – 92314

Big Bear Lake – 92315

The monthly aggregated data provided by the dataset enables a thorough examination of the trends in the rental and real estate markets in these areas.

LINK - [Airbnb Market Analysis & Real Estate Sales Data \(kaggle.com\)](#)

2) Did you have to combine multiple data sets?

Yes, The Dataset has the following files.

Market Analysis: The data in this file is an aggregation of monthly listing-level statistics from 2020-2022. It has the following parameters - unique property codes (unified_id), generated revenue, availability (openness (T/F)), occupancy ratios (Days), nightly rates, lead times(Days), and average length of stay(Days) for reservations made each month. It also offers information about on-site amenities.

Amenities: This file indicates whether a listing has specific amenities, denoting their presence with a value of 1 or their absence with a value of 0. Most notably, it indicates whether a pool or hot tub is available in every listing.

Geolocation: The latitude and longitude coordinates for every listing are included in this file, allowing for accurate geographical analysis and visualisation.

Sales Properties: This set of data offers details on properties that are up for sale. There are two distinct files, one with general sales property information and the other concentrating on properties with pools, for the Joshua Tree region (zip codes 92284 and 92252).

3) How many cases and fields are included in your data set? (i.e., the number of rows/columns)

Files	Columns	Rows
Amenities	4	49311
Geolocation	5	11589
Market Analysis	13	108588
Sales Properties 92252	23	73
Sales Properties 92284	23	117
Sales Properties 92314	23	57
Sales Properties 92315	23	106
Sales Properties with Pool 92252	23	15
Sales Properties with Pool 92284	23	15

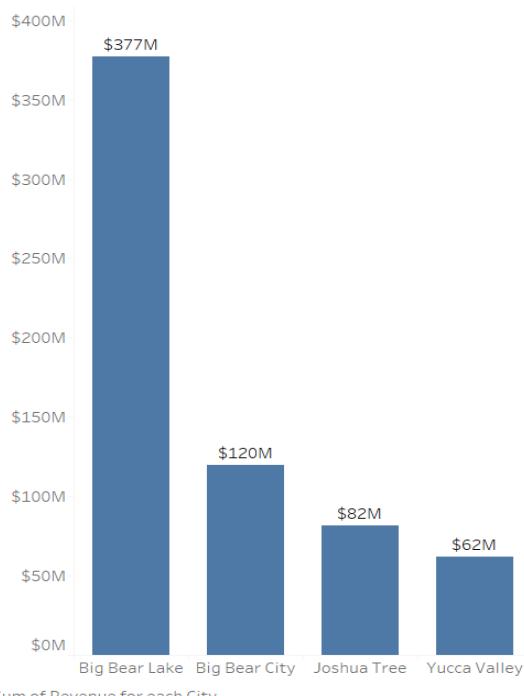
4) Do you have to keep the data confidential? NO

Questions of Interest:

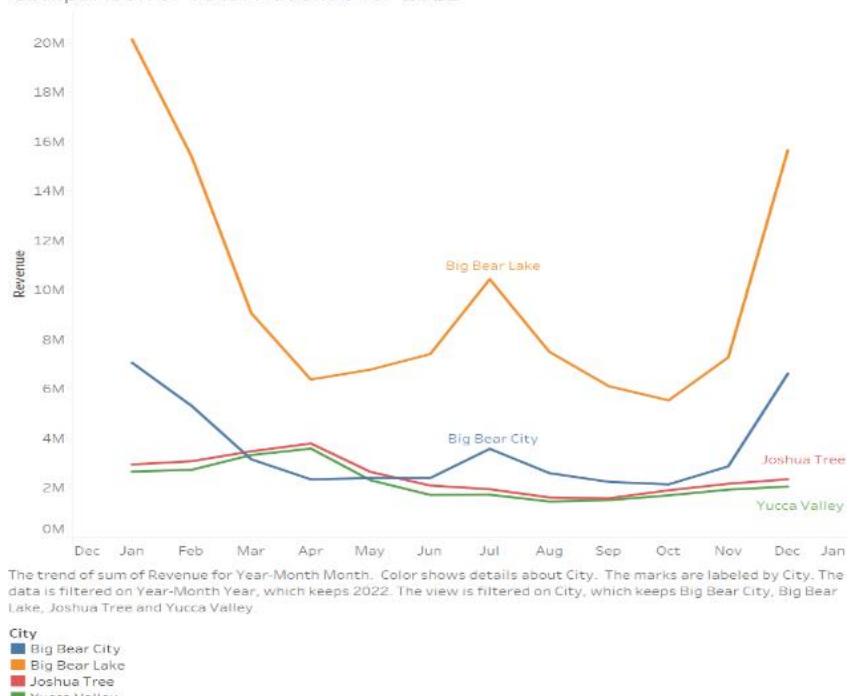
1. How does the monthly revenue vary between all four regions?
2. Is there a relationship between nightly rates and occupancy ratios for Airbnb listings?
3. How does the monthly revenue trend for Big Bear vary throughout the year?
4. What is the geographic distribution of Airbnb listings in all four cities?
5. What is the distribution of specific amenities in Airbnb listings

Initial Data Visualizations:

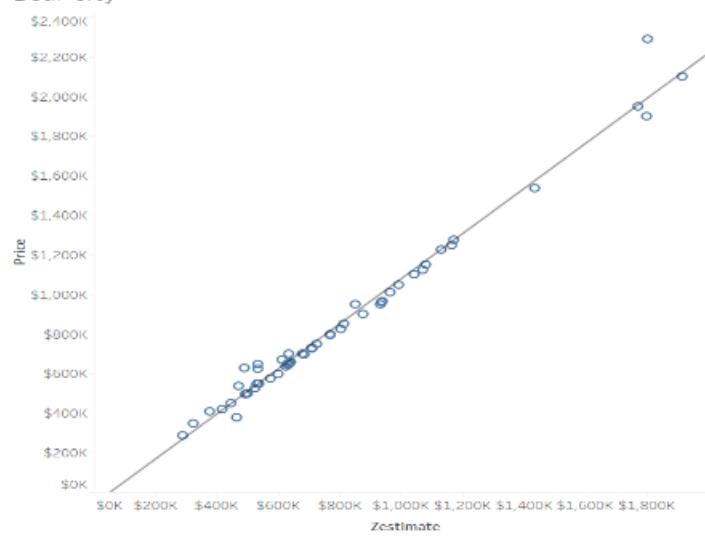
Total Revenue By City



Comparison of Total Revenue for 2022



Correlation between Zestimate and Price of Properties in Big Bear City



Sum of Zestimate vs. sum of Price.. Details are shown for Zillow URL. The view is filtered on sum of Zestimate, which keeps non-Null values only.



Phase 2:

Project Context:

- **Who** is your audience?

The audience for this project includes real estate investors, Airbnb hosts, property managers, city planners, and community stakeholders. This audience is interested in understanding the trends in the Airbnb rental market and real estate sales to make informed decisions.

- **Why** should they care about what you say?

They need to know about the impact of Airbnb on local housing markets, trends in rental revenue, property prices, and the availability of amenities in specific regions. Understanding these trends helps them make better investment decisions, plan for community development, or address housing concerns.

- **What** do you need your audience to know and do?

The audience needs to understand the impact of Airbnb rentals on the housing market, identify trends in rental revenue, property prices, and amenities, and take actions to ensure a balanced approach to short-term rentals and long-term housing needs.

Practice 1. The 3-minute Story:

"Understanding Airbnb's Impact on California's Rental and Real Estate Markets"

The California vacation rental and real estate markets have seen significant changes over the past few years. As Airbnb continues to grow in popularity, the desert and mountain regions, specifically Joshua Tree, Yucca Valley, Big Bear City, and Big Bear Lake, have become hotspots for tourists and property investors.

The COVID-19 pandemic shifted travel trends, leading many people to seek out vacation rentals in less densely populated areas. This shift caused an increase in Airbnb listings in these regions. As tourists flocked to these areas, rental revenue surged, which attracted real estate investors looking to capitalize on this growth.

However, this boom in Airbnb rentals created potential conflicts. Property prices and rental rates increased, impacting local housing markets. Local communities faced challenges balancing short-term rentals with the needs of long-term residents. Airbnb hosts and property managers had to navigate fluctuating occupancy ratios and rental revenue to maintain consistent income.

Property owners and investors adapted to the evolving market conditions by diversifying their rental offerings, adding amenities like pools and hot tubs to attract more guests. This increased competition among rental properties and influenced real estate sales trends.

The overall trend indicates continued growth in Airbnb rentals, especially in areas with unique outdoor attractions and remote work opportunities. However, this growth necessitates a balanced approach to ensure sustainable community development. Property owners and investors need to consider the impact on local housing markets and work towards responsible property management.

Practice 2. Big Idea:

Airbnb's growing influence in California's rental and real estate markets presents both opportunities and challenges, highlighting the need for balanced approaches to short-term rentals and long-term housing solutions.

**Practice 3. Storyboarding:**

Airbnb has become a major player in the rental market. Discuss the impact on rental revenue due to Airbnb's growth. Mention how the COVID-19 pandemic influenced travel trends, leading to more Airbnb rentals in less dense areas

1

Explore challenges due to increased Airbnb rentals
Conflicts between short-term rentals and long-term housing
Rising property prices and rental rates impacting local housing markets
Term rentals and long-term housing

2

How property owners and investors adapted to the evolving market
Diversified rental offerings and added amenities like pools and hot tubs to attract more guests
The importance of balanced approaches to manage short-term rentals and local community needs

3

Airbnb's Impact on California's Rental and Real Estate Markets

Summarize key points
Highlight the importance of sustainable practices in the Airbnb rental market
Emphasize the need to balance short-term rentals with long-term housing needs
Thank the audience and invite questions

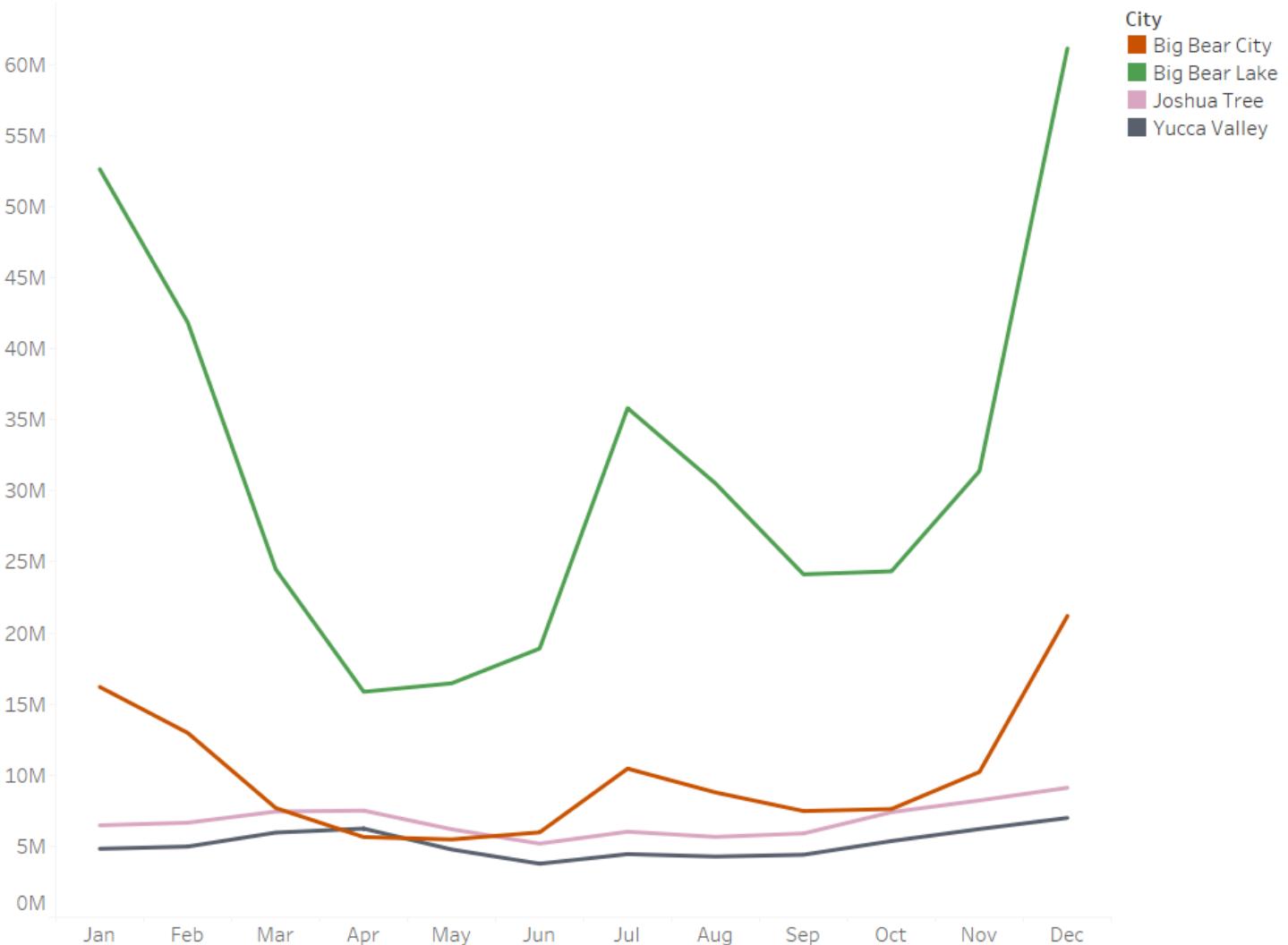
4

Dashboard filters for city and time period
Include tooltips for additional information when hovering over data points
Interactive legends to toggle between different data segments

5

Data Visualizations:**Chart # 1: Monthly Revenue Trend By City**

Monthly Revenue Trend By City

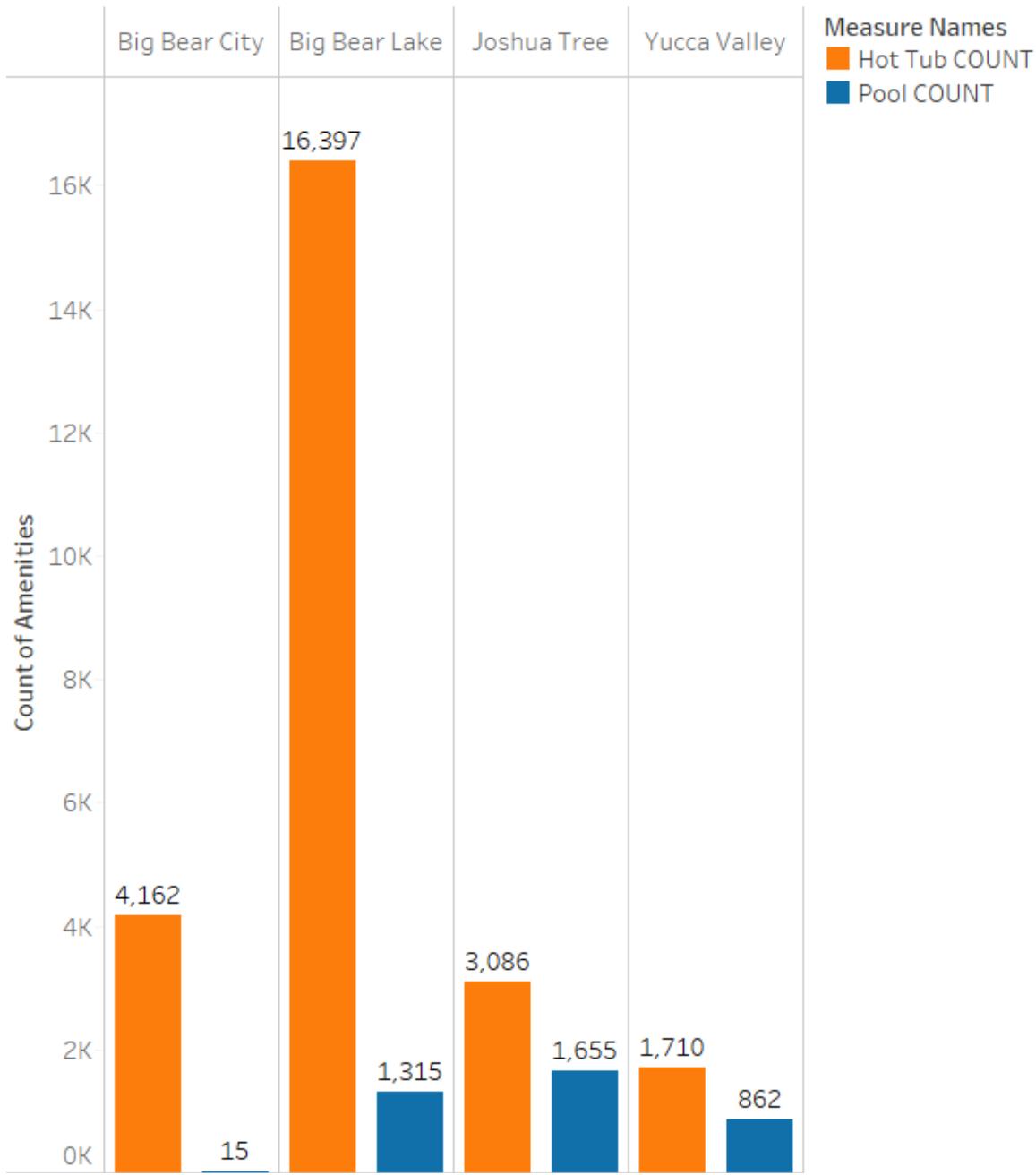


Interpretation: This chart shows the trend in rental revenue over time for different cities. This chart allows you to understand revenue trends across time and compare different locations

Chart Type: Line chart with Month on the x-axis and Revenue on the y-axis.

Chart #2: Amenities Distribution By City (Hot Tub and Pool)

Amenities Distribution by City (Hot Tub and Pool)

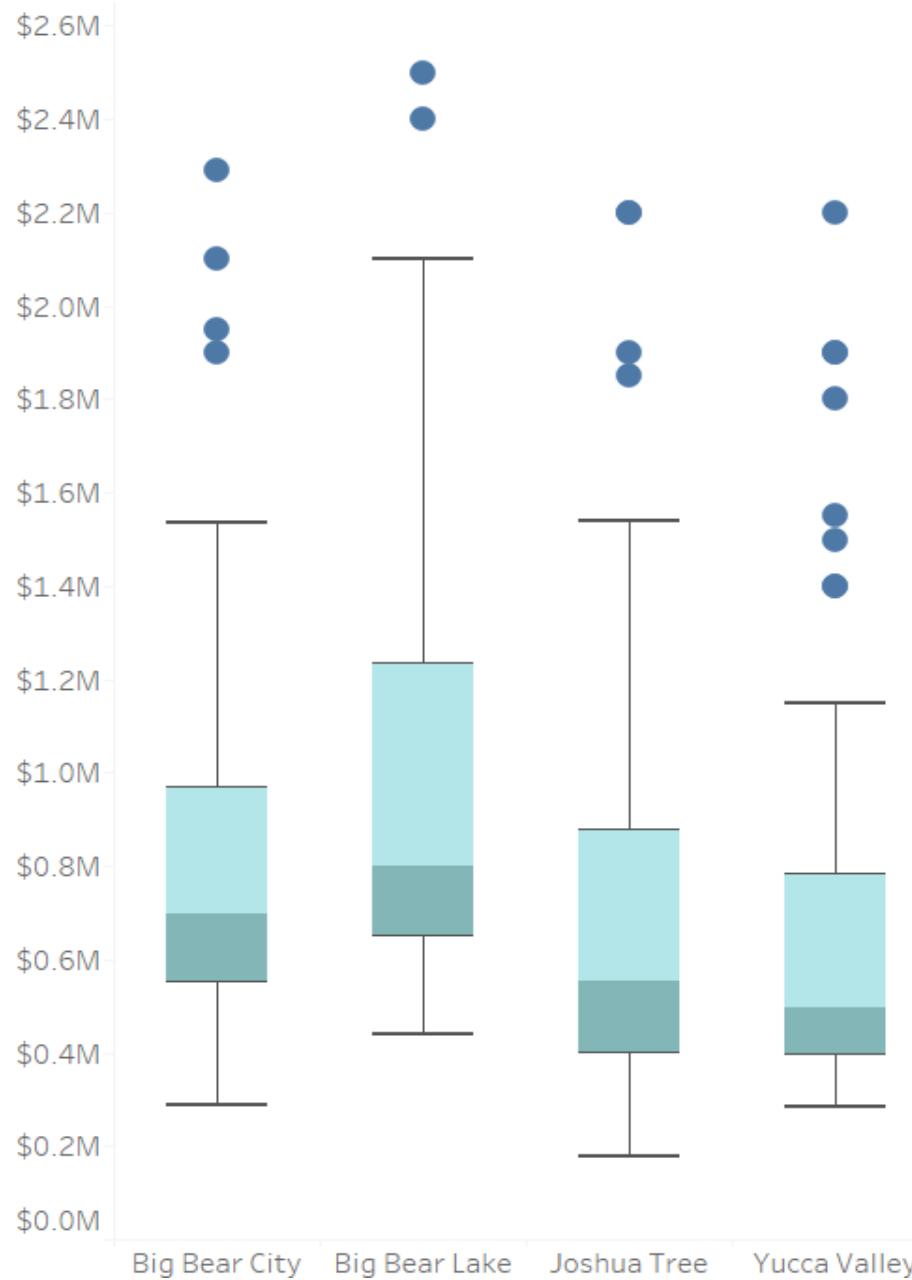


Interpretation: The chart shows the distribution of specific amenities, such as pools and hot tubs, across different cities. This chart provides a clear view of which amenities are common or rare in different locations.

Chart Type: Stacked bar chart with "Zipcode" on the x-axis and counts of "Hot Tub" and "Pool" on the y-axis.

Chart #3: Real Estate Property Prices By City

Real Estate Property Prices By City

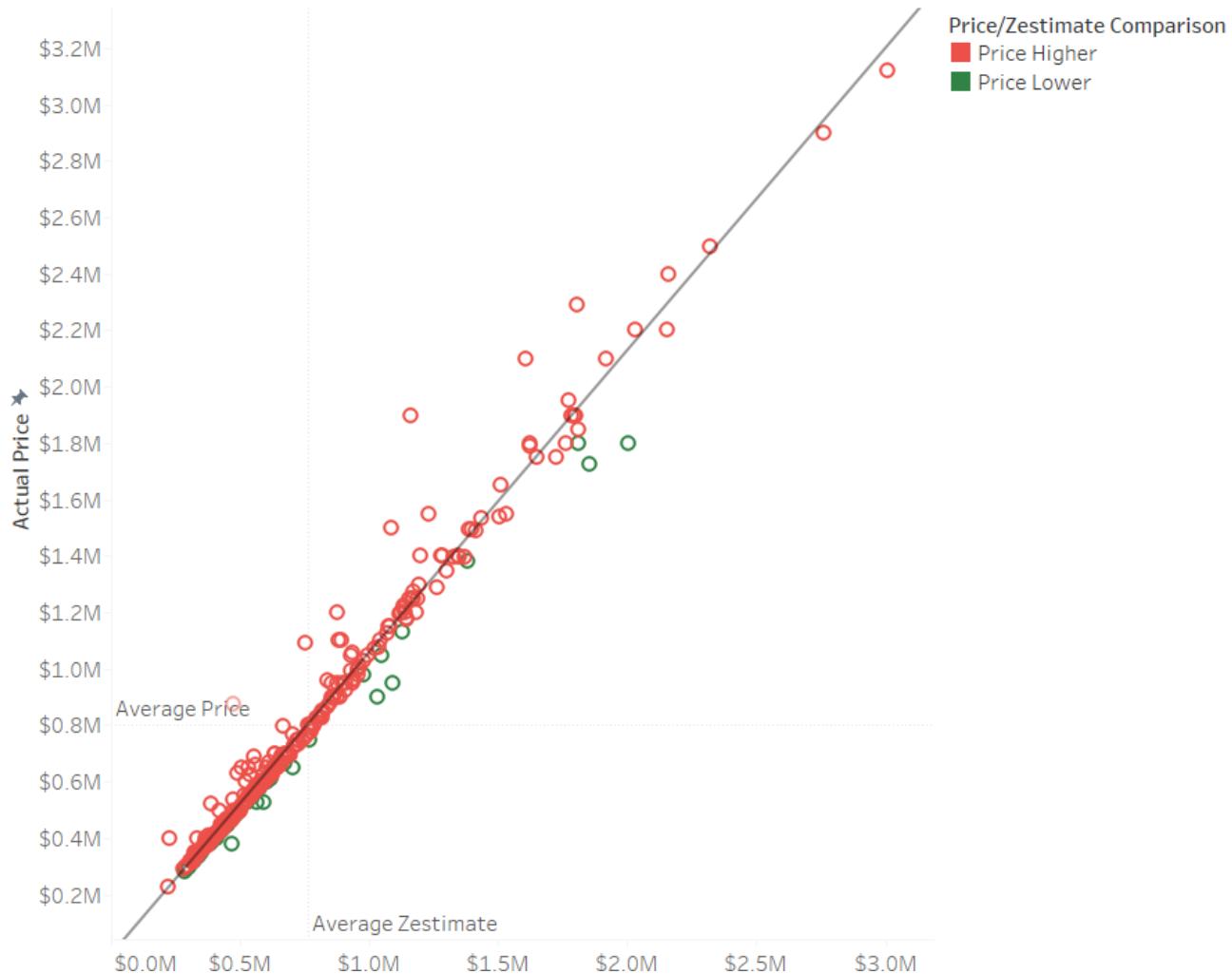


Interpretation: The chart shows the property prices across different cities for real estate sales. This chart helps you understand the range and distribution of property prices in different cities, highlighting which areas have higher or lower real estate prices.

Chart Type: Box plot with "Cities" on the x-axis and "Price" on the y-axis.

Chart #4: Zestimate vs Price for Properties By City

Zestimate vs Price for Properties By City



Interpretation: The chart shows the relationship between the Zestimate (estimated property value) and the listed price for all properties. This chart helps you assess whether properties are priced similarly to their estimated value or if there are significant disparities.

Chart Type: Scatter plot with "Zestimate" on the x-axis and "Price" on the y-axis.



Interactive Dashboard: An interactive dashboard in Tableau with charts, allowing users to filter by city. This dashboard could provide a comprehensive view of rental and real estate trends in these regions, highlighting key insights and allowing users to explore specific details in depth.

