**Real Estate Data Report**

The Real Estate dataset has been used in this analysis report was collected from Redfin.com. The data has been cleaned using Excel techniques and finalized with variables including PROPERTY TYPE, ADDRESS City, STATE OR PROVINCE, ZIP, PRICE, BEDS, BATHS, SQUARE FEET, LOT SIZE, YEAR BUILT, DAYS ON MARKET, $/SQUARE FEET, HOA/MONTH, LATITUDE, LONGITUDE, and Distance To ocean. The dataset mainly focuses on the information of 12 cities within California and Florida, and the sample size contains 1184 data records after cleaned.

The analysis would mainly study and investigate the relationship between price and other factors. The main focus is to find the factors that lead to the price change over the last 115 years, analyze the data both numerically and visually, then gather insights with visualization provided. This would help clients better understand the factors to look at when investing into the cities within our data analysis.

To begin exploring the data we wanted to quickly get an idea of the value of an investment in relation to the average prices of the of the households.

A graph with blue lines

Description automatically generated

Looking at the data, the most valuable households are in Manhattan Beach, Venice, and Miami Beach. After those three major cities, most of the other cities are all at similar price points meaning that we can decide between working with higher value homes or smaller value homes.

We also want to look at the trend of change in price for the past 115 years. Please see below exhibit Price Change By Every 7-year (Single Family Residential & Townhouse). By grouping every 7 years, we could see the change of average price for both property types with different colors and specific price label on each bar of the histogram.

A graph of numbers and letters

Description automatically generated

We see that the overall trend of price has been rising since 1904 all the way until 2023, and single family residential has always been having a higher average price compared to the Townhouse. This could be caused by the properties’ size in square feet and if they contain a parking lot because only the single family residential has lot size records.

We also want to specifically investigate the price change within each state over the years based on the cities we selected. Comparing the change in price within each state would be beneficial to the clients and investors to catch the opportunities and know where to invest. Please see below exhibit.

A screenshot of a graph

Description automatically generated

By looking at the trend of average price in California and Florida, we see that the overall average housing price in California has been rising, and the average property price in Florida has reached the highest in 1930 but remained relatively lower compared to California since then. Investing in properties in California seems a better idea for a larger benefit.

A graph of a number of feet

Description automatically generated with medium confidence

Looking at the Average price per square foot per city we were able to identify that many of the cities all fall around the range of 600-1000 price per square foot. The outlier cities to this data are Manhattan Beach, Venice, and Inglewood. All these outliers fall within California, and we believe that Manhattan Beach and Venice are likely due to beachside properties having less square footage but still being valuable for their location. As such in terms of house flipping, these locations could be more beneficial for house flipping. Upon further data analysis, however, this is most true for single family residentials.

A graph of average square feet per city

Description automatically generated

Looking at average price per square foot per city separated by property type, Manhattan Beach, and Venice both show that most of their value comes from single family residentials. Also, overall, most of the single-family homes are larger than the Townhouses that are available for sale. Meaning we could look at working with less homes to turn more of a profit specifically in areas such as Manhattan Beach or Venice. Or on the other end of the spectrum, have more security in working with more townhouses where mistakes or failures to sell will be less detrimental to the company.

The below exhibit visualization also shows the bubble chart of cities with average prices in different colors, this could provide a better visual in comparing the average price of each city with different property types. (Note that the dashboards and Tableau story do not support a larger image size when editing, the original work of the bubble chart include all city labels and their corresponding average price, please look at sheets City By Avg.Price (Single Family Residential) and City By Avg.Price (Townhouse) within Tableau packaged workbook for more details.)

A screenshot of a graph

Description automatically generated

Manhattan Beach has spotted the highest average price in both townhouse and single family residential types of property. Venice and Miami spotted second and third places for Townhouse. And Miami Beach and Benice spotted second and third places for single family residential. Manhattan Beach and Venice are investment worthy for both types of property. Miami can be a good choice to invest in for Townhouse and Miami Beach is a good choice for investing into single family residential. The investors who look for a less-budget investment can also look into the cities ranked in the middle to seek opportunities based on our analysis. It seems like there is a relationship between price and location since most of the top ranked cities are close to the coast, beach, or port.

For a better view of the relationship between price and location with different types of property, a map visualization was created to see the average price distribution. Please see below exhibit.

A screenshot of a map

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According to the data visualization on map, we see that Marina Del Rey and Playa Vista Areas only have Townhouses, and the average prices are relatively higher than the other locations. The average price is slightly higher for the locations around the beach and downtown areas. This might be caused by the living experience including the ocean views and infrastructures around the city areas. These locations are investment worthy for the investors to consider.

We also want to investigate and see if distance to ocean can be a major effect that leads to the price change within the cities we selected. Below is the scatter plot we created for comparing the distance in miles to ocean of the property and their prices. Please see below exhibit.

A graph of a number of blue dots

Description automatically generated with medium confidence

We could clearly see a negative relationship between property price and distance to ocean for the single family residential after adding the trend line with a negative slope. As the property location moves away from the ocean, the price drops with it. Distance to ocean is an important factor that investors should consider when investing in single family residential. On the other hand, even the trend line of price compared to distance to ocean for townhouses also shown as negative, there is no significant drop or rise to support a strong relationship between price and distance to ocean compare to the single family residential.

A graph of a number of different colored bars

Description automatically generated with medium confidence

Dependent on the target market that is desired, we found that the single-family homes are built to house many more people than the Townhouses. Given this though the averages of beds and baths if the client has no preference to the types of houses they want to manage, they can target larger or smaller families by choosing between the different property types.

We would also like to include the below features and variables in our dataset for a better analysis for the clients.

A graph on a white background

Description automatically generated

One disappointing discovery is that it appears that waiting for houses to have the price go down is not an effective strategy. The graphs show that the prices for homes do not have a significant drop off as days on market gets larger. It’s still possible that there is a connection and waiting is a valid strategy assuming we were just unable to capture the data effectively. Being able to collect data on the homes over a period of time and not only once would help to identify if that is the case. Because assuming it is, we could make substantial profits by targeting homes that have been on the market for an extended period of time.

A screenshot of a graph

Description automatically generated

Within the areas we collected data, Florida in the Miami area contains tons more properties than that of California. Almost all these properties are townhouses, yet the number of townhouses is a little less than double all of California’s properties combined. One detail we couldn’t capture that could be important to this point is that Florida properties could have higher turnover. Which, depending on the type of work desired could be better or worse to invest in. For buying and selling homes Florida would be more profitable with greater access to real estate. But for renting California would be better assuming that Florida has a higher turnover rate.

A graph showing a line

Description automatically generated

As expected, price increases as the amount of total baths increases. And though not show, this trend is very similar to the trend when using beds as well. The only major point of note with this trend is how this implies that the difference between townhouse and single-family residence is not the innate type of house. But rather the difference between the two types of homes comes down to the size more than the type itself. So, the types of homes when looking to acquire properties really comes down to preferences that relate to the house type. As most homes do not have their prices linked to the property type in any meaningful way but more towards the actual size of the home.

Last but not least, we think there is also a relationship between demographic income and housing price within the areas and locations we investigated. It would be better to study the income within each city to determine the house price, as well as the infrastructure within each city. We may get the data from United States Census Bureau for a more accurate report and a better analysis for our clients to look at.