

Residential Housing Analysis for Bay Area

Objective

- Analyze the current real estate listings data for Bay area counties
- Understand the current housing market dynamics to answer questions as
 - a. Most listed real estate class in Bay area*
 - b. Can most households afford those listings based on current financial situation
 - c. Cities where real estate listings are showing downward financial trend

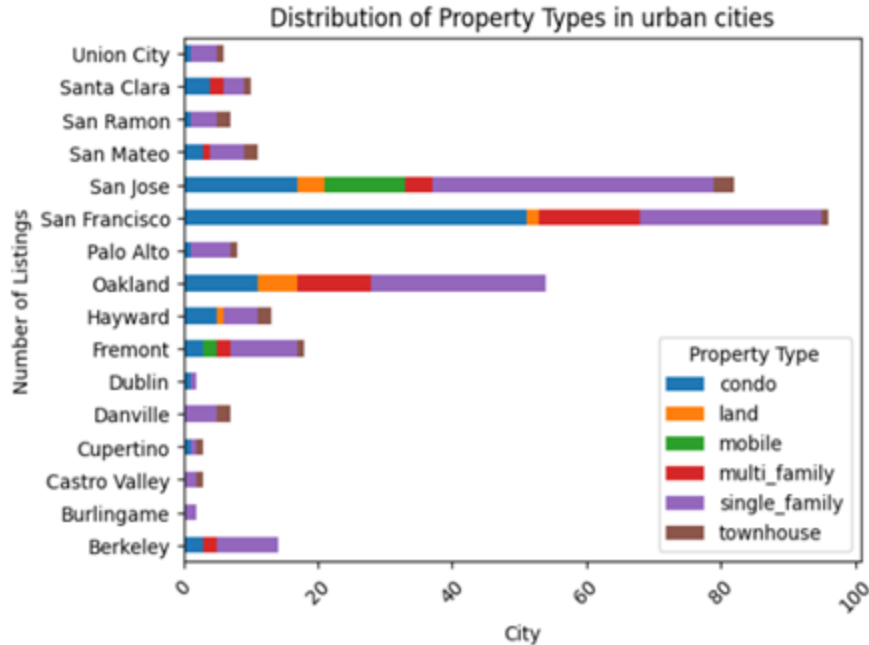
*Santa Clara County, San Mateo County, Alameda County, Contra Costa County, Marin County, Napa County, San Francisco County, Solano County and Sonoma County

Approach

- Source
 - zip code data from government website (<https://www.unitedstateszipcodes.org/zip-code-database/>)
 - Property listings data from realtor.com (approx 900 listings with 500+ in cities of interest)
 - Household data from government census data website*
- Load
 - Zipcode - manual one time download
 - Property Listings - scrape the realtor.com for the properties listed for zip codes in the counties of Bay area
 - Income Data - Government census data website.
- Process
 - Remove the listings where the information is corrupt based on the json parsing.
 - Consider the median household income only for analysis.
 - Analyze on top 20 cities based on the number of listings we could get

* [https://data.census.gov/table/ACSST5Y2022.S1901?t=Income%20\(Households,%20Families,%20Individuals\)&g=040XX00US06\\$8600000&moe=true](https://data.census.gov/table/ACSST5Y2022.S1901?t=Income%20(Households,%20Families,%20Individuals)&g=040XX00US06$8600000&moe=true)

Distribution Of Property Types In Top 20 Cities of Bay Area



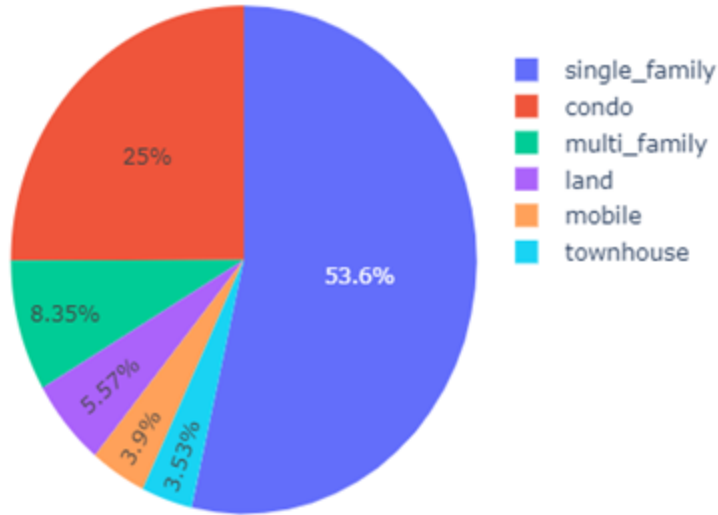
Work:

- Used matplotlib.pyplot for better visualization
- Grouping the data by city and property type and plot barh chart

Analysis💡:

- In San Francisco, almost 50% of the property type is condo & 30% is single family home
- In San Jose, around 40% are single family & 20% are condo properties
- Almost every other city has approximately higher percentage of single-family homes as property type

Most Popular Home Type In Bay Area



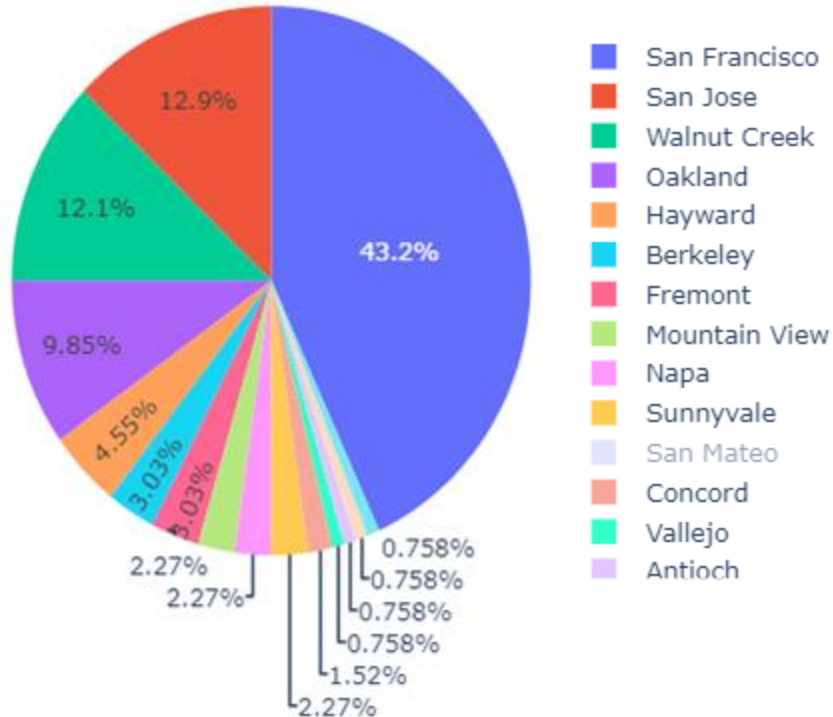
Work:

- Value count on home type column and plot pie chart

Analysis💡:

- Single family is the most popular home type in the Bay Area with 53.6%
- Around 80% of the properties listed on the market are single family and condos together
- Which reinforces for the fact that the current market needs are categorizing to more nuclear families in the top 20 cities based on the listing count of the data.

City Wise Property Distribution For Condos



Work:

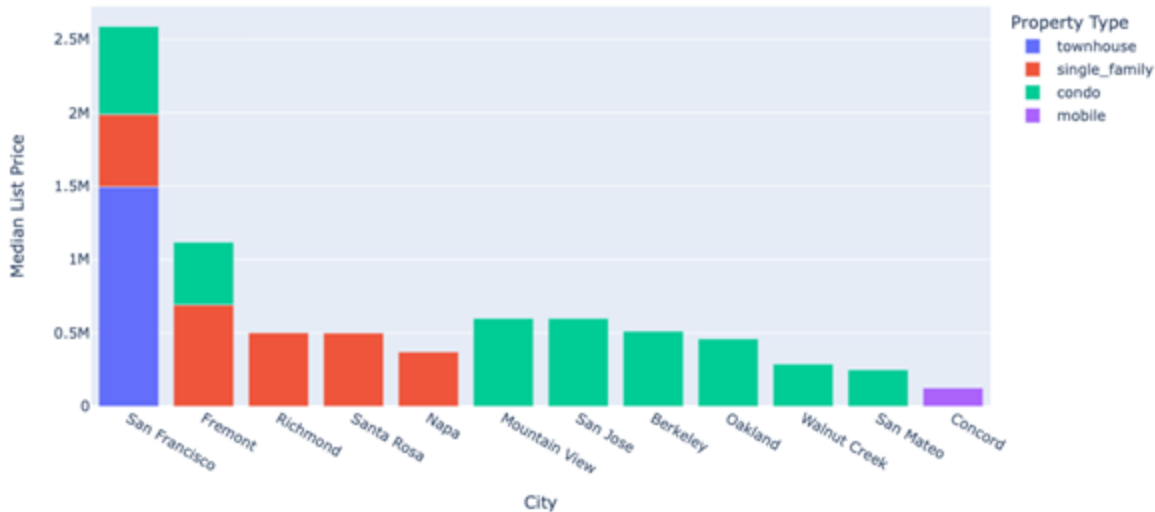
- Investigate the condos distribution and understand the price ranges and cities

Analysis💡:

- As we can notice San Francisco itself have 43% of the condos listed in bay area along with San Jose and Walnut Creek which makes it around 65% of condos listed for sale

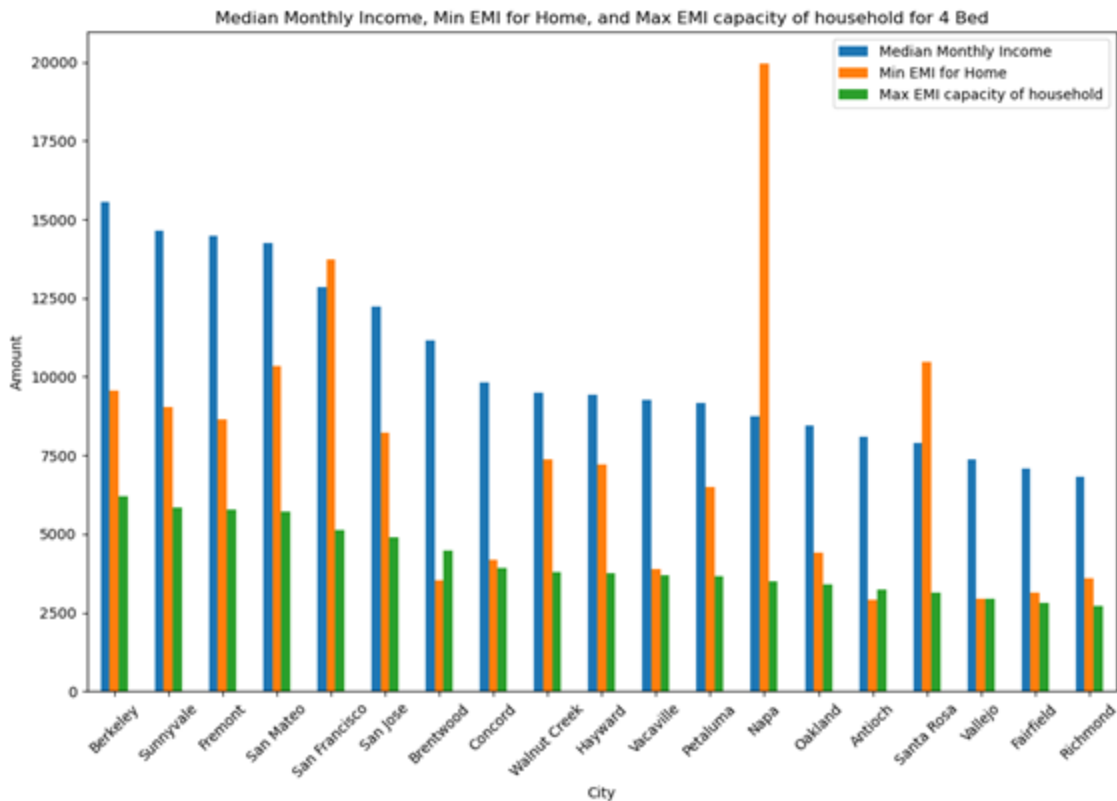
Listing Prices for 1 Bed Homes

List Price by City and Property Type



- **SF, Mountain View, San Jose:** Condo median price: \$600K for 1 bed.
- **SF Listings:** Not enough data on 1 bed townhouses
- **Fremont Median Prices:** 1 bed Single family is \$650K and condos: \$425K
- **SF, Fremont, Affordability:** Costly requiring significant investment

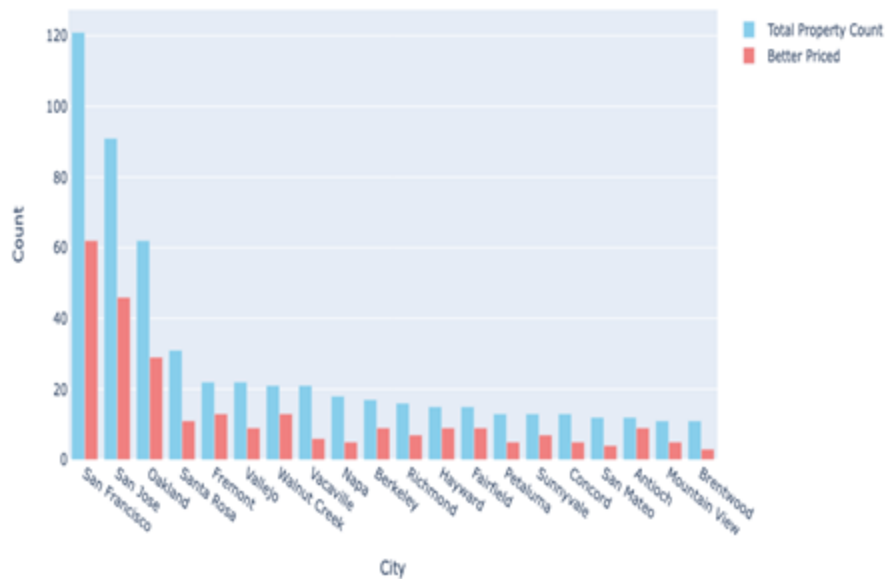
Affordability of Housing in Bay Area Cities



- 1 Bed : Most Bay area cities **affordable** due to high median income
- 2 Beds : Still affordable with **SF, Berkeley, Napa** being **exceptions**
- 3 Beds: Still accessible for those further from the bay area
- 4 Beds: Exclusive to HNI's, ultra rich with **Brentwood** still an **exception**

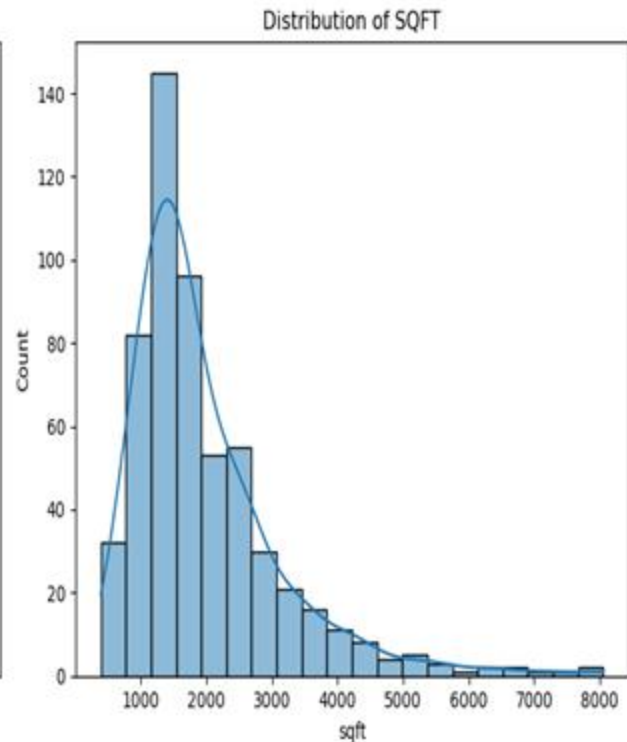
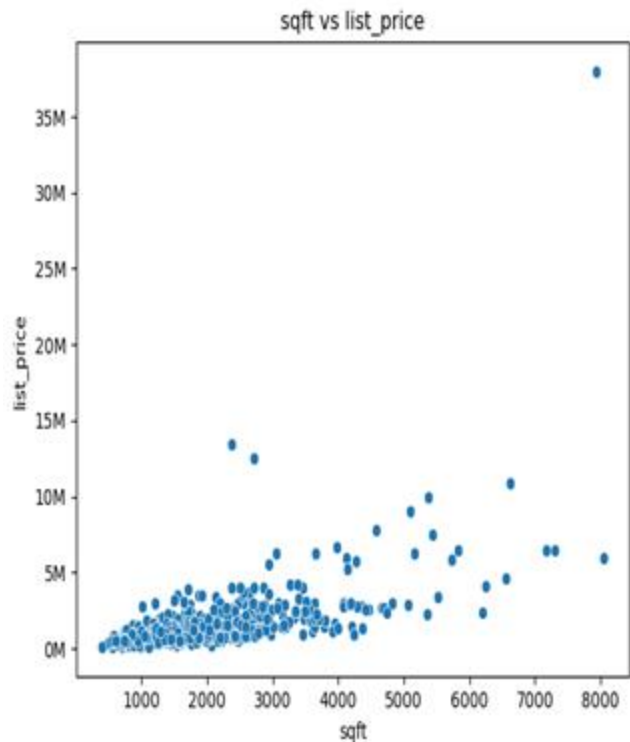
Properties Listed at Discounts

Better Priced and Total Property Count by City



- **San Francisco:** Over 40 listings below previous sale prices, indicating motivated sellers or market corrections.
- **San Jose:** Nearly 30 listings at a loss compared to prior sales, suggesting pricing adjustments to match market dynamics.
- **Other Cities (e.g., Oakland, Fremont, Walnut Creek):** Notable counts of discounted listings.
- **Berkeley, Richmond, Hayward, Pittsburg:** Few or no properties listed below prior sale prices.
- Prevalence of listings at loss values varies across Bay Area cities, with major hubs like San Francisco and San Jose offering more opportunities for discounted properties

SQFT vs Price & Distribution of SQFT in Listings



- The scatter plot shows the overall listing price vs sqft distribution. Sqft and list price shows linear correlation
- Almost 90% of the properties are less than 3000 sqft.
- Most of the listed properties are 1500-2000 sqft; shows single family or condo listing concentration

Summary

Good Deals

Available in major hustling cities like San Francisco, San Jose, Oakland, & Santa Rosa

High-Priced Properties

Cities like Fremont, Hayward, Fairfield, Walnut Creek

Unsustainable to Own

Almost all the Bay Area prominent cities with a few exceptions of Brentwood, Concord, Vacaville, Antioch, and Vallejo

Summary

Price Affordability

Market catering to the needs by listing single family homes & condos with ~80% of the total listings

Recommendation

Cities such as Fremont with its close proximity to major hubs and high median household income

Thank you!

