



ALAMEDA COUNTY ZILLOW ANALYSIS

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Contents

◆ Data Scraping

◆ Alameda county with 14 cities - SF used for urban comparison

- Alameda, Albany, Pleasanton
- Berkeley, Dublin, Union City
- Fremont, San Francisco, Oakland
- Hayward, Livermore, Piedmont
- San Leandro, Emeryville, Newark
- Total: 20 columns with 2,274 rows

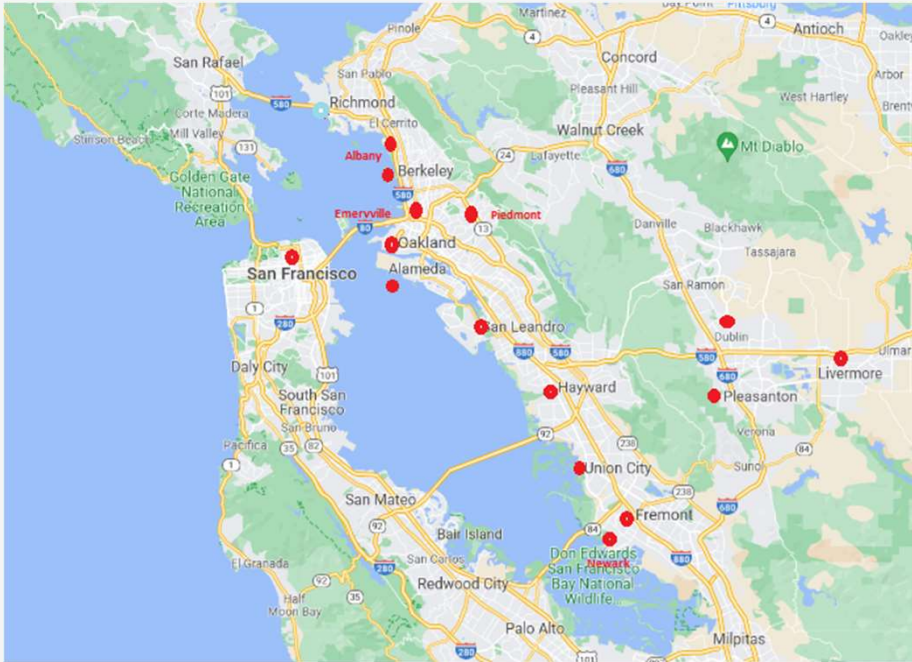
◆ Cleaning

◆ Data summary

◆ Visualization

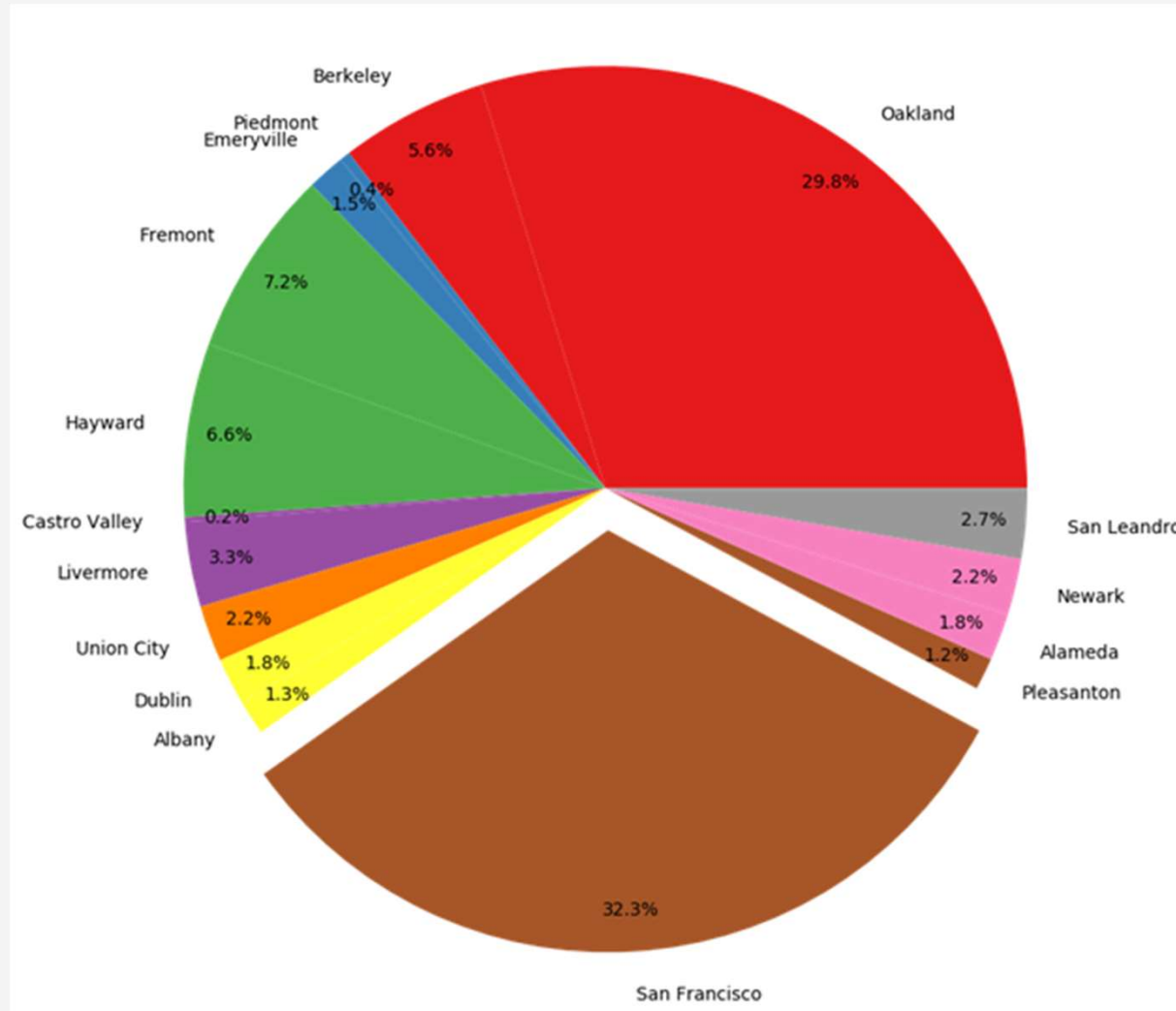
◆ Analysis

Cities Covered:




- Albany
- Alameda
- Berkeley
- Dublin
- Emeryville
- Fremont
- Hayward
- Livermore
- Newark
- Oakland
- Pleasanton
- San Francisco (for urban comparison)
- San Leandro
- Union City
- Piedmont


Percentage Distribution of Records




- List Price
- No of Beds
- No of bath
- Zipcode
- Sqft
- Address
- Year Built
- Price/sqft
- Time on Zillow
- Views
- Saves
- Elementary school rating
- Junior school rating
- High school rating
- HOA Fee
- Status_type
- Status Text
- City
- URL
- House_type

1 day on Zillow



\$4,750,000
6 bds 6 ba 4,223 sqft - House for sale
331 Arguello Blvd, San Francisco, CA 94118

1 day on Zillow


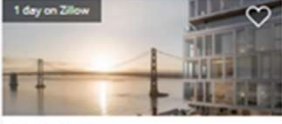
\$1,995,000
2 bds 2 ba 1,512 sqft - New construction
1 Stuart St #406, San Francisco, CA 94105
POLARIS PACIFIC, Kristin Evans

1 day on Zillow


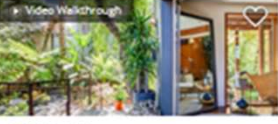
\$1,960,000
3 bds 3 ba 1,850 sqft - Condo for sale
170 Pacific Ave APT 33, San Francisco, CA 94111
AVIGOR REAL ESTATE, INC., Mark A. Grant

3D Tour


\$2,495,000
3 bds 2 ba 2,000 sqft - Condo for sale
1470 Montclair St, San Francisco, CA 94115
HO-DO REAL ESTATE, Isabella W. Pae

1 day on Zillow


\$4,495,000
2 bds 2 ba 1,679 sqft - New construction
79 Howard St #1202, San Francisco, CA 94105
POLARIS PACIFIC, Kristin Evans

Video Walkthrough


\$4,000,000
3 bds 4 ba 2,915 sqft - House for sale
275 Shipley St, San Francisco, CA 94107
SOTHEBY'S INTERNATIONAL REALTY, Wendy M. Storch

Overview

Time on Zillow 17 minutes | Views 48 | Saves 0

Breathtaking Victorian lovingly restored for modern day living with extensive outdoor living space and parking for up to five cars. The main unit is over 3,000 sq ft w/ two

\$4,750,000 6 bd | 6 ba | 4,223 sqft
331 Arguello Blvd, San Francisco, CA 94118
Est. payment: \$20,060/mo [Get pre-qualified](#)

[Contact Agent](#) [Take a Tour](#)

[Overview](#) [Facts and features](#) [Home value](#) [Price and tax](#)

Facts and features

Type:	Detached	Parking:	3 Attached Garage spaces
Year built:	1900	Lot:	3,049 sqft
Heating:	Other	Price/sqft:	\$1,125
Cooling:	Other		

[Rental value](#) [Nearby schools](#) [Similar homes](#) [Neigh](#)

Nearby schools in San Francisco

GreatSchools rating

8/10

Peabody (George) Elementary
Grades: K-5 Distance: 0.4 mi

9/10

Roosevelt Middle
Grades: 6-8 Distance: 0.2 mi

9/10

Asawa (Ruth) SF Sch of the Arts A Public School
Grades: 9-12 Distance: 2.6 mi

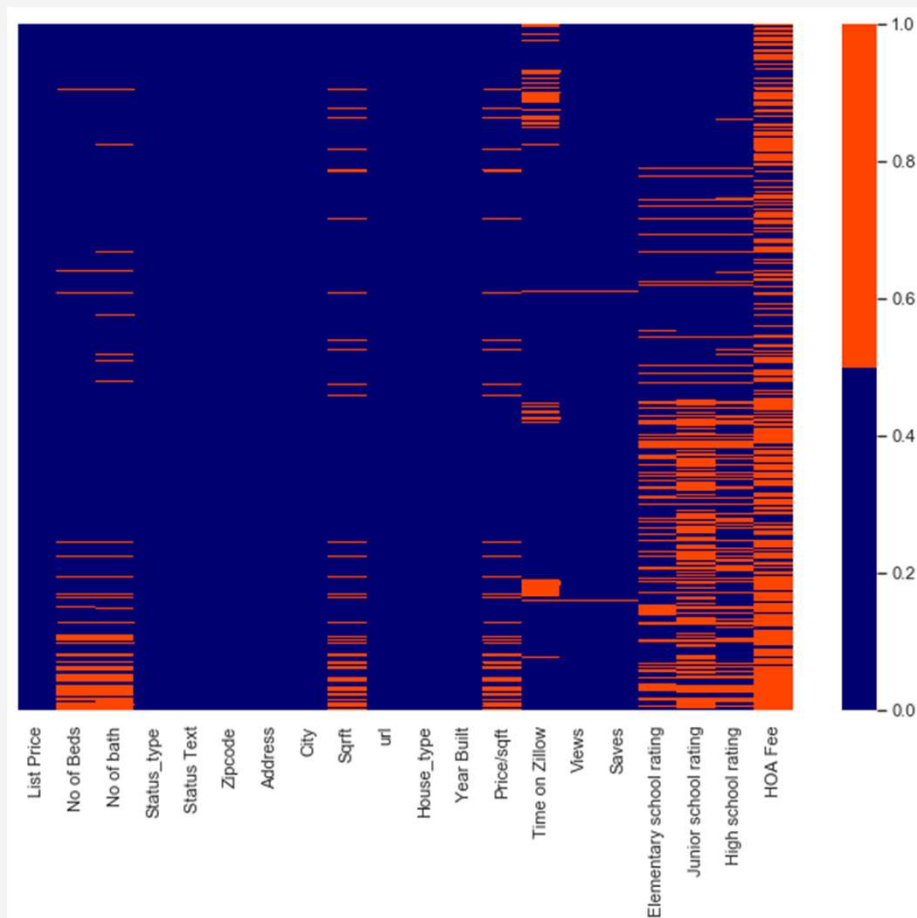
Estimated monthly cost
\$20,060

Principal & interest	\$15,746/mo	▼
Mortgage insurance	\$0/mo	▼
Property taxes	\$2,652/mo	▼
Home insurance	\$1,663/mo	▼
HOA fees	N/A	▼
Utilities	Not included	▼

All calculations are estimates and provided for informational purposes only. Actual amounts may vary.

Numerical Data	Categorical Data
List Price No of Beds No of bath Sqrft Year Built Price/sqft Time on Zillow Views Saves Elementary school rating Junior school rating High school rating HOA Fee	Zipcode Address City URL House_type Status_type (Sale) Status Text (House type for sale)

Heatmap



COLUMN NAME	SFO	OAKLAND	FREMONT
S No	0.00%	0.00%	0.00%
List Price	0.00%	0.00%	0.00%
No of Beds	2.00%	17.00%	6.00%
No of bath	4.00%	18.00%	6.00%
Status_type	0.00%	0.00%	0.00%
Status Text	0.00%	0.00%	0.00%
Zipcode	0.00%	0.00%	0.00%
Address	0.00%	0.00%	0.00%
City	0.00%	0.00%	0.00%
Sqft	8.00%	14.00%	6.00%
url	0.00%	0.00%	0.00%
House_type	0.00%	0.00%	0.00%
Year Built	0.00%	0.00%	0.00%
Price/sqft	8.00%	14.00%	6.00%
Time on Zillow	8.00%	11.00%	22.00%
Views	2.00%	2.00%	0.00%
Saves	2.00%	2.00%	0.00%
Elementary school rating	7.00%	29.00%	0.00%
Junior school rating	7.00%	56.00%	0.00%
High school rating	11.00%	33.00%	0.00%
HOA Fee	45.00%	75.00%	48.00%

Handling missing data

Description	Action taken
List Price/ Price per Sqrft/ Sqrft	Drop the rows
No of bed/bath	0
Status type/Status text/ ZipCode/ Address/City/Url/House Type	No missing values
Year Built	Replace 'No Data' with City Average
Time on Zillow	1 day
Views & Saves	0
School Rating	Replace NA with city average at grade level(Elementary/Middle/High school)
HOA Fee	Replace NA (HOA Fee is not applicable for those houses) with city average

5-point Summary

HOA Fee | House type = Townhouse, condominium, CONDO

count	761.00
mean	576.20
std	386.37

- **Mean:** \$1,054,241
- **Median:** \$859,000
- **Standard Deviation:** \$830,082
- **Max:** \$11,995,000
- **Min:** \$72,500

List Price

- **Mean:** 1,934.71
- **Median:** 1,448
- **Standard Deviation:** 4,426
- **Max:** 135,036
- **Min:** 297

Sqft

- **Mean:** \$687.65
- **Median:** \$606
- **Standard Deviation:** \$2,142
- **Max:** \$79,900
- **Min:** \$11

Price/sqft

Summary Statistics - City-wise

Average List Price

Oakland : \$ 886432
Berkeley : \$ 1559560
Piedmont : \$ 3393222
Emeryville : \$ 761642
Fremont : \$ 1247221
Hayward : \$ 892021
Livermore : \$ 1384243
Union City : \$ 906250
Dublin : \$ 1082960
Albany : \$ 1179800
San Francisco : \$ 2325589
Pleasanton : \$ 1661371
Alameda : \$ 1047300
Newark : \$ 1151286
San Leandro : \$ 856576

Average Price/sqft

Oakland : \$ 567
Berkeley : \$ 742
Piedmont : \$ 917
Emeryville : \$ 694
Fremont : \$ 1202
Hayward : \$ 571
Livermore : \$ 1037
Union City : \$ 590
Dublin : \$ 607
Albany : \$ 658
San Francisco : \$ 1035
Pleasanton : \$ 686
Alameda : \$ 666
Newark : \$ 651
San Leandro : \$ 544

Average HOA Fee

Oakland : \$ 499
Berkeley : \$ 84
Piedmont : \$ 55
Emeryville : \$ 493
Fremont : \$ 372
Hayward : \$ 116
Livermore : \$ 97
Union City : \$ 180
Dublin : \$ 165
Albany : \$ 0
San Francisco : \$ 735
Pleasanton : \$ 43
Alameda : \$ 0
Newark : \$ 82
San Leandro : \$ 64

Summary Statistics - City-wise

Average School Rating

Oakland : 3.3
Berkeley : 7.0
Piedmont : 6.0
Emeryville : 2.7
Fremont : 7.3
Hayward : 4.0
Livermore : 6.0
Union City : 6.0
Dublin : 7.7
Albany : 8.7
San Francisco : 5.3
Pleasanton : 8.0
Alameda : 7.3
Newark : 4.7
San Leandro : 4.3

Average Time on Zillow

Oakland : 48
Berkeley : 38
Piedmont : 16
Emeryville : 53
Fremont : 28
Hayward : 28
Livermore : 38
Union City : 25
Dublin : 7
Albany : 18
San Francisco : 37
Pleasanton : 32
Alameda : 2
Newark : 16
San Leandro : 27

Average Views

Oakland : 1101
Berkeley : 2147
Piedmont : 3730
Emeryville : 958
Fremont : 1447
Hayward : 1548
Livermore : 1956
Union City : 1628
Dublin : 1230
Albany : 1147
San Francisco : 1967
Pleasanton : 2922
Alameda : 535
Newark : 871
San Leandro : 1461

Question

- What are people really interested in/ Things that make a house high in demand?

Oakland

- Views: 1,101
- School rating: 3.3
- Average time on Zillow: 48 days

Berkeley

- Views: 2,147
- School rating: 7.0
- Average time on Zillow: 38 days

Data Visualizations

Heatmaps

Correlation between
data values

Boxplot

City pricing exploration

Barplot

Housing features

Scatterplot

Price comparison to
sizes

01

02

03

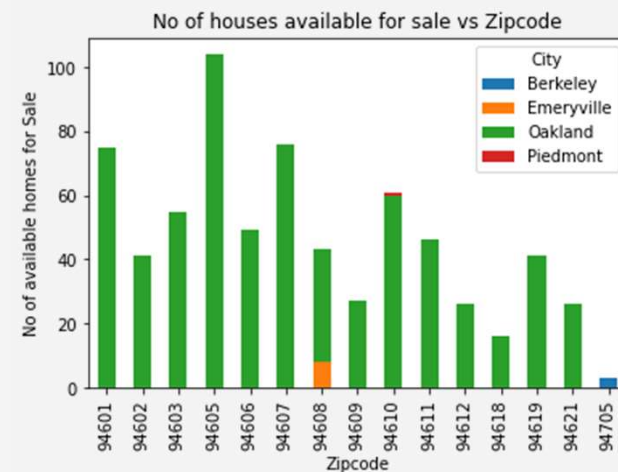
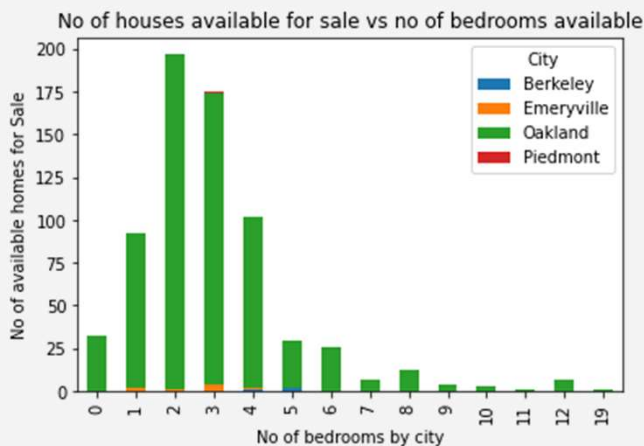
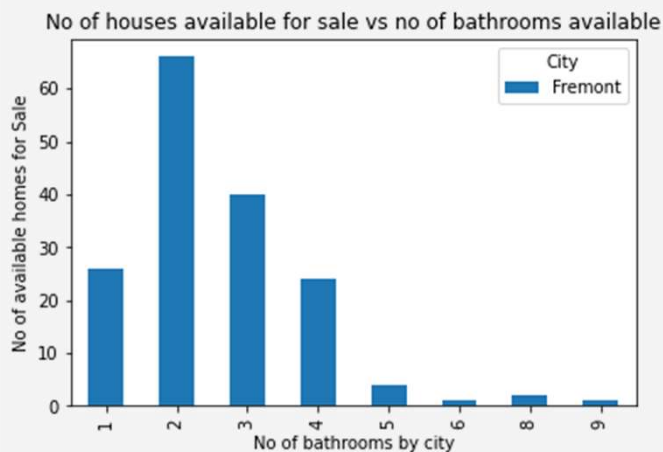
04

Heatmap

Correlation between Numerical Values

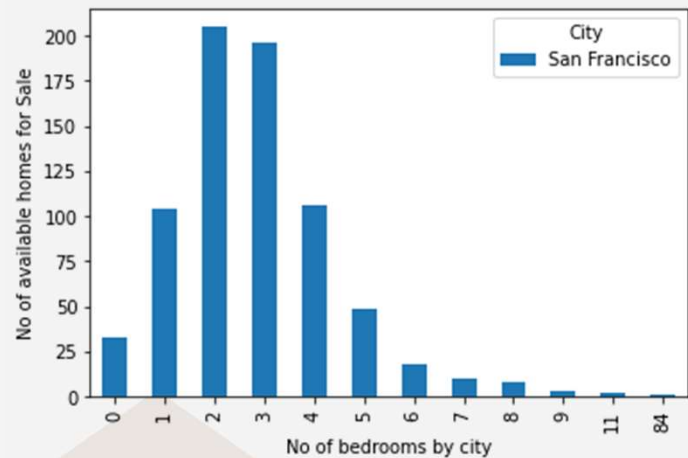
Square feet (area of the *house*) and number of baths are important factors in determining price.

	List Price	No of Beds	No of bath	Sqft	Year Built	Price/sqft	Time on Zillow	Views	Saves	Elementary school rating	Junior school rating	High school rating	HOA Fee
List Price	1.000000	0.208696	0.664847	0.815572	-0.155955	0.648645	0.239394	0.526343	0.075200	-0.069319	0.247972	0.138326	0.173194
No of Beds	0.208696	1.000000	0.313449	0.299754	-0.184235	-0.021741	0.144939	0.115269	0.013659	-0.028489	0.066751	0.081092	0.029272
No of bath	0.664847	0.313449	1.000000	0.659257	-0.112558	0.343199	0.114153	0.343282	0.054775	-0.007275	0.217777	0.182540	0.146786
Sqft	0.815572	0.299754	0.659257	1.000000	-0.253495	0.259995	0.184164	0.358383	0.025661	-0.005162	0.230897	0.168589	0.125053
Year Built	-0.155955	-0.184235	-0.112558	-0.253495	1.000000	0.006914	0.007261	-0.108802	-0.007622	-0.075549	-0.212090	-0.127437	0.082123
Price/sqft	0.648645	-0.021741	0.343199	0.259995	0.006914	1.000000	0.110553	0.200061	0.125715	-0.019427	0.162448	0.020995	0.234368
Time on Zillow	0.239394	0.144939	0.114153	0.184164	0.007261	0.110553	1.000000	0.215508	0.073266	-0.122431	-0.009587	0.035781	0.189535
Views	0.526343	0.115269	0.343282	0.358383	-0.108802	0.200061	0.215508	1.000000	0.039291	-0.068258	0.201168	0.136593	-0.033504
Saves	0.075200	0.013659	0.054775	0.025661	-0.007622	0.125715	0.073266	0.039291	1.000000	-0.107937	0.014898	0.052432	-0.010206
Elementary school rating	-0.069319	-0.028489	-0.007275	-0.005162	-0.075549	-0.019427	-0.122431	-0.068258	-0.107937	1.000000	0.296619	0.140757	0.085270
Junior school rating	0.247972	0.066751	0.217777	0.230897	-0.212090	0.162448	-0.009587	0.201168	0.014898	0.296619	1.000000	0.321965	-0.019846
High school rating	0.138326	0.081092	0.182540	0.168589	-0.127437	0.020995	0.035781	0.136593	0.052432	0.140757	0.321965	1.000000	0.003709
HOA Fee	0.173194	0.029272	0.146786	0.125053	0.082123	0.234368	0.189535	-0.033504	-0.010206	0.085270	-0.019846	0.003709	1.000000

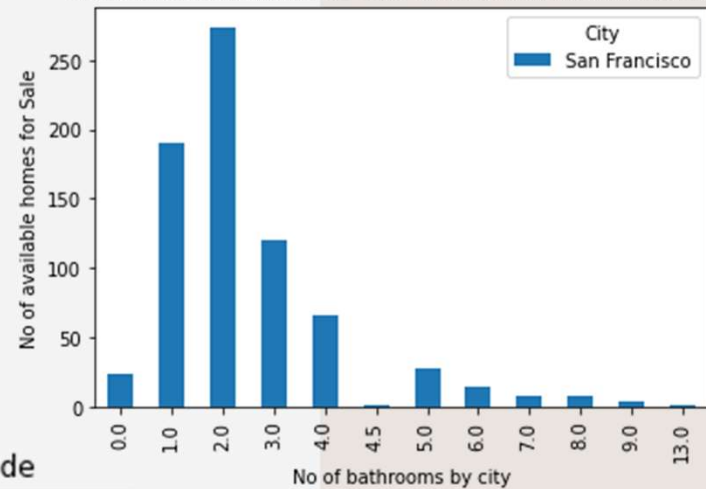


FREMONT & OAKLAND

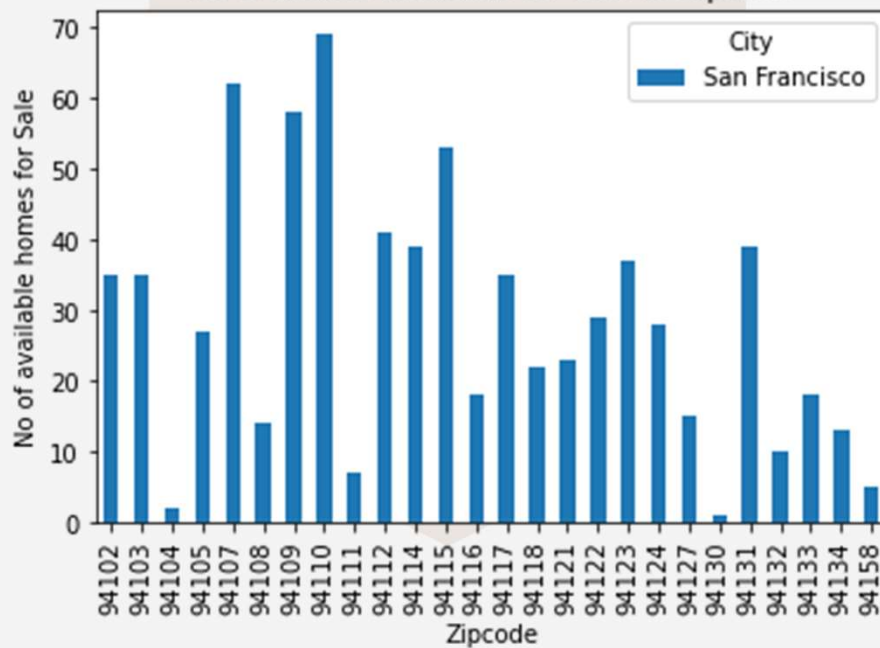
No of houses available for sale vs no of bedrooms available



No of houses available for sale vs no of bathrooms available

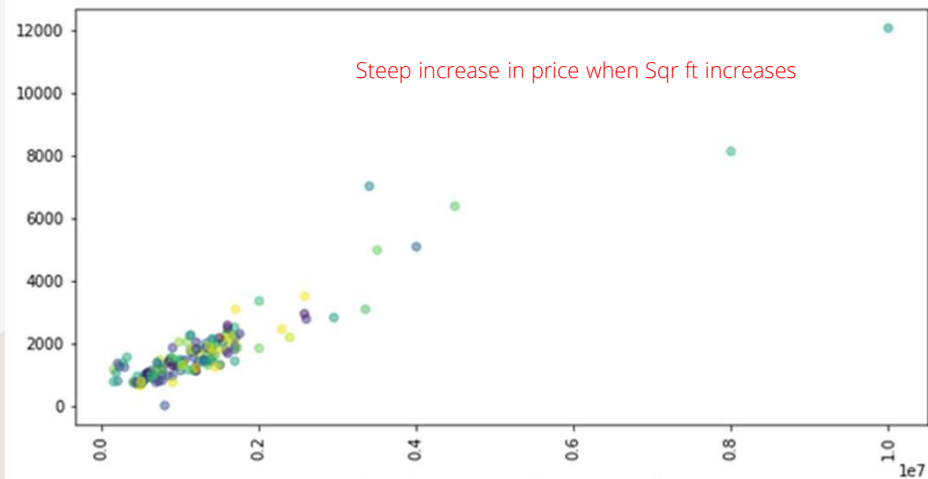


No of houses available for sale vs Zipcode

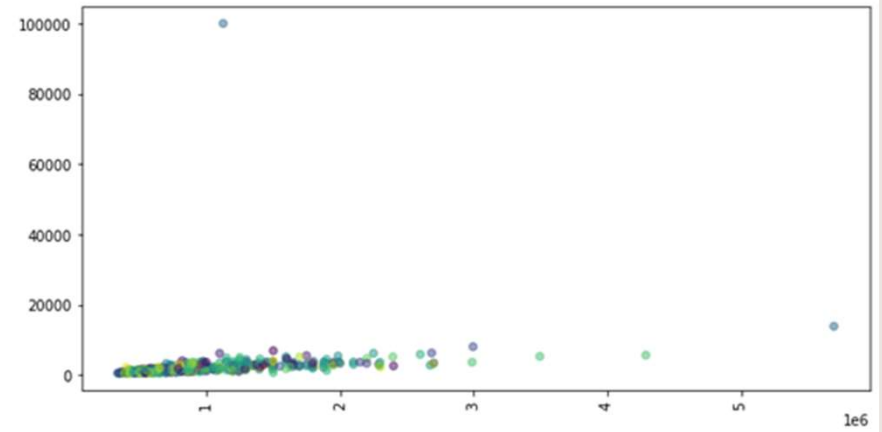


SAN FRANCISCO

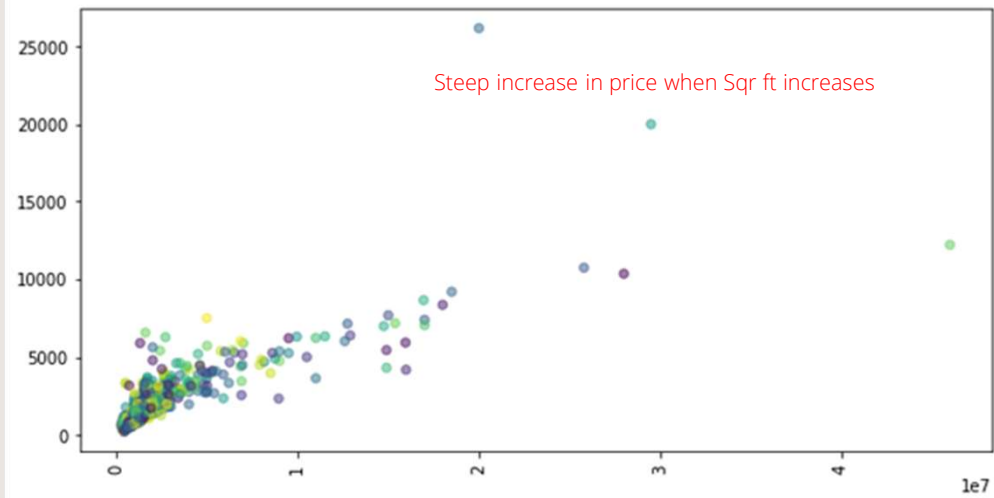
List Price Vs SqrFt in Fremont



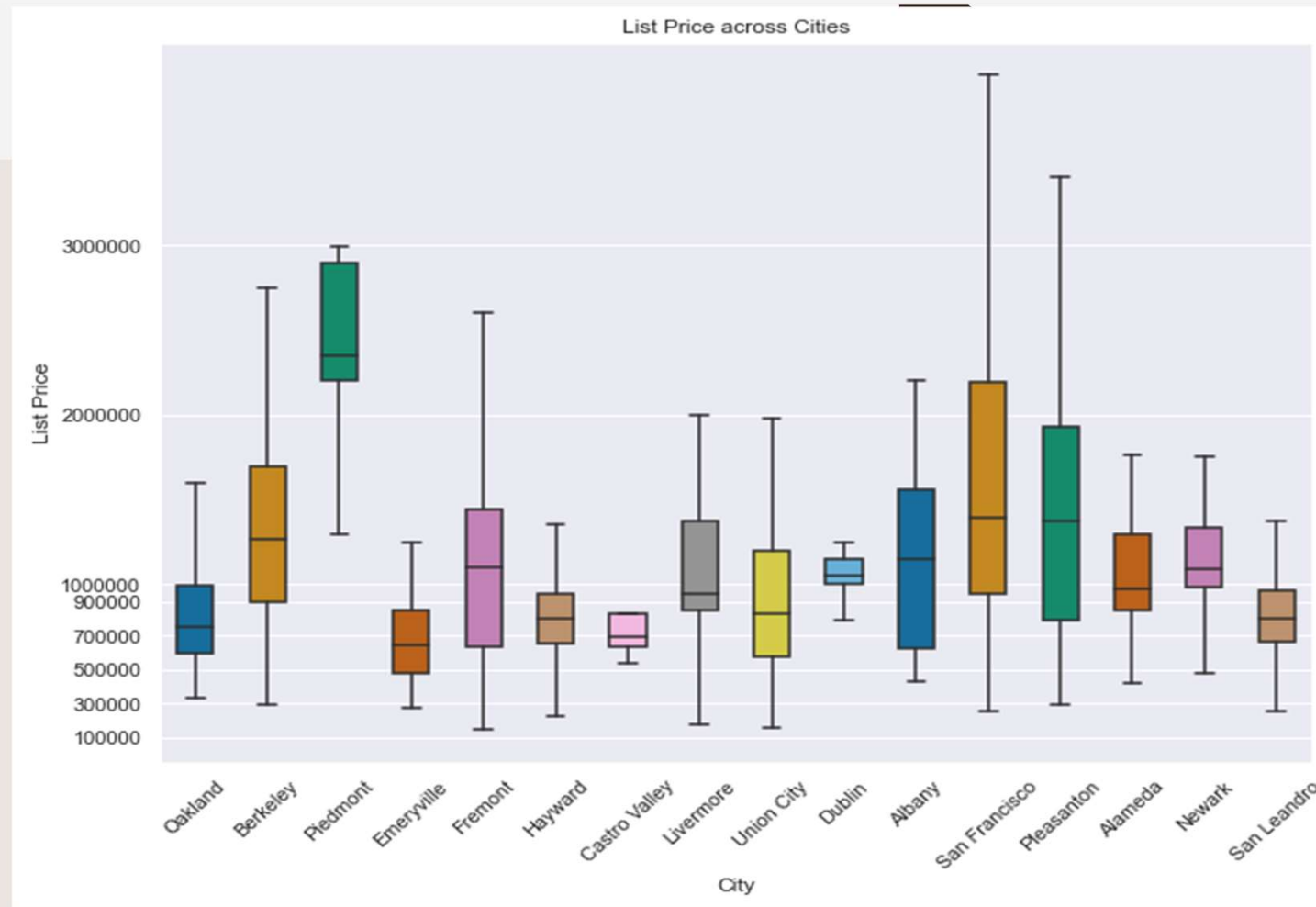
List Price Vs SqrFt in Oakland



List Price Vs SqrFt in San Francisco



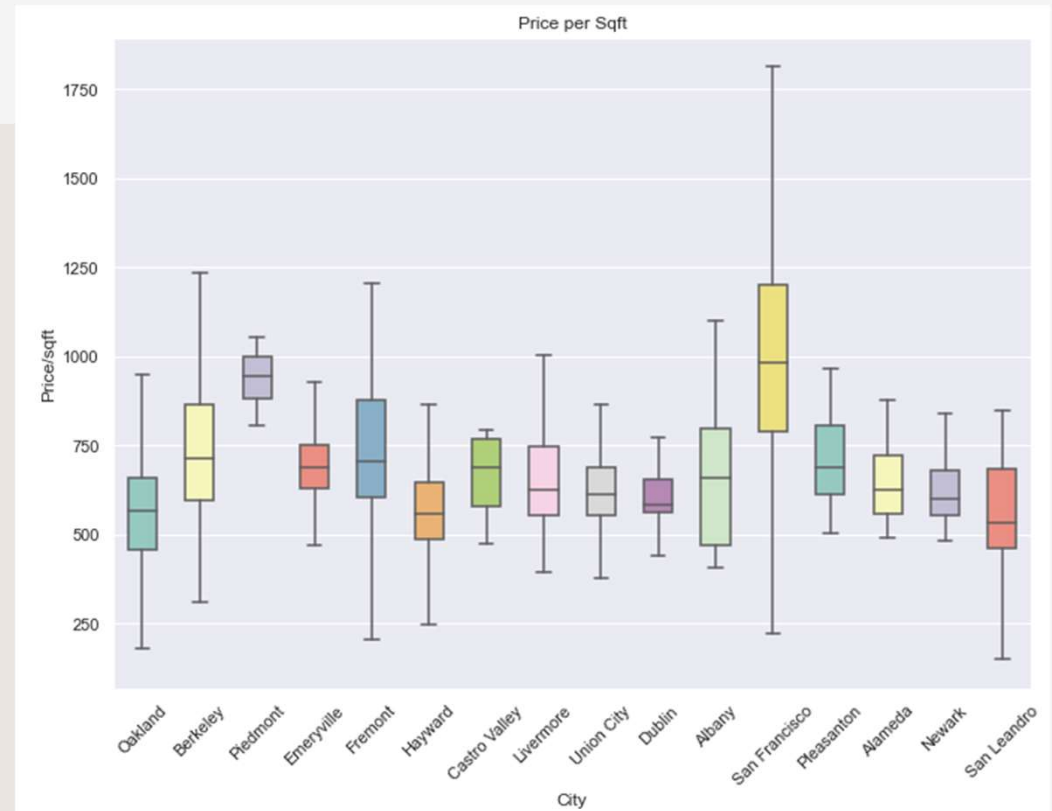
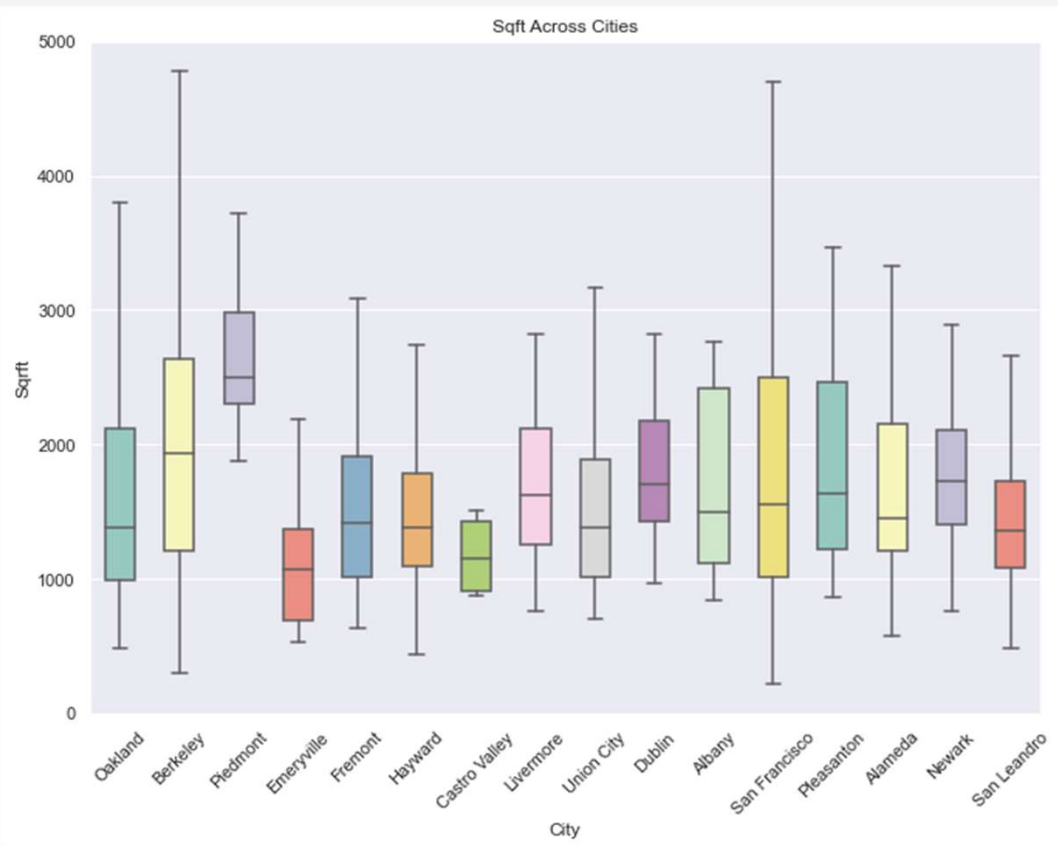
Boxplot



List price City-wise

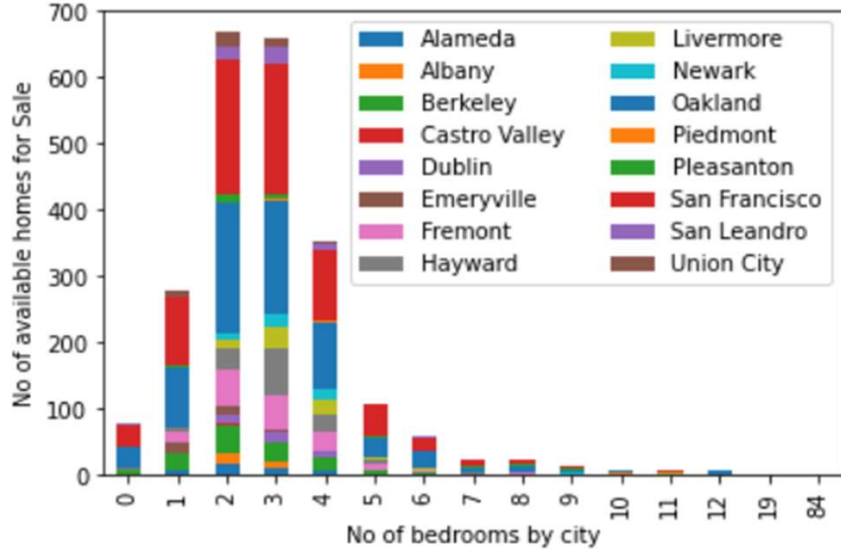
Boxplot

We notice that the Price per Sqft in the County are roughly under the same ballpark, below \$1,000

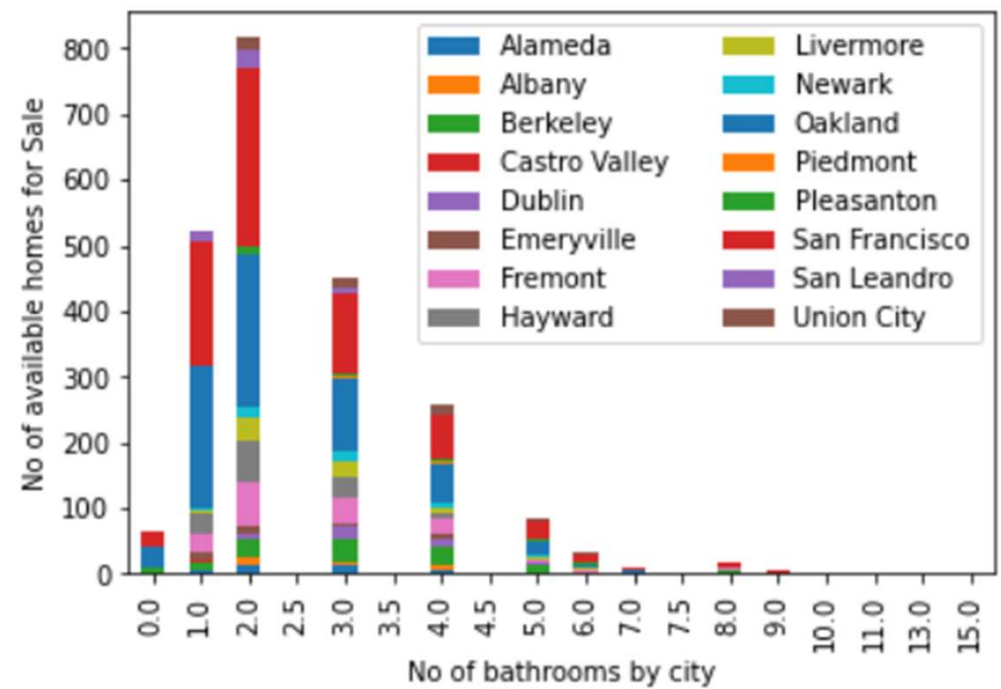


Barplot

No of houses available for sale vs no of bedrooms available

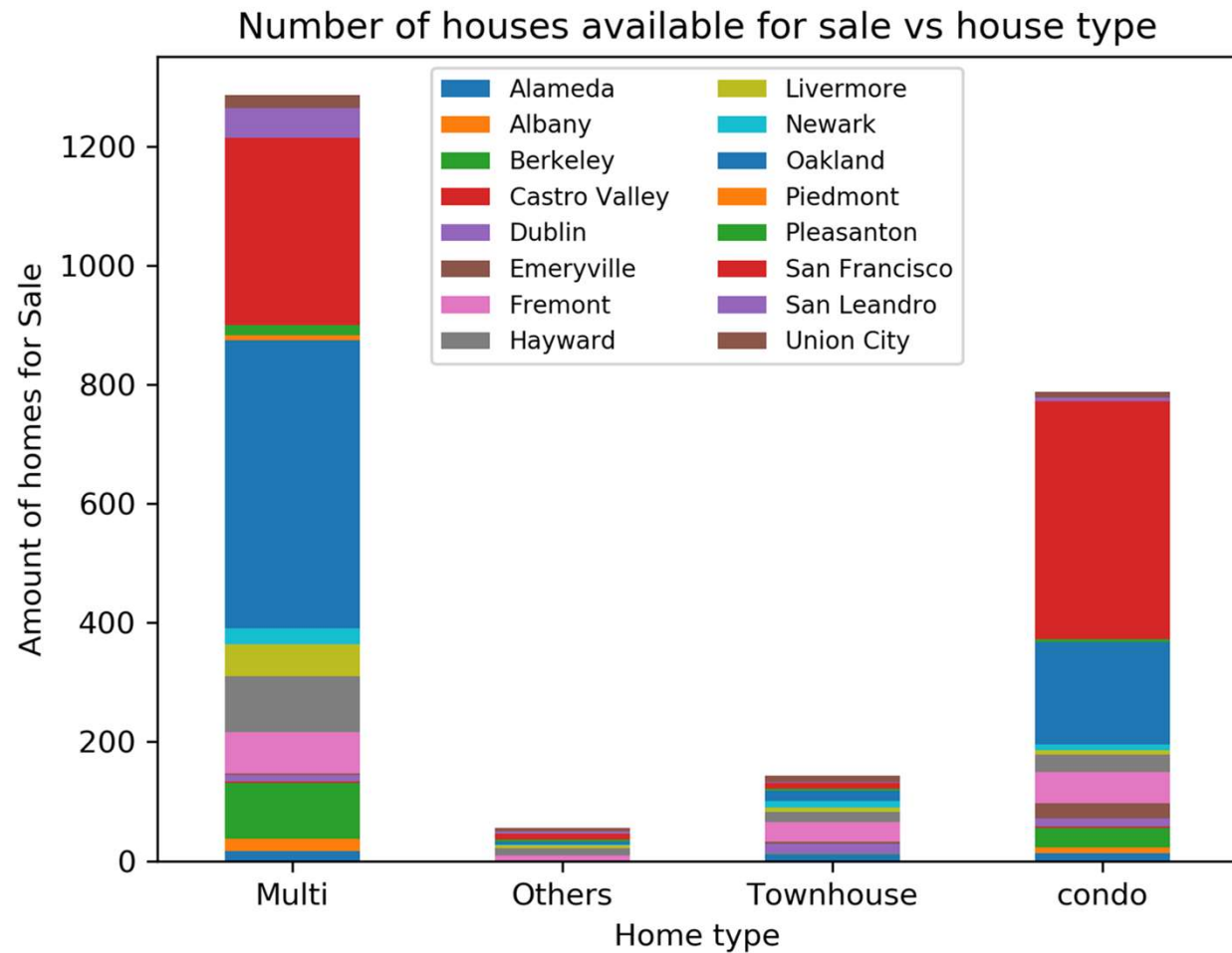


No of houses available for sale vs no of bathrooms available



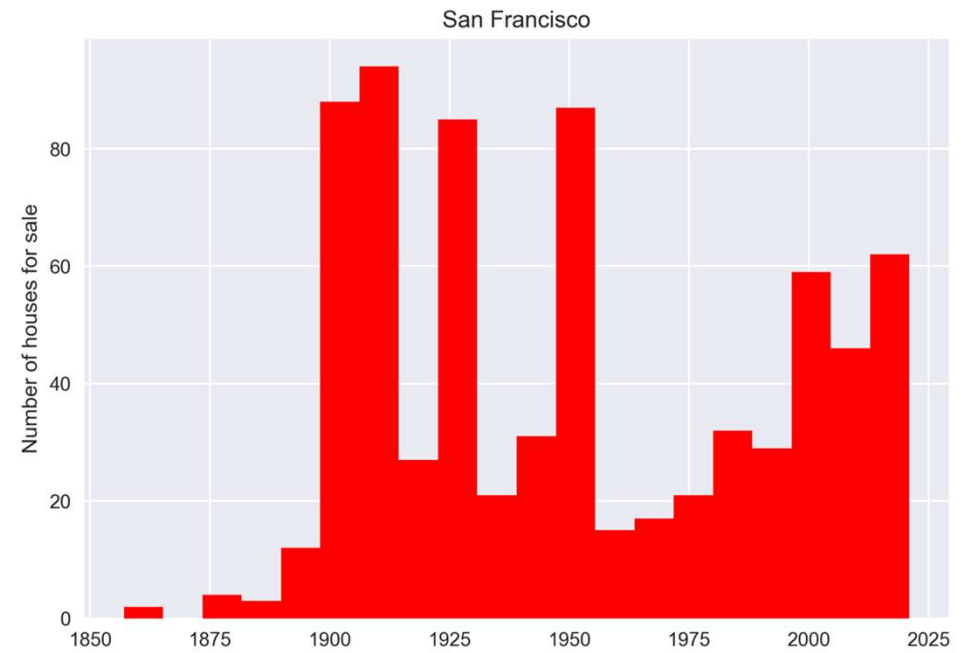
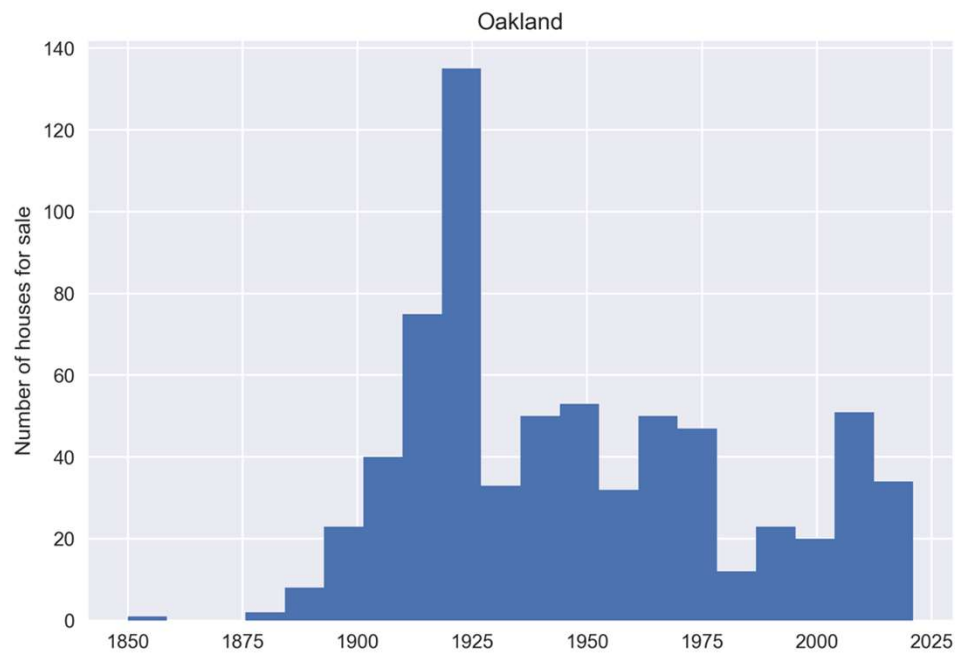
Barplot

The cities in Alameda county have more *Multi* houses for sale compared to San Francisco. *Multi* includes detached houses, duplexes, triplexes, etc.



Histogram: Number of Houses by Year Built

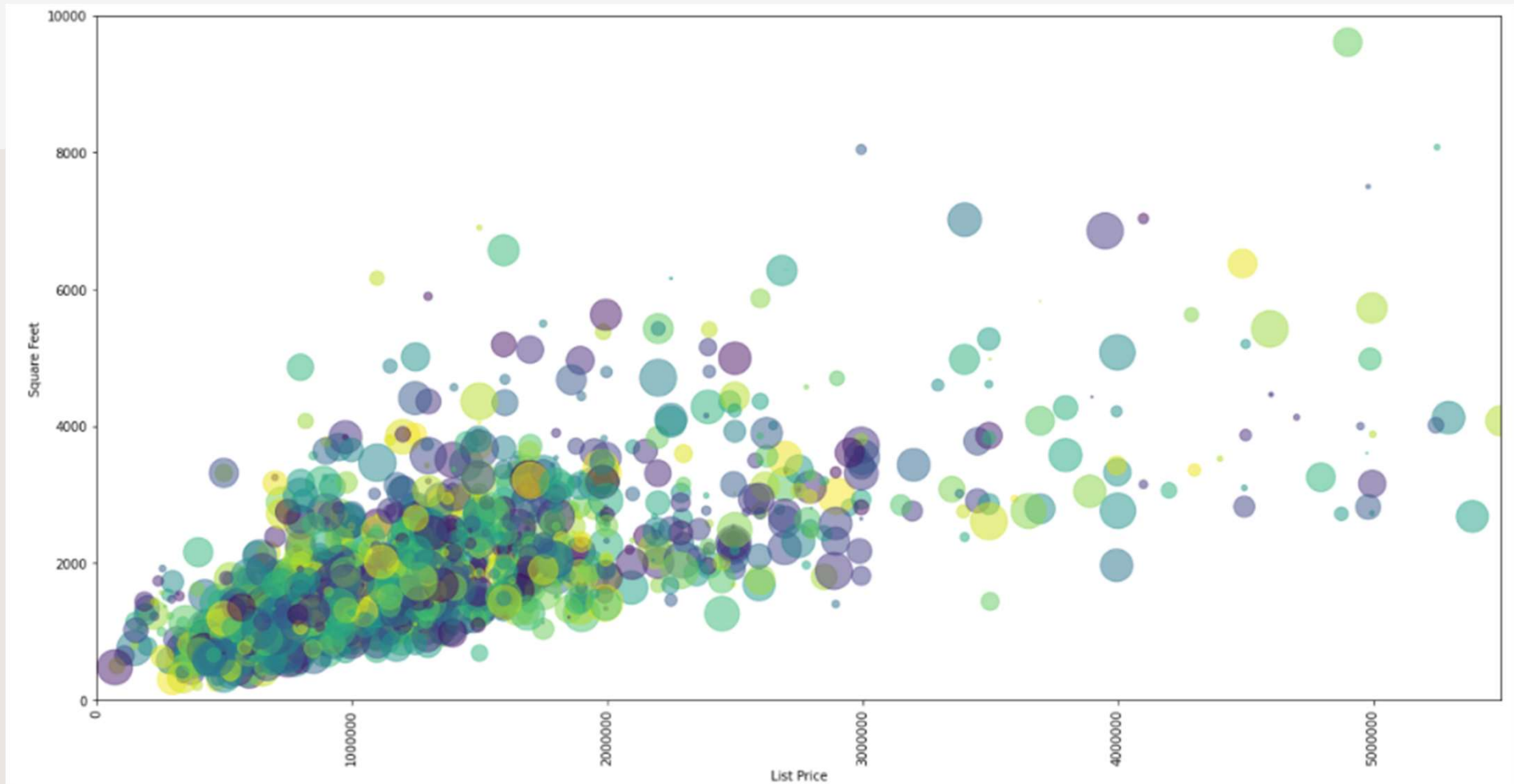
San Francisco More evenly distributed in terms of having newer houses. This corroborates the in-place plans of accommodating more housing



Scatterplot

Relationship between List Price and Square Feet

We are able to gauge that most of the available listings of Alameda County are under \$2M at around 4000 sqft.



Some of challenges faced while scraping Data

Getting 40 listings in each page

```
In [7]: ► #get list_price
list_price=soup.findAll('div',attrs={'class':'list-card-price'})
l_price=[]
for i in list_price:
    l_price.append(i.get_text())
l_price
```

```
Out[7]: ['$1,132,265',
'$2,650,000',
'$1,079,990+',
'$1,477,000',
'$3,185,000',
'$868,880+',
'$1,999,000',
'$1,438,000',
'$1,450,000']
```

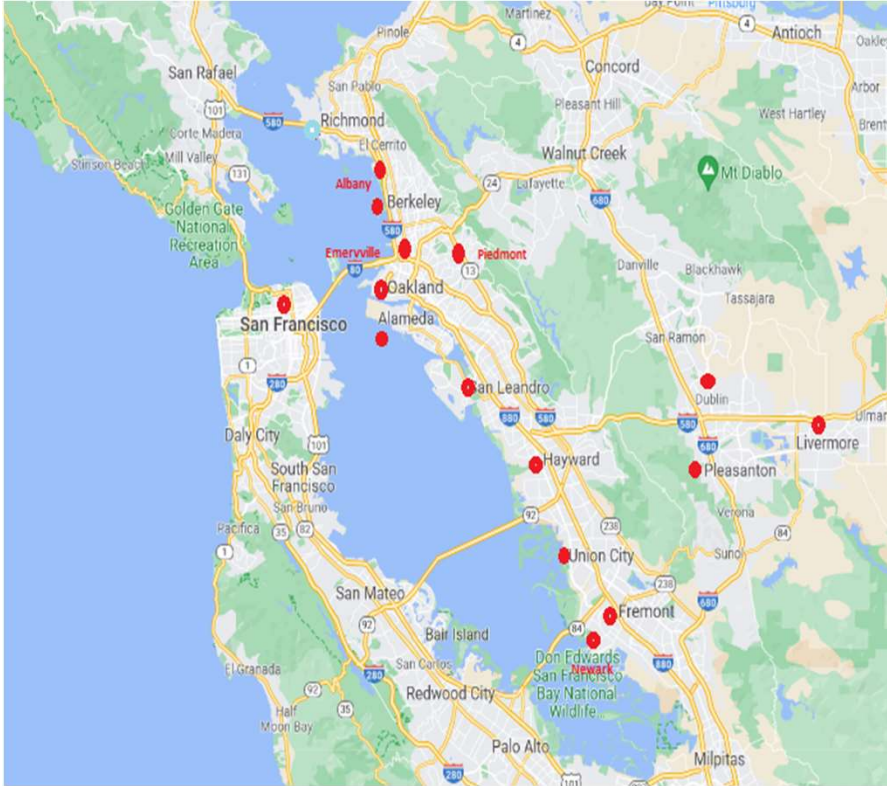
Data accuracy: matching values labels, list length, different tags

Scraping school ratings

Crime Rate (From areavibes)

City Name	Crime Rate	Total crime	Violent crime	Property Crime
Hayward	D+	35% high	10% less	43% high
San Leandro	F	103% high	33% high	115% high
Oakland	F	209% high	235% high	204% high
San Francisco	F	148% high	76%high	161% high
Berkeley	F	125% high	33% high	141% high
Fremont	B+	18% low	56%low	11%low
Albany	C-	45% high	48%low	62% high
Pleasanton	A-	17% low	65% low	8% low
Dublin	B+	17% low	57% low	10% low
Alameda	C	40% high	46% high	55% high
Emeryville	F	805% high	253% high	904% high
Livermore	B+	23%low	44%low	19%low
Newark	C+	22%high	54%low	35%high
Union City	C-	7% high	3% low	8% high
Piedmont	A-	14% low	67% low	5% low

CONCLUSION



High priced Houses across cities:

Piedmont has the largest average list price (It could also be because of the limited number of records with only high valued houses available for sale. A house priced \$11,995,000 could be the reason)

San Francisco has the second largest average list price which is followed by Pleasanton & then Berkeley.

High valued Cities: (Based on Average Price per sq ft)

Highest:

San Francisco (Closer to \$1000), Piedmont (both cities in \$750- \$1000 range)

\$500-\$750:

Berkeley, Fremont

Followed by Emeryville, Castro valley, Pleasanton

Low priced Cities:

San Leandro, Hayward, Oakland (Closer to \$500 in (\$500-\$750) range)

Cities with good school ratings:

Albany, Pleasanton, Dublin, Fremont, Alameda

General:

Average list price is low in Emeryville, Castro Valley, Oakland, San Leandro
San Francisco has the highest range of list price followed by Pleasanton

Reference

- <https://www.zillow.com>
- <https://www.areavibes.com/>