

Presented by Madison Hamby, Brianne Han, Josh Mares, and Kyle Novak

California Housing Market Trends

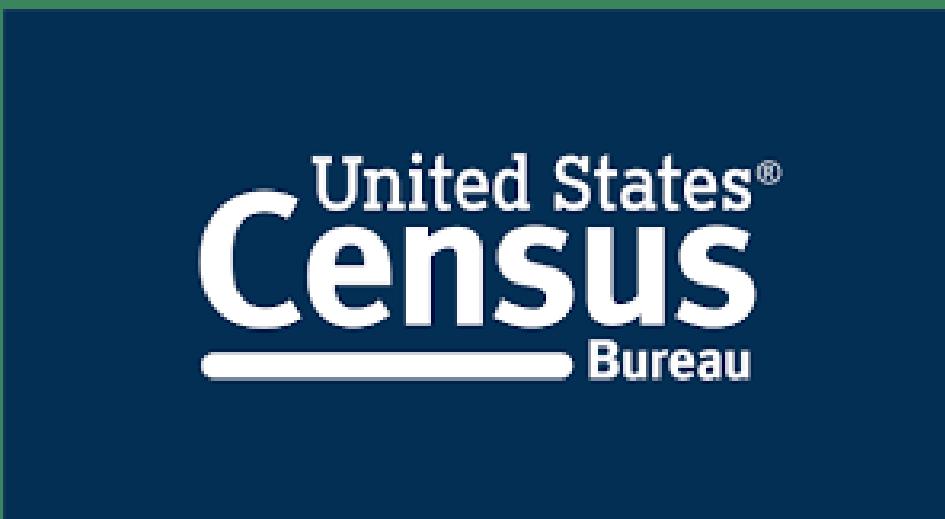




Research Intentions & Reasoning

- Conduct a comprehensive analysis of housing market trends for the state of California
- Examine the relationship between different independent variables and housing prices
 - Median income
 - Population
- Location Parameters
 - Northern California
 - Southern California

Data Sources & APIs



Considerations & Limitations

What we want to answer:

- Is there a difference between housing prices from 2018 to now?
- Does population play a factor in median housing prices?
- Does median income have a positive/negative correlation to housing prices?
- How can a linear regression help us understand housing price trends?
- How can a T-test assist in our analysis of both NorCal/SoCal?

Limitations:

- Inconsistent data access
 - County
 - State
- Making accessible data readable/mergeable



Data Process & Cleanup



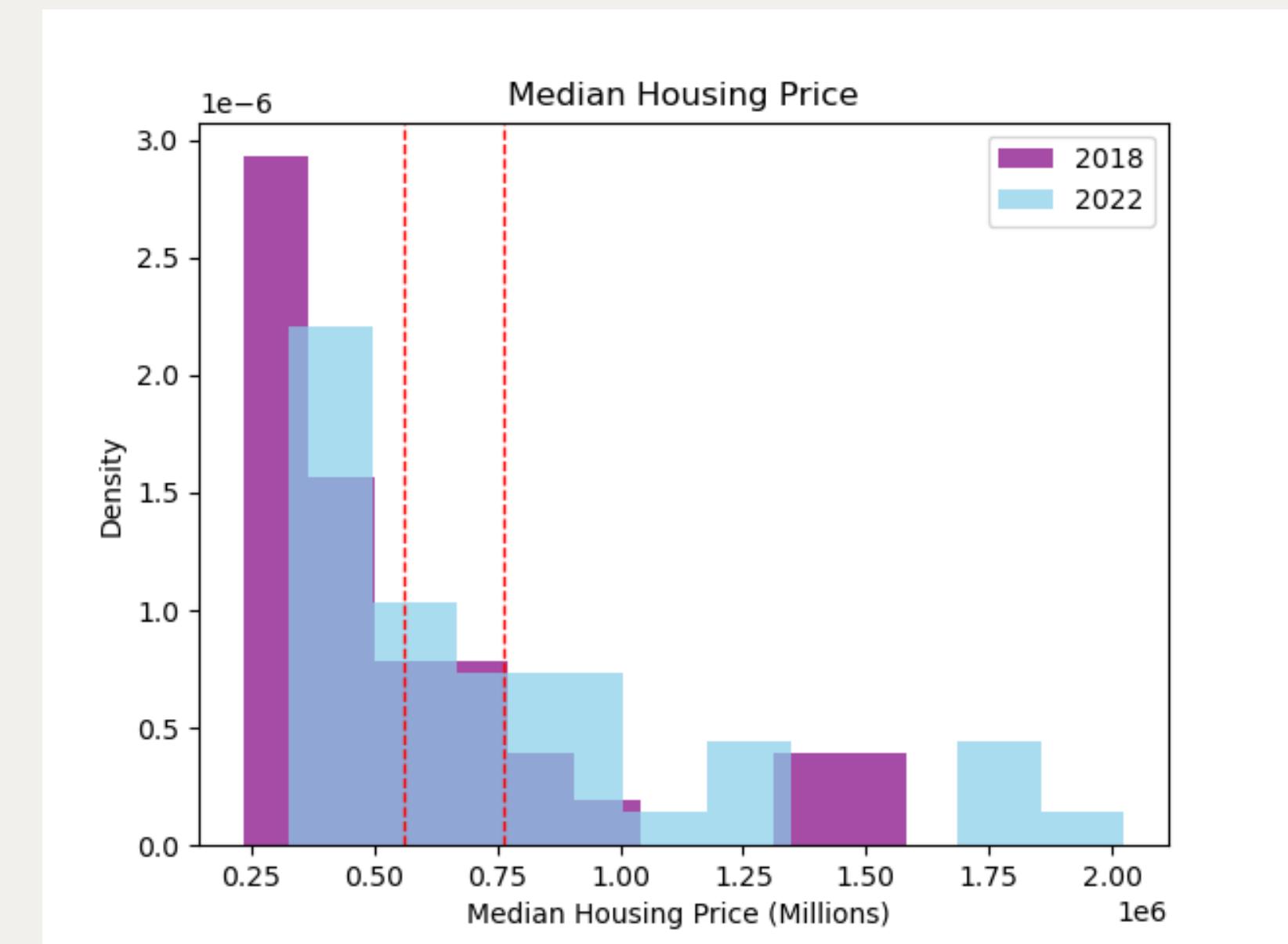
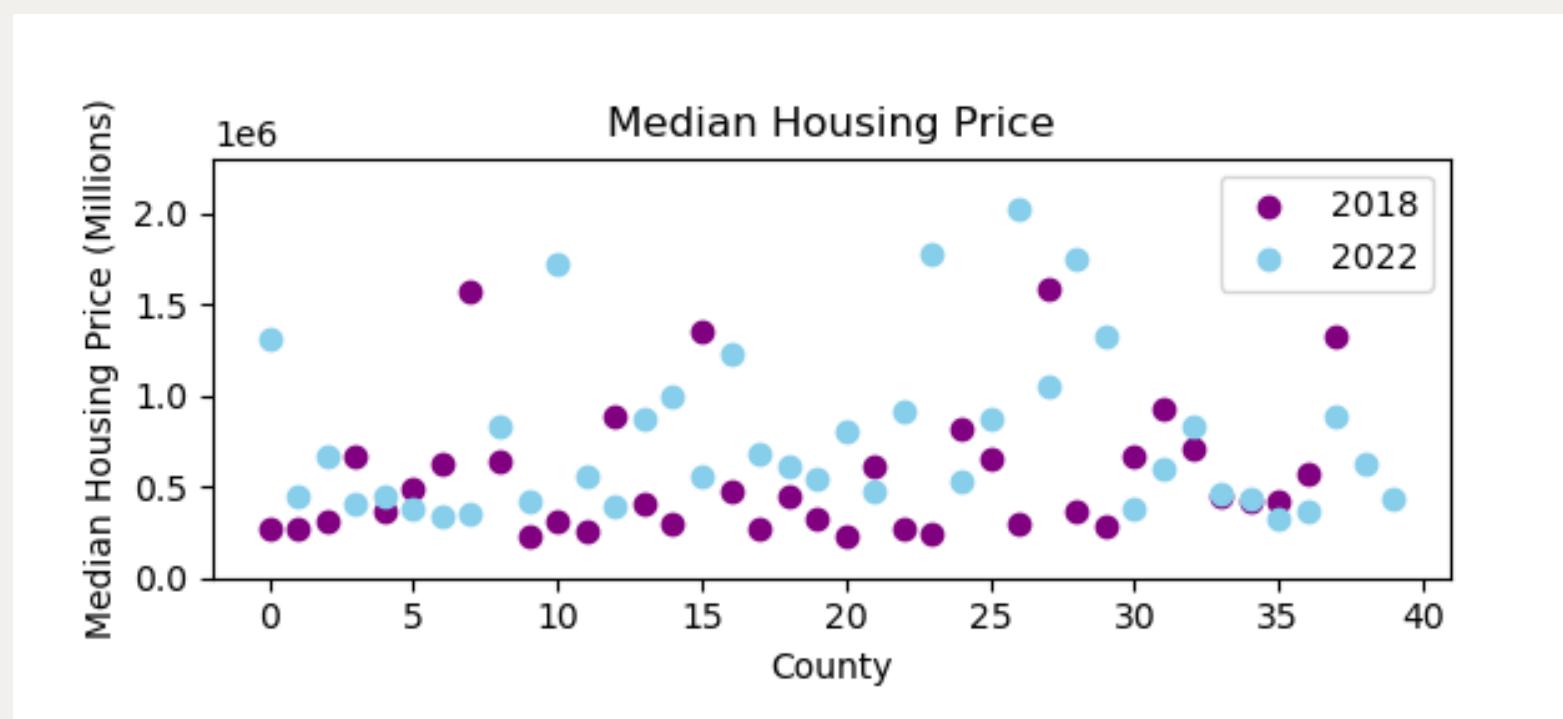
Specific Data Sources:

- API Data
 - Census Median Income
 - Census Population
- California Association of Realtor
 - Housing Prices (CSV)

Cleanup:

- Merging all data
 - formatting challenges with CSV vs API

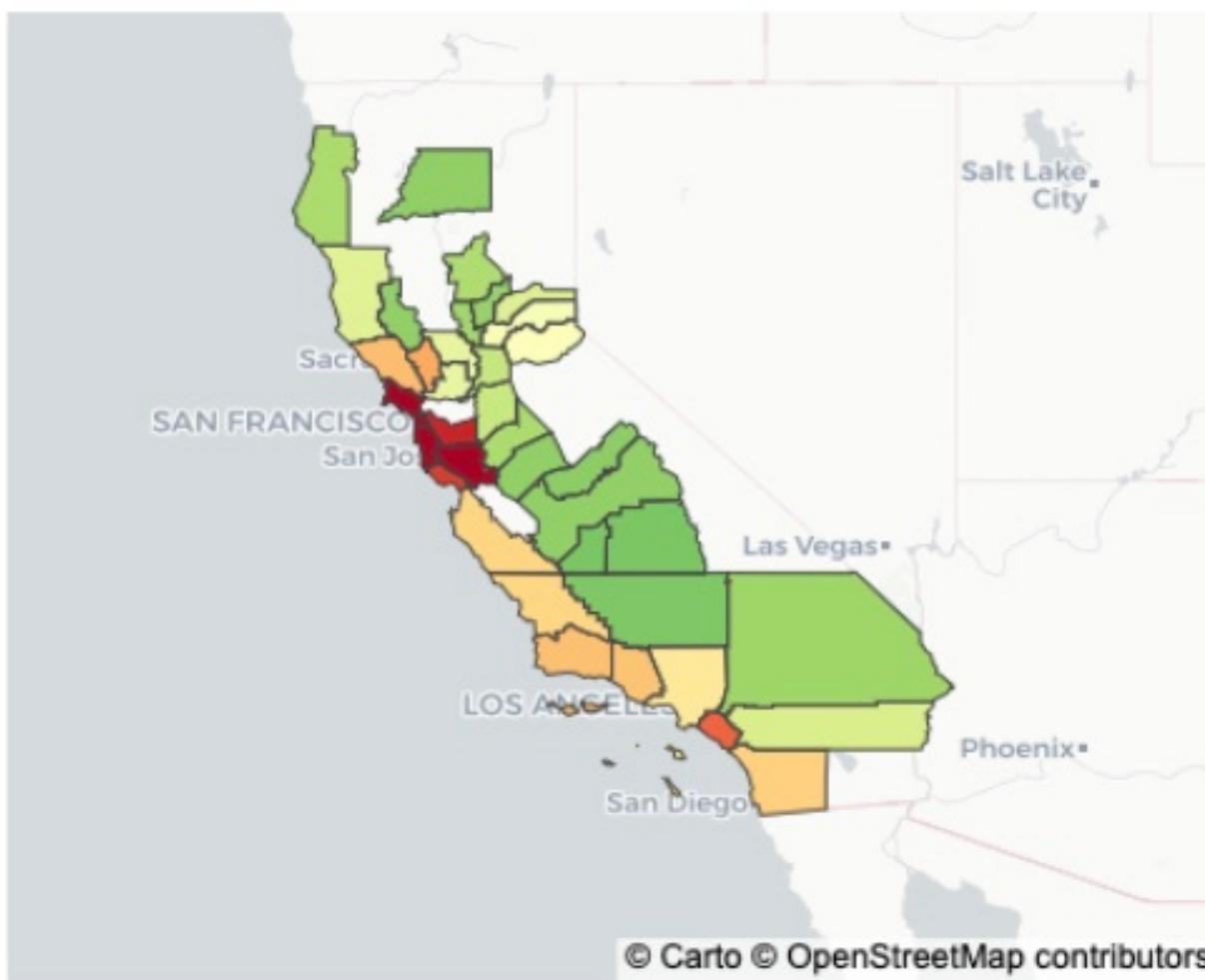
2018 vs 2022 Housing Prices



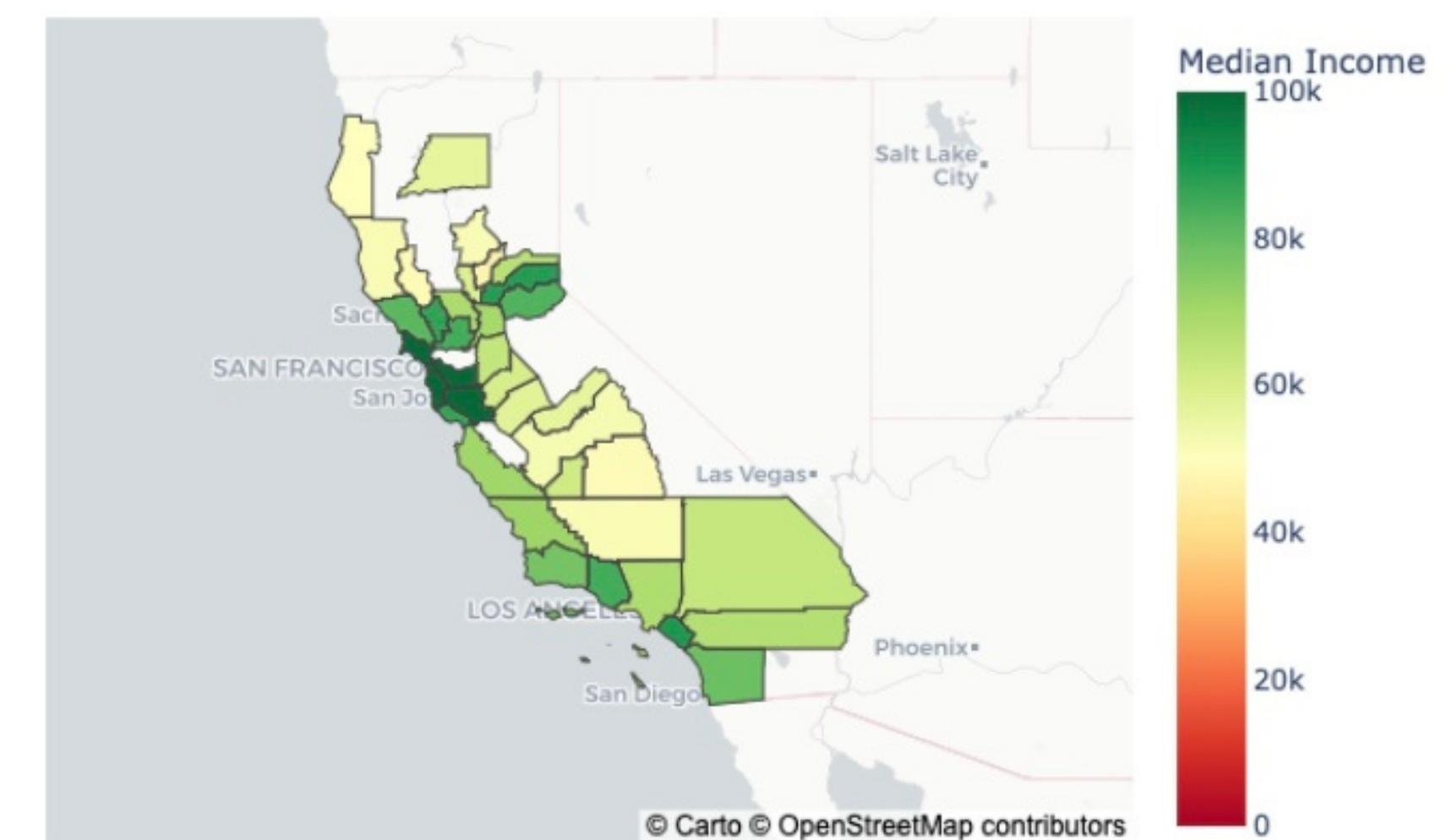
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2018 Data Heatmap

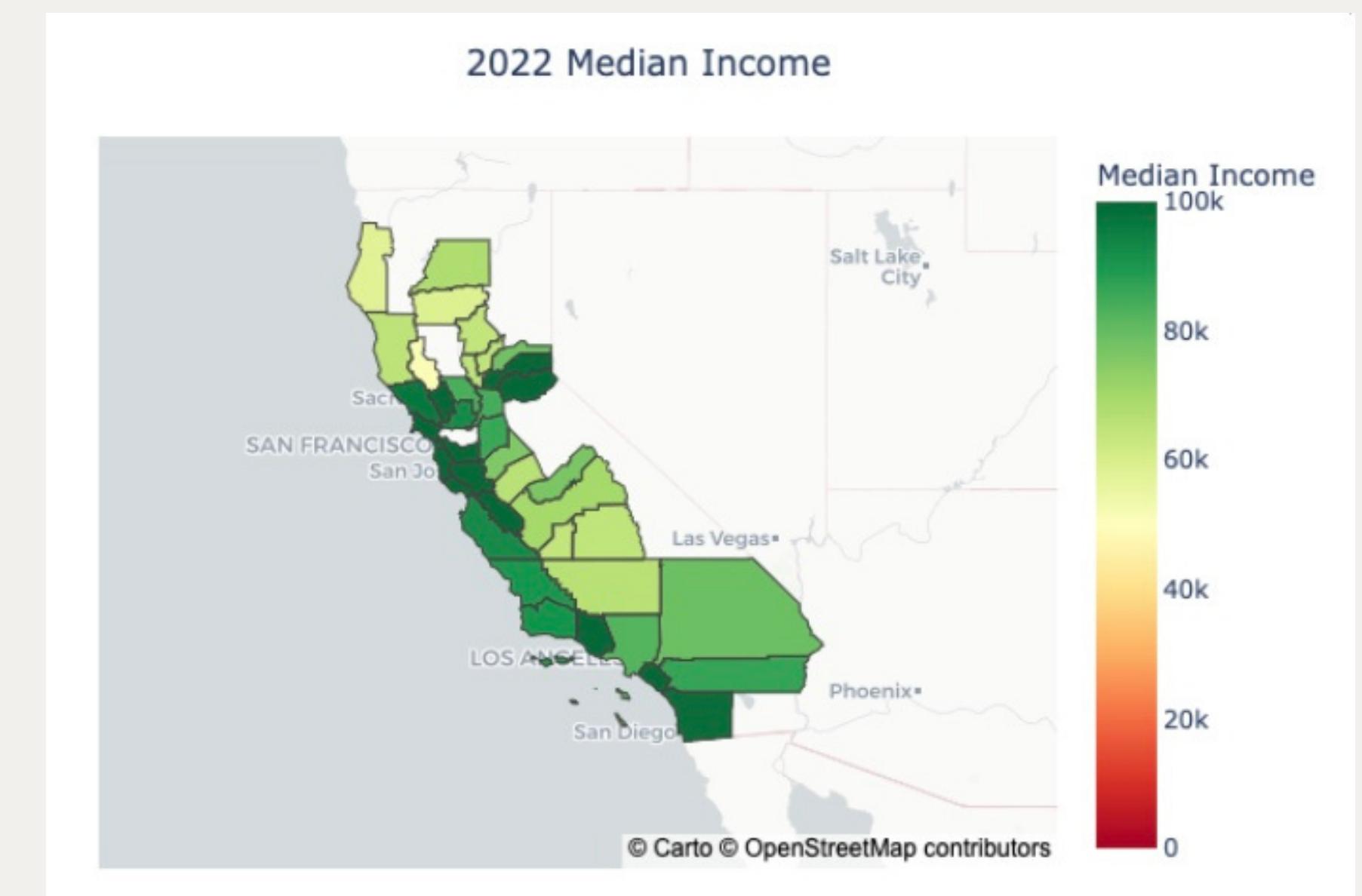
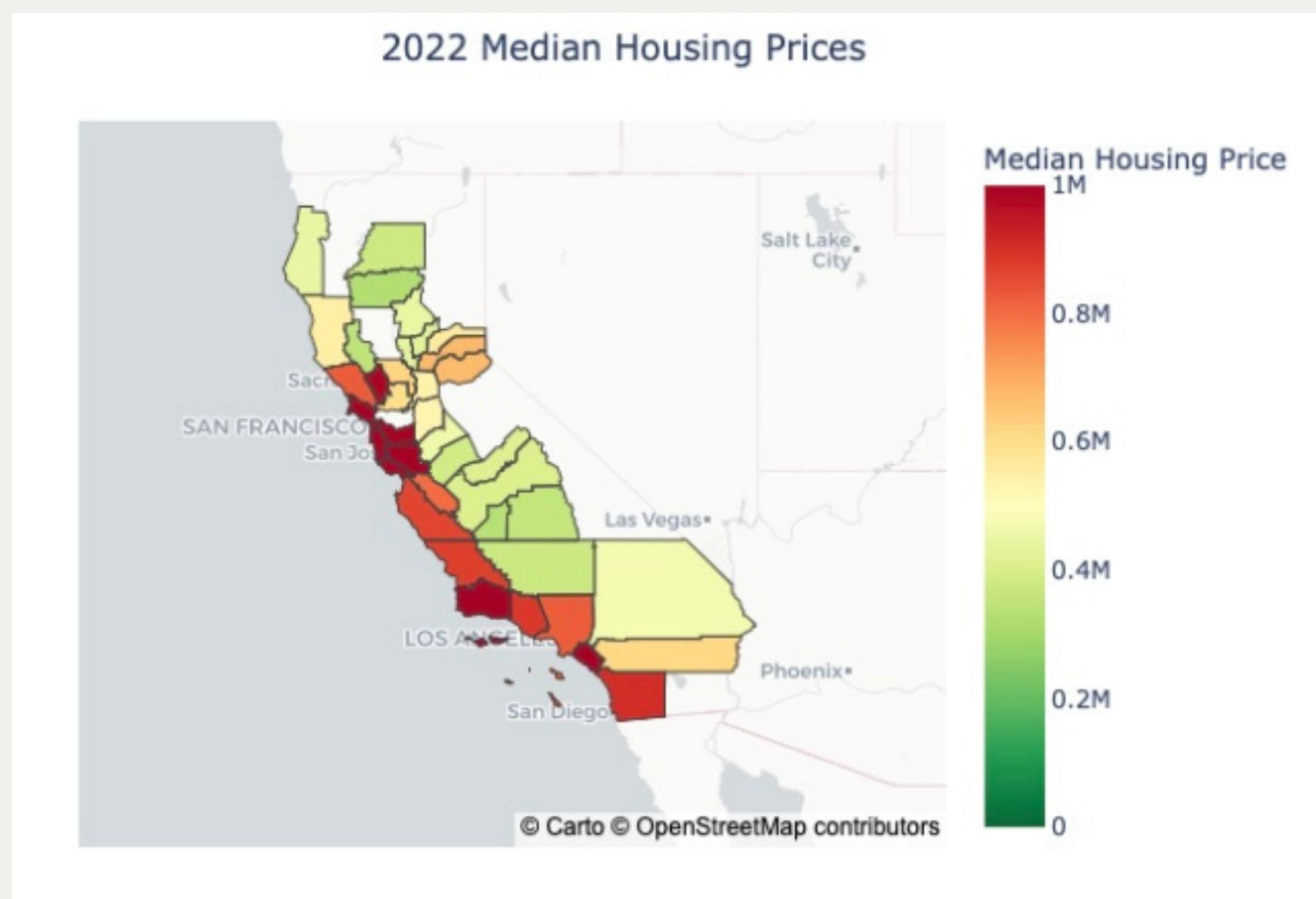
2018 Median Housing Prices



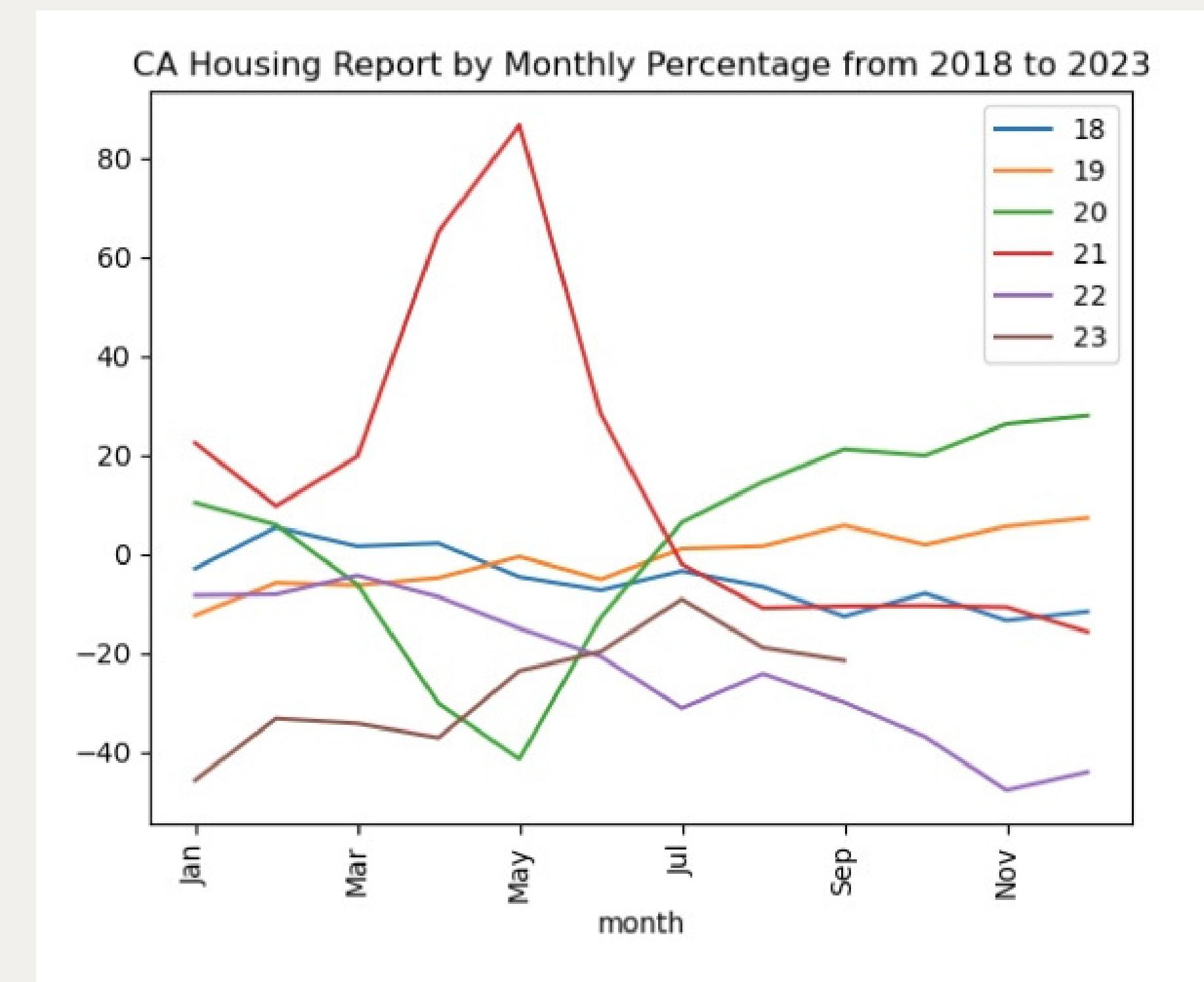
2018 Median Income



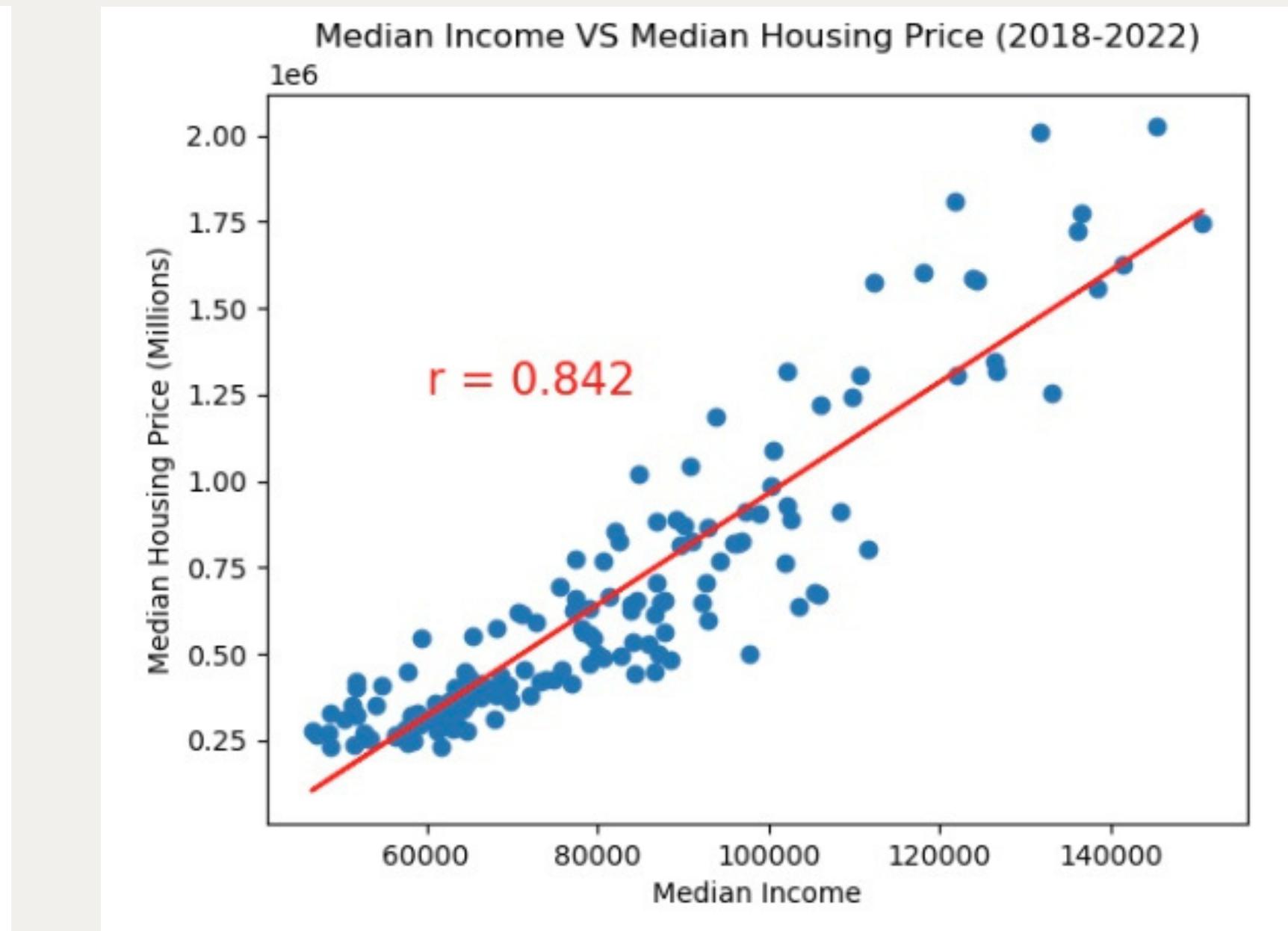
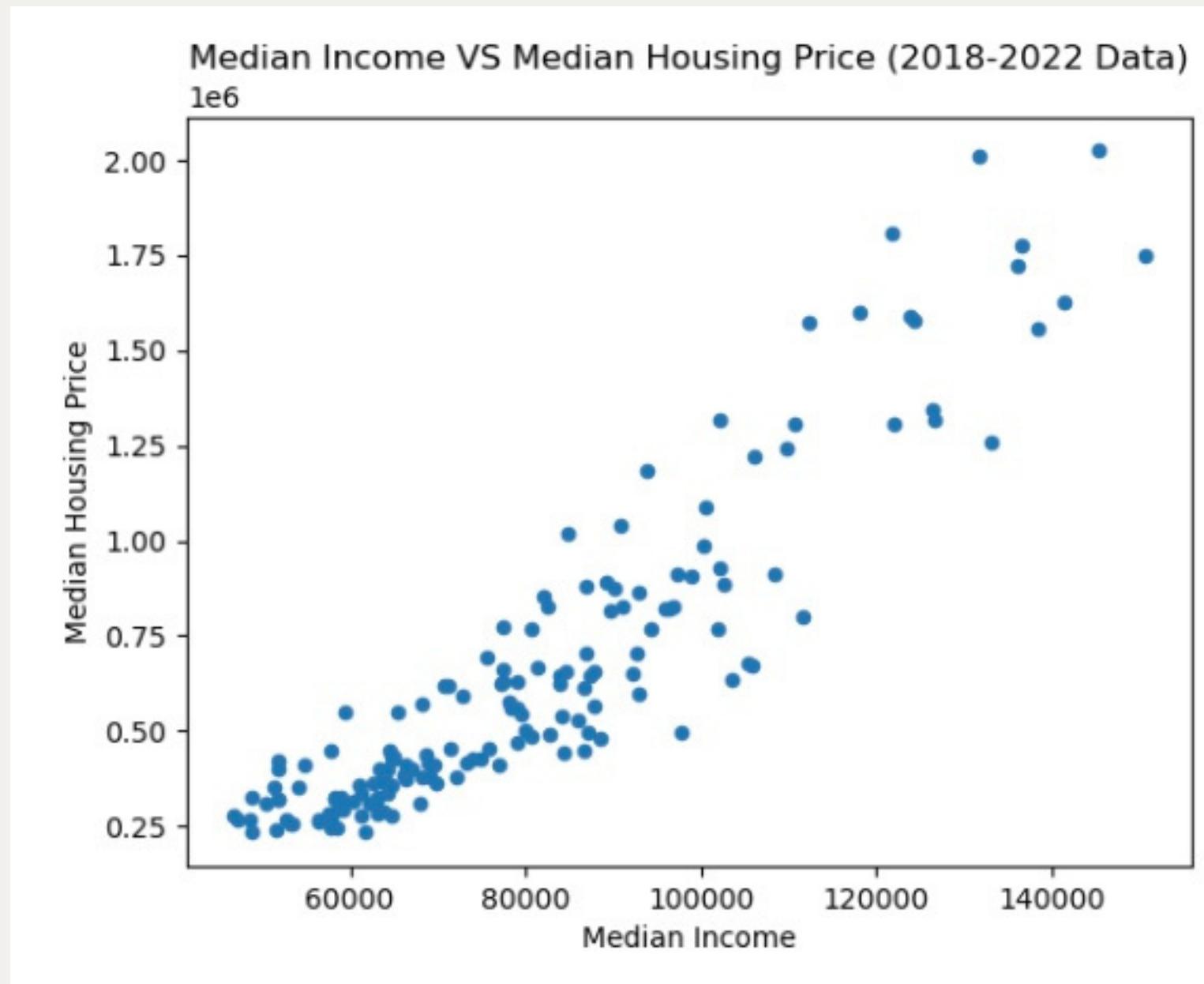
2022 Data Heatmap



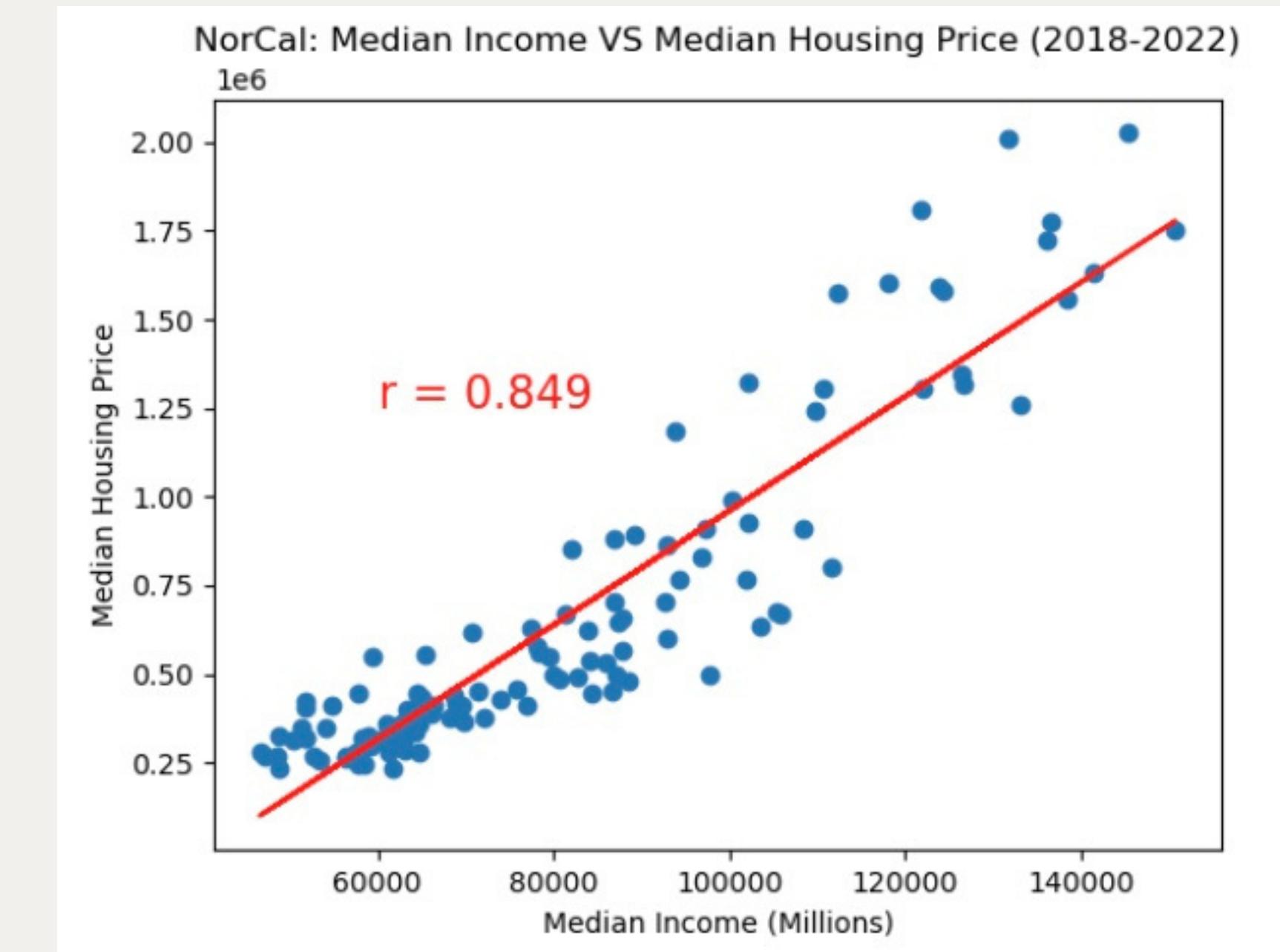
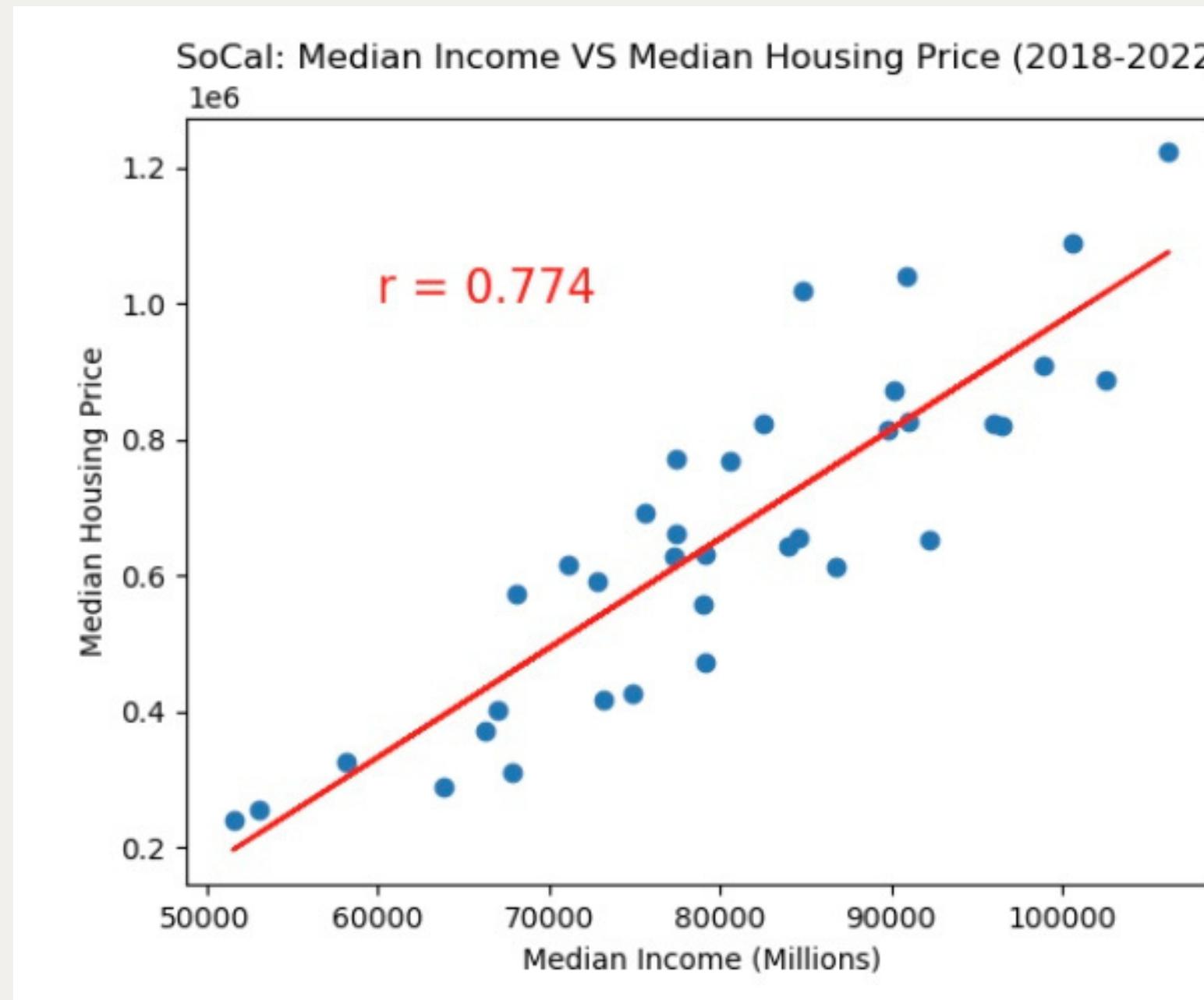
California Average Housing Price Change



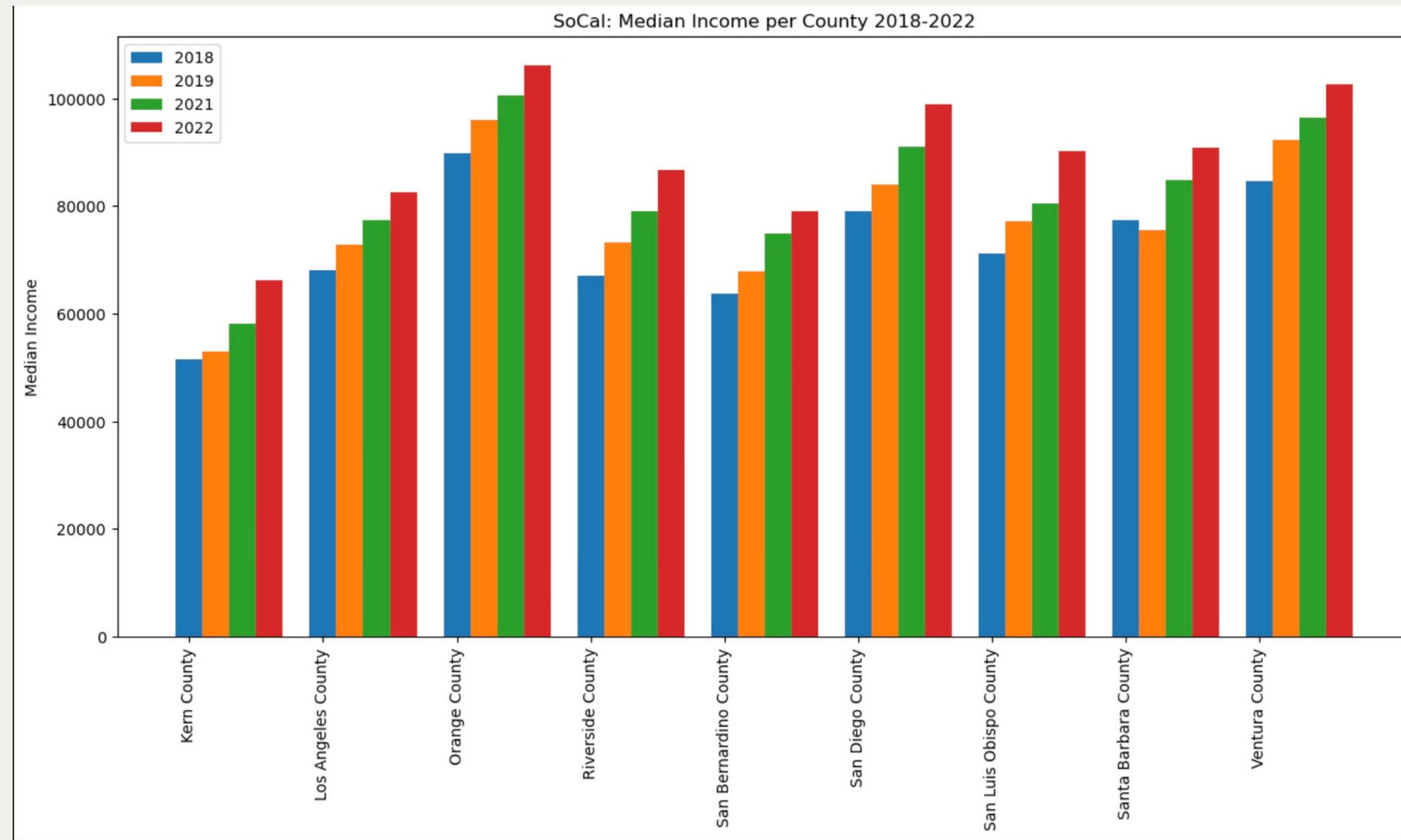
Median Income vs Median Housing Price



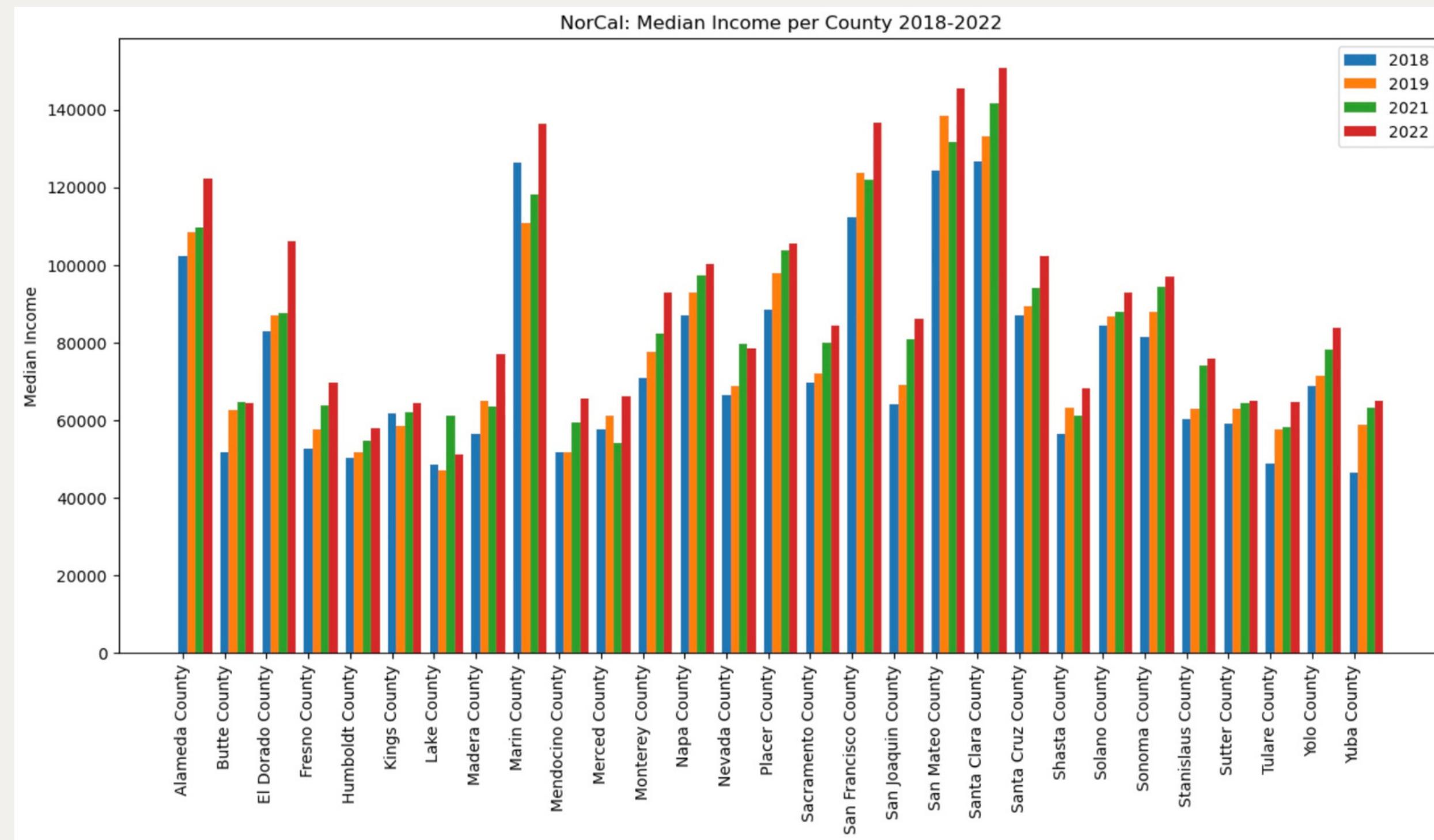
Housing Price & Median Income NorCal vs SoCal



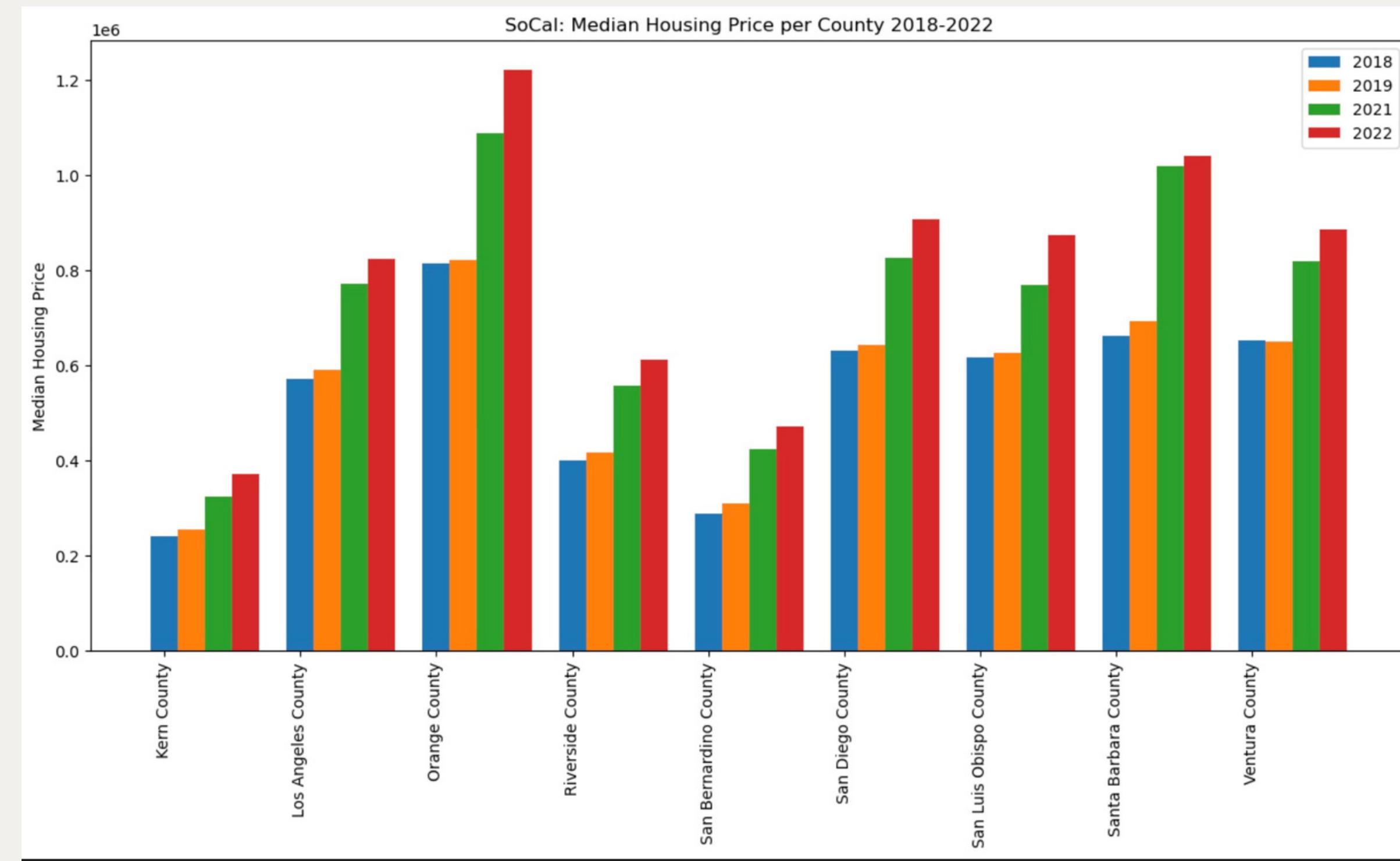
SoCal: Median Income 2018-2022



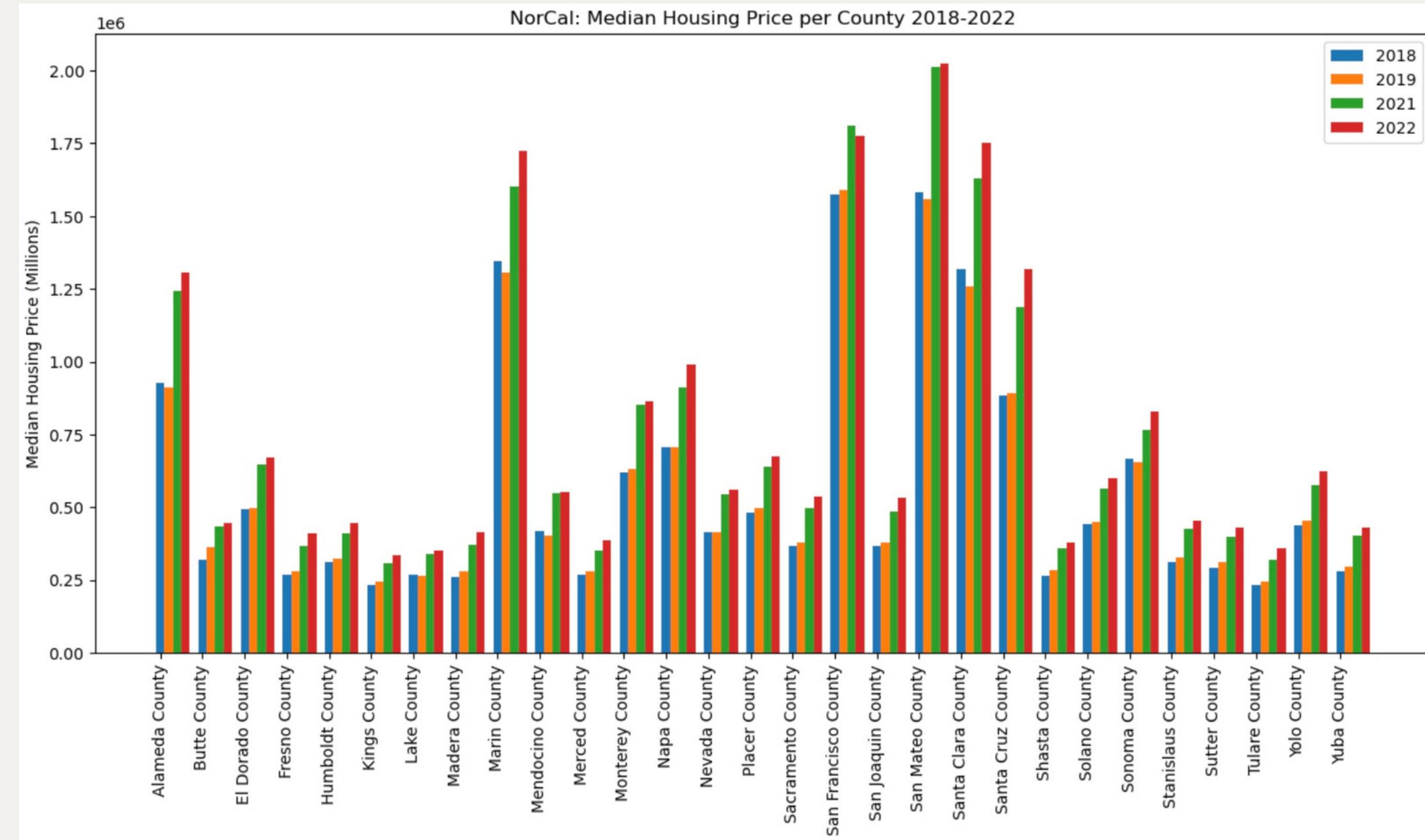
NorCat: Median Income 2018-2022



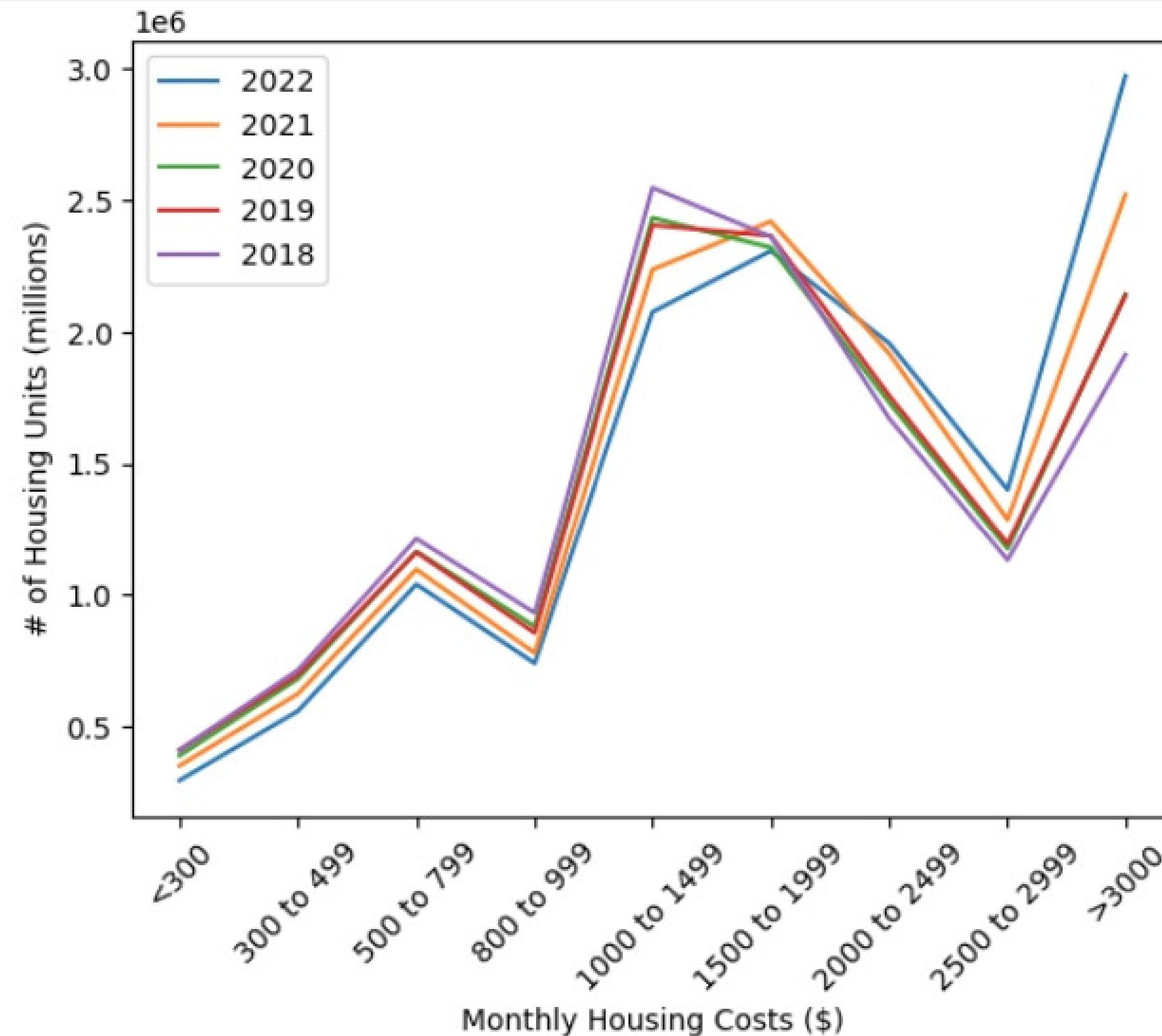
SoCal: Median Housing Price 2018-2022



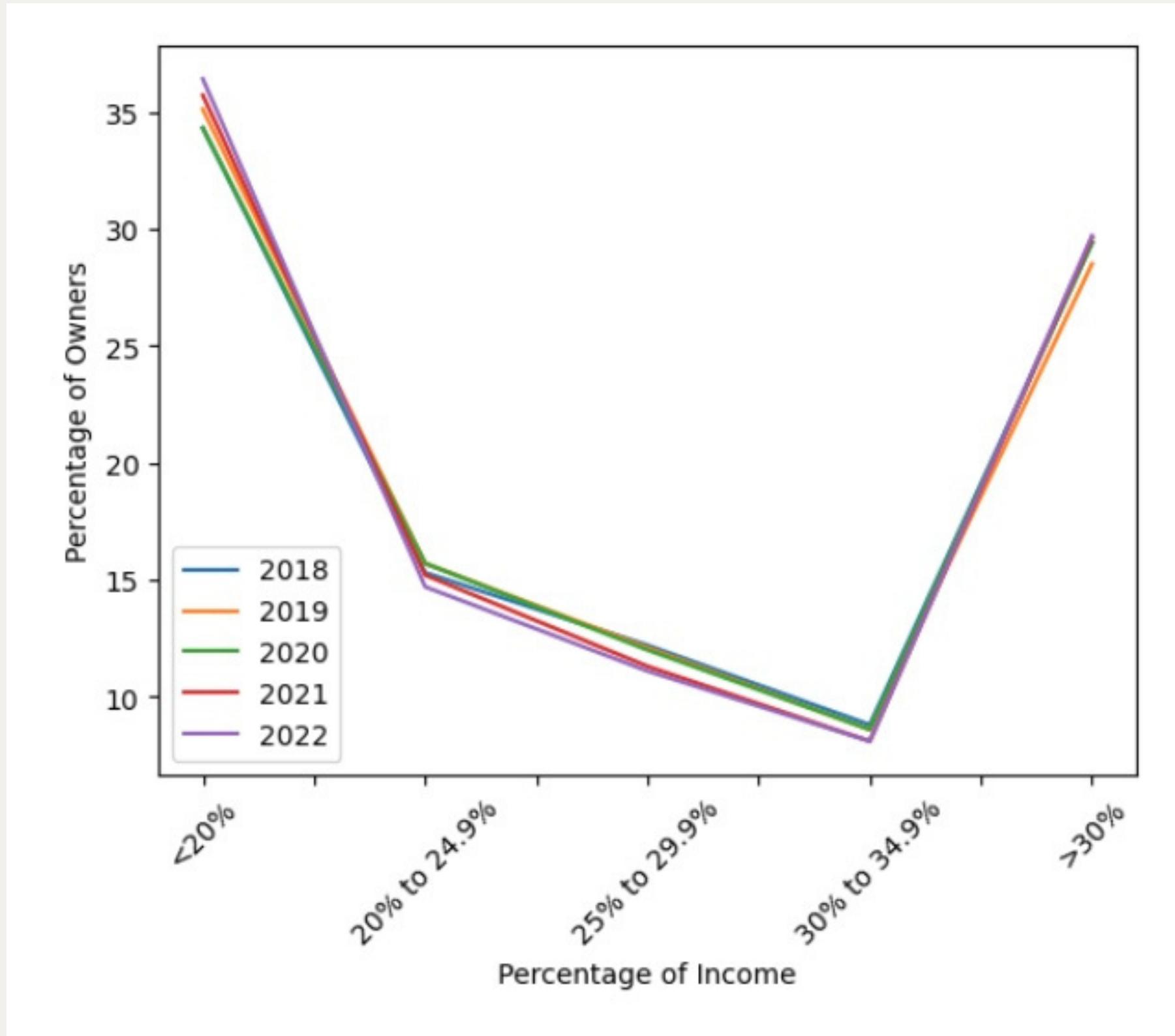
NorCal: Median Housing Price 2018-2022



Monthly Housing Costs 2018-2022



Percent of Income Spent on Monthly Housing Costs 2018-2022



T-test

- T-test #1
 - mean housing prices for counties in SoCal vs NorCal
 - p-value=0.8
- T-test #2
 - mean median income for counties in SoCal vs NorCal
 - p-value=0.9
- Outcome
 - Both p-values > 0.05 which indicates no statistical significance
 - Therefore, there is no statistically significant difference between the data in NorCal and SoCal.

Predictions & Concluding Thoughts

- Predictions
 - Higher Income = Higher Prices
- Relationship between median income and median housing price
- NorCal v SoCal
 - Northern California
 - Southern California



Works Cited

Bureau, U. C. (2023, November 15). Available APIs. Census.gov.
<https://www.census.gov/data/developers/data-sets.html>

Collins, G. (2023, October 20). California Housing Market Report.
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Presented by Madison, Brianne, Josh, Kyle

Thank you
very much!

