

A Tale of Three Cities:

Comparing Chicago, Phoenix, and San Diego



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Introduction and Key Questions

- Primary audience are individuals who are thinking of moving to a new city or investing in real estate
- What insights and potential correlations can we find in:
 - Population and Consumer Price Indices
 - Home Prices and Household Income
 - Weather
 - Homelessness
 - Crime

Data Extraction and Preparation

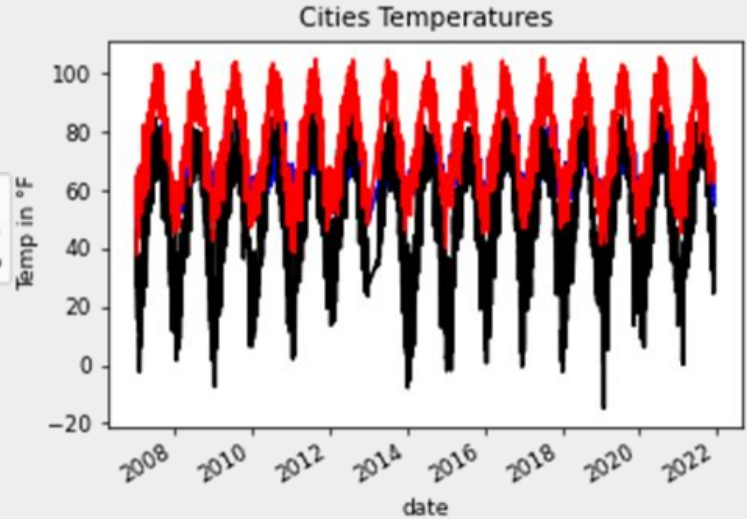
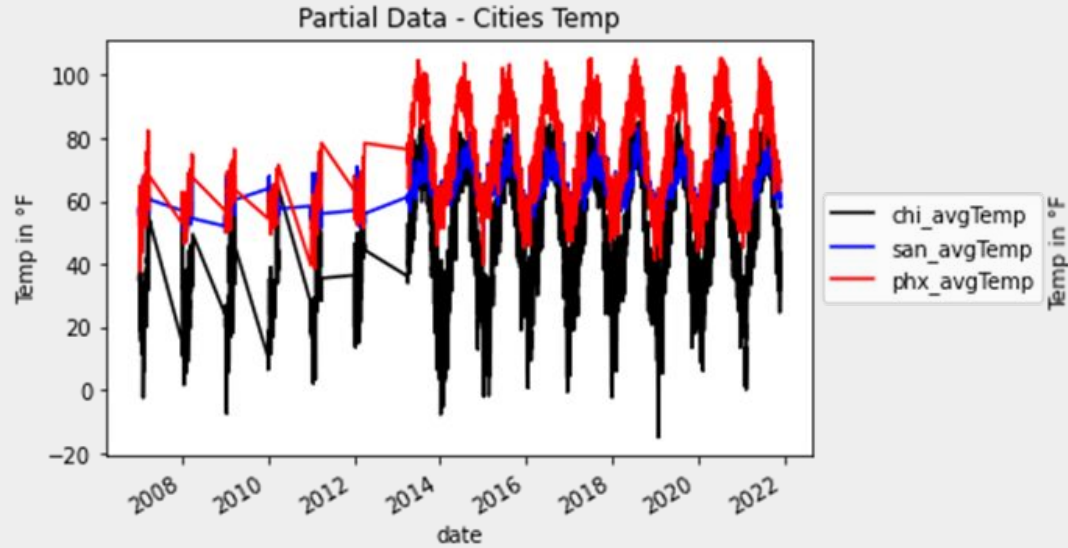
Websites:

- **Consumer Price Index:**
 - Bureau of Labor Statistics
- **Home Prices:**
 - Federal Housing Finance Agency
- **Homelessness:**
 - US Department of Housing and Urban Development
- **Supplemental Datasets:**
 - Data.gov, Phoenix and San Diego City

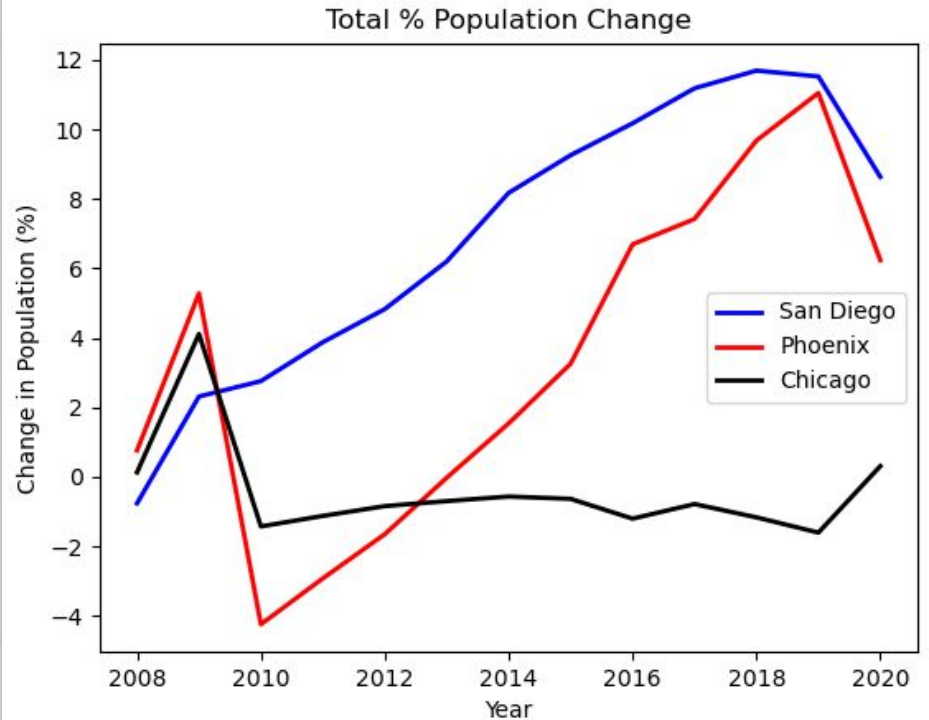
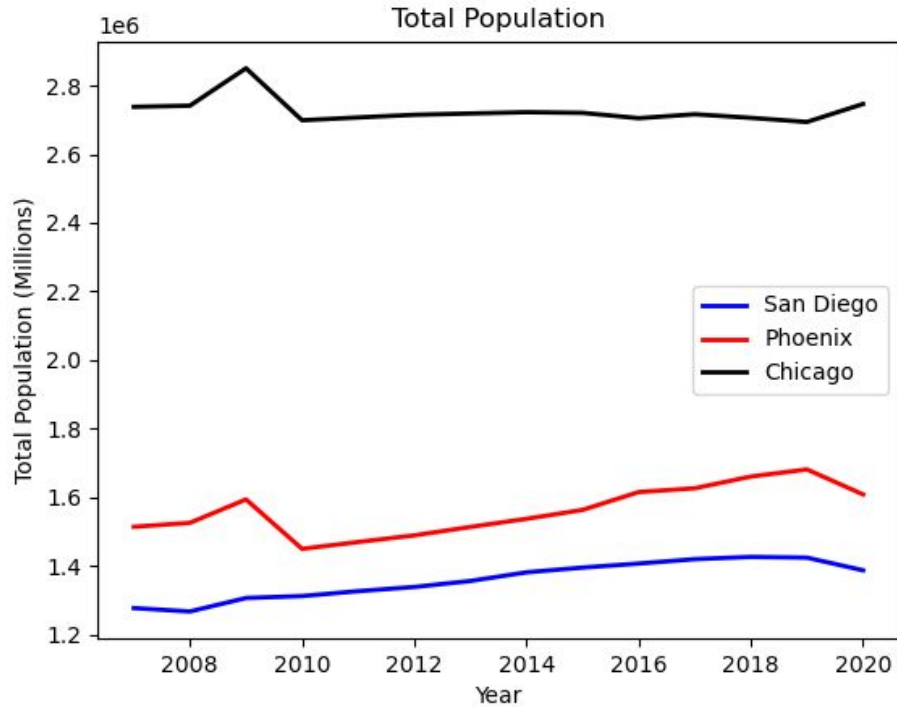
REST API's:

- **Census:**
 - Population trends
 - Median Household Income
- **FBI:**
 - Various types of crimes
 - Uniform across cities
- **Weather (NOAA):**
 - Daily average temperatures
 - Weather stations

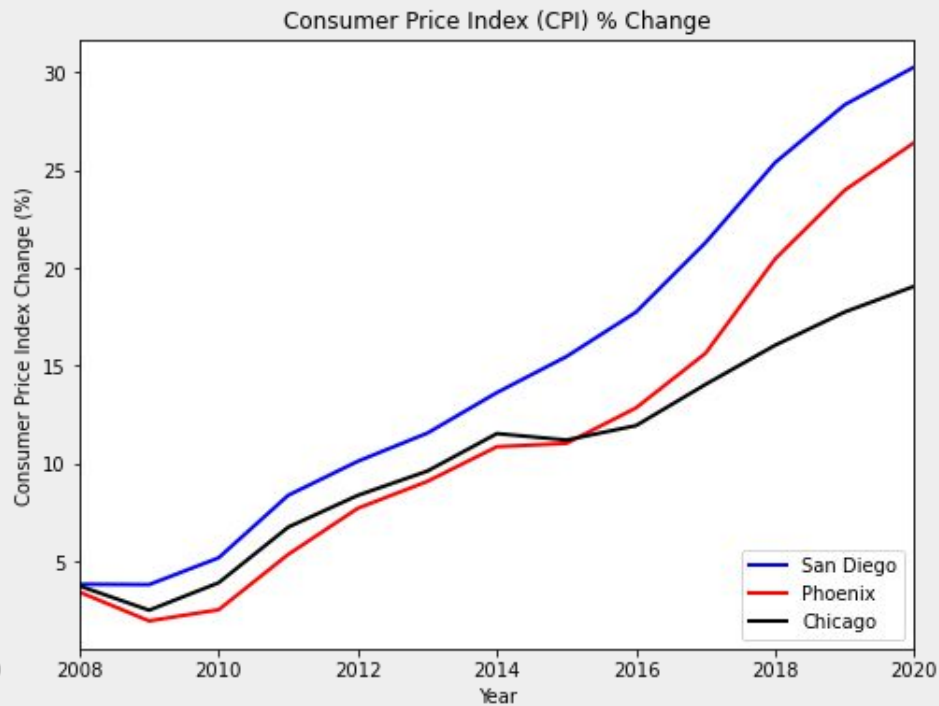
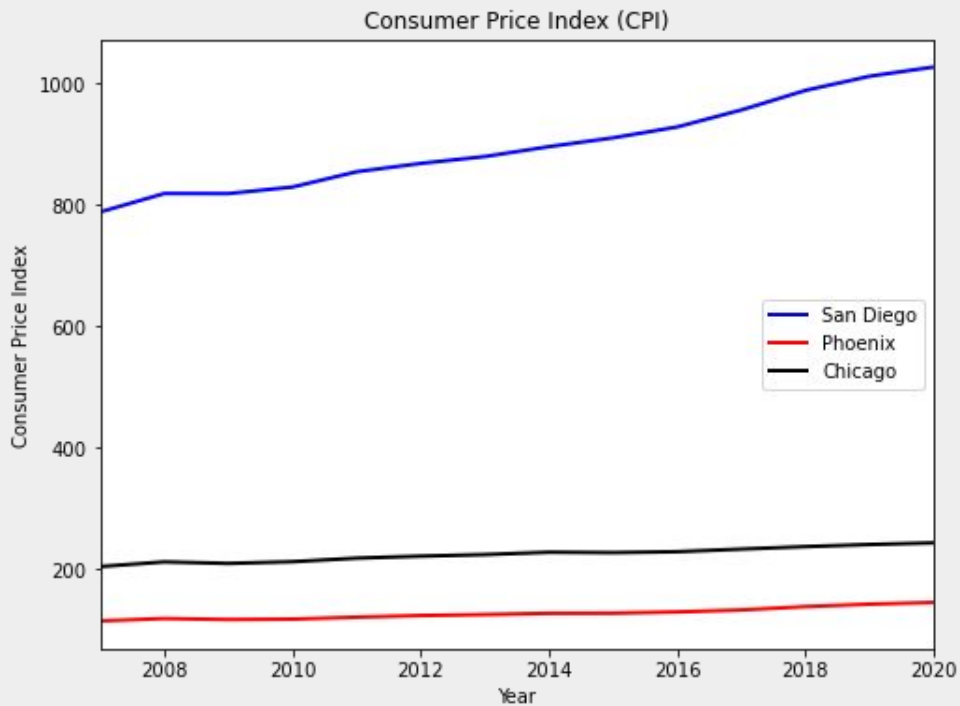
Sample: Weather Preparation



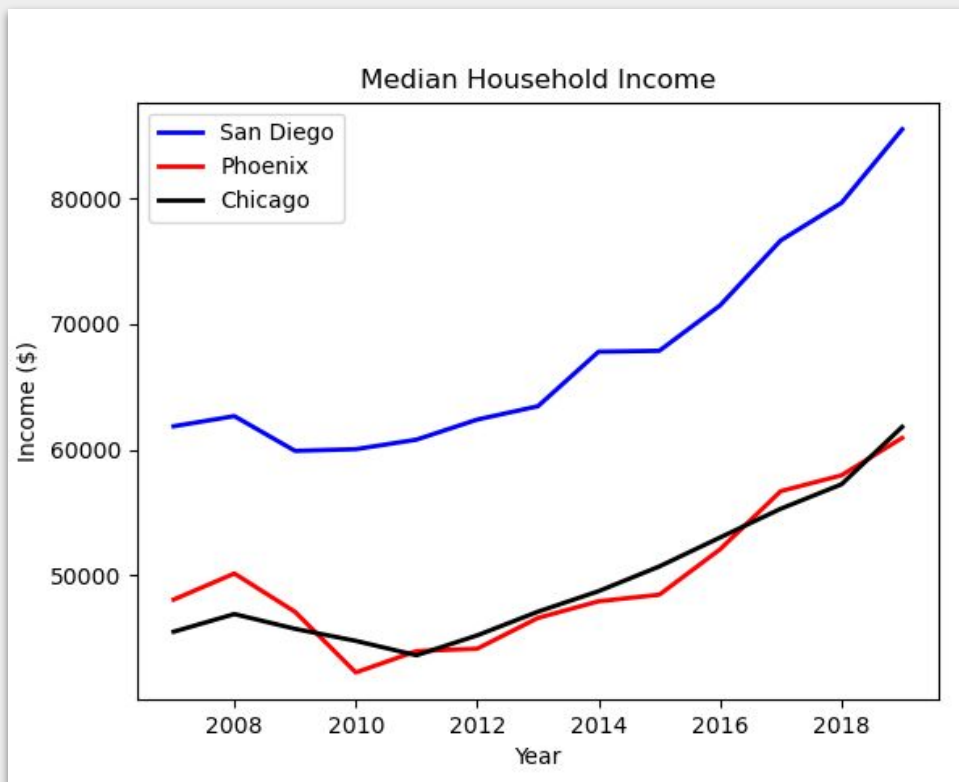
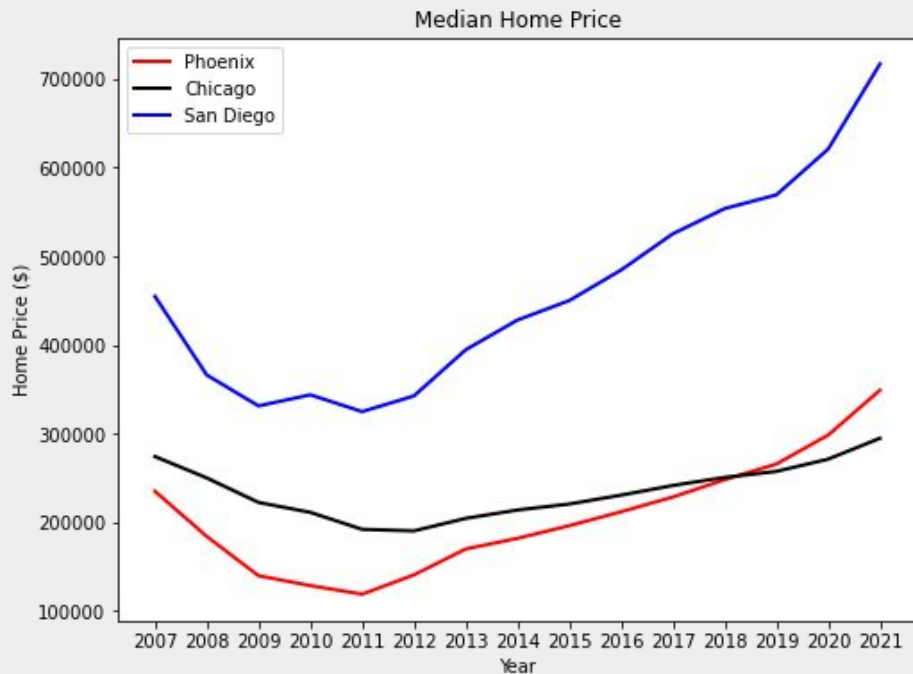
Population



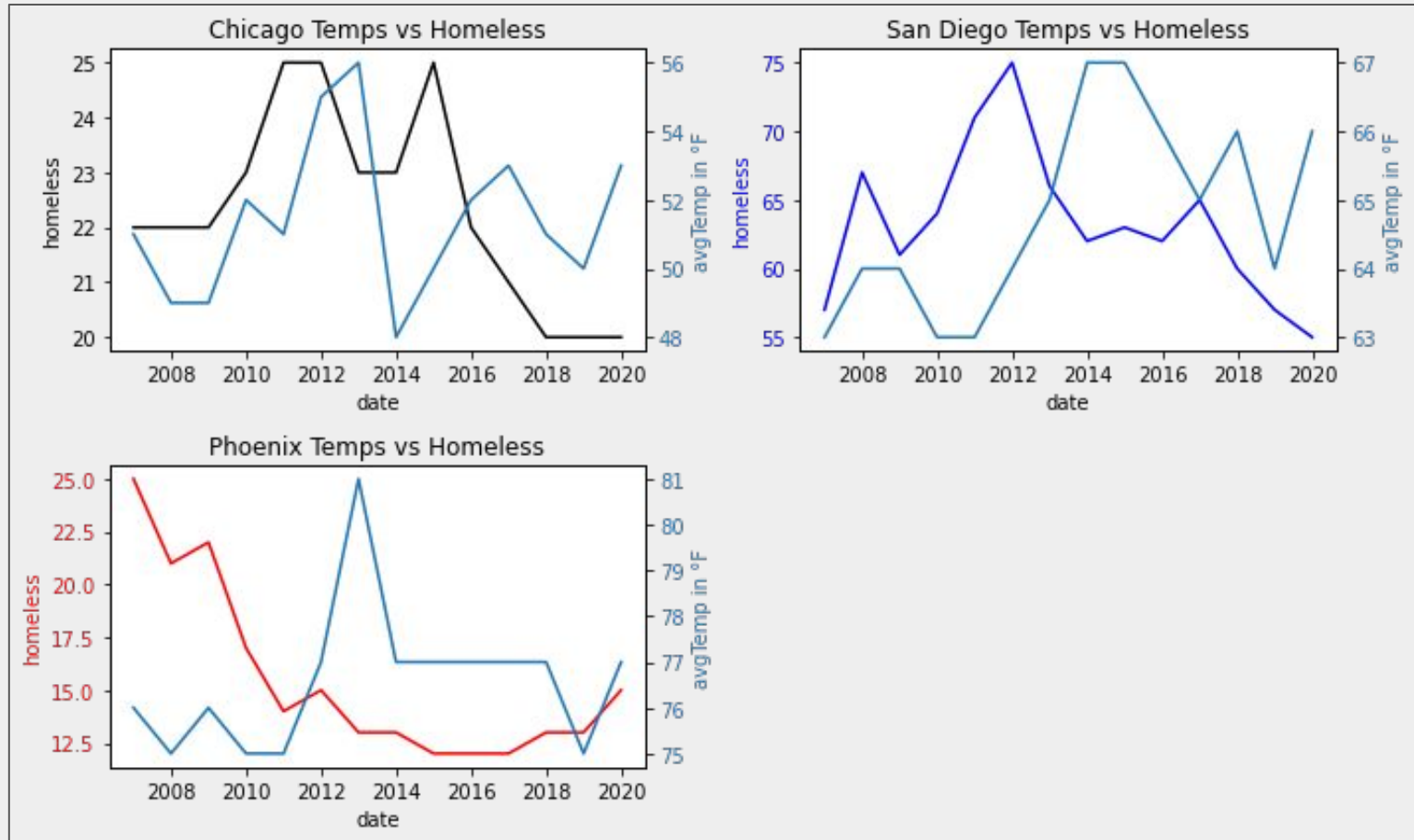
Living Index (CPI)



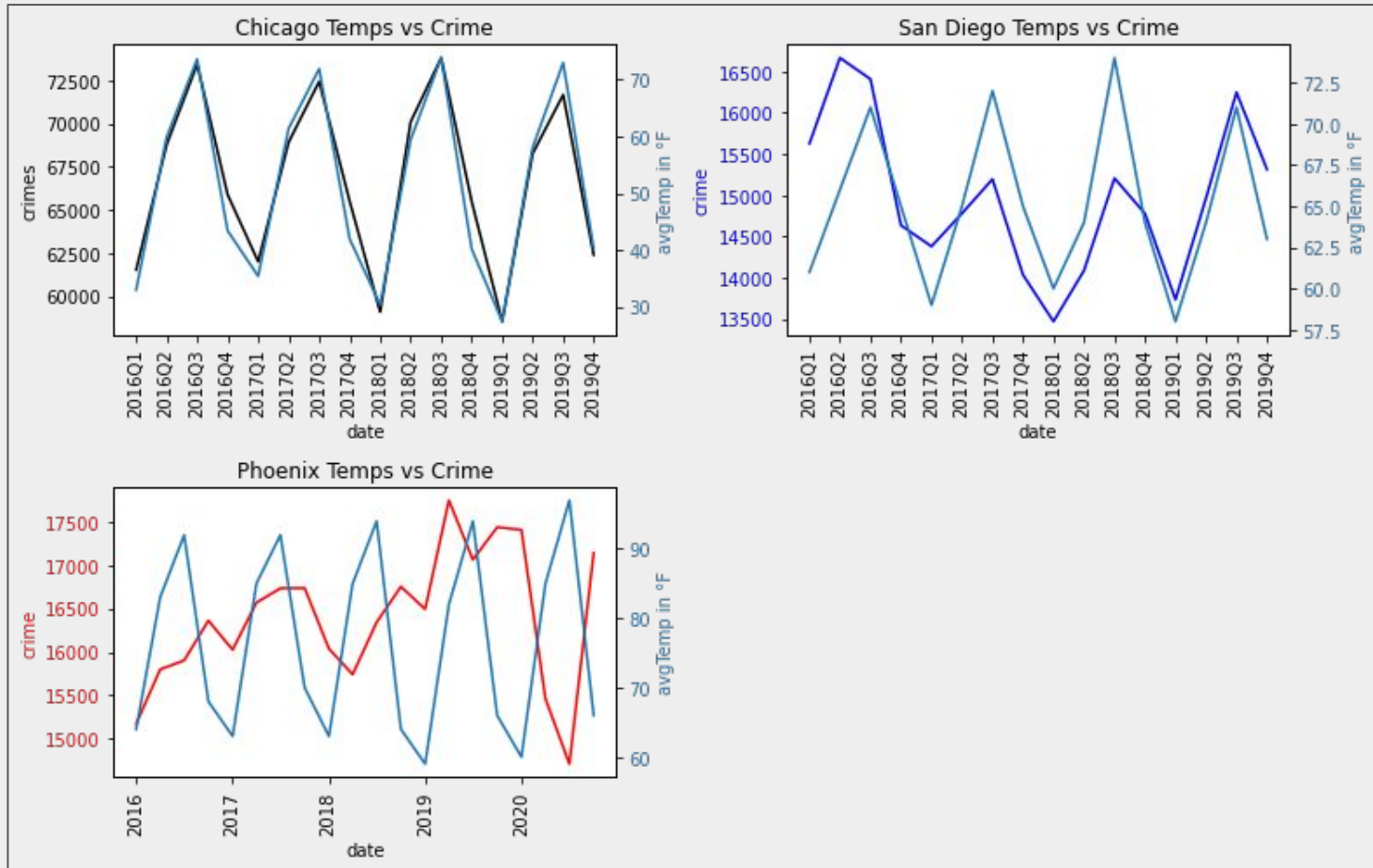
House Prices and Income



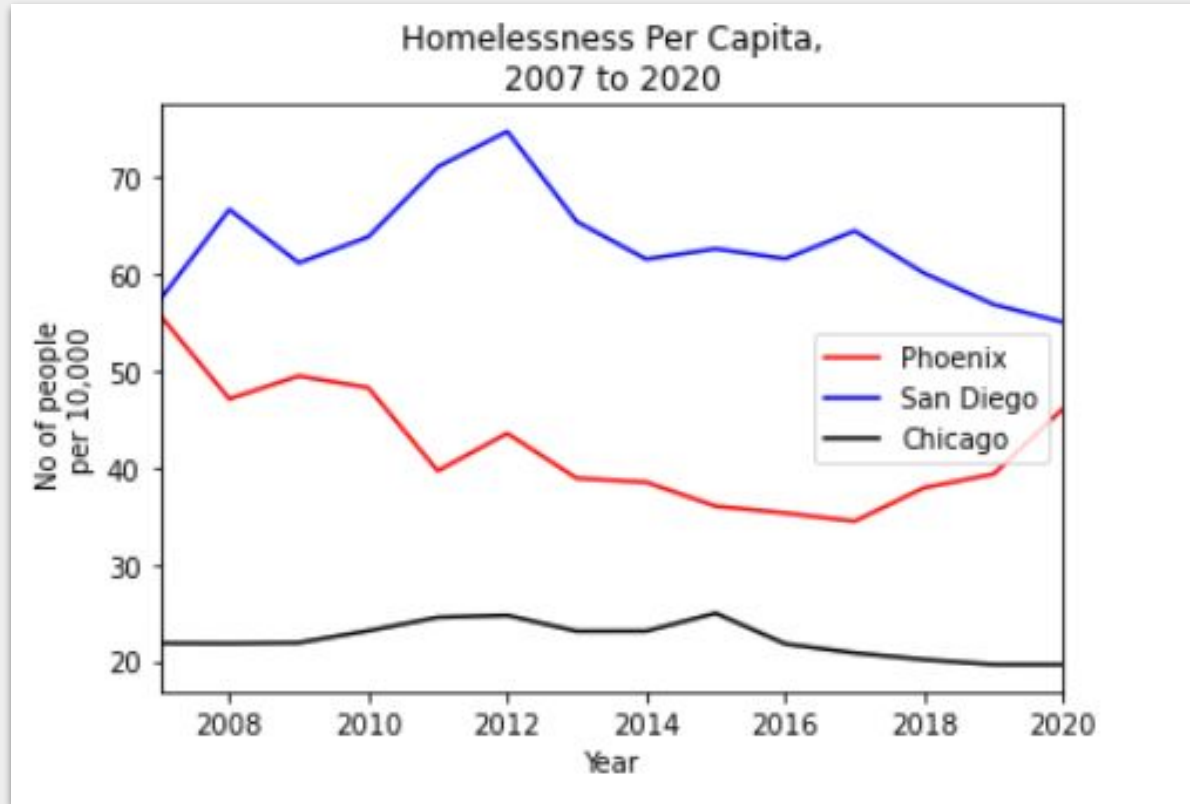
Weather - Temperature and Number Homeless Persons



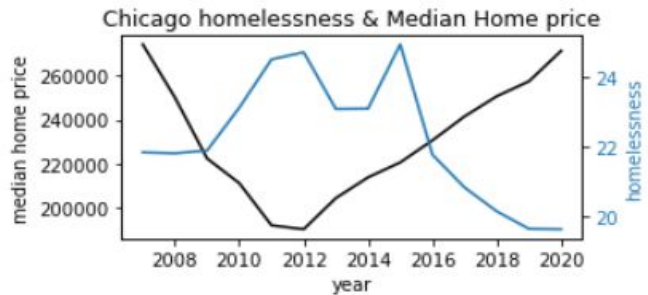
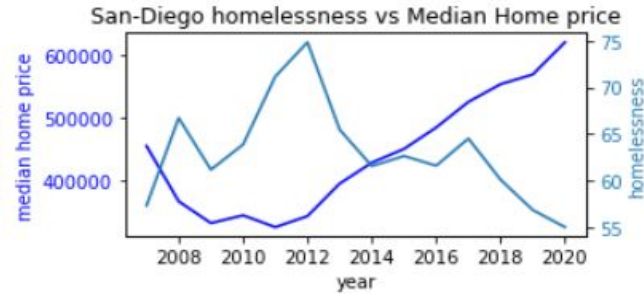
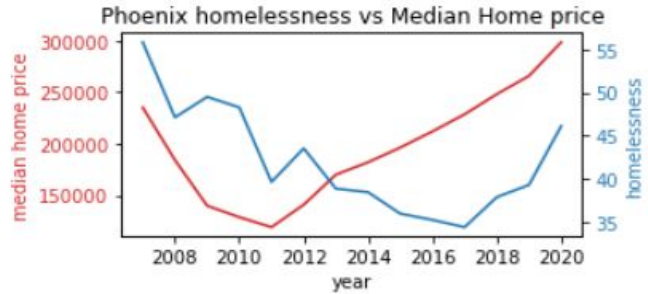
Weather - Temperature and Number Crimes Committed



Homelessness



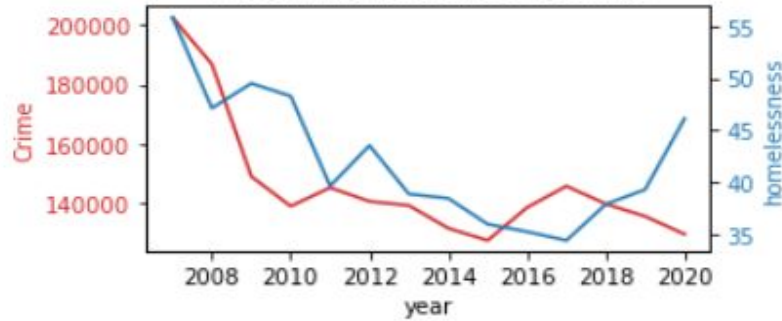
Homelessness vs Median Home Price



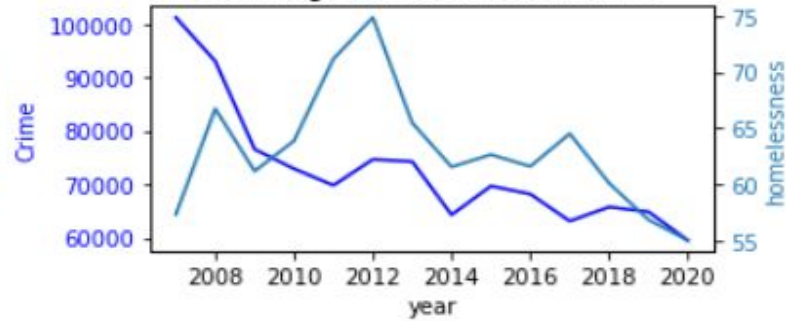
	Median Home Price	Homelessness per Capita
Median Home Price	1.000000	0.600518
Homelessness per Capita	0.600518	1.000000

Homelessness vs Total Crime

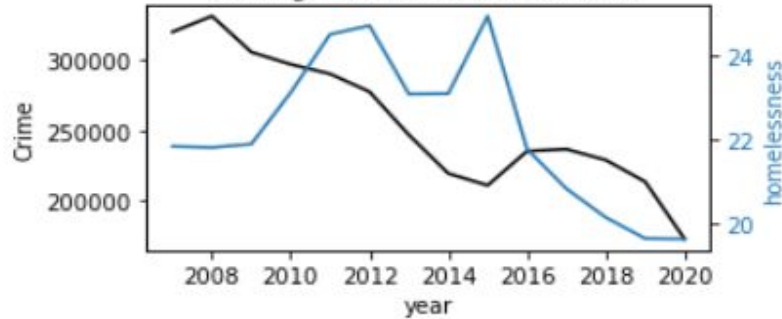
Phoenix homelessness vs Crime



San-Diego homelessness & Crime

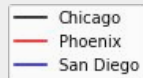
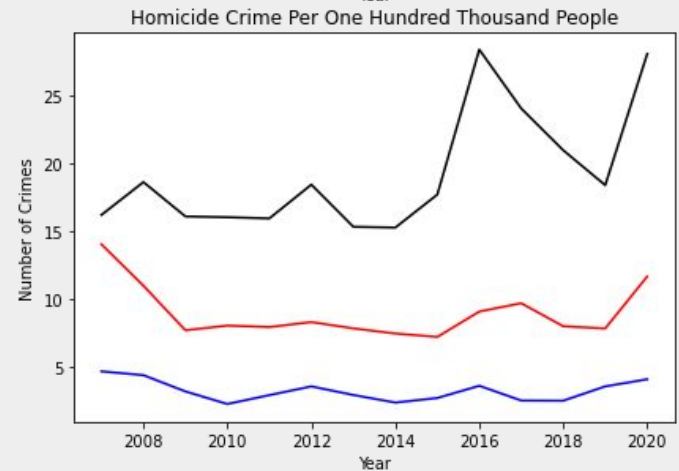
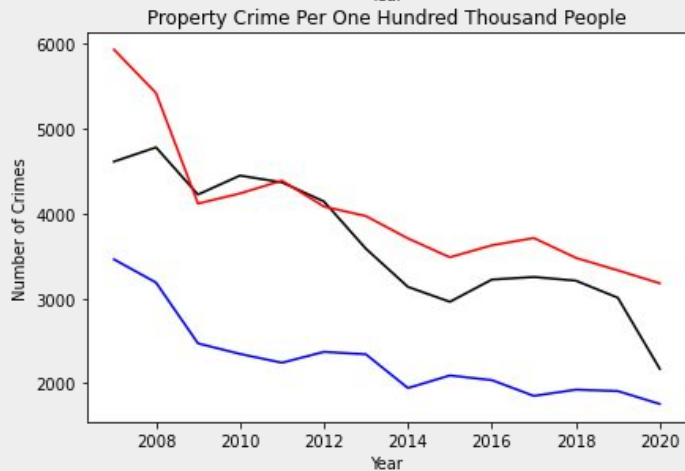
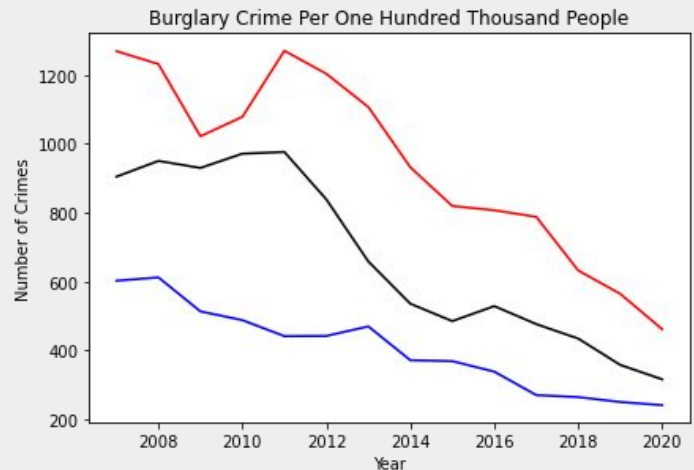
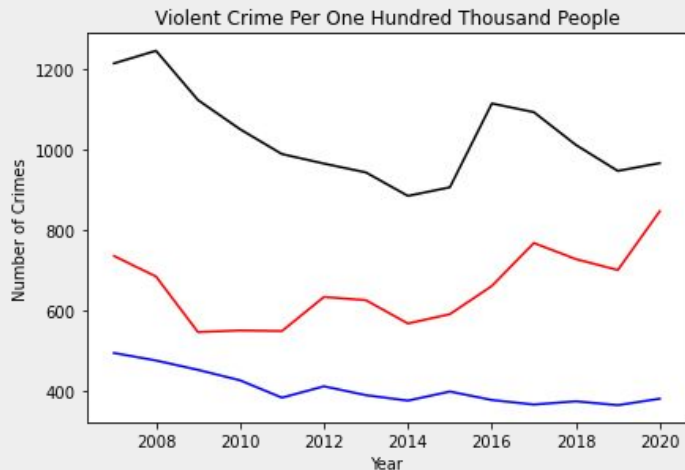


Chicago homelessness & Crime



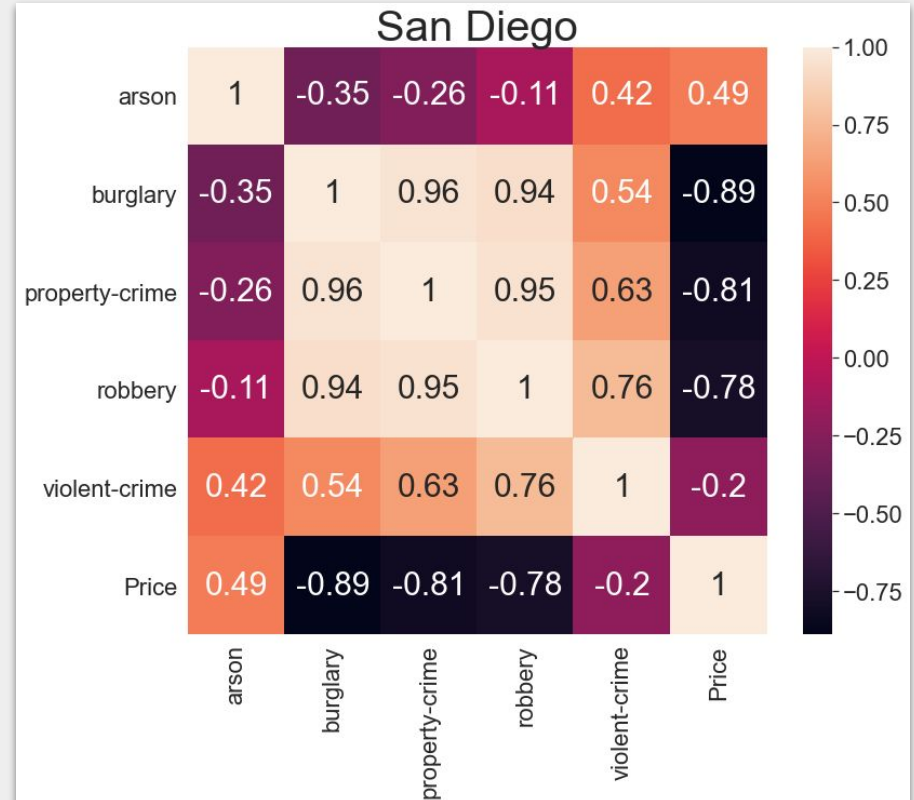
	Crime	homelessness per 10000
Crime	1.000000	-0.861079
homelessness per 10000	-0.861079	1.000000

Crime



Crime and House Prices

- Data between 2007 - 2020 on Median Home Prices and Crime in San Diego
- There appears to be a negative correlation between burglary, property crime and robbery to median home prices.
- This may indicate that a lower crime rate leads to higher home prices.
- Additional factors to consider:
 - Proximity to nearest police station
 - Income levels
 - Education attainment
- Found similar trends in Chicago and Phoenix

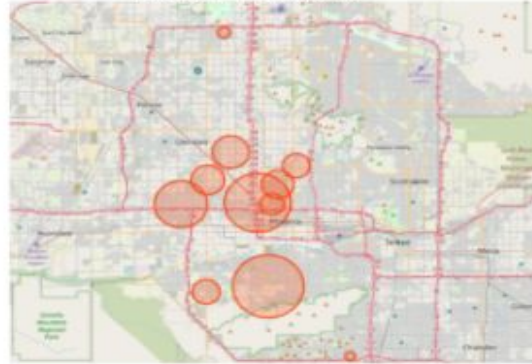


Crime Maps

Chicago Crime Heat Map



Phoenix Crime Heat Map



San Diego Crime Heat Map



Conclusions

- Population and Living Index:
 - Chicago has a very high population, but has remained stagnant compared to Phoenix/San Diego
 - San Diego's CPI is significantly higher than both cities and is increasing faster than both as well
 - There may be a slight correlation between population and CPI - Chicago showed little correlation
- Home Prices:
 - Median home price is strongly correlated to median household income
- Weather:
 - There is a strong correlation of crime and weather
 - There is a moderate correlation of homelessness and weather
 - There is no correlation between home medium prices and weather
- Homelessness:
 - Moderate correlation between median home price and homelessness
 - Strong correlation between total crime and homelessness
 - San Diego has the highest number of homelessnes people per capita followed by Phoenix and Chicago.
 - The past 3 years Phoenix homelessness has been on the rise.
- Crime:
 - Similar crime rates between Chicago and Phoenix while San Diego has the lowest crime rates as reported by the city's main police stations
 - Evidence of correlation between crimes and median home prices
 - Clusters of crimes concentrated in urbanized zones as presented in the crime heat maps.

Questions?