

Crime in Los Angeles: Homicide Increases in the COVID-19 Era

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Introduction

Why research crime in Los Angeles?

- Homicide rates in Los Angeles increased substantially during pandemic
- One of the largest increases in the country, alongside Houston and Philadelphia
- Caused by pre-pandemic and pandemic-induced economic instability and inequalities
- Los Angeles makes their crime data publicly available (2010-Present)

Our hypothesis

We predicted that:

- Socioeconomic conditions have improved in Los Angeles since the pandemic
- As these socioeconomic measures have bounced back, the rate of homicide has returned to a more “normal” rate
- A similar trend might be seen with overall crime rates in LA
- We also examined if increased police funding is correlated with a reduction in the number of homicides.

Primary Data

Our primary datasets are the “Crime Data from 2010 to 2019” and “Crime Data from 2020 to Present” National Incident-Based Reporting System (NIBRS) datasets, available on [Data.gov](https://data.gov).

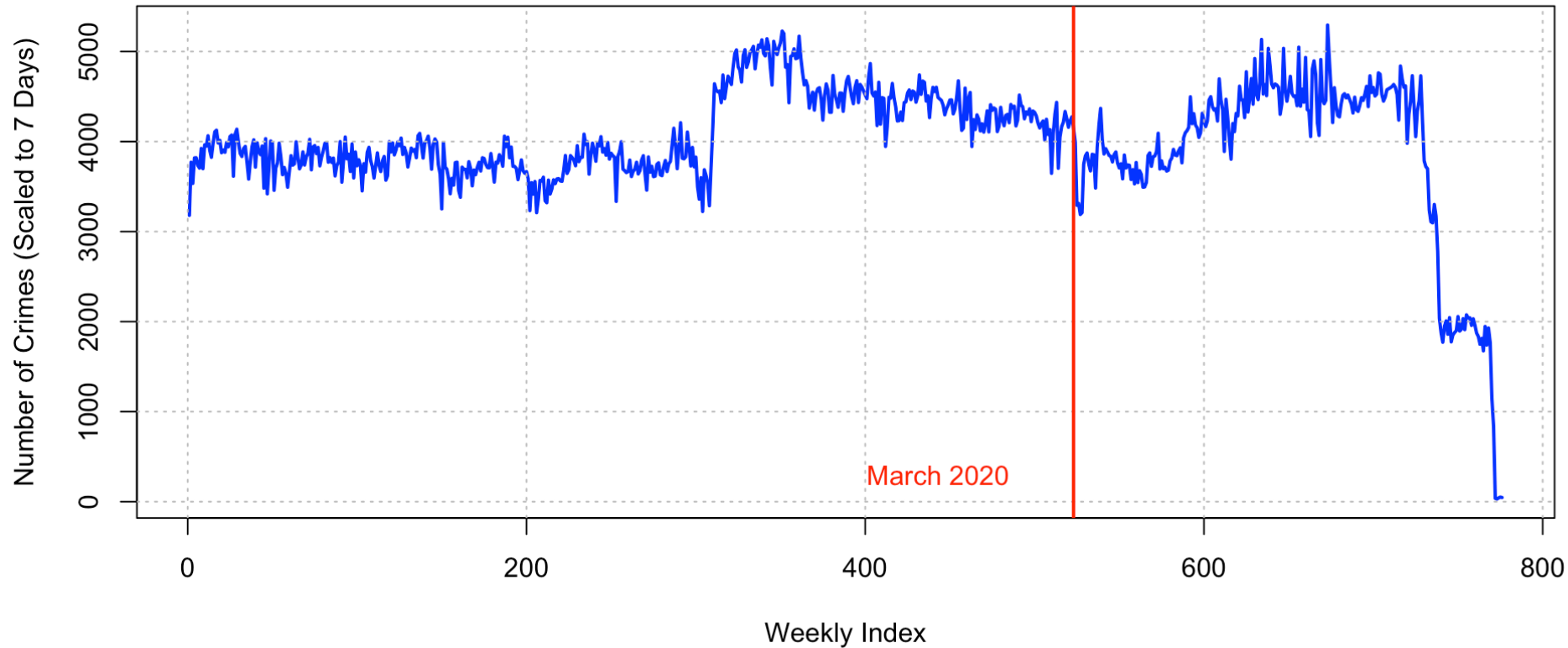
Secondary

Our supplementary datasets were:

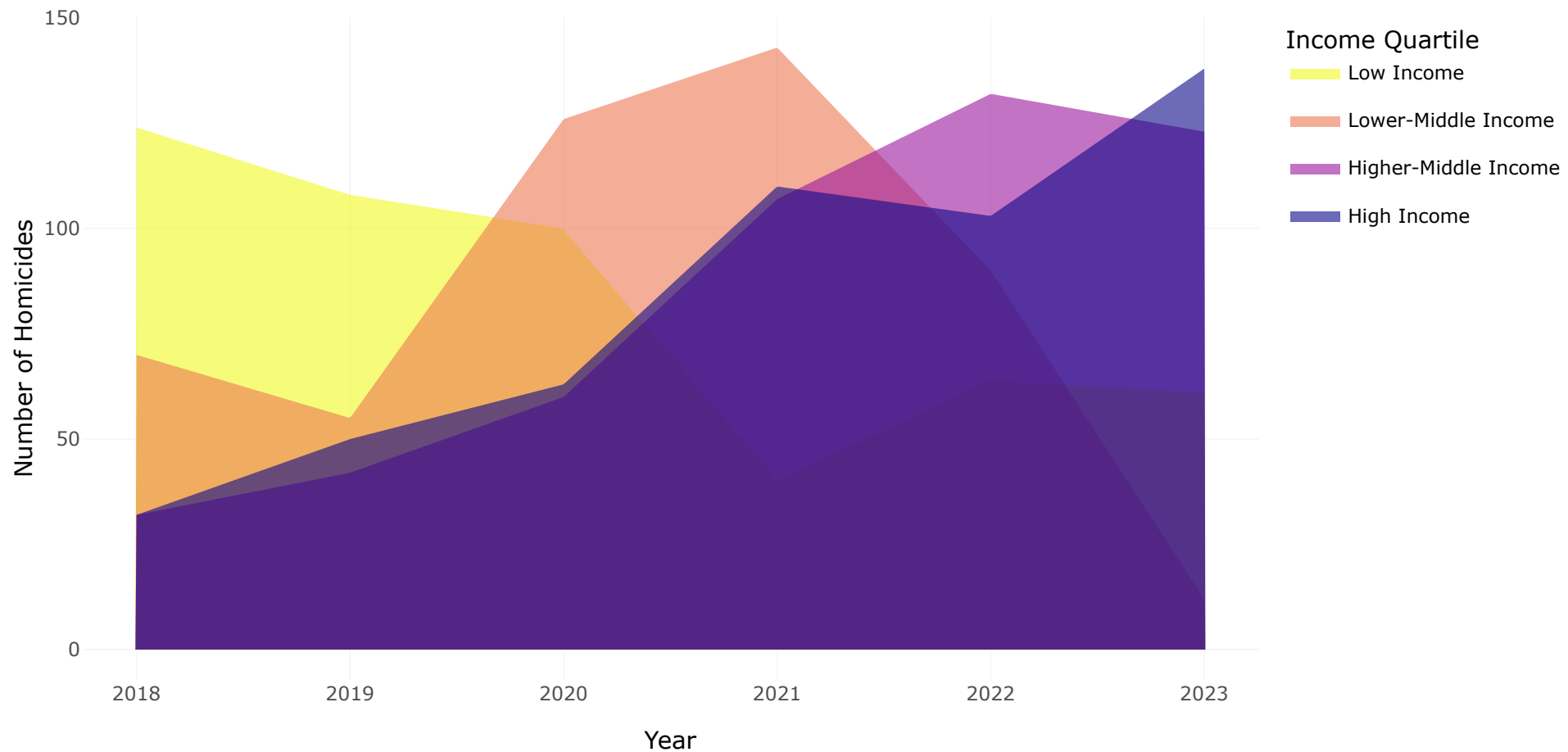
- Los Angeles County Eviction Data
- City of Los Angeles Eviction Data
- Los Angeles County COVID Data
- Census Bureau Median Income Data
- Los Angeles Police Department Budget Data
- Los Angeles Area Unemployment Rate Data

Data Exploration

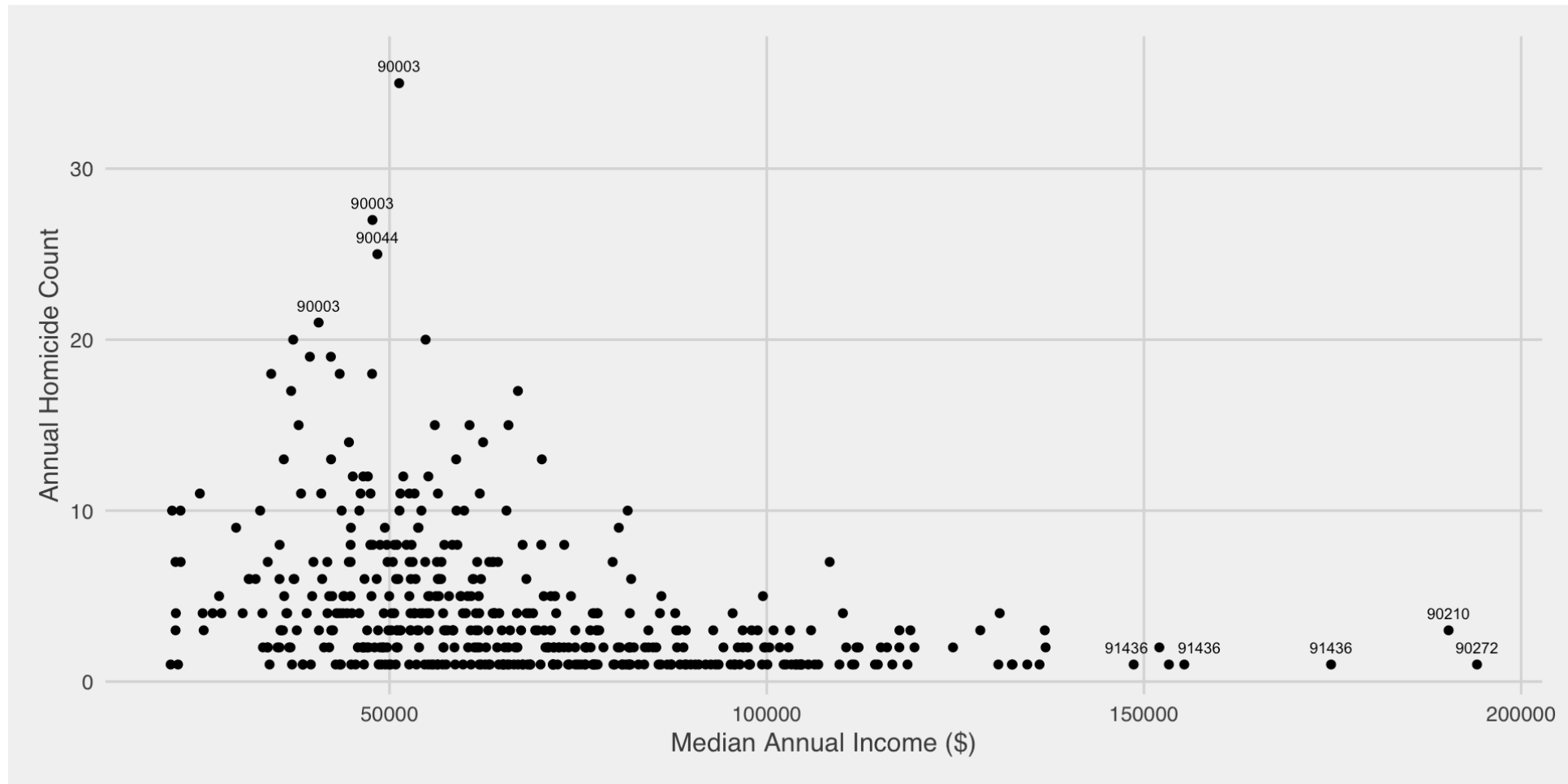
Weekly Crime Counts in Los Angeles from 2010 to present



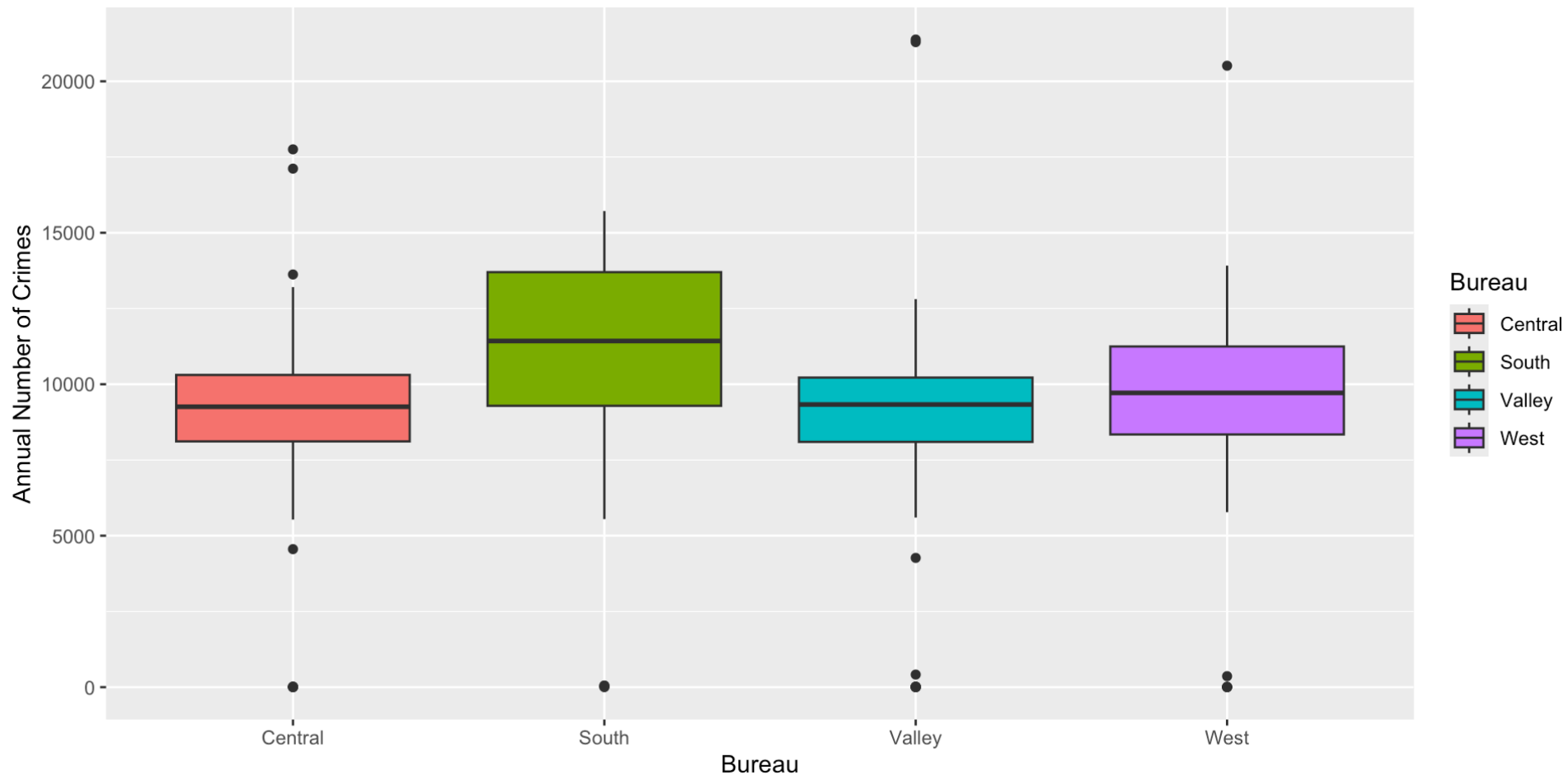
Homicides Over Time by Income Quartile



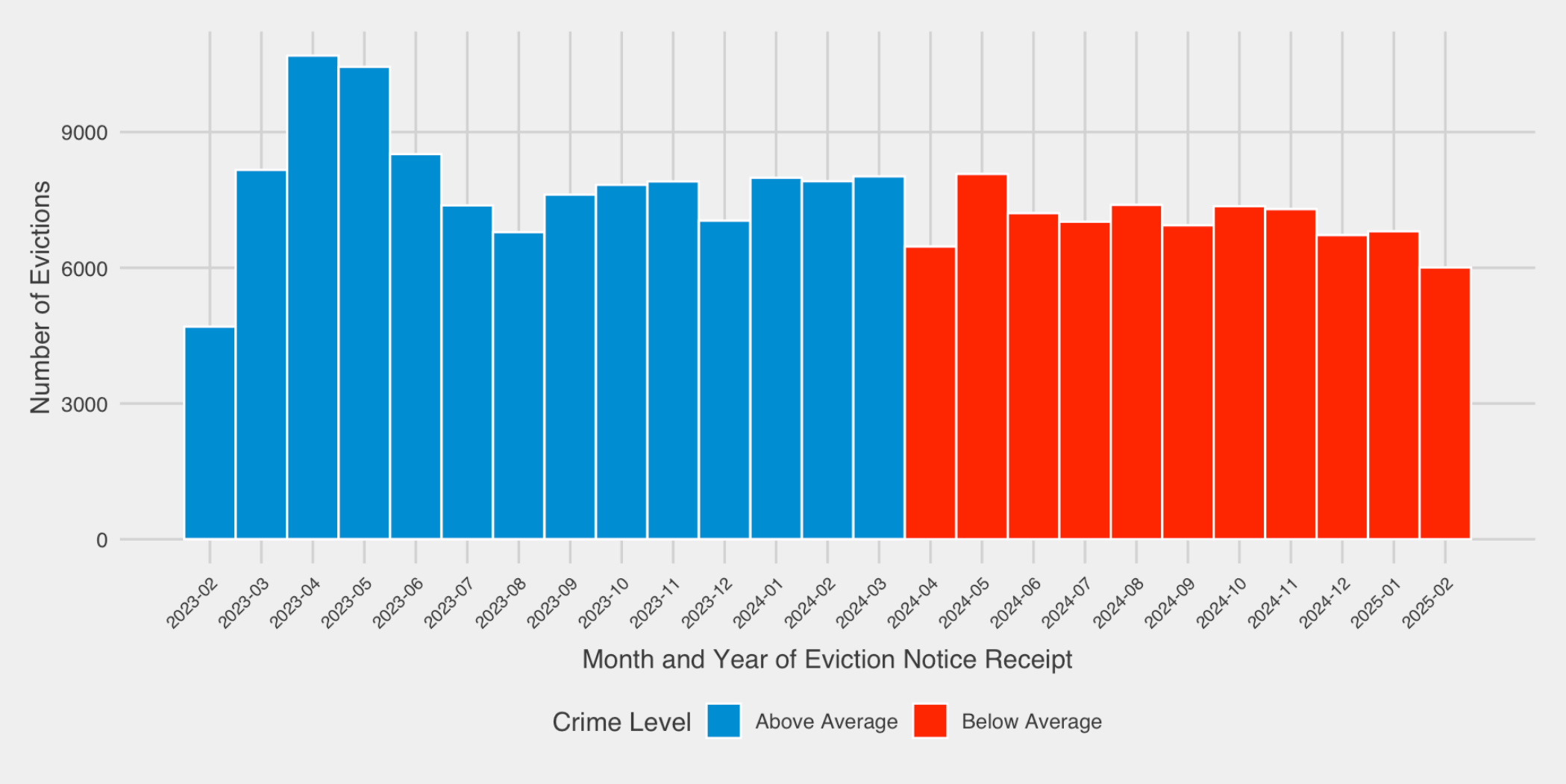
Homicides and Median Income By Zip Code



Geographical Trends in Crime Rates By LAPD Bureau



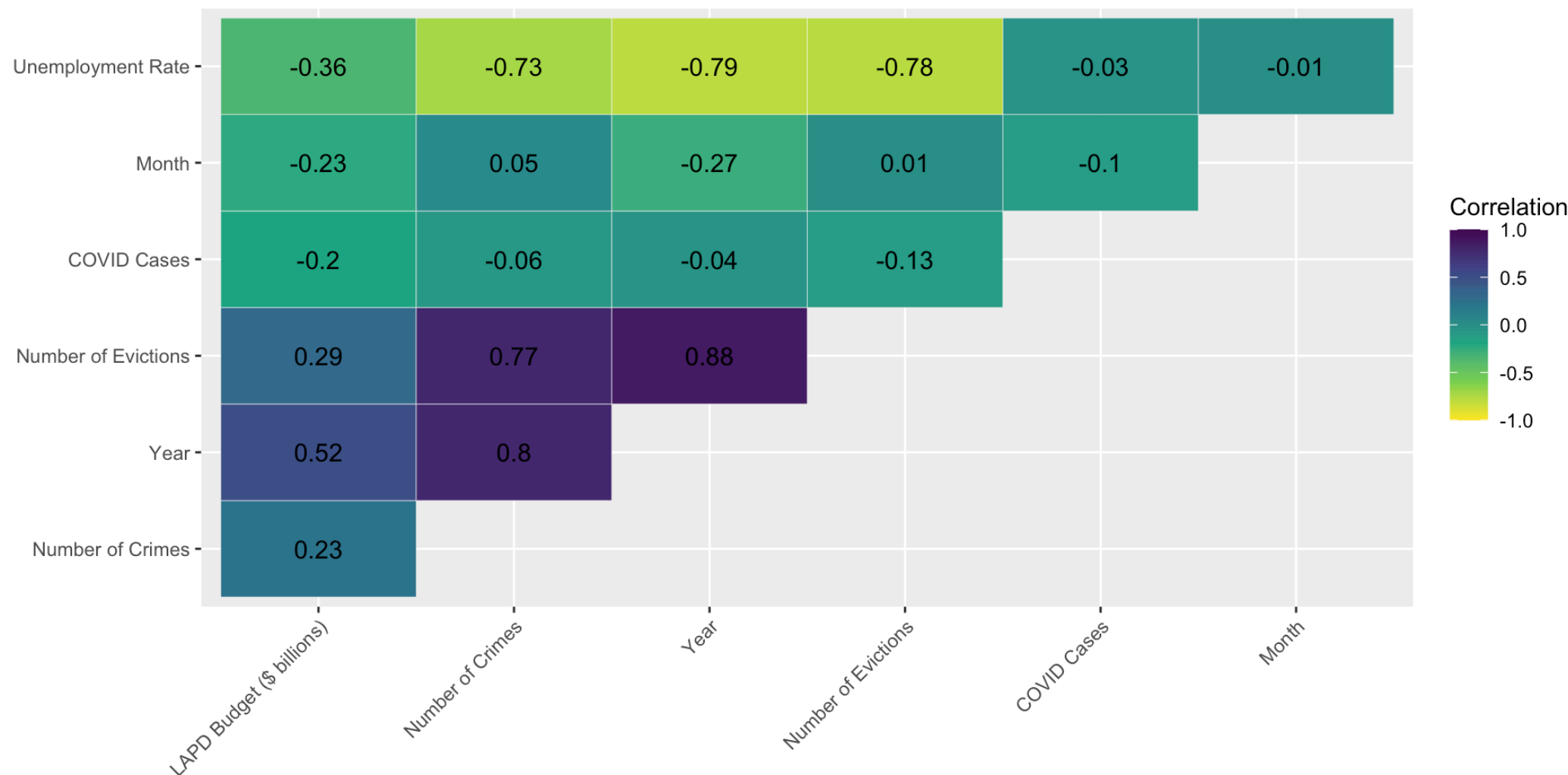
Evictions and Crime Levels



Geographical Distribution of Homicides

Correlations and Modeling

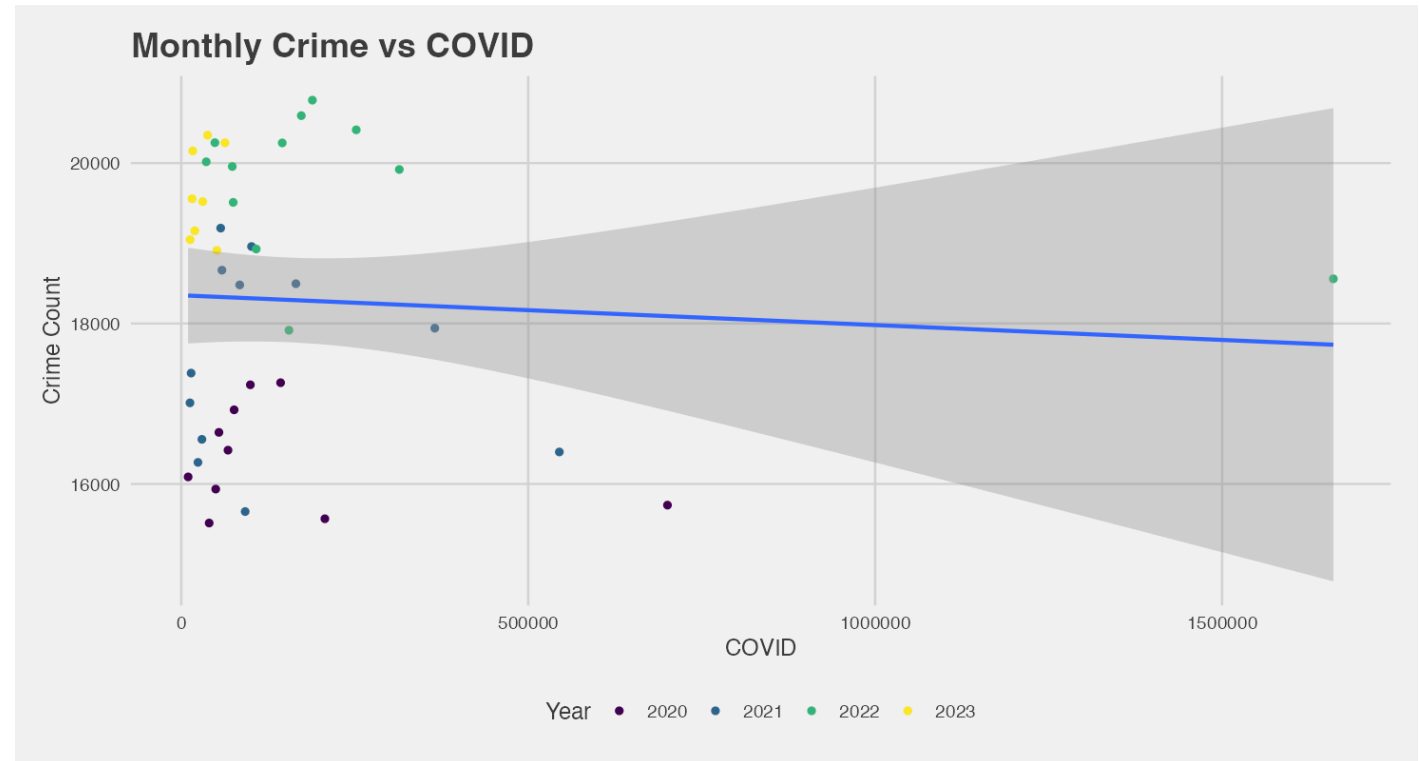
Correlation Heat Map



Relationship Between Homicides and Socioeconomic Variables

View homicides compared to:

- ☒ COVID
- ☐ Evictions
- ☐ LAPD Budget
- ☐ Unemployment



Modeling Crime Rates Spatially

$$\text{HomicideCount}_i = \beta_0 + \beta_1 \text{Latitude}_i + \beta_2 \text{Longitude}_i + \epsilon_i$$

	Coefficient	p-value
(Intercept	254.067210	0.00000000
Latitude	-1.046221	0.0012430
Longitude	1.832539	0.0000032

Homicides Have Increased in the Pandemic

$$\text{HomicideCount}_i = \beta_0 + \beta_1 \text{year}_i + \epsilon_i$$

Year is significant at a 0.01 level, but it has caused a very small increase, almost unnoticeable on the graph. Each year, homicide rates increase by 0.05 on average.

Killer Plot

Walk of Crime

View:

☒ Homicides Spatially

☐ A Variable Over Time

Select Year:

2023

▼

