

Crime in Los Angeles

An Analysis from 2010 to 2023

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Questions to Answer:

- What crimes occurred the most between 2010 and 2023?
- Was there a change in the type of crime that occurred the most frequently over a period of time? Every two years? Every five years?
- What areas in Los Angeles had the most criminal activity?
- Can a percent change showcase any interesting findings?
- Did COVID-19 have any significant impacts on crime?
- Did the crime rate change in Los Angeles due to COVID-19?

Data Preparation Work

- 2.8 million entry dataset split between two CSV files
 - Both files were initially merged together
- 15 of the 28 included attributes were discarded (unnecessary police codes, empty description boxes, etc.) to reduce file size and eliminate unnecessary data
- Appropriate latitude and longitude values were filled in for any null locational values
- Data were separated into bins based on two-year and five-year groupings to allow for easier analysis and computation
 - For-loops used to separate the years into two-year and five-year lists

Tools Used

- Python
 - Python was the code used for this project - written inside Jupyter Notebook
 - Packages *CSV* and *Pandas* were used for preprocessing the data
 - Lists, DataFrames, and Dictionaries were created for sorting and analyzing data
 - After separating by year/year groups, data were separated by type of crime and location

Percent Change Analysis

- A Percent Change analysis was performed on every **unique** crime (~135 unique crimes on average per year)
- Percent Change was determined for types of crime, as well as the percent change of criminal activity per police station
- Percent Change was done for all two-year, five-year, and single-year bins

```
def percentage_change(x, y):  
    return ((y - x) / x) * 100
```

Formula used in Python code

Knowledge Gained

2010-2023

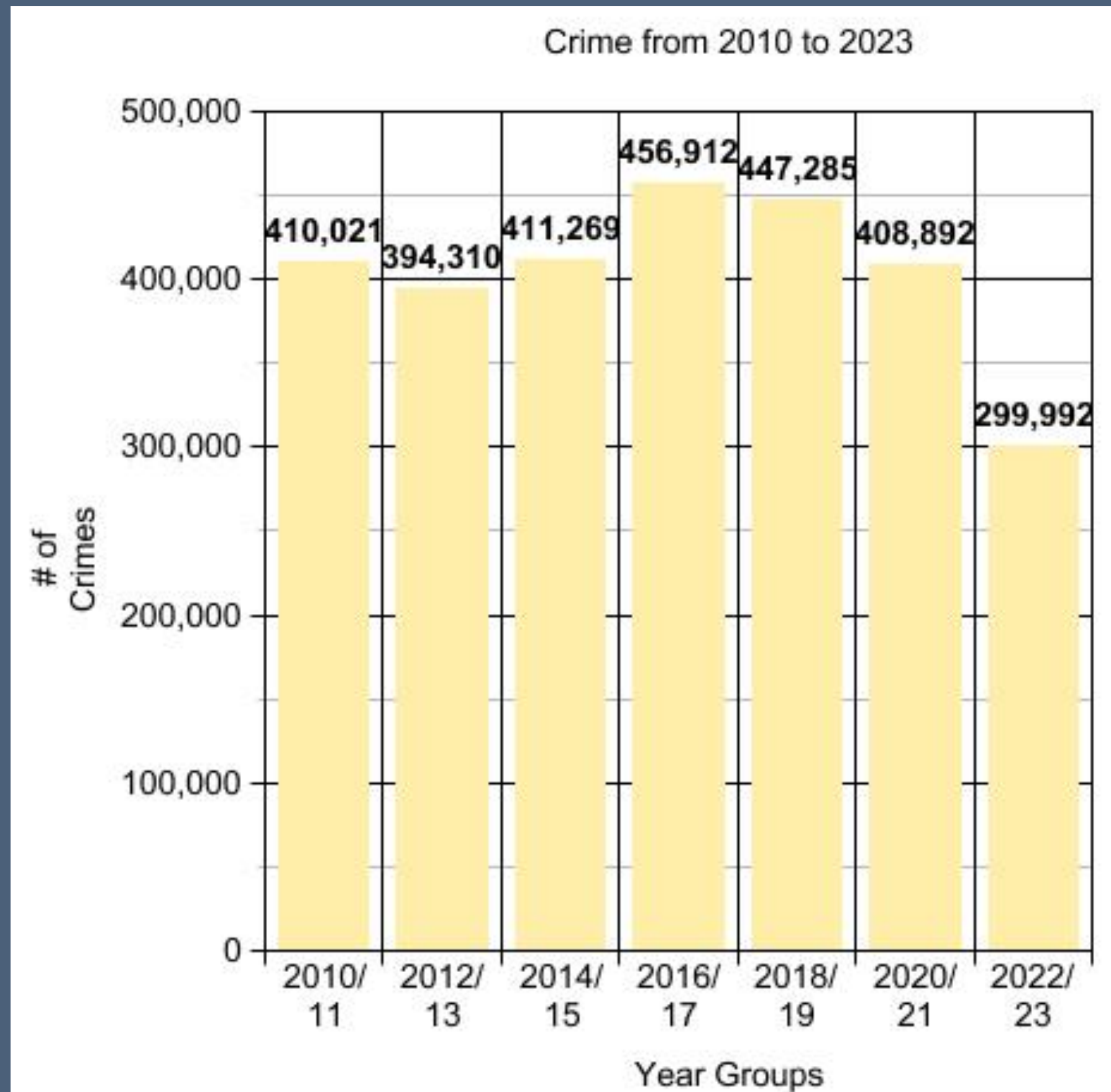
- Top-five crimes were: Vehicle Theft, Battery, Burglary, Petty Theft, and Burglary from a Vehicle
 - Vehicle Theft saw a 37% increase between 2018/19 and 2020/21
- 77th Street was consistently the police station with the most reported crimes
 - ~ 14,000 per year

2019-2022 (COVID-19 Analysis)

- Vehicle Theft saw a 35% increase between 2019 and 2020, and another 14% increase between 2020 and 2021
- Identity Theft saw a 95% increase between 2020 and 2021
- Vandalism became one of the top-five crimes for 2019 and 2020
- Assault with a Deadly Weapon became a top-five crime in 2021

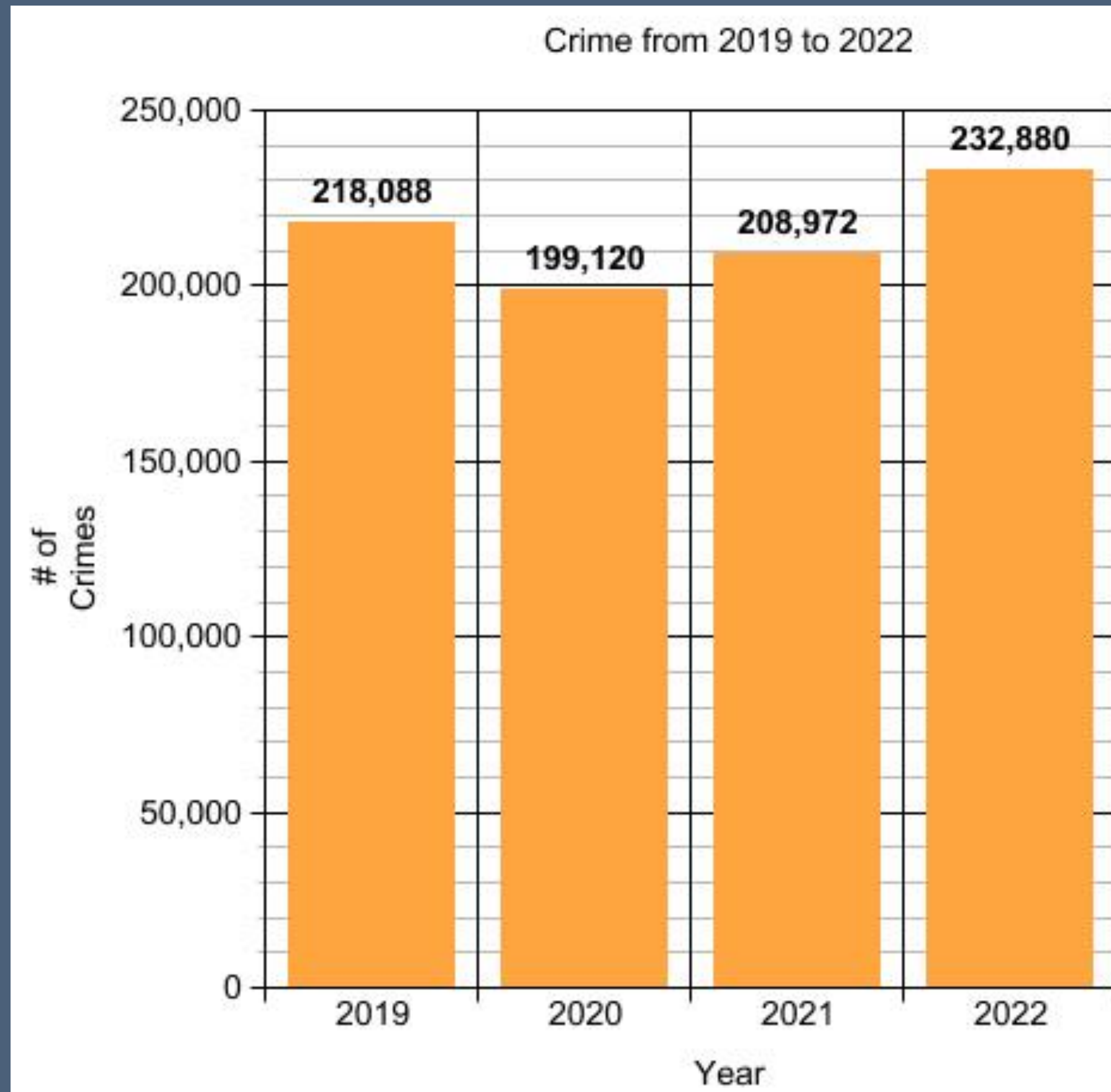
Knowledge Gained

2010 - 2023



Total Crime Count 2010 - 2023

2019 - 2022



Total Crime Count 2019 - 2022

Knowledge Application

- Better understanding of which types of crime occur the most frequently
- Informing the public of best practices to prevent against crimes such as car theft could be beneficial
- Bringing awareness to areas in Los Angeles that tend to have more crime
- Allocating more resources to the prevention of Identity Theft