

A stylized map of California is positioned on the left side of the slide. It is filled with a light yellow color and contains numerous small dots of varying sizes. Most dots are orange, but there are two prominent blue dots: one in the northern coastal region and another in the southern coastal region.

SF Crime Levels Pre- and Post-Pandemic

A multiyear time-series and geographical analysis of UCR crime categorization in San Francisco, CA.

**CALIFORNIA
POLICY
LAB**

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Literature Review

- San Francisco's crime rate generally went down, but certain crimes, particularly homicides, burglaries, and motor vehicle thefts, soared during the pandemic.
- SFPD reported a surge in catalytic convertor thefts in 2021.
- The crime rate is beginning to look more similar to pre-pandemic levels.

Research Questions & Impetus

- How did the amount of crime change during COVID?

AND

- How has the geography of crime change during COVID?

Methodology

- Original SFPD dataset contained 460432 rows and 34 columns.
- Merging with UCR crosswalk resulted in 39 columns.
- After subsetting to only 8 UCR incident categories + limiting dates up to 06-30-2021, dataset reduced down to 195028 rows, or by 42.35%.

Methodology

UCR Categories:

Violent Crimes

- aggravated assault
- homicide
- rape
- robbery

Property Crimes

- arson
- burglary
- larceny theft
- motor vehicle theft

Note: For the maps, pre-pandemic is defined as 2019-03-17 to all dates before 2020-03-17 and post-pandemic is defined as 2020-03-17 (inclusive) to all dates before 2021-03-17 (inclusive).

General Crime Trends

Fig. 1 - Incidents Over Time

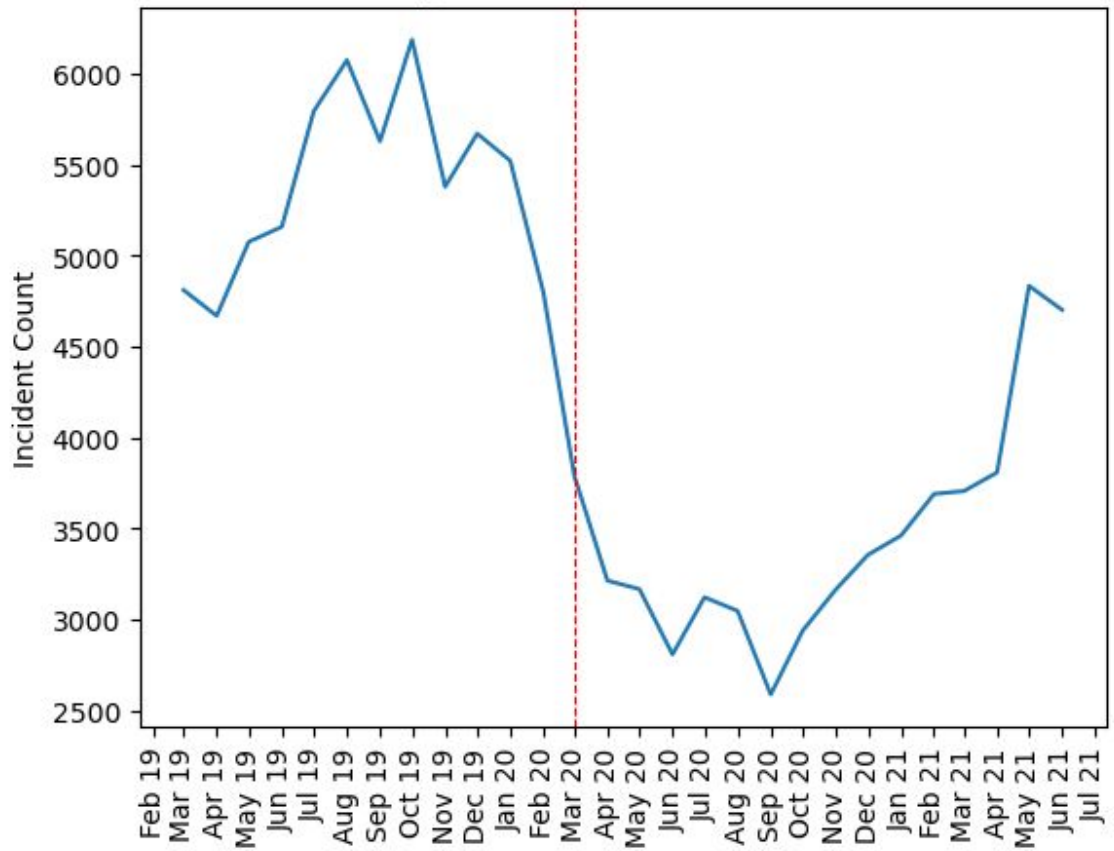
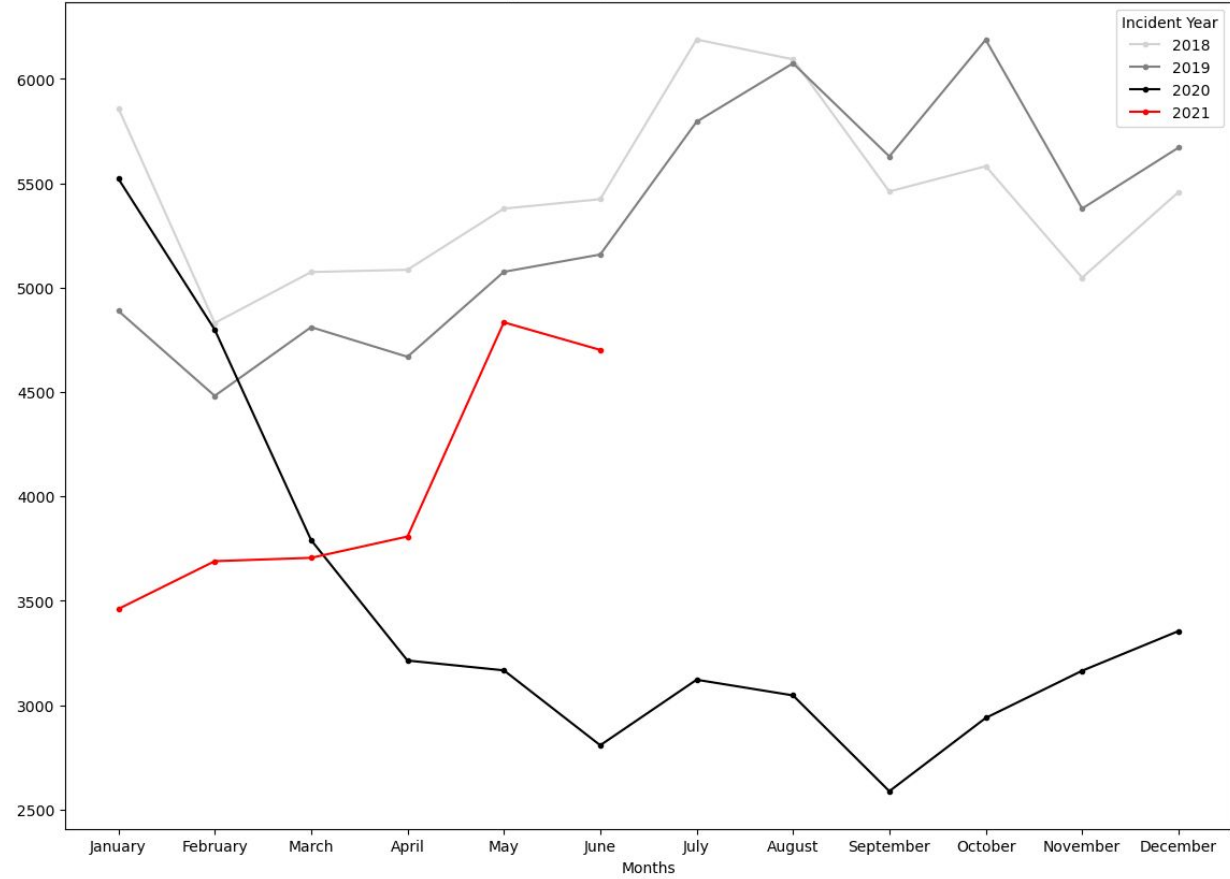


Fig. 2 - Yearly Total Incident Counts



Violent Crimes

Fig. 3 - Violent Incidents Over Time

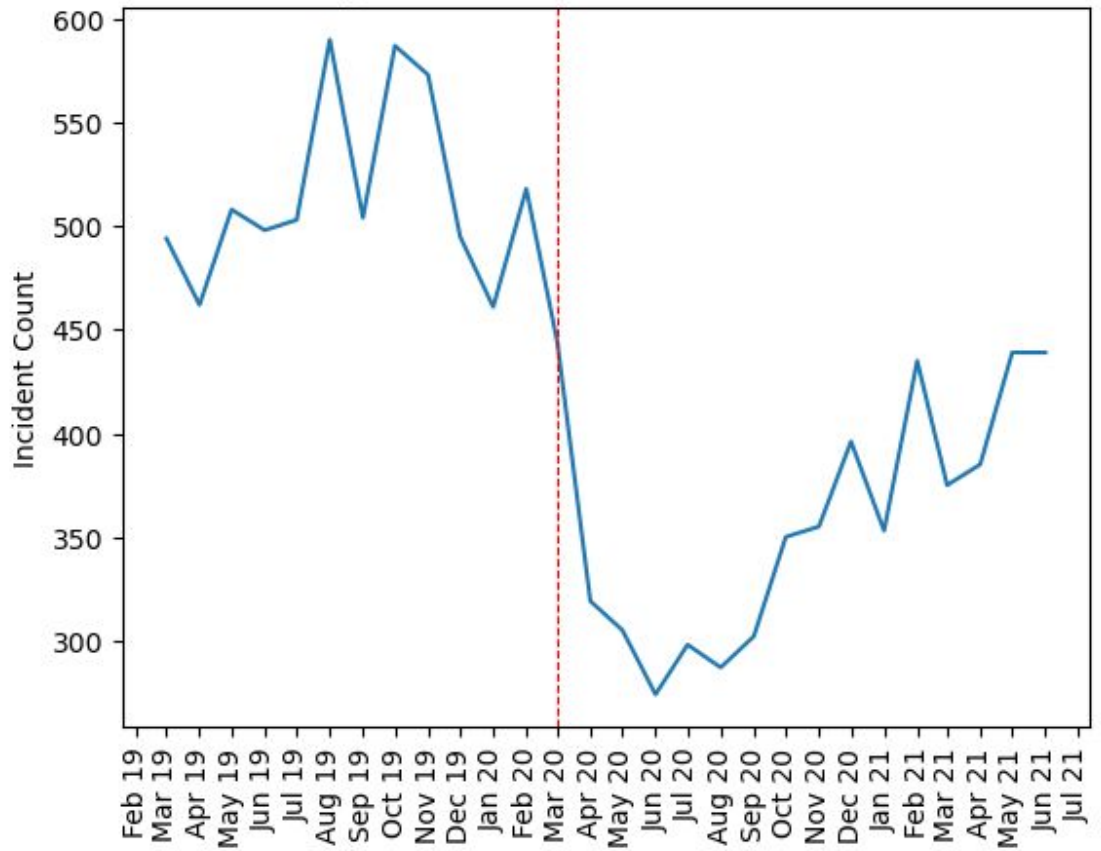
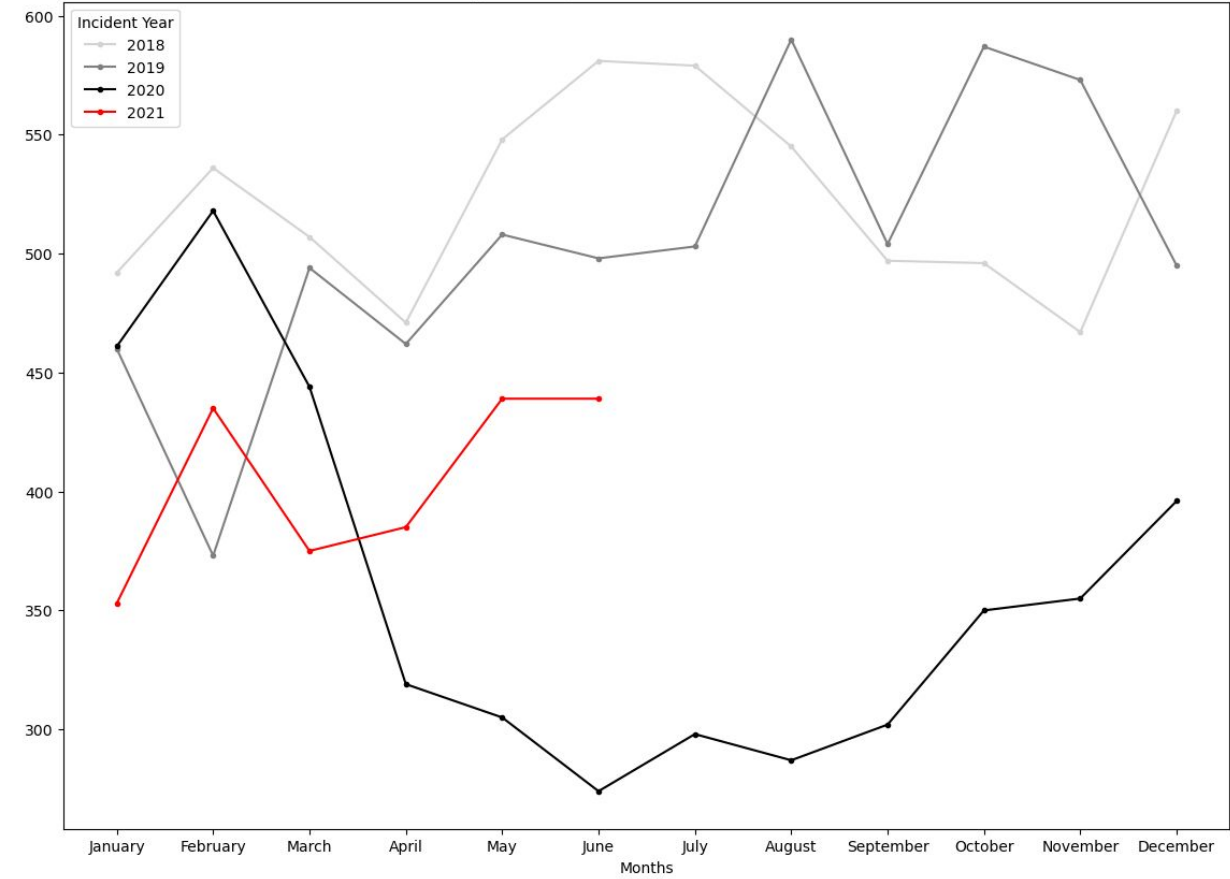
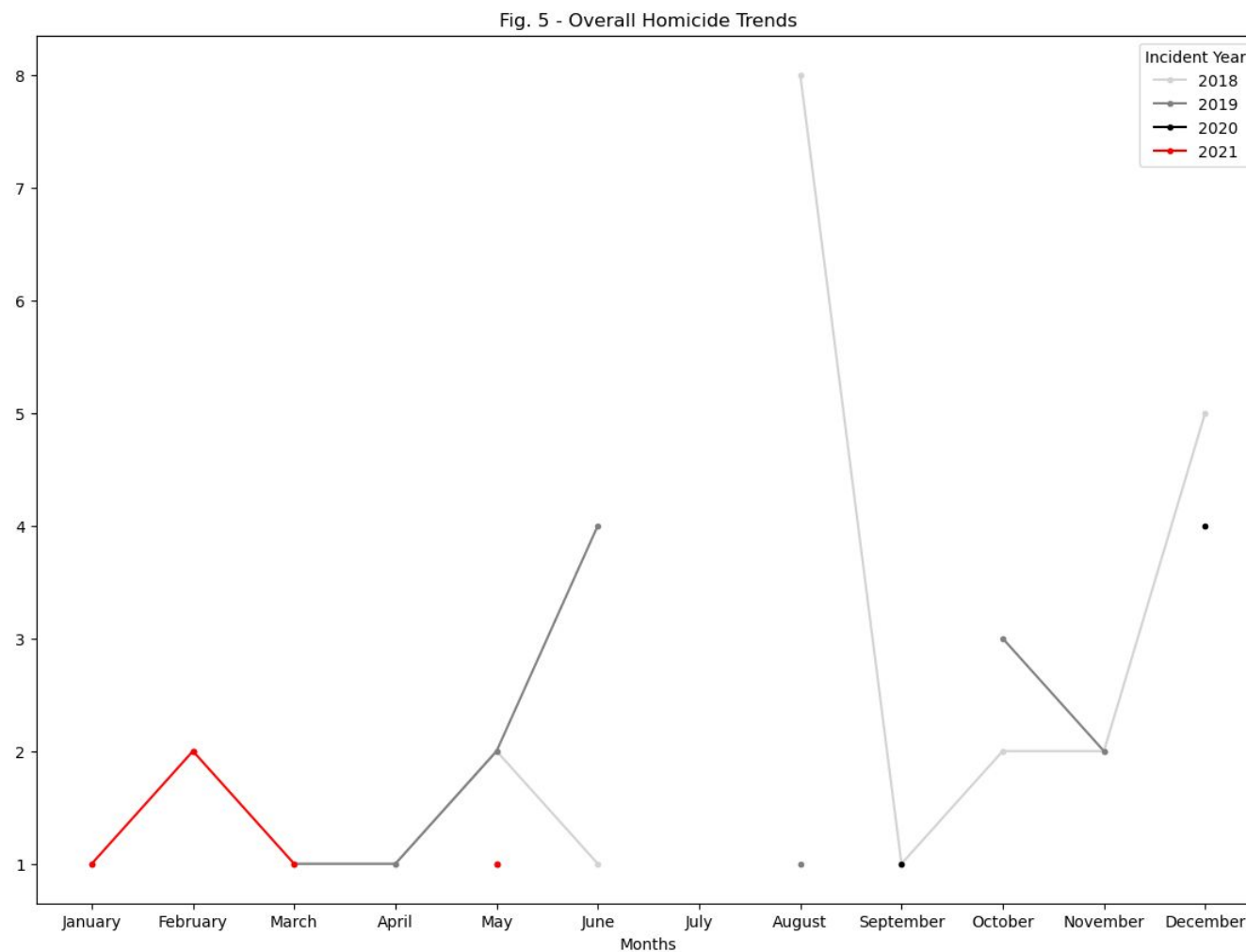


Fig. 4 - Yearly Total Violent Incident Counts

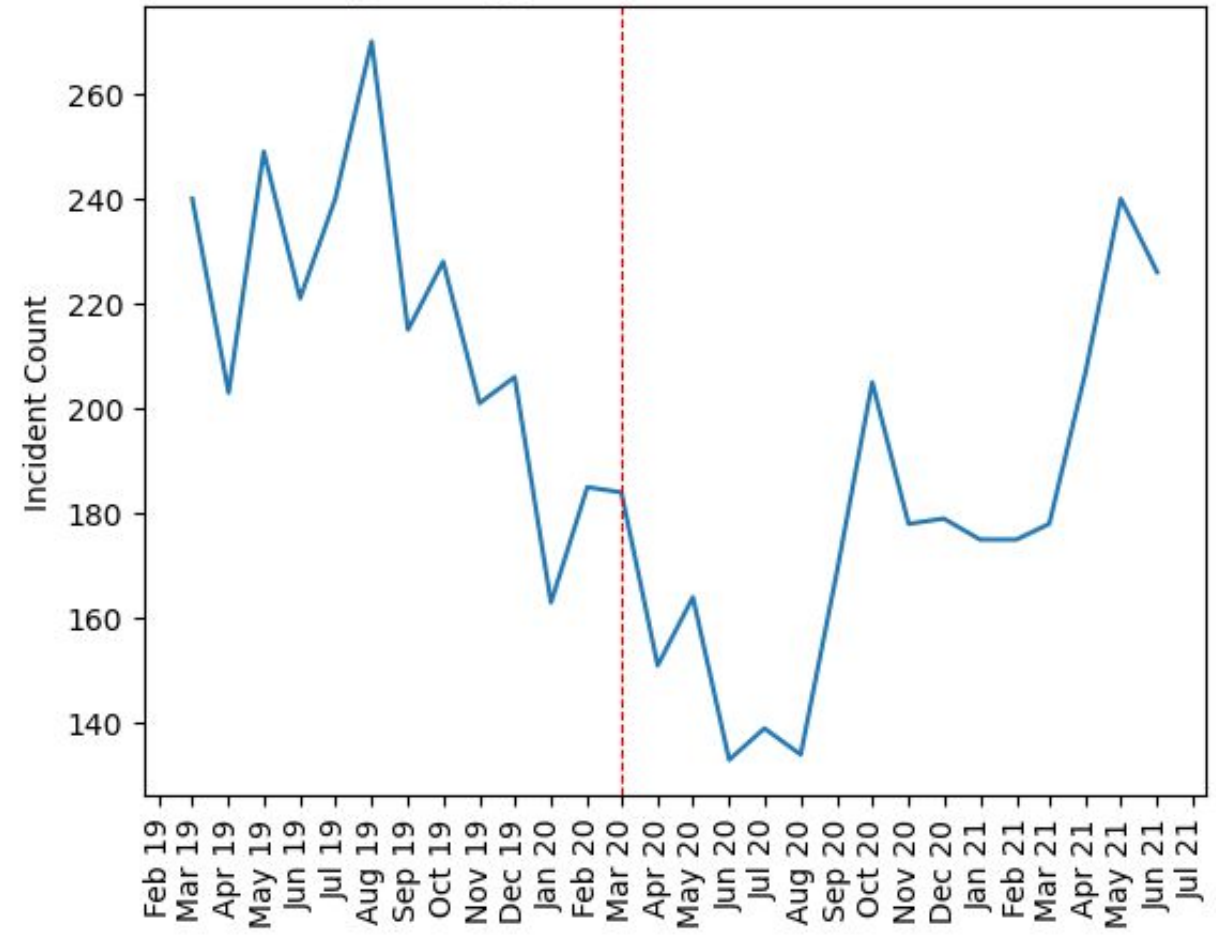


An Example of Missing Values



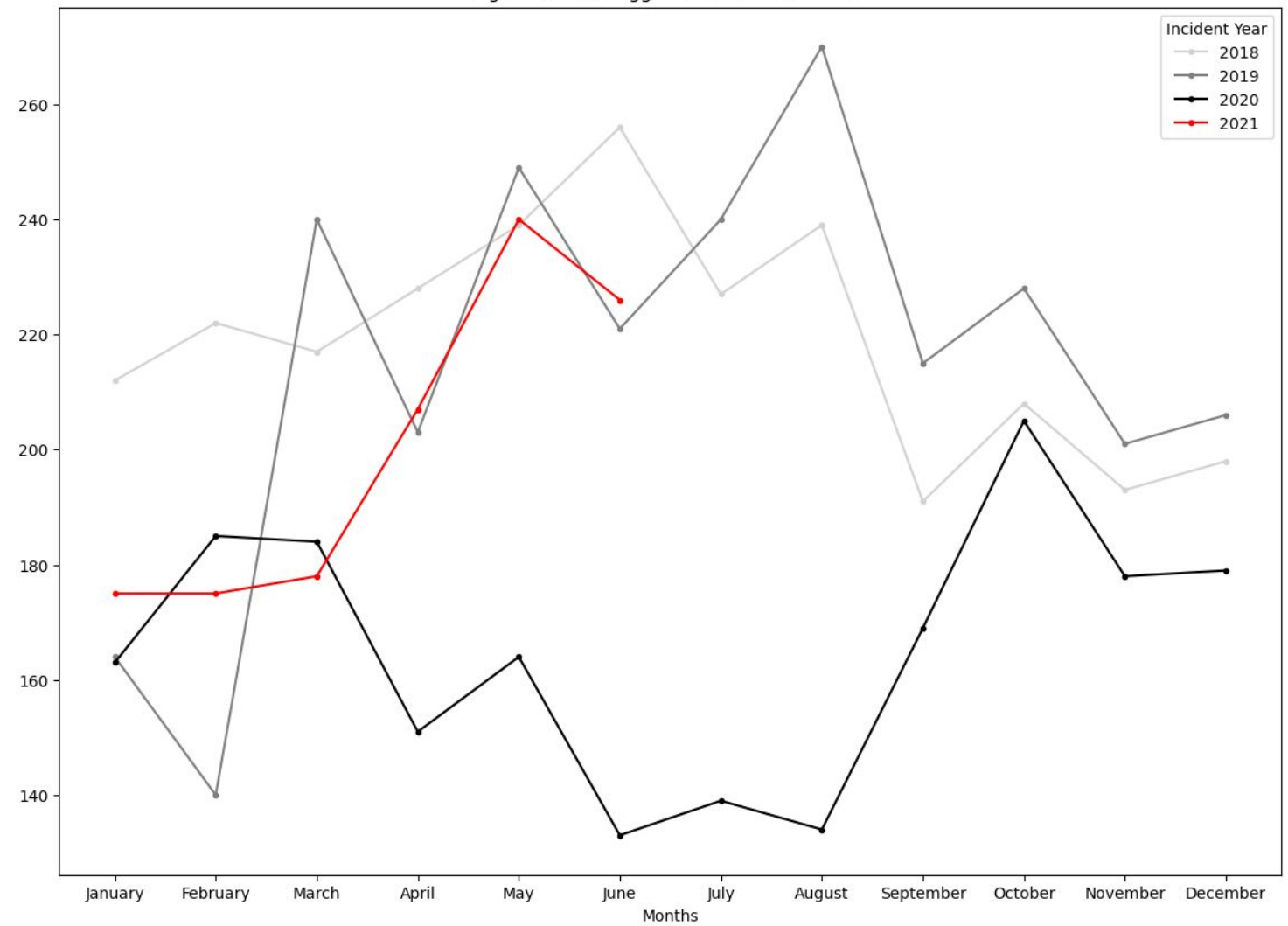
Aggravated Assaults

Fig. 6 - Aggravated Assaults Over Time



Aggravated Assaults

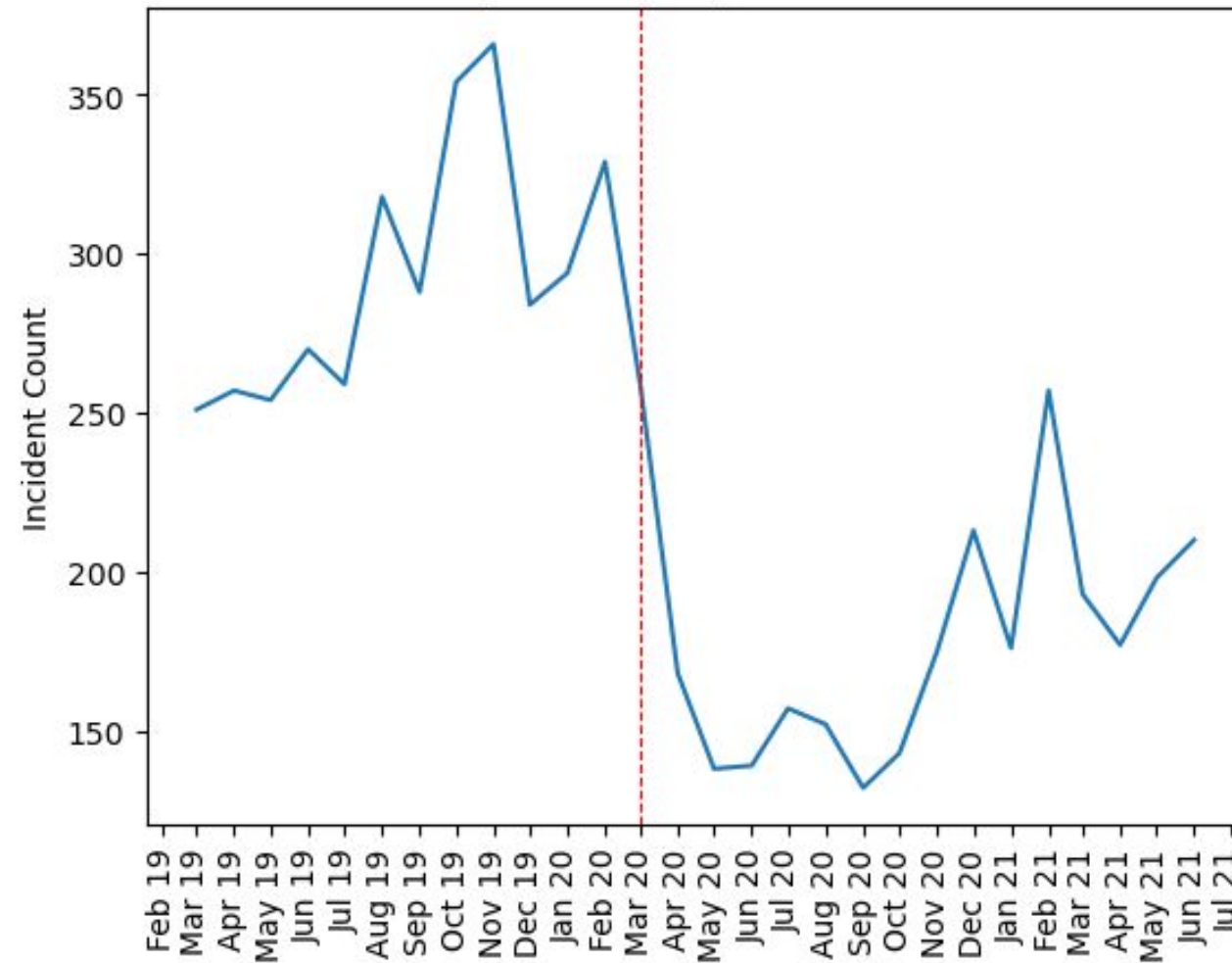
Fig. 7 - Overall Aggravated Assault Trends



Robbery



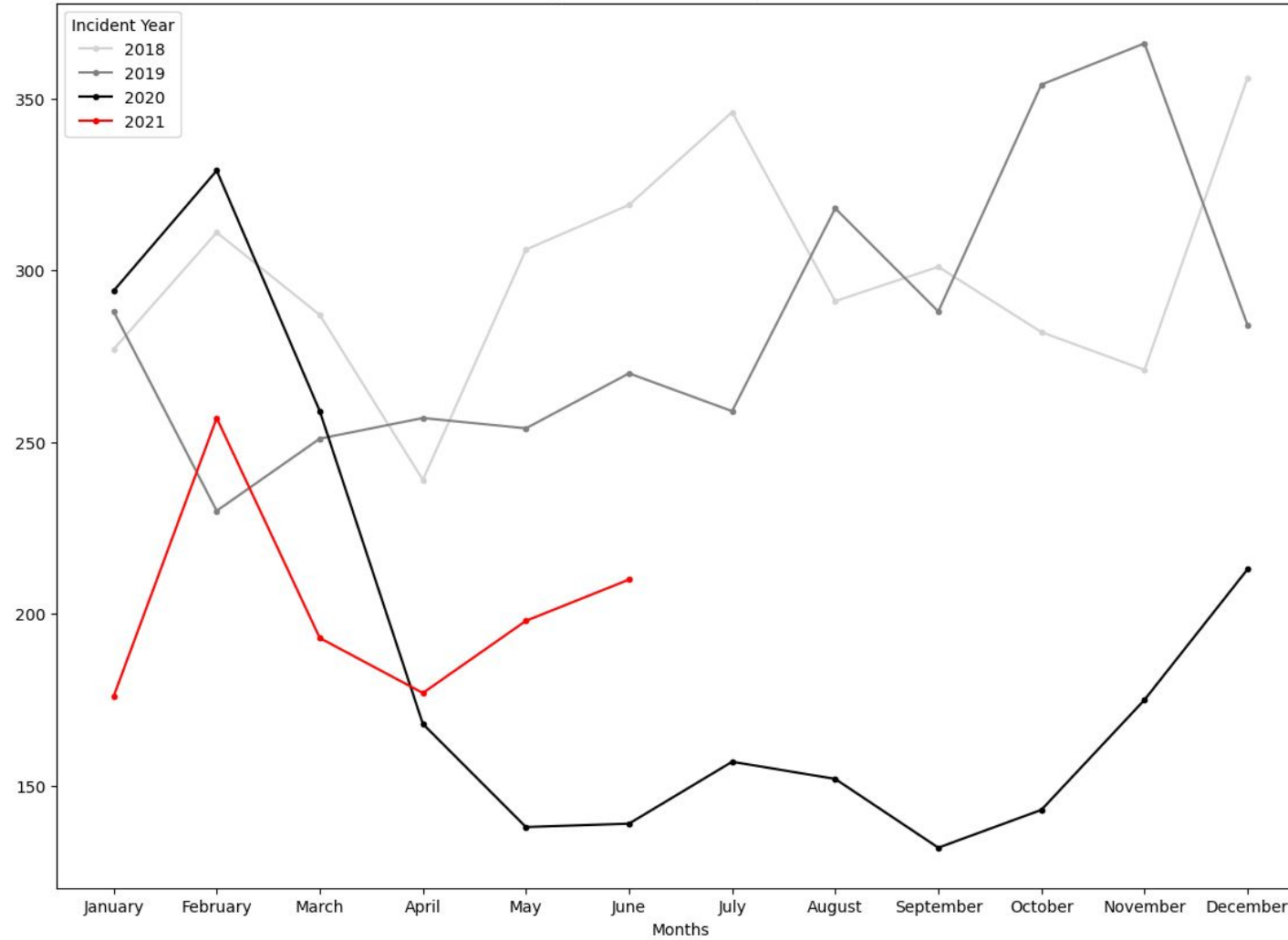
Fig. 8 - Robbery Over Time



Robbery



Fig. 9 - Overall Robbery Trends

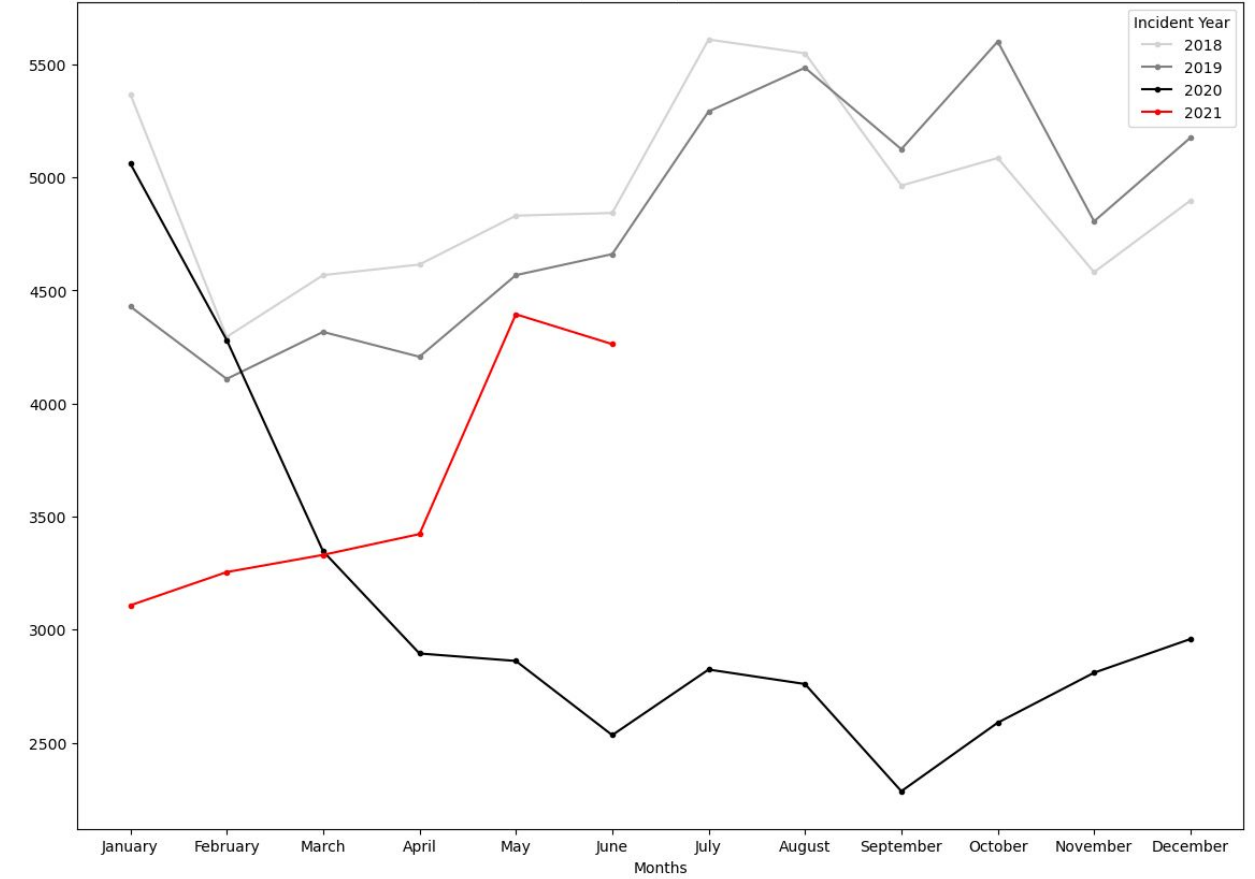


Property Crimes

Fig. 10 - Property Incidents Over Time



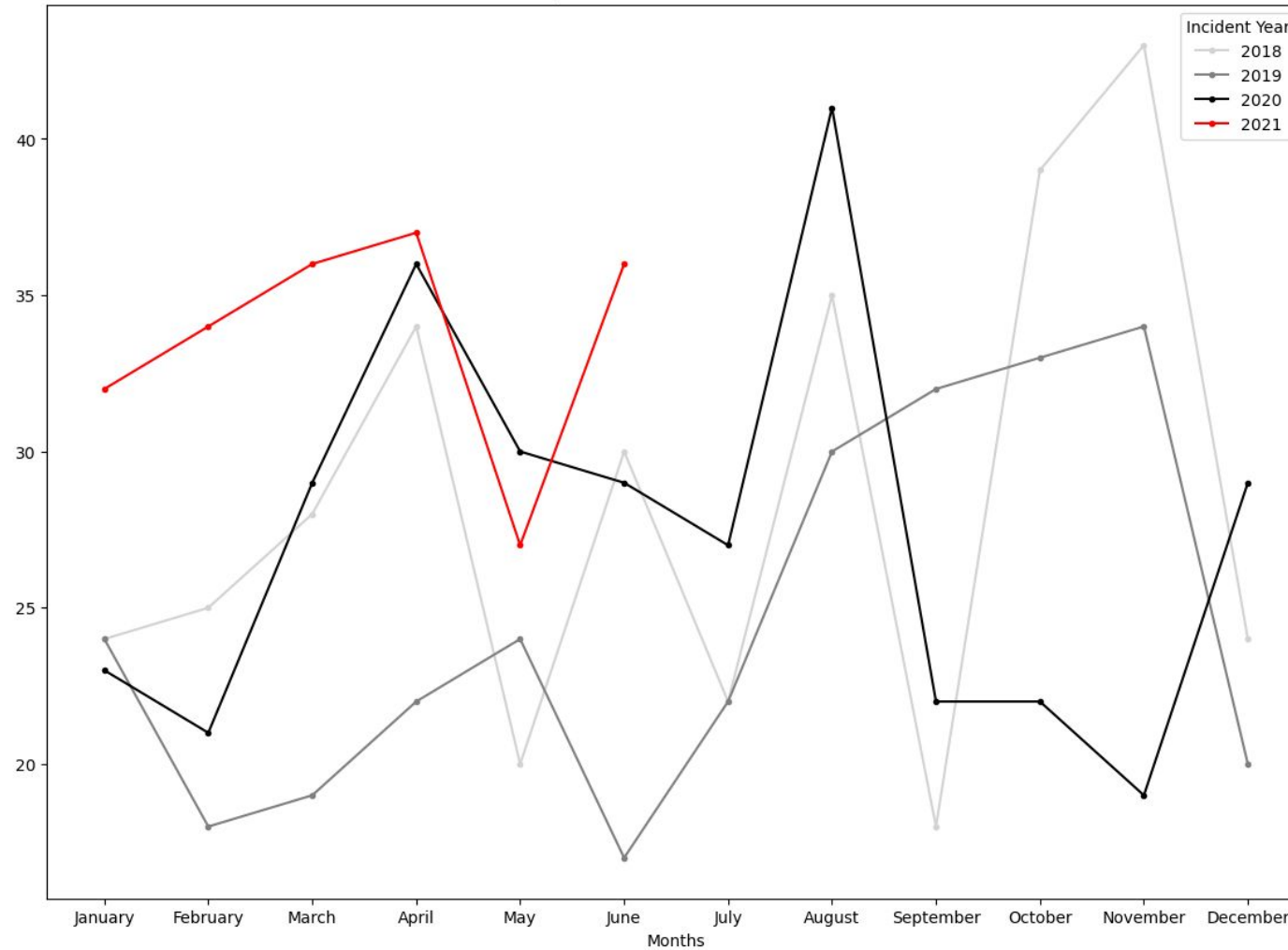
Fig. 11 - Yearly Total Property Incident Counts



Arson



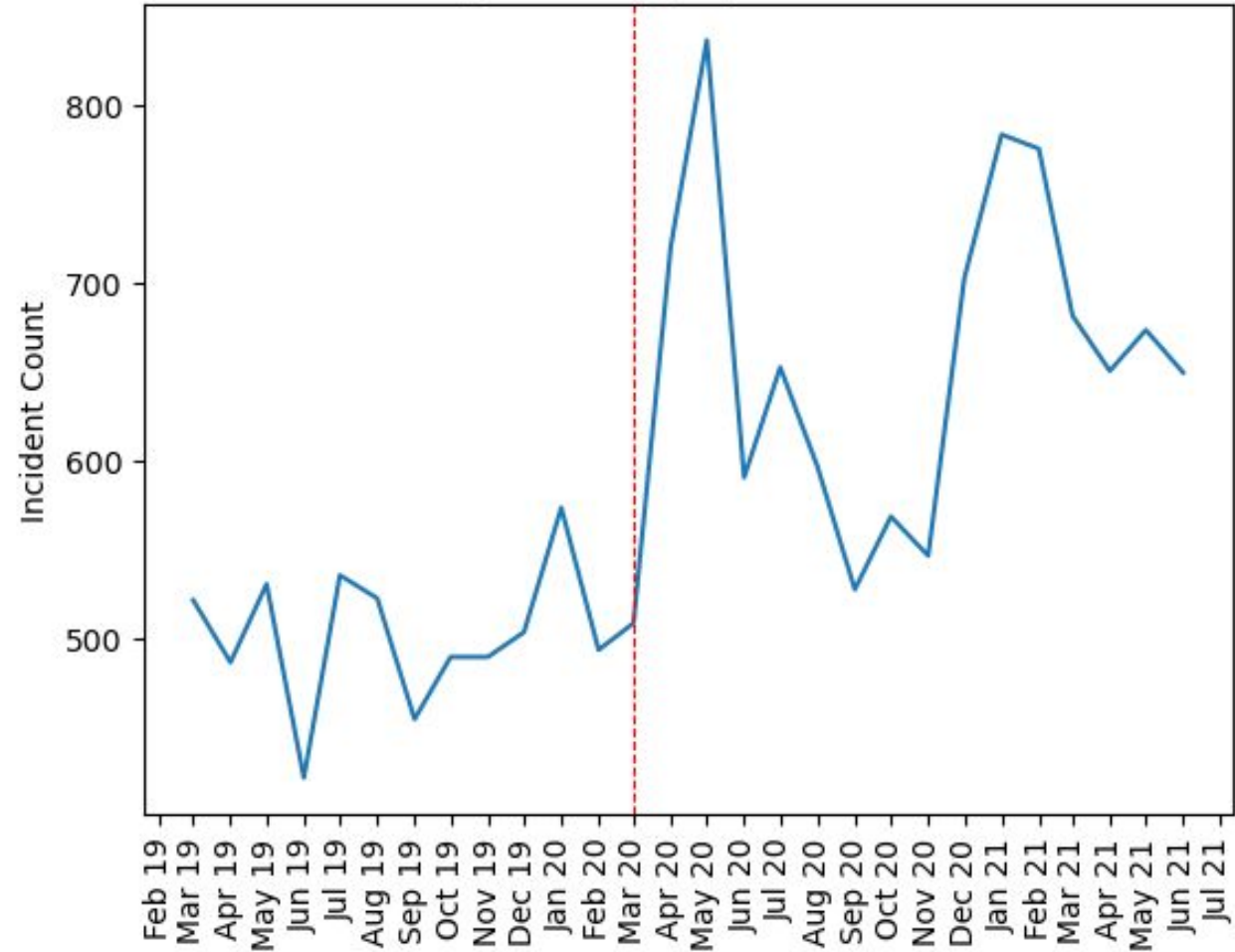
Fig. 12 - Overall Arson Trends



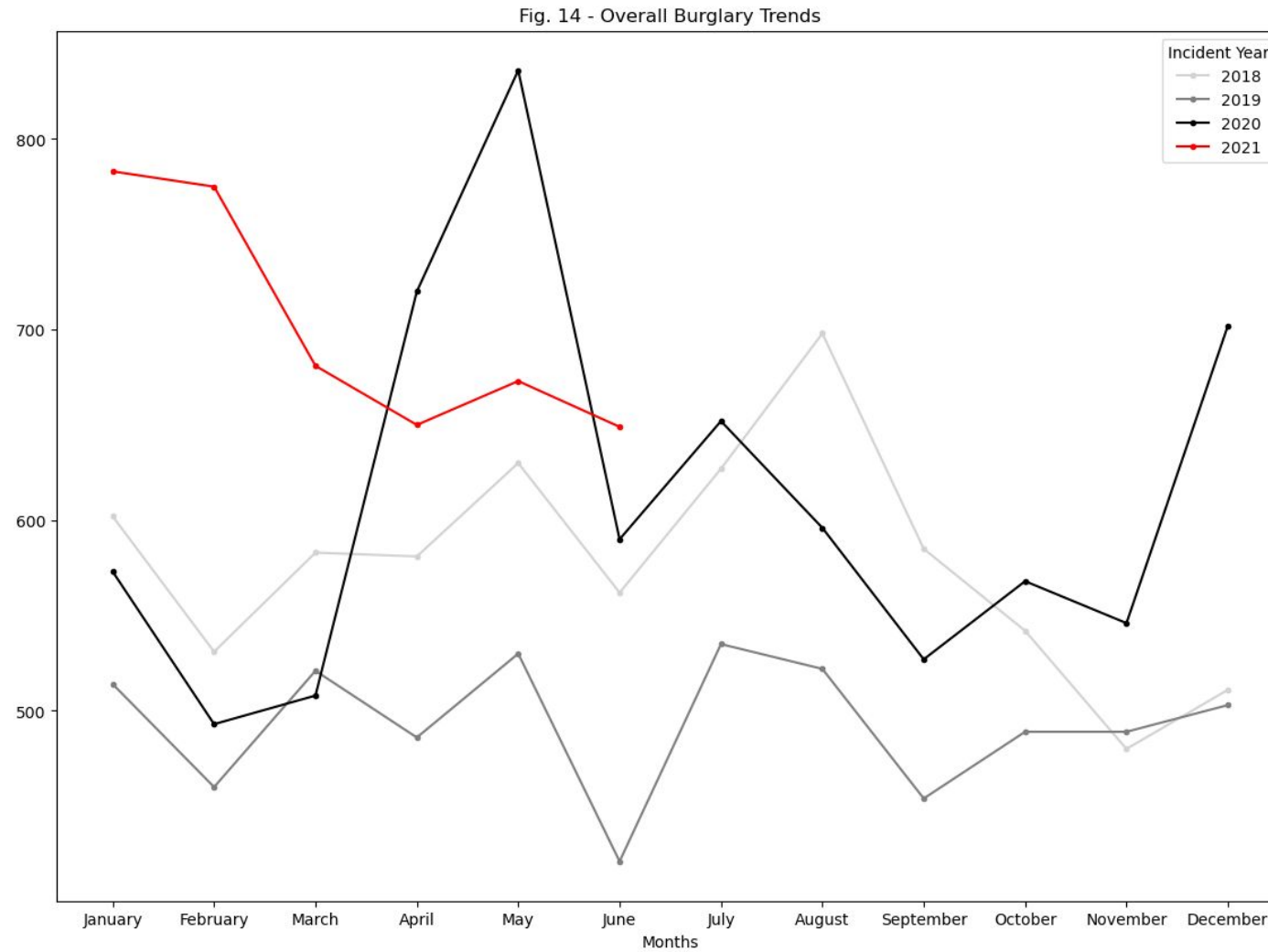
Burglary



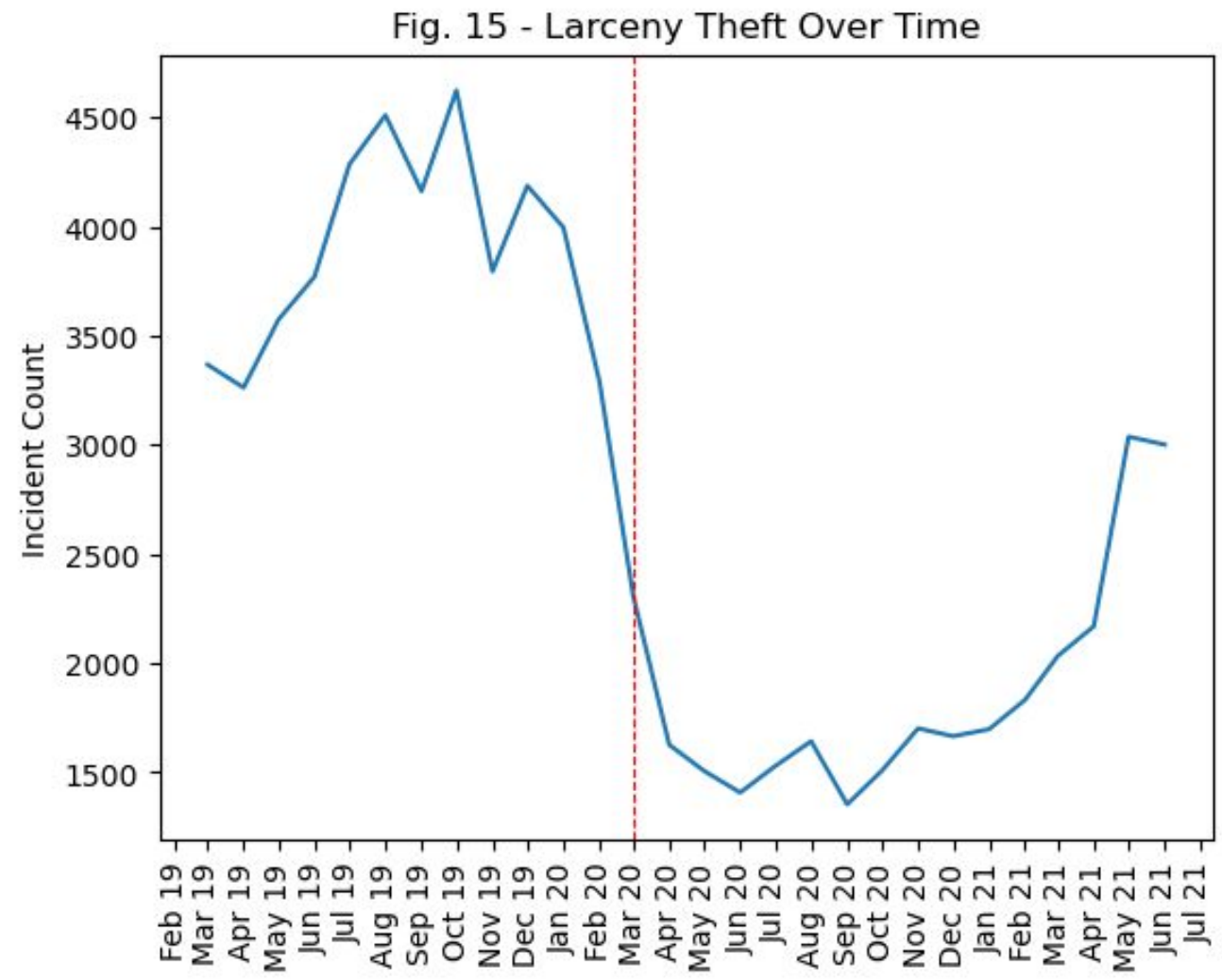
Fig. 13 - Burglary Over Time



Burglary



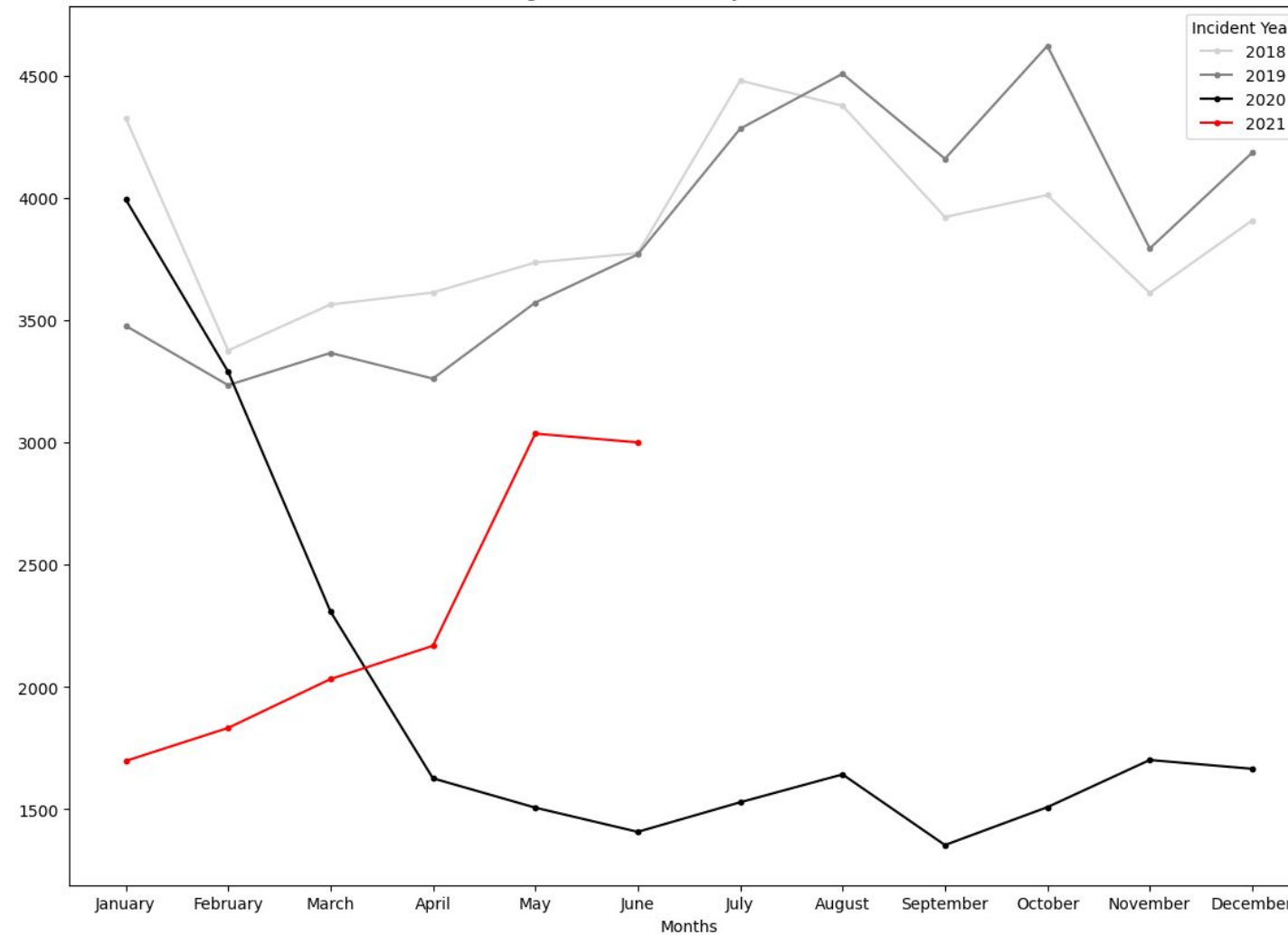
Larceny Theft



Larceny Theft

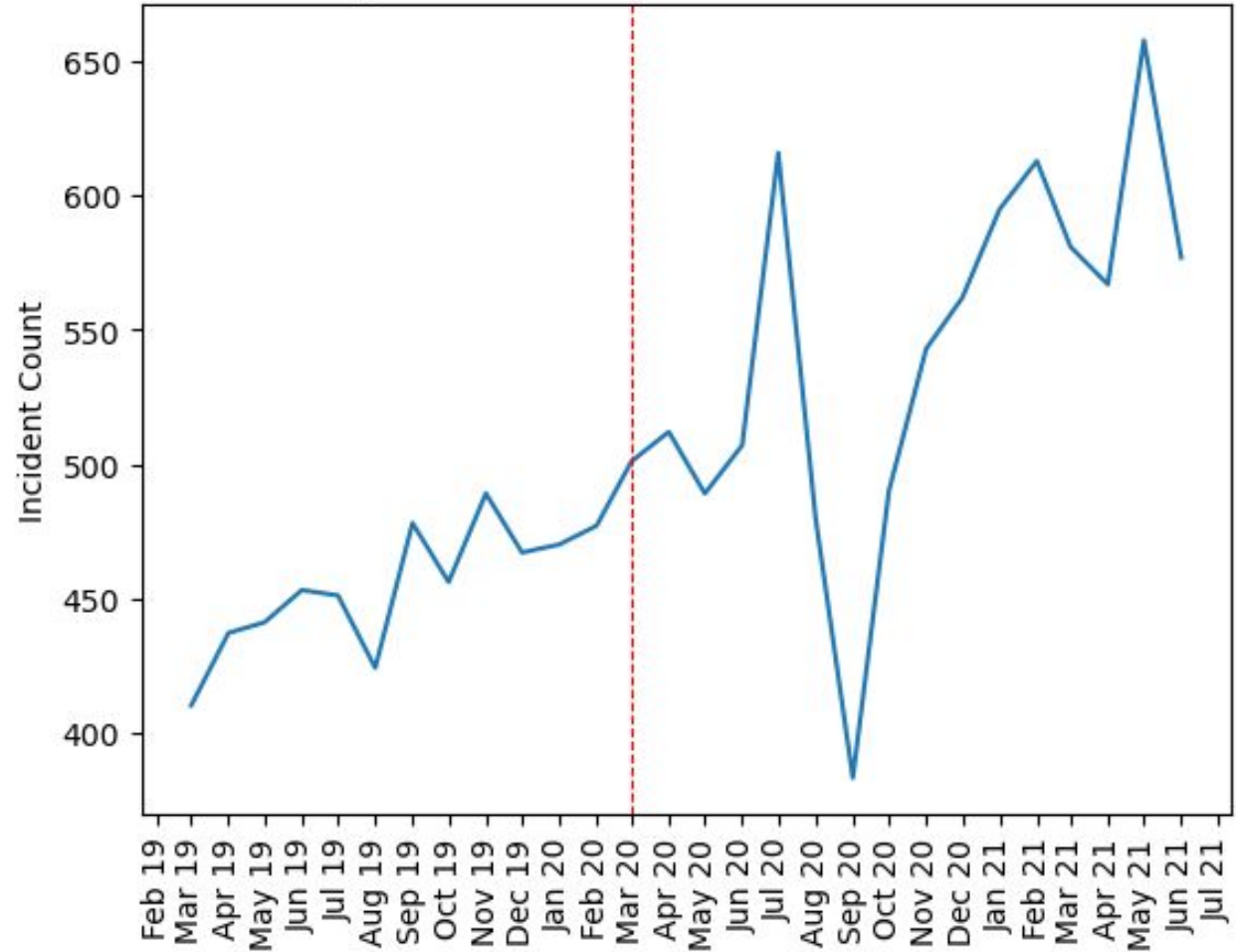


Fig. 16 - Overall Larceny Theft Trends

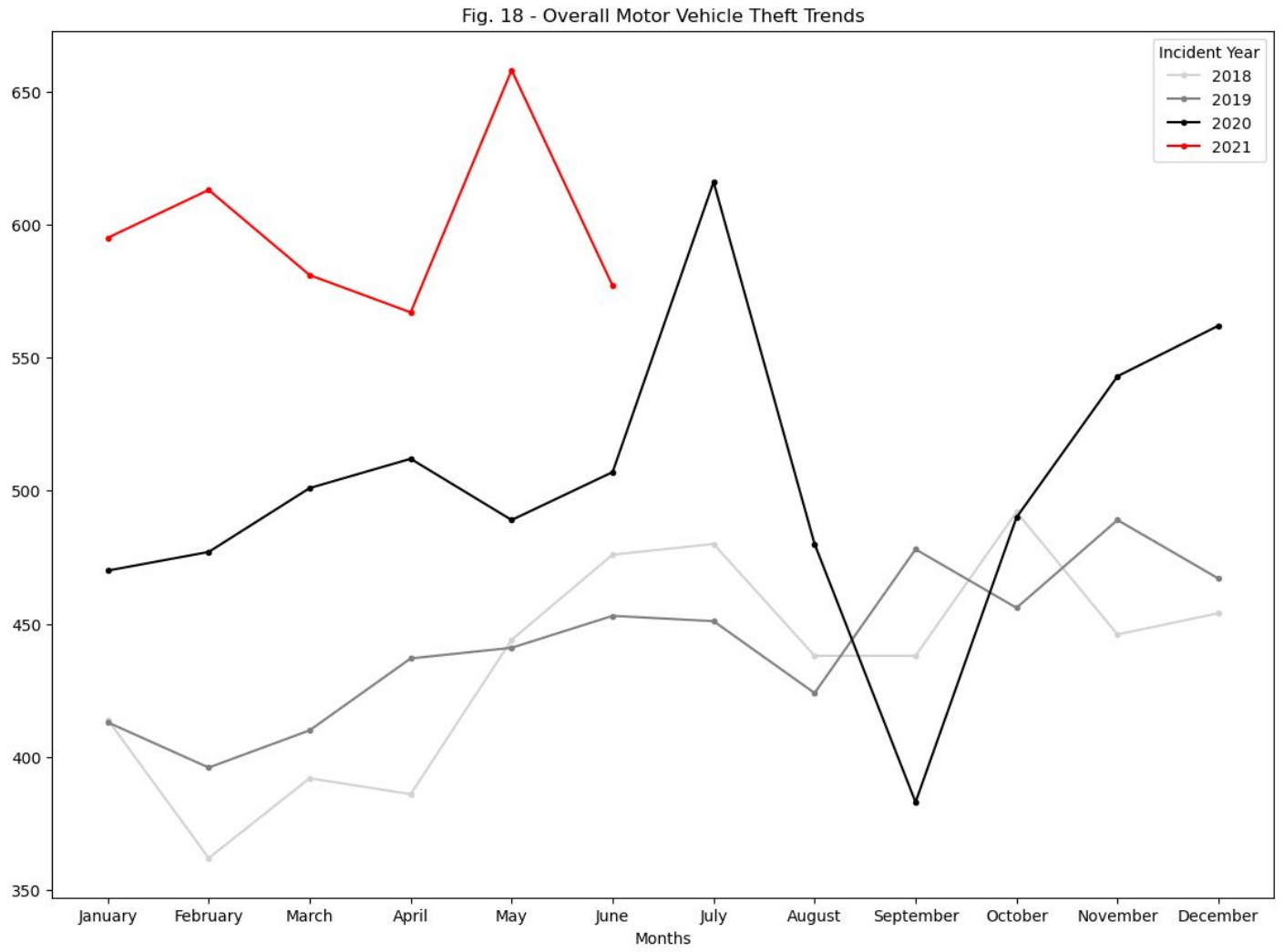


Motor Vehicle Theft

Fig. 17 - Motor Vehicle Theft Over Time



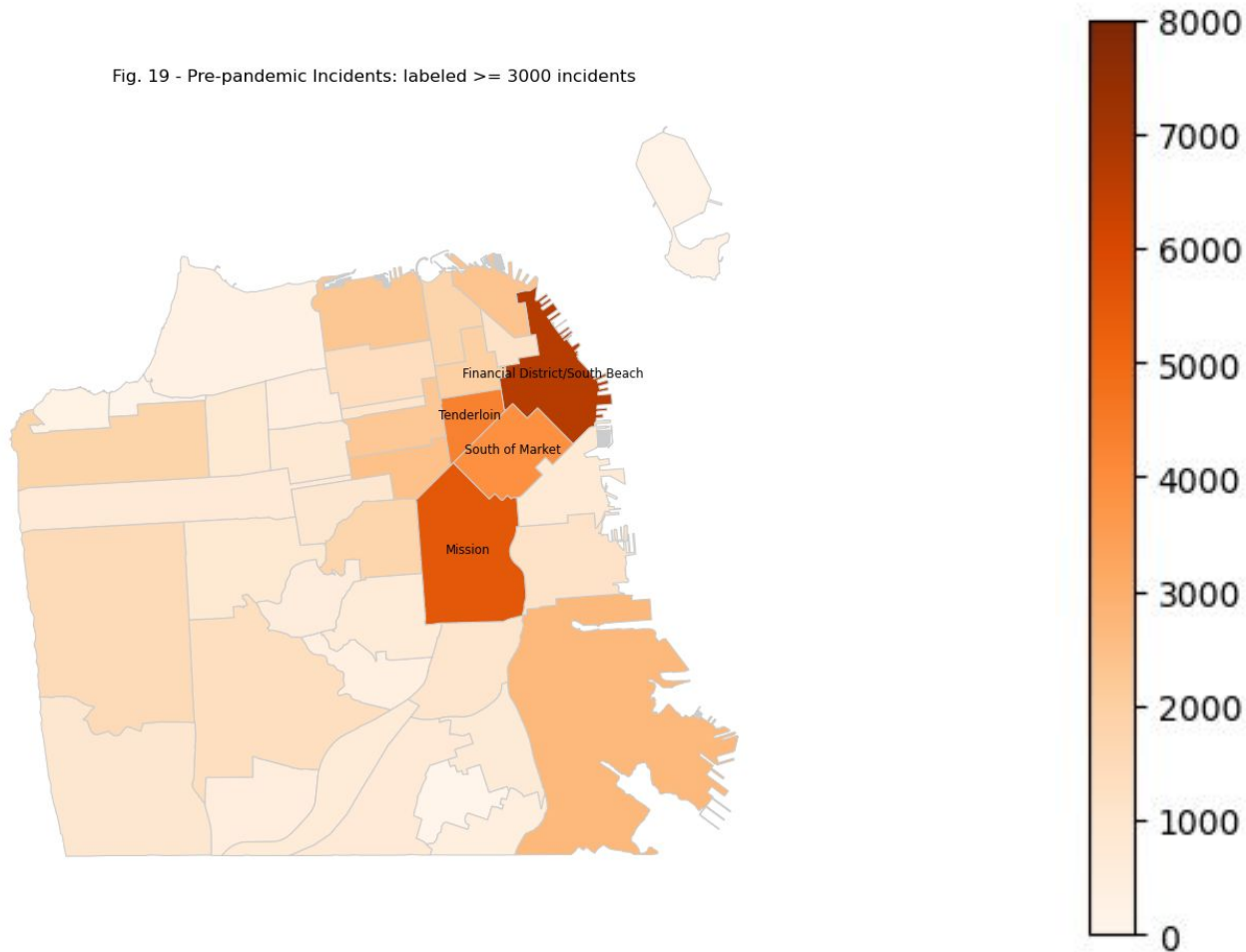
Motor Vehicle Theft



Geographic Analysis - Total Crimes

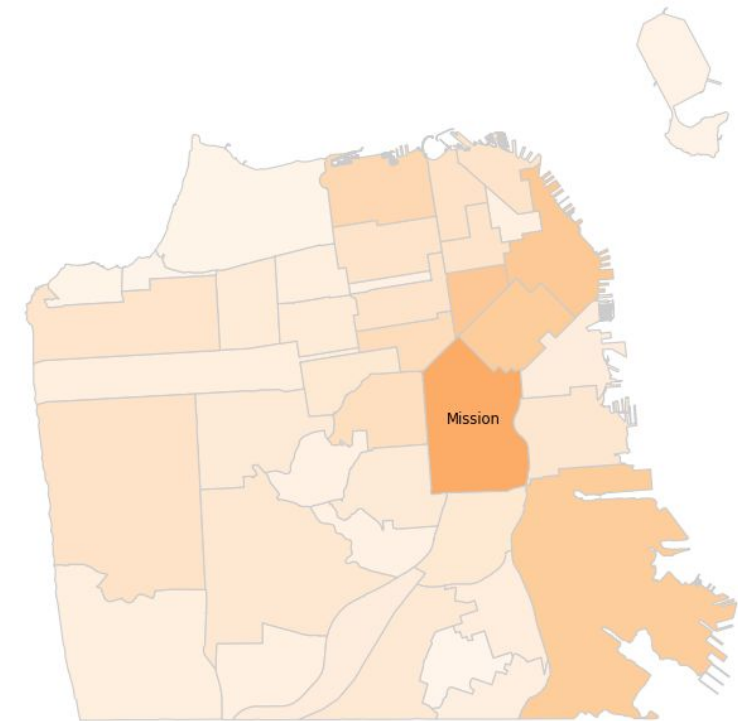
Pre-pandemic

Fig. 19 - Pre-pandemic Incidents: labeled ≥ 3000 incidents



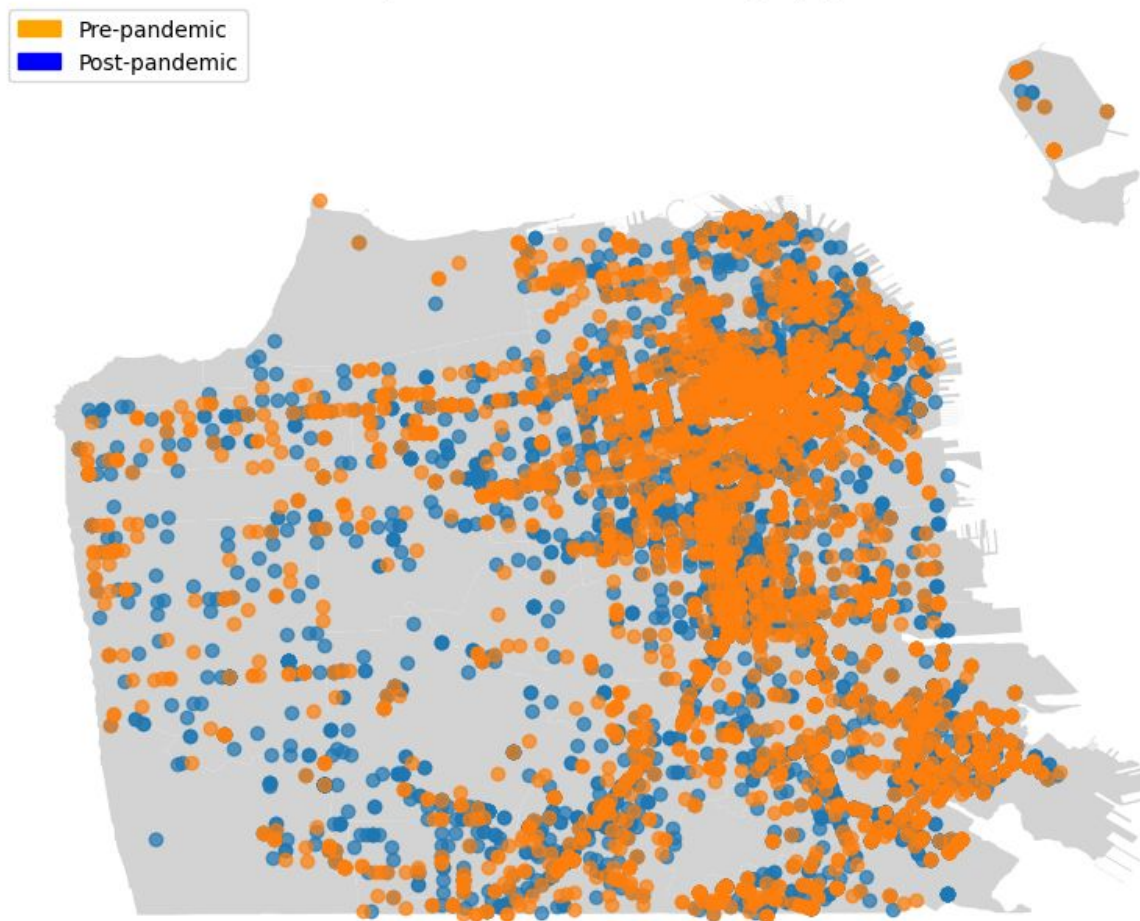
Post-pandemic

Fig. 20 - Post-pandemic Incidents: labeled ≥ 3000 incidents



Violent Geography

Fig. 21 - Violent Incidents Geography



Were there significant violent geographical shifts?

Fig. 22 - Aggravated Assault Incidents Geography

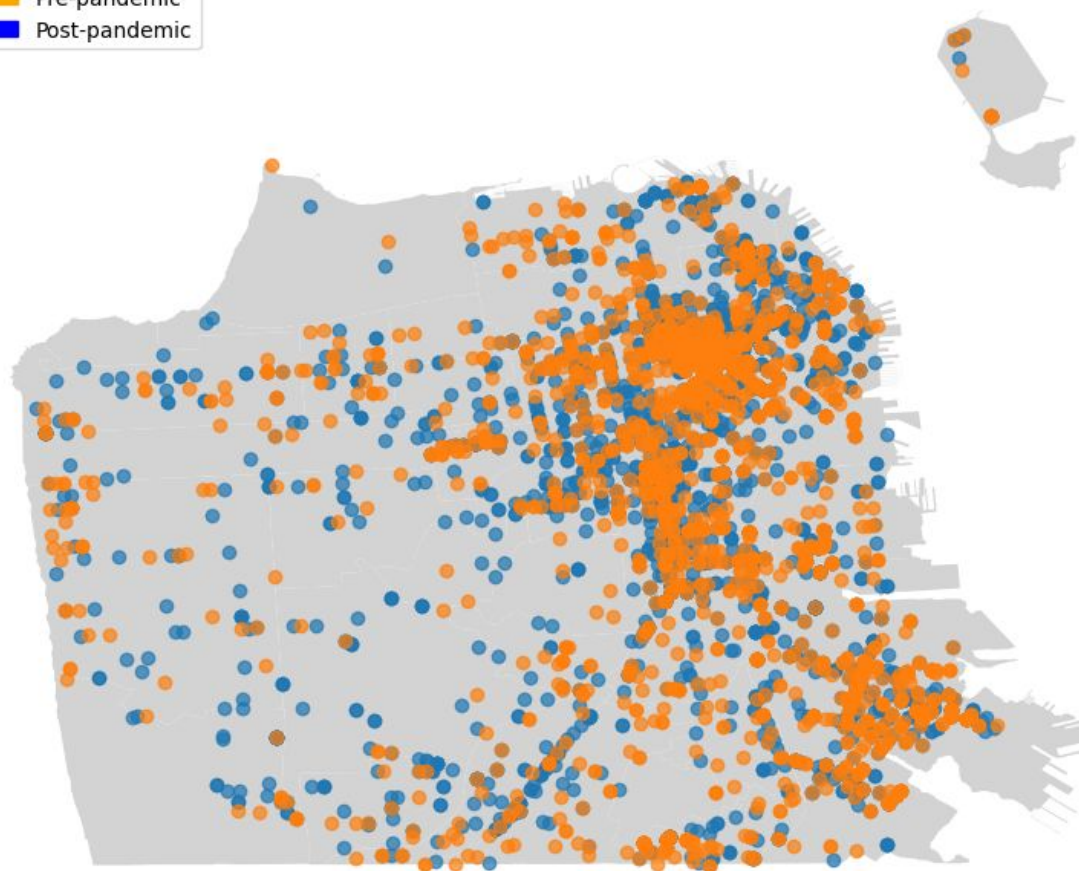
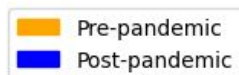
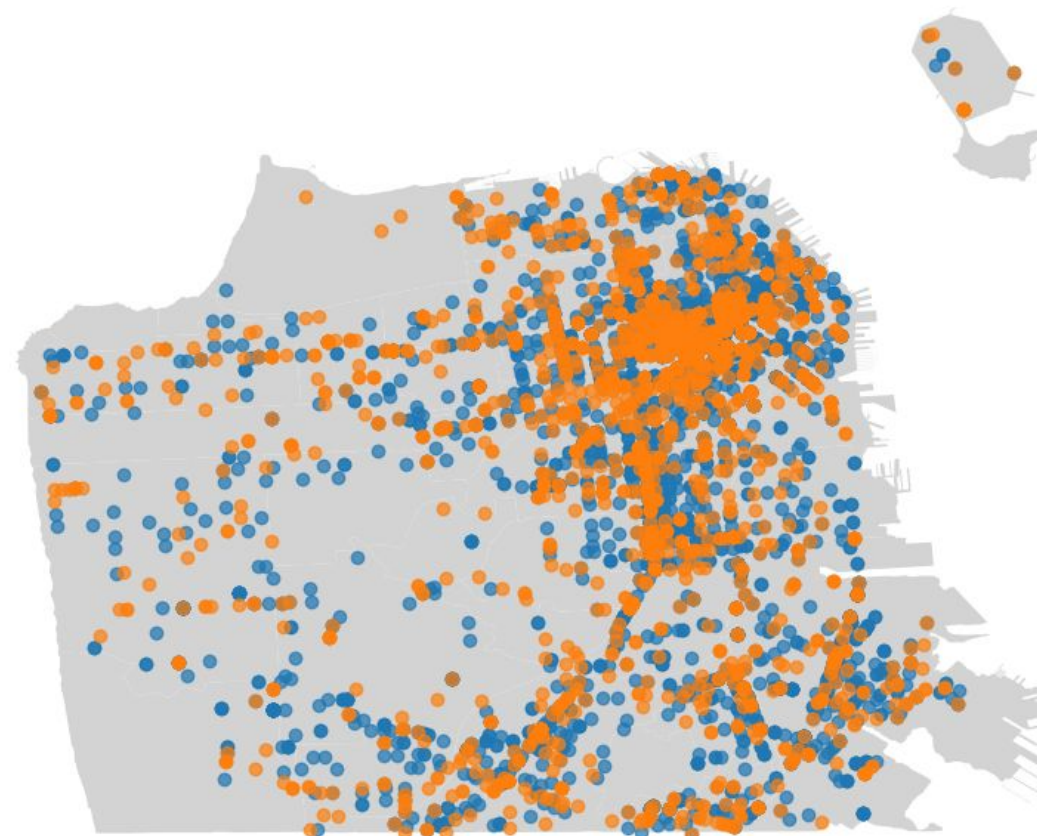


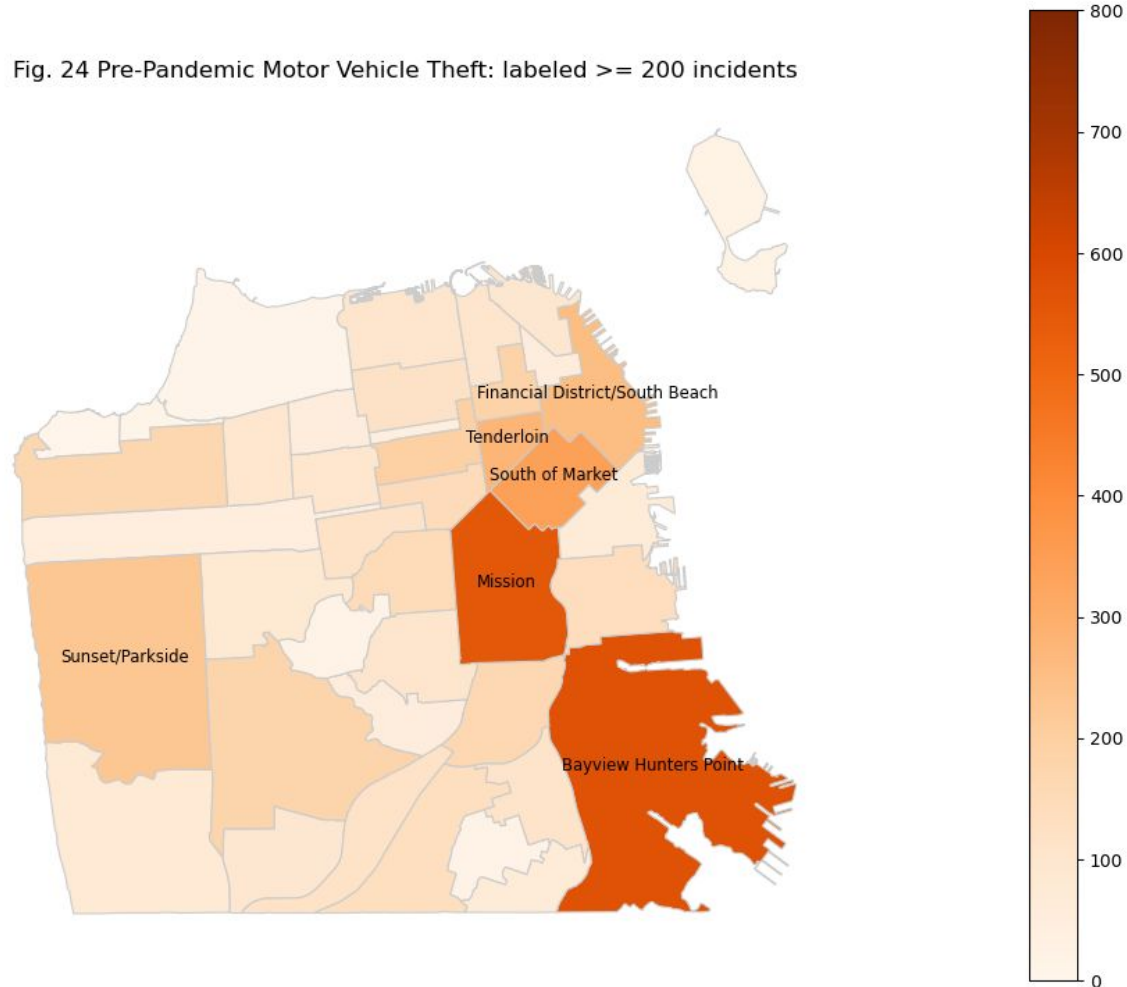
Fig. 23 - Robbery Incidents Geography



Motor Vehicle Theft Geography

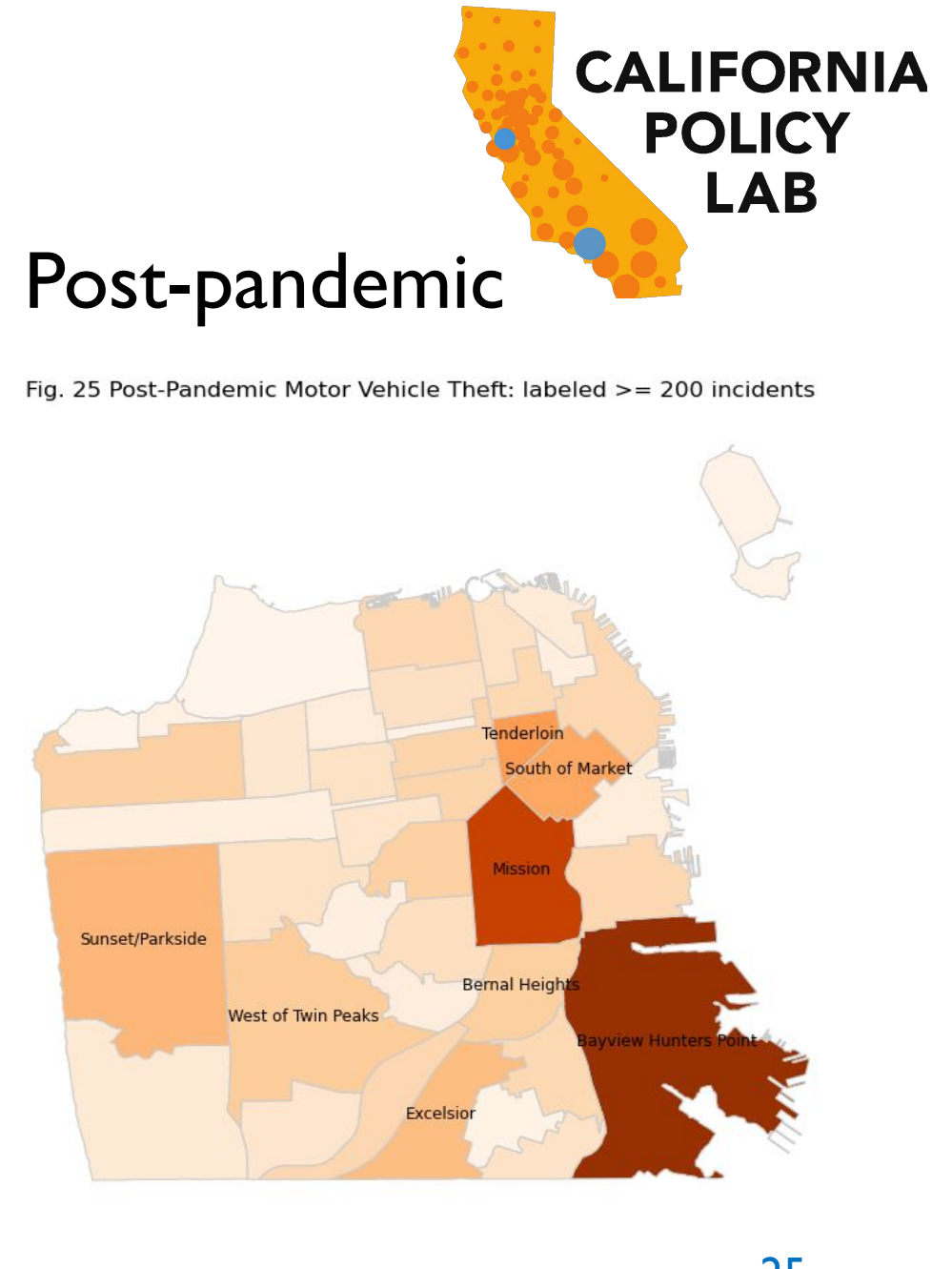
Pre-pandemic

Fig. 24 Pre-Pandemic Motor Vehicle Theft: labeled ≥ 200 incidents



Post-pandemic

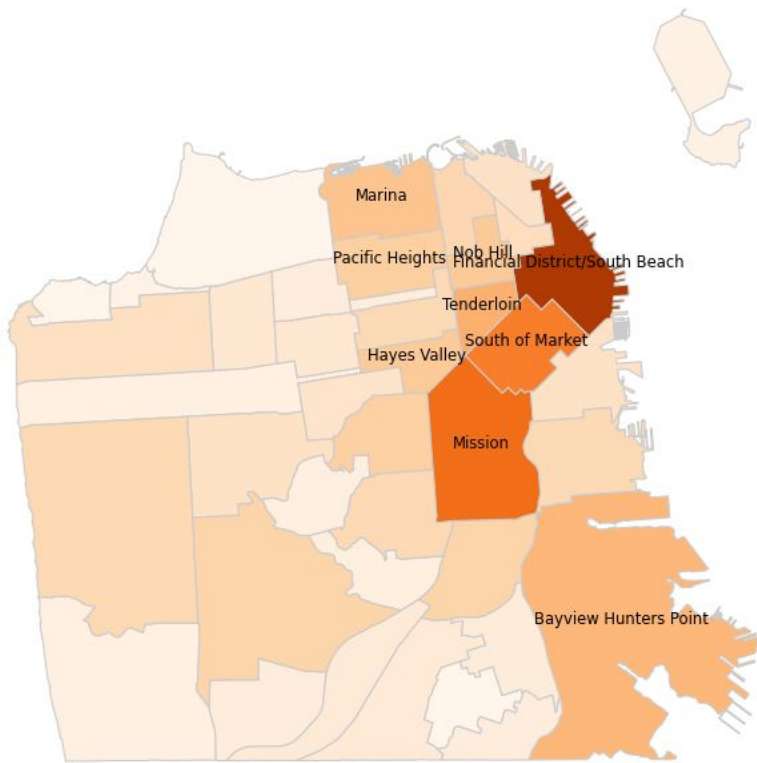
Fig. 25 Post-Pandemic Motor Vehicle Theft: labeled ≥ 200 incidents



Burglary Geography

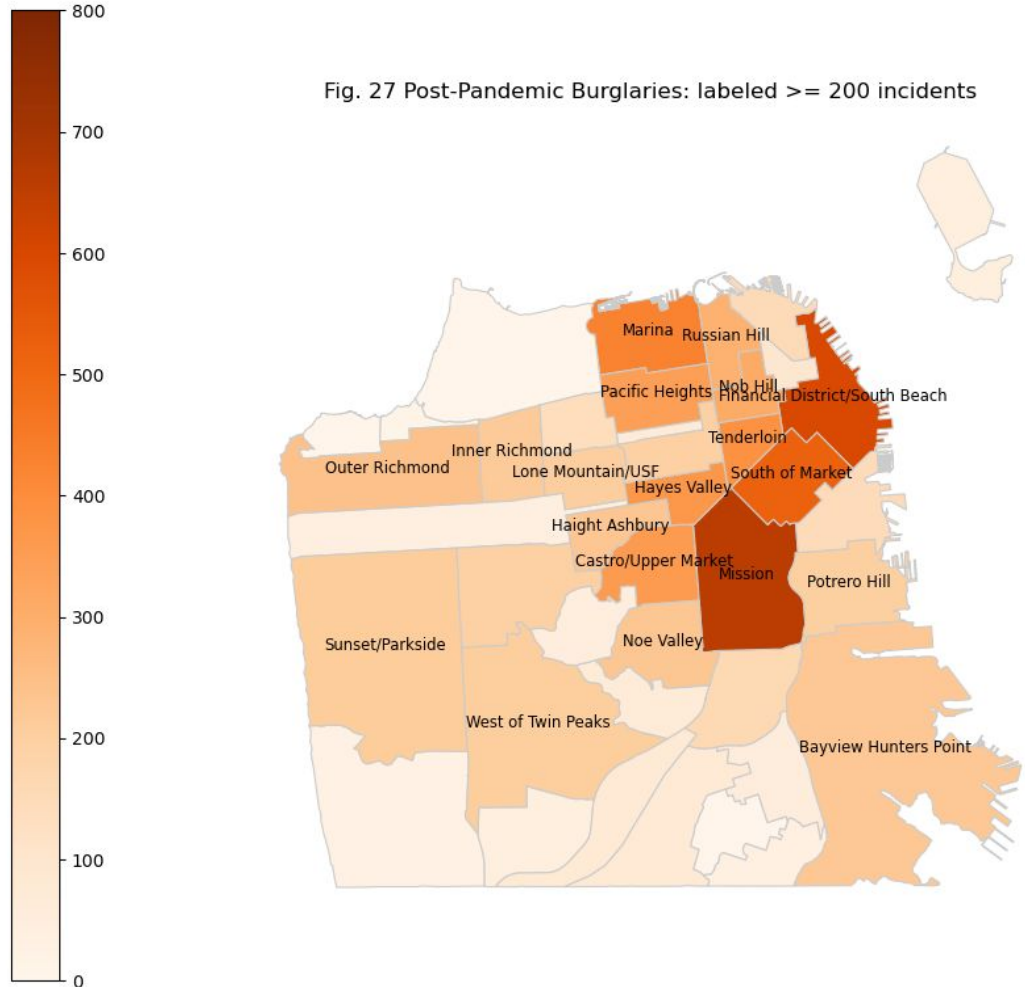
Pre-pandemic

Fig. 26 Pre-Pandemic Burglaries: labeled ≥ 200 incidents



Post-pandemic

Fig. 27 Post-Pandemic Burglaries: labeled ≥ 200 incidents



Final Thoughts

- It is true that motor vehicle thefts, burglaries, and acts of arson have increased during the pandemic.
- Further research should be conducted to see how many the people involved in these crimes, whether that be burglary or robbery, are repeatedly committing crimes.
- Research should explore potential factors driving these trends (e.g., economic burden, changes in foot-traffic, tourism).