Work Sample 3: LA Crime Analysis Dashboards

Objective

Visualize and analyze crime trends in Los Angeles to uncover patterns over time, across demographics, locations, and weapon usage. The goal is to support law enforcement and public policy decisions with data-driven insights.

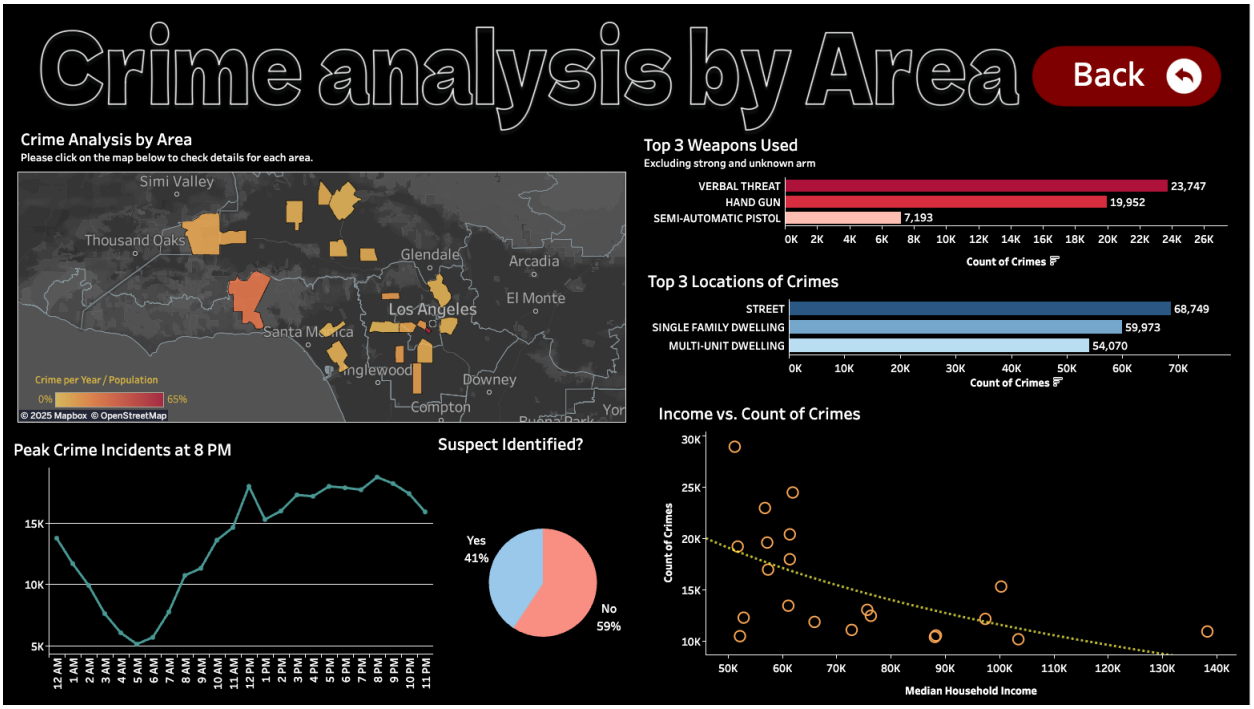
Methods

I used public crime report data from Los Angeles and built an interactive Tableau dashboard to explore temporal trends, victim demographics, crime categories, and geographic patterns. The analysis includes over 400,000 records from 2020 to 2023. I categorized crimes by type and severity, filtered by police division, and incorporated contextual events (e.g., public health orders, holidays, and protests) to interpret unusual spikes or drops. The dashboard allows users to drill down into victim age, gender, and crime type, as well as compare incidents by location, time of day, and socioeconomic conditions.

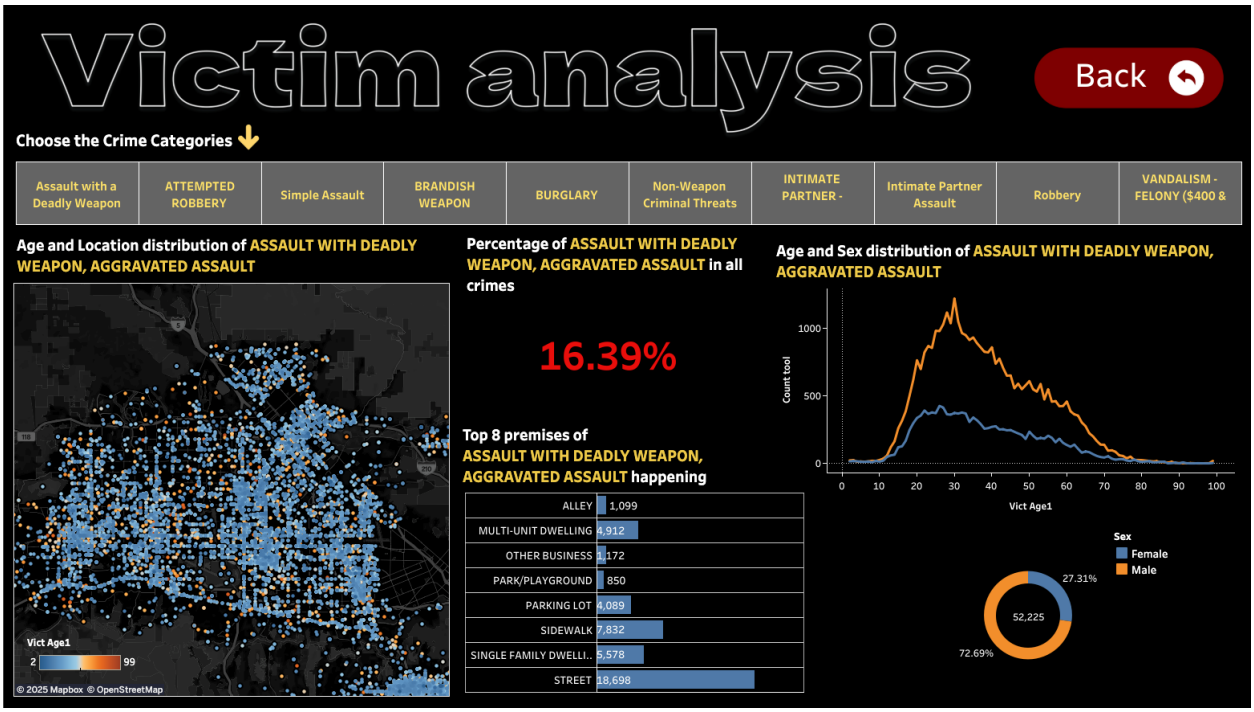
Visual Summaries

Dashboard 1 below provides insight into the types of weapons used and the locations where crimes occur in each area. It is fully interactive — users can click on any region of the color-coded map (based on crime rate) to view detailed crime statistics for that area. Hovering over a region reveals additional context, including median household income, population, and other demographic details.

The dashboard also shows, for each area, the percentage of crimes where a suspect has been identified, helping to track resolution rates and law enforcement effectiveness. Additionally, it displays crime volume by hour of the day. Crime tends to be lowest around 5 AM and peaks at 8 PM. Finally, there is a clear negative relationship between median household income and crime count — areas with lower income levels typically experience higher crime rates.



Dashboard 2 provides a focused analysis of crime victims. Users can click on different crime categories, and the interactive dashboard will update to show where those crimes occur on the map, with victim age represented through color coding. It also displays the percentage of the selected crime type relative to total reported crimes, the top locations where the crime occurs, and the age and sex distribution of victims for the selected category.



The time series analysis graph below shows the overall trend of crime incidents over time. Key seasonal patterns are highlighted, along with significant events and time periods — such as public health orders and major holidays — that help explain notable spikes or drops in crime.