Introduction

The purpose of this project analysis is to gain valuable insights into crime trends over time, crime analysis by area, and crime patterns based on victim demographics. The dataset used contains information on various crimes, their locations, types, and victim demographics. By visualizing the data through interactive dashboards using Tableau, we aim to identify patterns, trends, and potential areas of concern.

The dataset comprises crime-related information, including crime types, dates, locations, areas, victim demographics, and whether weapons were involved. It was obtained from a reliable government crime database to ensure data accuracy and authenticity.

I received my data from *Data.gov*. The link to my data is https://catalog.data.gov/dataset/crime-data-from-2020-to-present.

These are all the headings in my data file:

1. Report Number (DR_NO)
2. Date Reported (Date Rptd)
3. Date Occurred (DATE OCC)
4. Time Occurred (TIME OCC)
5. Area Code (AREA)
6. Area Name (AREA NAME)
7. Reporting District Number (Rpt Dist No)
8. Part 1-2 Crime Indicator (Part 1-2)
9. Crime Code (Crm Cd)
10. Crime Code Description (Crm Cd Desc)
11. Modus Operandi Codes (Mocodes)
12. Victim Age (Vict Age)
13. Victim Sex (Vict Sex)
14. Victim Descent (Vict Descent)
15. Premises Code (Premis Cd)
16. Premises Description (Premis Desc)
17. Weapon Used Code (Weapon Used Cd)
18. Weapon Description (Weapon Desc)
19. Status Code (Status)
20. Status Description (Status Desc)
21. Crime Code 1 (Crm Cd 1)
22. Crime Code 2 (Crm Cd 2)
23. Crime Code 3 (Crm Cd 3)

24. Crime Code 4 (Crm Cd 4)
25. Location of the Crime (LOCATION)
26. Nearest Cross Street (Cross Street)
27. Latitude (LAT)
28. Longitude (LON)

These headings represent the different attributes or data fields present in my data file, each providing specific information related to reported crimes. There are about 761582 rows of data.

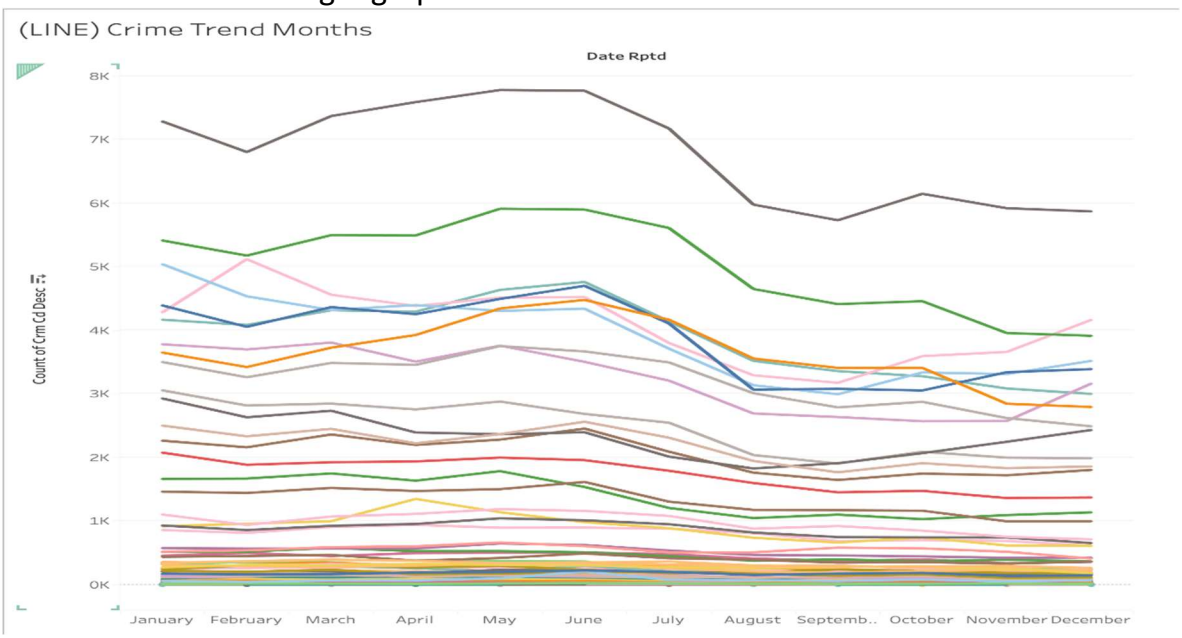
Analysis Methodology

For this analysis, I utilized Tableau, a powerful data visualization tool, to create interactive and insightful dashboards. Tableau offers various visualization options, allowing the information to be presented in a visually appealing and easy-to-understand manner.

Visualization Creation Process

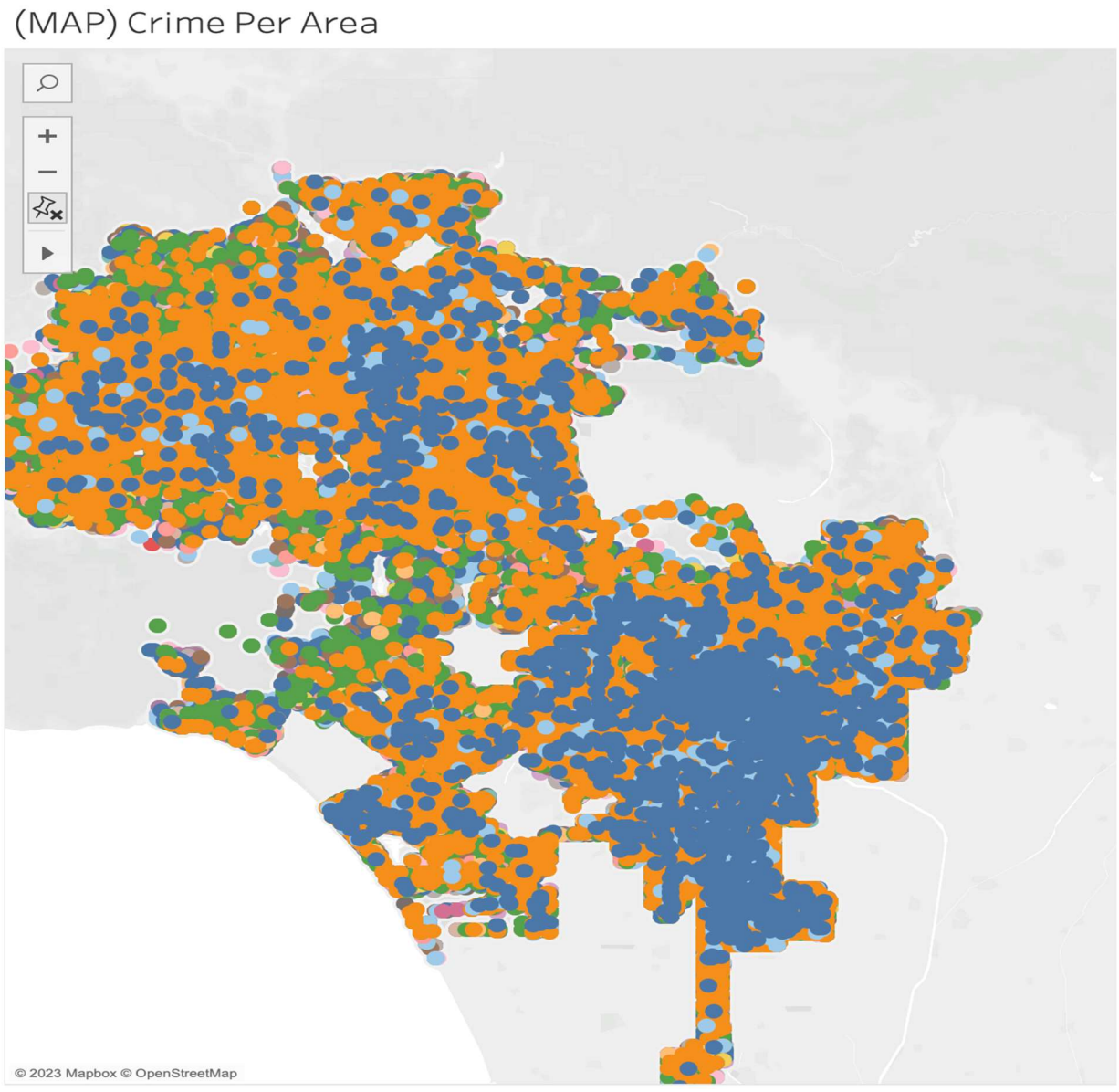
Dashboard 1 - Crime Trends Over Time

The first dashboard, "Crime Trends Over Time," provides a comprehensive overview of crime patterns. It incorporates a bar chart illustrating the crime trend across multiple years and a line chart displaying the overall crime trend over time. Additionally, a line chart is utilized to depict the monthly variation in crime occurrences throughout the year. To further analyze crime distribution, a bar chart is implemented to showcase the crime trend in various geographic areas.



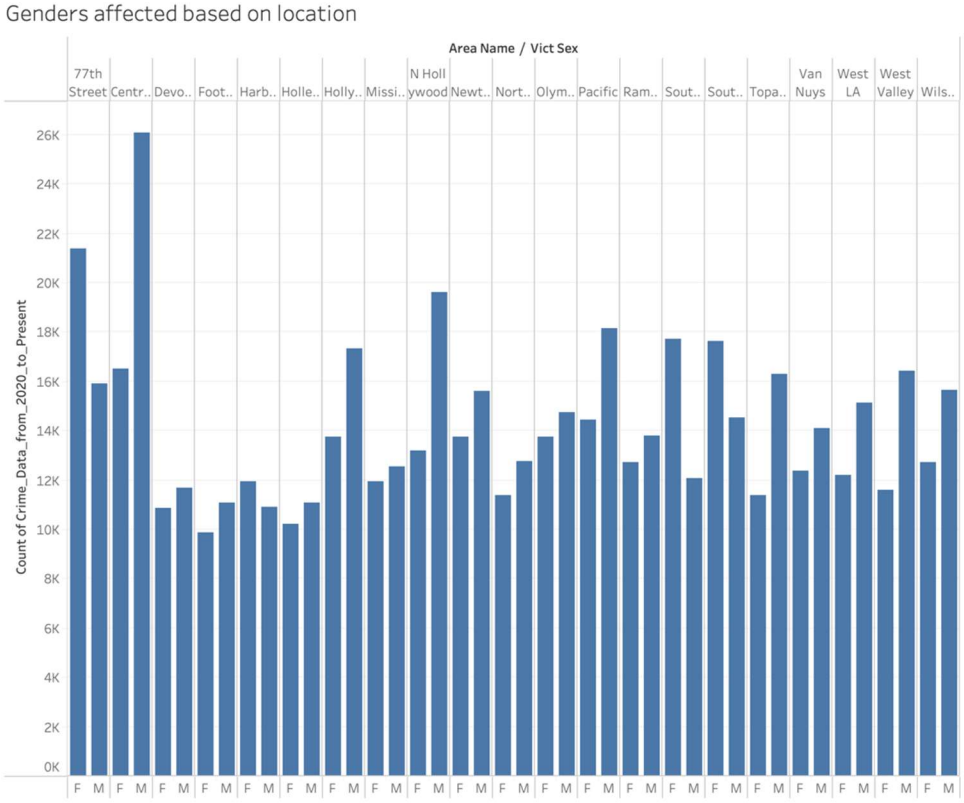
Dashboard 2 - Crime Analysis by Area

The second dashboard, "Crime Analysis by Area," focuses on crime insights based on geographical locations. It includes a bar chart showing the overall crime count in each area and another bar chart revealing the number of crimes involving weapons across different locations. A stacked bar chart is utilized to present the distribution of crime types in areas with high crime rates. Additionally, a map visualization provides a geographical perspective, depicting crime locations and their density across different areas.



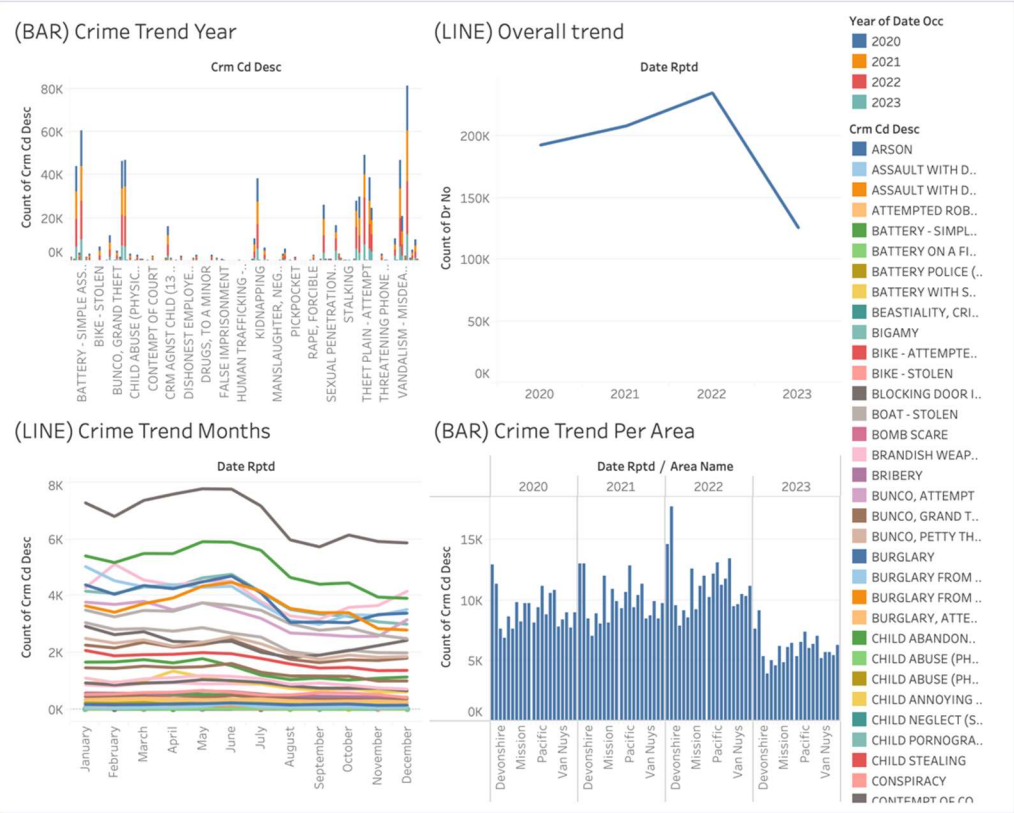
Dashboard 3 - Crime Patterns based on Victim Demographics:

The third dashboard, "Crime Patterns based on Victim Demographics," emphasizes understanding crime trends related to victim characteristics. A bar chart is used to analyze the gender distribution of crime victims in various locations. To compare crime occurrences by gender, a side-by-side bar chart is employed. Furthermore, another bar chart is implemented to showcase crime occurrences based on victim gender and age groups. Lastly, a bar chart is used to analyze the genders most affected by crimes involving weapons.

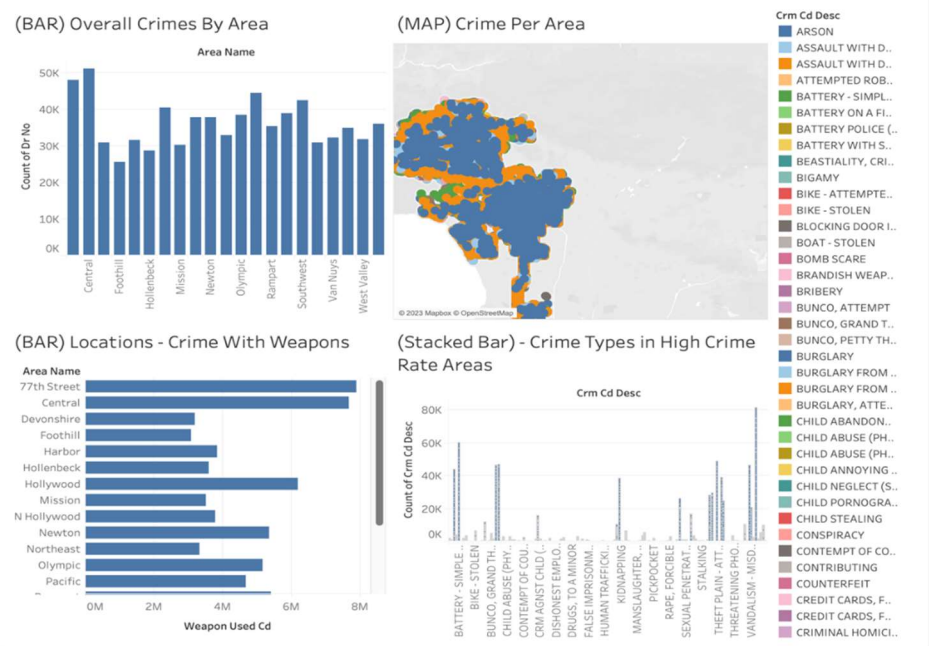


Visuals

Dashboard 1 – Crime Trends Over Time



Dashboard 2 – Crime Analysis by Area



Dashboard 3 – Crime Patterns based on Victim Demographics