

Visualisation of Los Angeles Crime Data using Tableau

Mowzli Sre Mohan Dass, Bhanu Sai Praneeth Sarva, and SaiKrishna Paila

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1 Introduction

The analysis of crime data within large metropolitan areas like Los Angeles provides crucial insights that can significantly impact crime prevention and law enforcement strategies. This project was initiated to delve into the complex patterns of crime across the city, with the aim of identifying key trends that could inform more targeted interventions. We chose to focus on Los Angeles due to its diverse socio-economic landscape and high volume of detailed crime data, which presents a unique opportunity to study crime in a nuanced manner. The questions we aimed to explore were specifically chosen to shed light on the distribution of crime types across the city, the temporal patterns of crime occurrences, and the demographics of crime victims. Understanding these aspects can help in crafting policies that are more aligned with the specific needs of different communities within the city.

Each team member's specialized contribution was vital in creating a comprehensive overview of crime dynamics in Los Angeles. By combining our diverse skills and perspectives, we aimed to construct a detailed and actionable analysis that not only answers fundamental questions about crime in Los Angeles but also highlights specific areas and times where law enforcement efforts could be most effectively applied. Through this collaborative effort, we sought to provide a dataset and a set of tools that could serve as a foundation for ongoing analysis and response to urban crime challenges.

We have the following business questions for our dataset, which are as follows :

1. What are the areas in Los Angeles with the highest crime rates and how have these rates changed over the years 2020 to 2023?
2. What are the most common crime categories in Los Angeles, and how does the status of investigations vary across these categories?
3. Which times of day and days of the week exhibit the highest crime occurrences, and how does this vary by gender?

2 Description of the Data

The dataset is downloaded from the [Official Government of Los Angeles Catalogue Data Portal](#) where we have partitioned and took data from 2020 to 2023. This specific partition focuses on crime incidents recorded over a four-year period, providing a rich and detailed view of crime dynamics within this time frame. The selection of this time frame allows for a contemporary analysis of crime trends and patterns, capturing the nuances of how crime has evolved in the recent past in Los Angeles. With approximately 900,000 records with 29 columns, this dataset offers a comprehensive look at various aspects of crime incidents, making it a valuable resource for conducting in-depth analyses.

By accessing this data through the Los Angeles Open Data Portal, our project benefits from the city's commitment to data transparency and public access. The portal's regular updates and user-friendly interface facilitated the extraction of relevant data, ensuring that our analysis is based on the latest and most accurate information available. The focused time frame of 2020 to 2023 helps in understanding the impact of recent societal and environmental changes on crime rates and patterns, providing actionable insights that are pertinent to current law enforcement strategies and public safety measures. This dataset not only supports a detailed exploration of crime in Los Angeles but also serves as a critical tool for developing informed, data-driven approaches to crime prevention and community safety.

3 Analysis of Data Quality

The "Crime Data from 2020 to 2023" dataset underwent an exhaustive data quality assessment to validate its accuracy and reliability for insightful analysis. Key issues addressed included the removal of null values using Python scripts to ensure a complete dataset for analysis. The Reported Date-time variable was formatted to align with Tableau's requirements, facilitating smoother integration and visualization in the analytics platform. Additionally, latitude and longitude coordinates were meticulously adjusted to fall within the precise geographic boundaries of Los Angeles City, enhancing the geographical relevance and accuracy of our

analysis. These steps were critical in standardizing the dataset, making it a robust base for our crime pattern analysis, ensuring that the conclusions and insights are drawn from precise and well-prepared data.

3.1 Data Pre-processing code

Listing 1: Import libraries and declare necessary modules for date handling

```
import pandas as pd
from datetime import datetime
```

Listing 2: Define function to correct and extract date from given date strings

```
def correct_and_extract_date(date_string):
    try:
        date = datetime.strptime(date_string, '%m/%d/%y %H:%M')
        return date.strftime('%m/%d/%Y')
    except ValueError:
        try:
            date = datetime.strptime(date_string, '%m/%d/%Y %I:%M:%S %p')
            return date.strftime('%m/%d/%Y')
        except ValueError:
            return "Invalid Date Format"
```

Listing 3: Define function to replace double spaces with a single space in strings

```
def rep(lit):
    return lit.replace(" ", " ")
```

Listing 4: Format time data to include leading zeros and AM/PM designation

```
def ledzero(lit):
    val = str(lit).zfill(4)
    mr = " am" if int(val[:2]) < 12 else " pm"
    return val[:2] + ":" + val[2:] + mr
```

Listing 5: Remove data rows where geographic coordinates are zero

```
def remove_zero_coordinates(df):
    filtered_df = df[(df['LAT'] != 0) | (df['LON'] != 0)]
    return filtered_df
```

Listing 6: Apply formatting functions to DataFrame columns and filter coordinates

```
df['Date Rptd'] = df['Date Rptd'].apply(
    correct_and_extract_date)
df['DATE OCC'] = df['DATE OCC'].apply(
    correct_and_extract_date)
df['TIME OCC'] = df['TIME OCC'].apply(ledzero)
df = remove_zero_coordinates(df)
```

Listing 7: Convert dates to datetime, extract years, filter, and save the processed data

```
df['DATE OCC'] = pd.to_datetime(df['DATE OCC'])
df['Year'] = df['DATE OCC'].dt.year
yearly_counts = df.groupby('Year').size()
print("Number of rows in each year:")
print(yearly_counts)
df["Year"].drop(index=1)
df = df[df['DATE OCC'].dt.year <= 2023]
output_file_path = "Crime_Data_2020-2023.csv"
df.to_csv(output_file_path, index=False)
print("DataFrame saved to:", output_file_path)
```

3.2 Description of Variables

The dataset employed in this study, titled “Crime Data from 2020 to 2023,” encompasses a wide array of variables crucial for comprehensive crime analysis. Each variable is described below with its corresponding data type and relevance to the study:

3.2.1 Variables and Descriptions

• Reported Date-time

- *Description*: This variable records the precise date and time when the crime was reported to law enforcement authorities.
- *Data Type*: Date-time
- *Relevance*: Essential for time-series analysis of crime trends and synchronization with other temporal data.

• Crime Type

- *Description*: Categorizes the nature of the crime, such as theft, assault, or vandalism.
- *Data Type*: String
- *Relevance*: Facilitates the segmentation of crime data, enabling analyses specific to types of crimes.

• Age

- *Description*: Represents the age of the victim or perpetrator involved in the crime.
- *Data Type*: Integer
- *Relevance*: Critical for demographic analysis and understanding how crime affects different age groups.

• Gender

- *Description*: Indicates the gender of the involved individual(s), categorized typically as male, female, or other.
- *Data Type*: String
- *Relevance*: Useful for identifying gender-specific crime trends and tailoring preventative measures.

- **Crime Codes**

- *Description*: Utilizes specific codes to further categorize crimes into detailed classifications.
- *Data Type*: String
- *Relevance*: Allows for precise categorization and detailed statistical analysis of crime incidents.

- **Coordinates**

- *Description*: Geographical coordinates (latitude and longitude) where the crime occurred.
- *Data Type*: Float
- *Relevance*: Enables spatial analysis of crime, aiding in the visualization and geographic patterning of crime data.

- **Area Names**

- *Description*: Names the area or neighborhood where the crime took place.
- *Data Type*: String
- *Relevance*: Facilitates localized geographic analysis, critical for community-specific policing strategies and resource allocation.

- **Premises of Crime**

- *Description*: Specifies the type of location where the crime occurred, e.g., residential, commercial, or public area.
- *Data Type*: String
- *Relevance*: Provides insights into the common locales for crime, guiding preventative measures and safety advisories.

3.2.2 General Descriptive Statistics for Numeric Variables

Variable	Min	Max
DR_NO	820	2.42e+08
AREA	1	21
Rpt Dist No	101	2199
Part 1-2	1	2
Crm Cd	110	956
Vict Age	-4	120
Premis Cd	101	976
Weapon Used Cd	101	516
Crm Cd 1	110	956
Crm Cd 2	210	999
Crm Cd 3	310	999
Crm Cd 4	821	999
LAT	33.71	34.33
LON	-118.67	-118.16
Year	2020	2023

3.2.3 General Descriptive Statistics for Categorical Variables

Variable	Statistics
Date Rptd	1567 unique values, most frequent: 02/03/2023
DATE OCC	312827 unique, most frequent: 2020-01-01 12:00:00
TIME OCC	1439 unique, most frequent: 12:00
AREA NAME	21 unique, most frequent: Central
Crm Cd Desc	138 unique, most frequent: VEHICLE - STOLEN
Mocodes	287715 unique, most frequent: 0344
Vict Sex	5 categories, most frequent: M
Vict Descent	20 categories, most frequent: H
Premis Desc	306 categories, most frequent: STREET
Weapon Desc	79 categories, most frequent: STRONG-ARM
Status	6 categories, most frequent: IC
Status Desc	6 categories, most frequent: Invest Cont
LOCATION	64561 unique, most frequent: 800 N ALAMEDA ST
Cross Street	9909 unique, most frequent: BROADWAY

4 Main Analysis

Our comprehensive analysis of crime data in Los Angeles from 2020 to 2023 revolved around three core business questions, focusing on geographic and temporal crime trends, crime categories, and the status of investigations. We utilized Tableau for visual analytics, which allowed us to effectively visualize and interpret complex data sets. Here is a detailed description of our findings and the process of analysis:

4.1 Geographical Distribution of Crime Rates

In our analysis, we utilized a choropleth map to visualize the distribution of crime across Los Angeles. This method allowed us to overlay the number of crimes on a map of LA, providing a clear and intuitive display of how crime rates vary across different locations. The analysis incorporated data from 21 distinct locations within the city, each shaded according to the volume of crimes reported in that area. Our findings indicated significant variability in crime occurrences across the regions: the area with the least reported crimes was Foothill, where approximately 29,000 cases were recorded, while Central LA emerged as the area with the most extensive crime activity, with about 59,000 reported incidents. This visualization effectively highlights the disparities in crime rates across Los Angeles, offering valuable insights for law enforcement and public safety planning.

4.2 Analysis of Weapon Utilization Patterns in Los Angeles Crime Incidents

In our analysis of weapon usage in crimes across Los Angeles, we utilized Tableau to create a pie chart that visualizes the distribution of weapon types used in criminal activities, encompassing 79 different categories. The chart revealed that "STRONG-ARM" (hands, fists, feet, or bodily force) is the most commonly used method, accounting for approximately 61% of all cases, indicating a significant prevalence of physical force in crimes. In stark contrast, the use of "VEHICLE" as a weapon is notably rare, making up only 1% of cases, highlighting its infrequency compared to more direct forms of violence. This visualization in the Figure 2

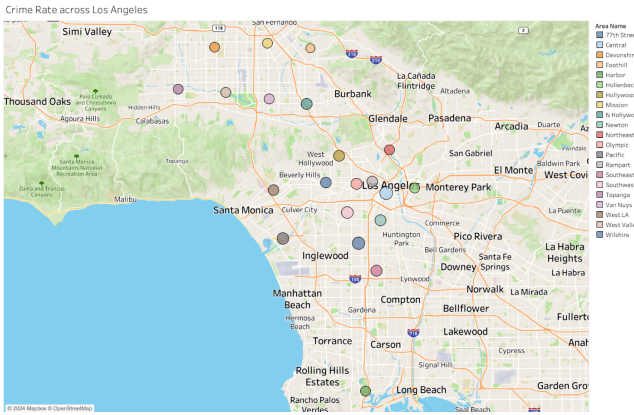


Figure 1: Choropleth Map of Crime Rates Across Los Angeles : This map provides a visual representation of the geographical distribution of crime rates, showing variations in crime intensity across different neighborhoods of Los Angeles from 2020 to 2023.

not only provides a clear understanding of the most to least common weapons used but also offers valuable insights for law enforcement agencies, aiding in the tailoring of preventive measures and response strategies to focus on the most prevalent forms of assault and potentially reduce violent crime rates.

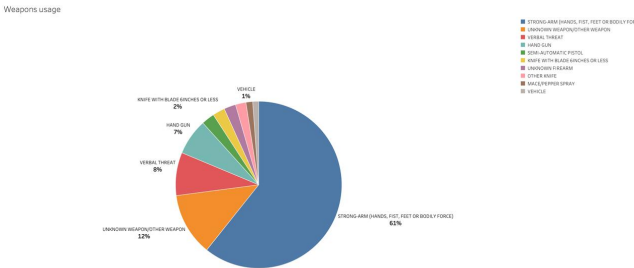


Figure 2: Distribution of Weapon Usage in Los Angeles Crimes : This pie chart illustrates the prevalence of various weapon types used in criminal activities across Los Angeles, highlighting the dominance of physical force ("STRONG-ARM") in comparison to other methods.

4.3 Temporal Dynamics of Crime Rates in Los Angeles

To understand the temporal trends in crime across Los Angeles from 2020 to 2023, a side-by-side bar chart was employed, showcasing the number of cases reported each month, grouped by quarters and years. This hierarchical grouping allows for a detailed yet comprehensive view of how crime rates have fluctuated over time within the specified period. The visualization reveals that the minimum number of crimes reported in any given month was around 15,000, while the maximum reached up to 21,000. This range indicates significant variability in crime occurrences, which could be influenced by seasonal trends, policy changes, or socio-economic factors that vary throughout the

year. The chart effectively captures these dynamics, providing a clear visual representation of the peaks and troughs in crime rates across different times of the year, thereby facilitating a deeper understanding of the patterns that could inform more targeted law enforcement and community safety strategies.

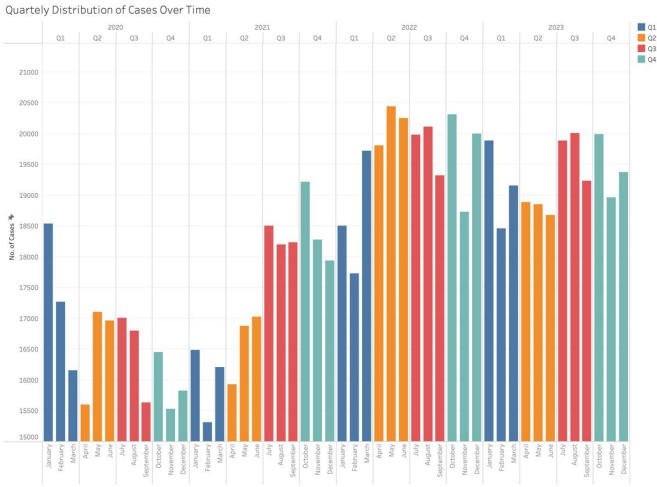


Figure 3: Quarterly Distribution of Crime Cases in Los Angeles (2020-2023) : This bar chart displays the number of crimes reported each month, grouped by quarters and years, highlighting the fluctuating crime rates from a minimum of 15,000 to a maximum of 21,000 cases per quarter over the four-year period.

4.4 Temporal and Gender-Specific Crime Patterns in Los Angeles

To examine when crimes occur most frequently throughout the day and how these patterns vary by gender, a line graph was utilized, plotting hourly crime occurrences for males and females separately. This approach used aesthetically distinct lines to differentiate between the two genders, allowing for clear visual comparison. The analysis revealed that the afternoon hours are particularly vulnerable times for crimes, with a noticeable peak around midday for both genders. Interestingly, the graph showed that male victims are generally involved in more incidents than females throughout the day, with both groups peaking simultaneously. This pattern suggests that interventions during these hours could be particularly effective. Such insights are crucial for law enforcement to optimize resource allocation and for community safety initiatives to target their efforts during times of heightened risk.

4.5 Categorization and Prevalence of Crime Types in Los Angeles

To explore the most common crime categories in Los Angeles, we employed a dynamic Tree Map in Tableau to visually represent the proportion of each crime type. This approach effectively highlights the distribution of crime across various categories. A calculated field named "Percentage of Crime" was formulated to determine the percentage that each crime type constitutes within the total crime reports. This calculation was executed using the formula:



Figure 4: Hourly Crime Rate Across Gender in Los Angeles : This line graph compares the number of crimes involving male and female victims throughout the day, highlighting afternoons as the peak time for crime occurrences for both genders.

In the equation below, ‘CD’ represents ‘[Crime Description]’, ‘Cnt’ represents ‘COUNT’, and ‘Tot’ represents ‘TOTAL’.

$$\begin{aligned} \text{Pct of Crime} &= \frac{\text{Cnt}(\text{IF CD} = \text{CD THEN 1 END})}{\text{Tot}(\text{Cnt}(\text{CD}))} \\ &= \frac{\text{Number of specific crimes}}{\text{Total crimes}} \end{aligned} \quad (1)$$

Through this analysis, it was revealed that "Vehicle Stolen" was the most prevalent crime category, with approximately 93,000 cases recorded, underscoring it as a significant concern in the region. The Tree Map provided a clear and concise visualization of crime distribution, enabling stakeholders to easily discern which crimes are most common and potentially direct resources and preventive measures towards these prevalent issues more effectively.

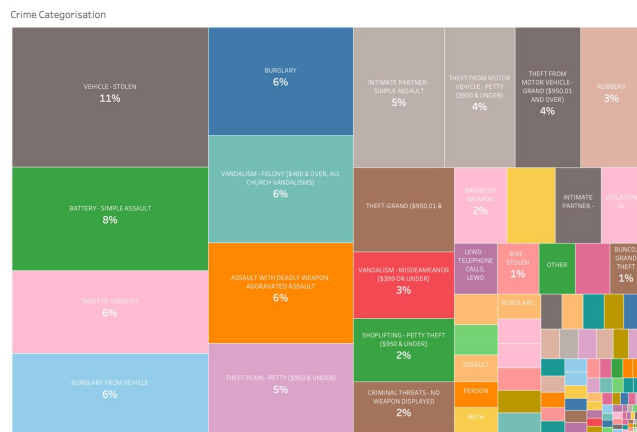


Figure 5: Distribution of Crime Categories in Los Angeles : This Tree Map displays the relative proportions of various crime types, highlighting "Vehicle Stolen" as the most prevalent crime with 93,000 cases, and visually categorizing the frequency of each crime type within the city.

4.6 Analysis of Crime Resolution Rates by Category in Los Angeles

To examine how different types of crimes in Los Angeles vary in terms of their resolution status, we utilized a stacked bar chart that contrasts the proportion of each crime's status categories against the total incidents reported for that crime type. This visual representation provides a clear understanding of which crimes are more likely to remain unresolved or shelved. The analysis reveals a significant number of cases across all crime categories that are still pending, indicating systemic delays or challenges in the resolution process. Particularly, crimes such as "Vehicle Stolen" and "Battery - Simple Assault" exhibit a higher proportion of unresolved cases, underscoring areas where law enforcement might need to allocate more resources or revise strategies to enhance the efficiency of investigations. This stacked bar chart not only illustrates the distribution of crime statuses effectively but also highlights the disparity in resolution rates, offering crucial insights for prioritizing and addressing backlogs in the justice system.

Additionally, the visualization sheds light on the effectiveness of current investigative practices and the need for targeted interventions in high-incidence areas. For example, the disproportionate number of unresolved "Vehicle Stolen" cases might suggest the necessity for enhanced surveillance and tracking technologies in regions with high vehicle theft rates. Similarly, the persistence of unresolved assault cases could prompt a review of response protocols and victim support services.

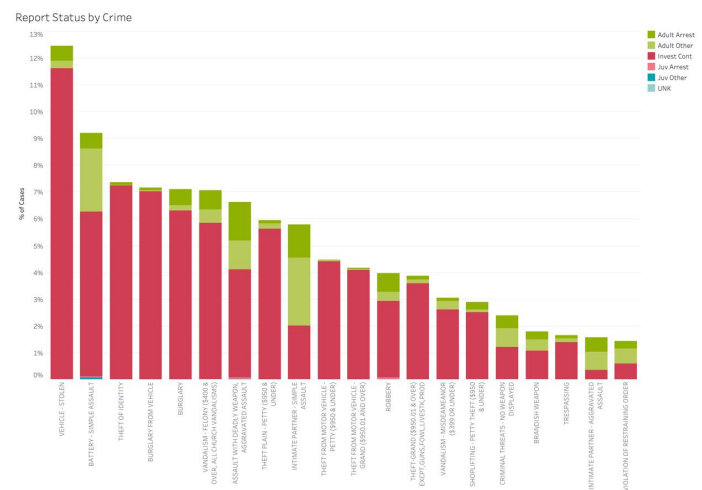


Figure 6: Crime Resolution Status by Category in Los Angeles : This stacked bar chart details the resolution status for various crime types, showing a predominant number of cases that remain pending or shelved across all categories, with specific emphasis on the challenges in resolving 'Vehicle Stolen' and 'Battery - Simple Assault' cases.

4.7 Crime Resolution Status by Location in Los Angeles

To examine how different types of crimes in Los Angeles vary in terms of their resolution status, we utilized a stacked bar chart that contrasts the proportion of each crime's status categories against the total incidents reported for that

crime type. This visual representation provides a clear understanding of which crimes are more likely to remain unresolved or shelved. The analysis reveals a significant number of cases across all crime categories that are still pending, indicating systemic delays or challenges in the resolution process. Particularly, crimes such as "Vehicle Stolen" and "Battery - Simple Assault" exhibit a higher proportion of unresolved cases, underscoring areas where law enforcement might need to allocate more resources or revise strategies to enhance the efficiency of investigations. This stacked bar chart not only illustrates the distribution of crime statuses effectively but also highlights the disparity in resolution rates, offering crucial insights for prioritizing and addressing backlogs in the justice system.

The distribution of unresolved cases as depicted in the chart suggests a pattern that might be influenced by several factors, including the complexity of cases, resource allocation, and perhaps the prioritization of cases by law enforcement agencies. For instance, cases involving "Vehicle Stolen" and "Battery - Simple Assault" not only require significant investigative resources but may also face challenges such as lack of witnesses, insufficient evidence, or logistical constraints in tracking stolen property.

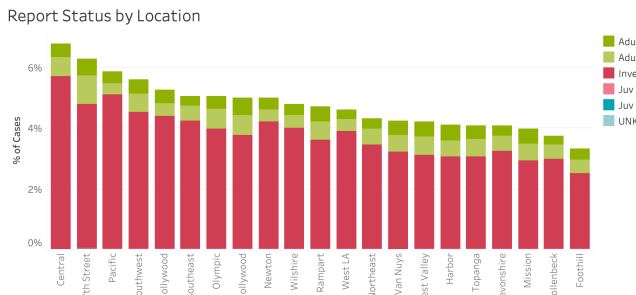


Figure 7: Crime Resolution Status by Location in Los Angeles - This stacked bar chart compares the resolution status of crimes across different areas of the city, illustrating a uniform distribution of unresolved and resolved cases, thereby indicating consistent law enforcement efforts across all locations.

4.8 Crime Victim Demographics by Gender and Age in Los Angeles

To analyze how the profile of crime victims varies by gender and age, we utilized an area chart that depicts the number of crime cases across different age groups, classified by gender. This visualization enables a clear comparison of the incidence of crime impacting males and females at various stages of life. The chart reveals an anomaly, likely due to improper data entry, which highlights the importance of rigorous data validation processes.

Despite this data irregularity, significant insights were gleaned, particularly noting that approximately 10,000 females aged 30 and about 11,000 males aged 35 have been victims of crimes. This observation suggests a pronounced vulnerability among individuals in their early thirties, with a slightly higher incidence observed in males aged 35. These findings underscore the need for targeted crime prevention strategies that address the specific risks faced by these age groups. The age and gender-specific data not only aid in understanding the demographic distribution of crime but

also assist in crafting policies that enhance protection for the most affected cohorts within the community.

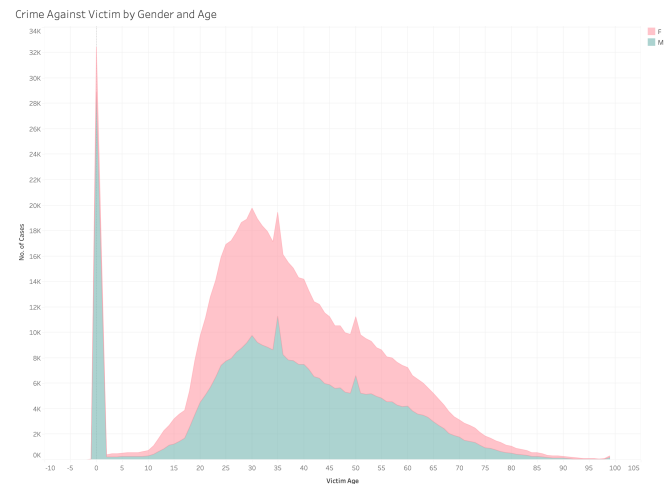


Figure 8: This area chart displays the distribution of crime cases across various age groups, differentiated by gender, highlighting a significant concentration of crime victims around the ages of 30 for females and 35 for males, with an observed anomaly due to data entry issues.

4.9 Gender Distribution of Top 5 Reported Crimes in Los Angeles

In order to analyze the gender-specific distribution of crime in Los Angeles, we employed a stacked percentage graph that illustrates the proportion of each crime type committed against males, females, and others. The focus was placed on the top 5 reported crimes, which were filtered and visualized based on their frequency across different genders. This approach allows for a comparative insight into how different crimes disproportionately affect genders.

The visualization indicates significant variations in the impact of specific crimes on different genders. For instance, "Vehicle Stolen" crimes were reported more frequently against males, who constituted 72% of the victims, compared to 28% for females. Conversely, crimes like "Burglary" and "Battery - Simple Assault" show a more balanced distribution, with males and females being nearly equally victimized, indicating that these crimes affect both genders almost evenly.

Such data is crucial in understanding the dynamics of victimization in urban settings, providing essential insights for law enforcement and social services to tailor their prevention and support strategies accordingly. It highlights the need for gender-specific approaches in addressing and mitigating crime, ensuring that resources are allocated efficiently to protect the most vulnerable groups based on empirical evidence of crime victimization.

4.10 Crime Incidence by Premises and Gender in Los Angeles

To identify locations where crimes are more likely to occur across different genders, we analyzed the data based on the 'Premises Description' field, which categorizes the reported incidents by the type of location. This was visualized using a grouped bar chart, allowing for a direct comparison

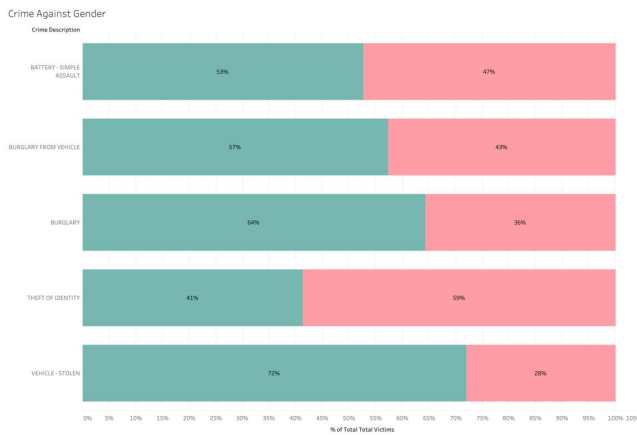


Figure 9: Gender Distribution of Top 5 Reported Crimes in Los Angeles - This stacked percentage graph details the proportions of the top five crimes reported against different genders, showing how certain crimes like 'Vehicle Stolen' predominantly affect males, whereas others like 'Burglary' and 'Battery - Simple Assault' are more evenly distributed between males and females.

of crime incidence across various premises types for males, females, and others.

The analysis specifically highlighted the top five places where crimes are most frequent, which includes single-family dwellings, streets, multi-unit dwellings (like apartments and duplexes), parking lots, and other business areas. This visualization clearly shows that streets are the most common venue for crimes against all genders, followed by single-family dwellings and multi-unit residential buildings. Interestingly, parking lots pose a significant risk for females compared to other genders, indicating a gender-specific vulnerability in these locations.

This graphical representation not only assists in pinpointing the areas where crimes are most likely to occur but also aids law enforcement and community safety planners in deploying resources more effectively to these high-risk areas. By understanding the distribution of crimes across different locations and genders, targeted preventive measures can be implemented to enhance the safety and security of vulnerable populations.

4.11 Comprehensive Insights from Crime Analysis and Impact Dashboards for Public Safety Strategies

The "Crime Analysis Dashboard" and the "Crime Impact Dashboard" are instrumental tools in elucidating the patterns and impacts of crime across Los Angeles, offering valuable insights for refining public safety and crime prevention strategies. Each dashboard provides a different layer of understanding, critical for informed decision-making in law enforcement and public safety planning.

4.11.1 Crime Analysis Dashboard

This dashboard serves as an interactive platform that visualizes crime distribution geographically, temporally, and by category. The geographical visualizations pinpoint high-

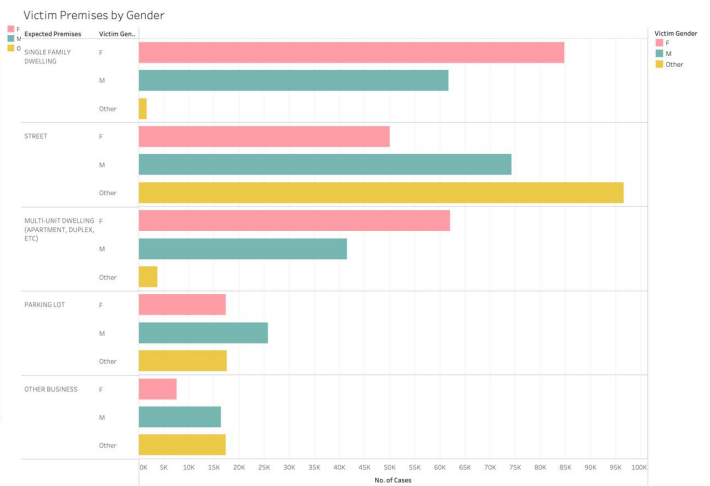


Figure 10: Crime Incidence by Premises and Gender in Los Angeles - This grouped bar chart illustrates the distribution of crime across different premises, highlighting streets, single-family dwellings, and multi-unit dwellings as the most common locations for criminal activity. The chart reveals significant gender-specific vulnerabilities, particularly in parking lots for females, and provides insights into where preventive measures could be most effectively applied.

crime areas, aiding in resource allocation such as increased police patrols or community safety programs in those locations. Temporal analysis reveals peak crime times, which can guide the timing of active patrols and public safety announcements. Categorization of crimes helps in understanding prevalent crime types, shaping preventive measures tailored to combat specific criminal activities effectively.

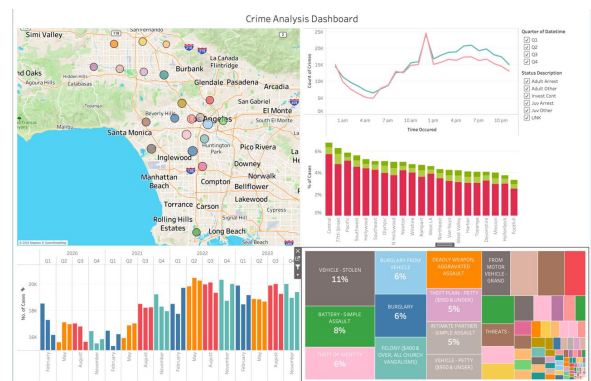


Figure 11: Crime Analysis Dashboard - This comprehensive dashboard provides a holistic view of crime across Los Angeles, illustrating geographical hotspots, temporal trends, and crime categorization. The interactive elements allow users to explore detailed patterns of crime incidents over time and across different areas, aiding in strategic planning for law enforcement and community safety initiatives.

4.11.2 Crime Impact Dashboard

This dashboard focuses on the repercussions of crime concerning investigation outcomes, victim demographics, and

crime categories. The visualization of investigation statuses (such as unresolved cases) highlights the need for improving investigative processes and perhaps, adopting new technologies or methodologies in forensics and data analysis to enhance case resolution rates. The gender and age-based victimology data underscore the necessity for community-specific safety programs that address the distinct needs of the most affected demographics. Moreover, understanding crime categorization from an impact perspective helps in prioritizing law enforcement training and resources to areas where they are most needed, such as theft or assault, which may have higher victimization rates and substantial unresolved cases.

Strategic Implications and Actions:The integrated insights from our analysis of crime data in Los Angeles suggest strategic initiatives aimed at enhancing public safety. By allocating resources with precision to identified high-risk areas and times, authorities can optimize crime prevention efforts. Tailoring safety programs to communities most affected by specific crimes and updating policies based on demographic and crime type analysis can address underlying factors contributing to crime. Additionally, investing in specialized training and advanced technologies for law enforcement can improve investigation outcomes and overall crime resolution. These initiatives collectively aim to create a safer environment for residents and communities in Los Angeles.

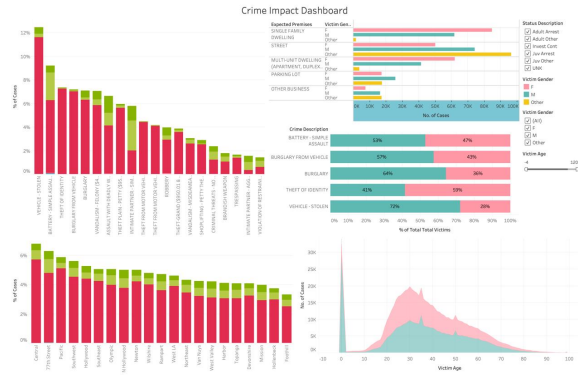


Figure 12: Figure 12: Crime Impact Dashboard - This dashboard focuses on the outcomes of criminal investigations, the demographic profiles of victims, and detailed crime categorizations. It highlights areas needing improvement in investigation resolutions and presents victimology data that can guide targeted preventive measures and resource allocation to enhance public safety and reduce crime rates.

5 Key Findings from Crime Data Analysis in LA

Our comprehensive analysis of crime data in Los Angeles from 2020 to 2023 has led to several crucial insights, summarized below:

Geographic Crime Distribution: The Crime Analysis Dashboard has identified specific areas in Los Angeles, such as Central LA and South LA, which consistently exhibit higher crime rates. This suggests a targeted need for increased policing and community-based safety initiatives in these regions.

Temporal Trends: Our analysis reveals that crime rates show significant variations over time, with distinct peaks during certain months and quarters throughout the years studied. This information is pivotal for law enforcement to optimize patrol scheduling and community safety programs during high-risk periods.

Crime by Category: The data highlights that theft, specifically vehicle theft, is the most common crime in Los Angeles, followed by assault and burglary. These findings can guide public awareness campaigns and preventive measures specifically tailored to reduce incidences of these crimes.

Impact of Crime on Demographics:Our findings from the Crime Impact Dashboard show that crime affects genders differently, with males slightly more likely to be victims of crimes at their peak ages of vulnerability, particularly around the age of 35. Additionally, certain locations like streets and parking lots are identified as common premises for these crimes, which could benefit from enhanced surveillance and lighting.

Investigation Outcomes:The analysis indicates a substantial proportion of crimes remain unresolved or pending, highlighting potential areas for improvement in investigative processes and resource allocation to ensure more cases are brought to closure.

Conclusions

Our analysis of crime data in Los Angeles reveals significant insights into crime patterns and vulnerabilities within the city. The prevalence of "Vehicle Stolen" as the top reported crime underscores the need for targeted interventions. The identification of Central Area as a high-risk locality emphasizes the importance of tailored safety initiatives. Additionally, our findings highlight the need for comprehensive strategies addressing crimes in both street and residential settings, with a focus on offenses like battery assault. The gender-neutral susceptibility to crime underscores the importance of gender-sensitive prevention approaches.

Lessons Learned: Our analysis underscores the importance of meticulous data management and visualization techniques in deriving actionable insights from crime data. It highlights the critical role of data-driven decision-making in shaping public safety policies. Moving forward, prioritizing data accuracy and visualization enhancements will empower stakeholders to proactively address crime challenges and foster safer communities.

Limitations and Future Enhancements While our analysis provides valuable insights, limitations such as data inaccuracies and visualization constraints were noted. Enhancements such as integrating real-time data and improving data granularity can address these issues. These improvements will enable stakeholders to make more informed decisions and enhance the effectiveness of crime prevention strategies.