Patterns of Crime in LA City

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Introduction

Dataset

- Los Angeles crime data from LAPD via Los Angeles Open Data.
- Each row represents a reported crime incident, including location, crime type, and victim demographics.

Research Objectives

- Explore how victim age, sex, and descent vary by crime type.
- Examine crime frequency across Los Angeles areas.

Research Hypotheses

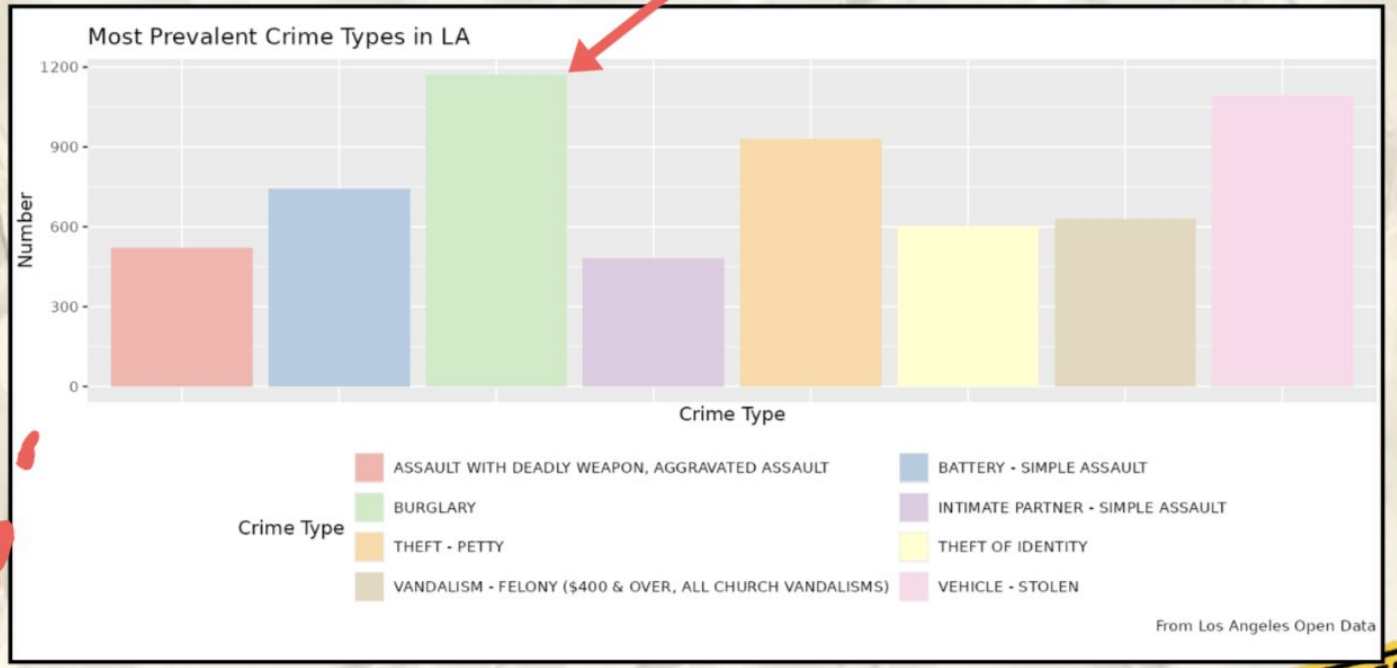
1) Crime Type: Theft will be the most frequently reported crime.
2) Age: Victims will be older on average.
3) Sex: Female victims will be more represented overall.
4) Descent: Victim descent distributions will vary across crime types.
5) Geographic Area: Reported crime locations will be most concentrated in the central LA area.

Significance

- Identify geographic and demographic crime patterns to better understand public safety and inform community prevention efforts.

Subject

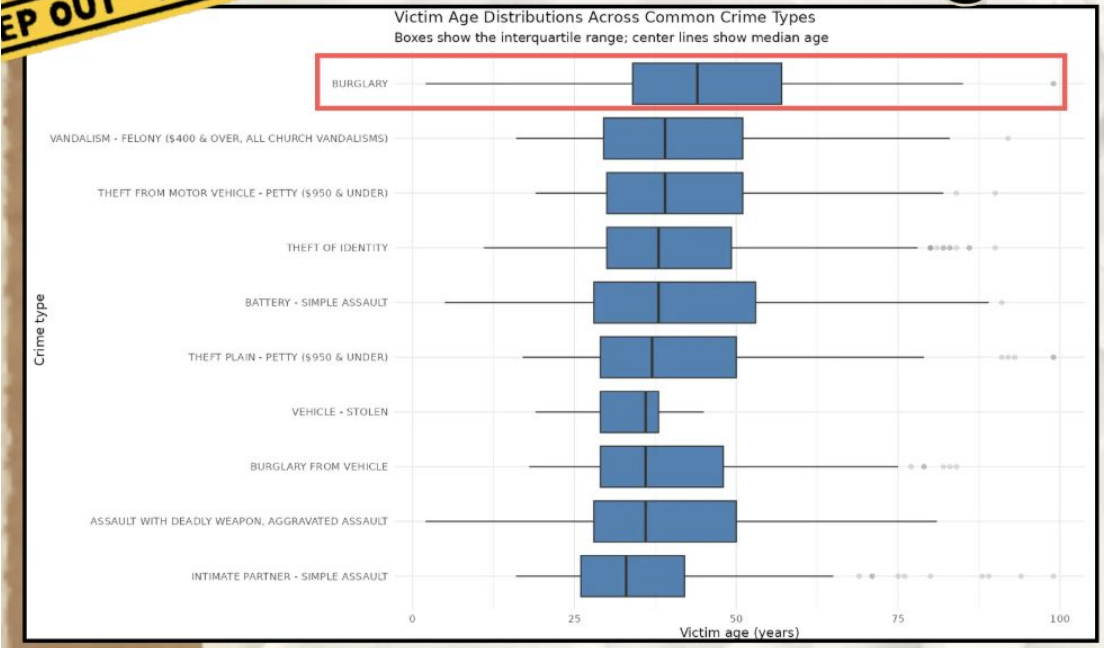
burglary = highest number of reports among all crime types



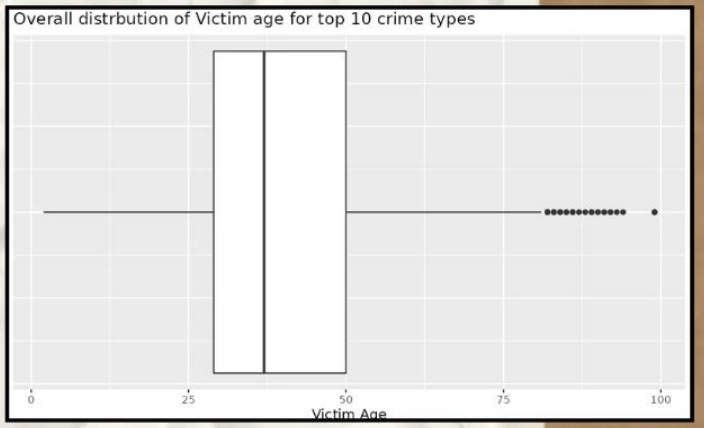




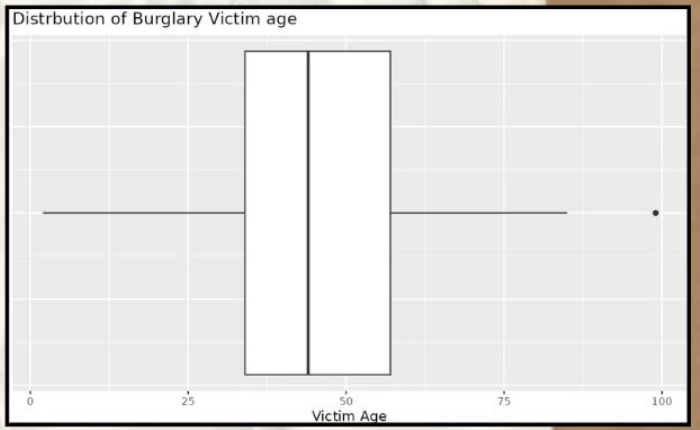
Victim Age



- For overall age distribution, skewed toward older victims; outliers at the high end.
- For burglary, highest median
- Widest whiskers / More varied
- Higher box (typical burgalry victim is older than those of other type of crimes)

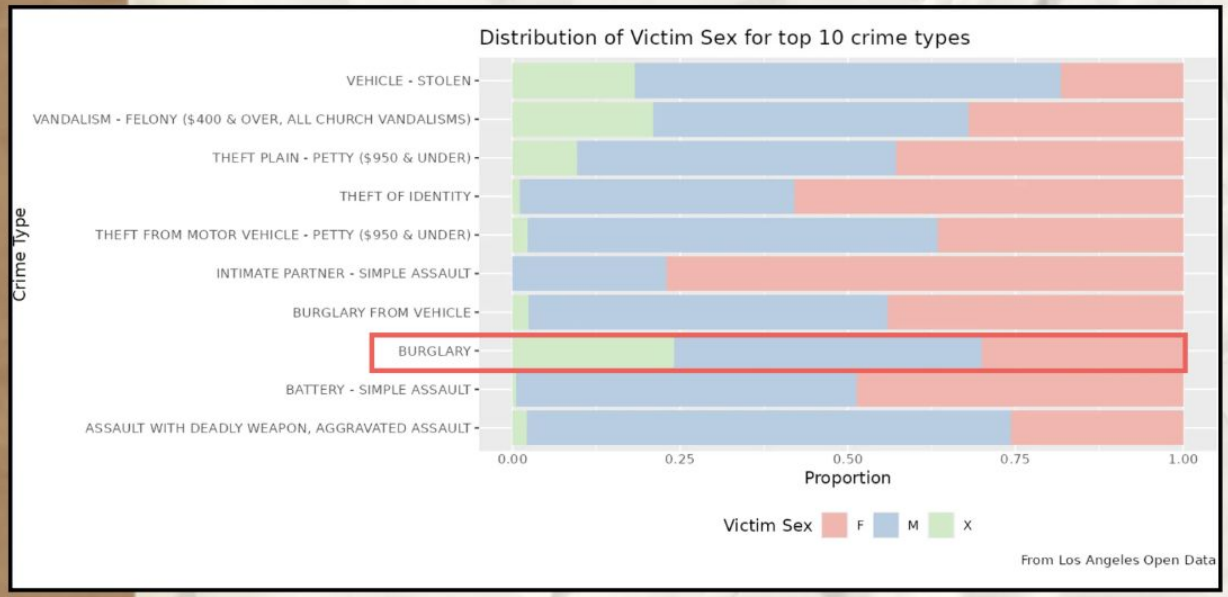


n	mean_age	median_age	q1	q3	iqr	min_age	max_age
4415	40.30985	37	29	50	21	2	99



n	mean_age	median_age	q1	q3	iqr	min_age	max_age
385	45.58442	44	34	57	23	2	99

Victim Sex

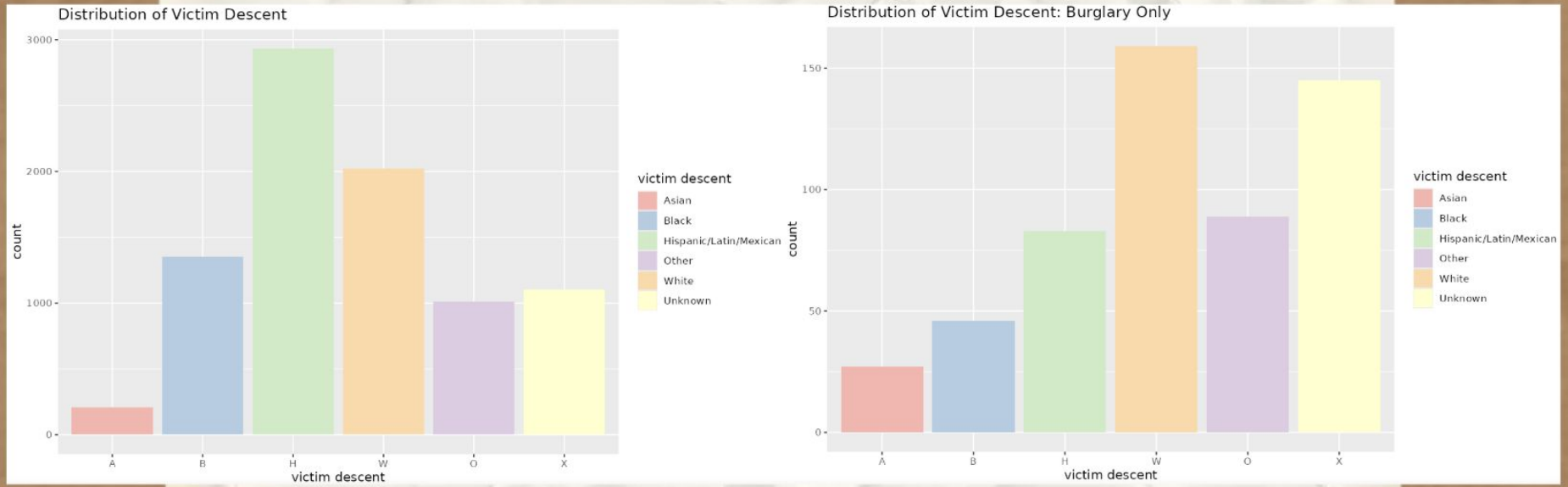


Burglary

vict_sex	n
M	252
F	165
X	132

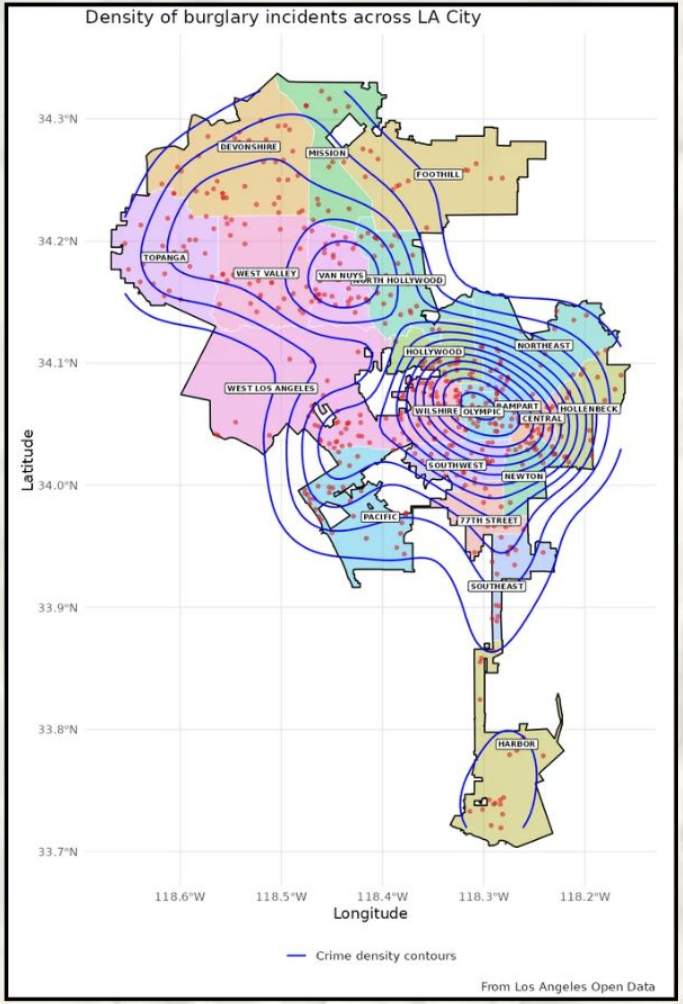


Victim Descent



- most common overall: Hispanic, with 2933 observations
  - among burglaries: White, with 159 observations
- descent categories with less than 5 observations were grouped into "Other"
- large number of "Unknown"

Area Distribution





- Hot spot: Central LA
  - Olympic
  - Rampart
  - Wilshire
  - Central
- Second hot spot: San Fernando Valley
  - Van Nuys
  - North Hollywood



Discussion & Implications

Is the Hypothesis Supported?

YES

Age: Victims will be older on average.
- Supported – Burglary victims has the highest median age

Descent: Victim descent distributions will vary across crime types.
- Supported – Overall majority hispanic victim descent, white burglary victim majority

Geographic Area: Reported crime locations will be most concentrated in the central LA area.
- Supported: hotspots in central LA and San Fernando Valley
  - high densities, commercial hubs

NO

Crime Type: Theft will be the most frequently reported crime.
- Not supported – Burglary is the most frequently reported.
  - Easy to Detect and report

Sex: Female victims will be more represented overall.
- Not Supported – Victim sex depends entirely on the type of crime



Based on our data, burglary victims are most likely to be older white males in central LA or San Fernando Valley, possibly because they may be more likely to own businesses and properties.

These factors are possible explanations, not relationships established by our analysis. Additional variables are needed to understand what drives differences in burglary patterns



Critique & Ethical Considerations

1. Data Limitations

- Reported incidents do not represent all crimes that actually occur.
- Crime frequency does not necessarily reflect individual victimization risk.
- Our observational analysis identifies associations, not causation.
- Especially for victim descent, it is difficult to draw conclusions because we were unable to find LA population ethnicity data for the correct time frame.

2. Privacy Concerns

- Detailed incident information (location, date, crime type, and victim demographics) may indirectly reveal victim identities.
- Aggregate data and avoid sharing unnecessarily specific incident-level information.

3. Demographic & Geographic Bias

- Avoid reinforcing stereotypes based on victim demographics or neighborhood crime concentrations.
- Observed patterns may be influenced by reporting behavior, population density, and socioeconomic factors.

Future Improvements

- Incorporate population-adjusted crime rates
- Examine socioeconomic and environmental variables
- Analyze trends across multiple years



Thank You

By Just Kidding