Project Title

Behind Every Record A Life Is Lost!

1. Introduction

This report explores homicide patterns in the United States based on 35 years of official crime data (1980–2014), compiled from the FBI and other law enforcement agencies. It analyzes various factors such as offender-victim relationships, weapon usage, gender/race distribution, and case resolution status to uncover the dynamics behind these crimes.

2. Problem Statement

Homicide cases involve many different factors — like who the victim is, who the offender is, what weapon was used, and where it happened. By looking at these patterns, we can better understand how and why these crimes happen across the U.S.

3. Goals

1. Identify where and when homicides are most common across the U.S.
2. Understand the relationships between victims and offenders, especially how gender and closeness affect outcomes.
3. Analyze who is most affected by homicides based on age, gender, and race.
4. Explore how weapons are used in different contexts and locations.

4. Data Overview

- **Time Period:** 1980–2014
- **Total Records Analyzed:** 638,454
- **Male Perpetrators:** 62.6%
- **Female Perpetrators:** 7.61%
- **Unknown Perpetrator Gender:** 29.8%

5. Data Dictionary

Column Name	Description
Agency Code	Code identifying the law enforcement agency reporting the crime
Agency Name	Name of the agency reporting the incident
Agency Type	Type of the agency (e.g., Police, Sheriff, State Agency)
City	City where the incident occurred
Crime Solved	Indicates whether the crime was solved (Yes/No)
Crime Type	Classification of the crime (e.g., Homicide, Manslaughter)
Decade	The decade the incident occurred in (e.g., 1980s, 1990s)
Incident	Identifier for the incident
Month	Month the incident occurred
MonthNumber	Numeric representation of the month (1 to 12)
Perpetrator Age	Age of the offender
Perpetrator Age Group	Age group of the offender (e.g., 18–25, 26–35)
Perpetrator Count	Number of perpetrators involved
Perpetrator Ethnicity	Ethnicity of the perpetrator (e.g., Hispanic, Non-Hispanic)
Perpetrator Race	Race of the perpetrator (e.g., White, Black, Asian)
Perpetrator Sex	Gender of the perpetrator (Male/Female)
Record ID	Unique identifier for each case
Record Source	Source of the record (e.g., FBI, local law enforcement)
Relationship	Relationship between victim and perpetrator (e.g., Stranger, Spouse)
State	U.S. State where the incident occurred
Victim Age	Age of the victim
Victim Age Group	Age group of the victim (e.g., Under 18, 18–25)
Victim Count	Number of victims in the incident
Victim Ethnicity	Ethnicity of the victim (e.g., Hispanic, Non-Hispanic)
Victim Race	Race of the victim (e.g., White, Black, Asian)
Victim Sex	Gender of the victim (Male/Female)

Weapon	Weapon used in the crime (e.g., Handgun, Knife)
Weapon Group	General category of the weapon (e.g., Firearm, Blunt Object)
Year	Year the crime occurred
YearMonth	Combined year and month (e.g., 2005-06)

6. Limitations

- Missing data in critical columns like perpetrator age, sex, and relationship.
- High percentage of unsolved cases makes it harder to analyze full trends.
- No information on **motive** or **mental health condition** of the offender.
- Population differences across states not considered — no per capita adjustment.
- Some categories like weapons or relationships may be inconsistently labeled.

7. Recommendations

1. **Improve Data Collection Accuracy:** Ensure all law enforcement agencies report consistent and complete data, especially in fields like perpetrator sex or weapon type.
2. **Enhance Crime Solving Capabilities:** Since nearly 30% of crimes remain unsolved, investing in forensic technology and inter-agency cooperation may increase resolution rates.
3. **Focus on Gun Control Policies:** With handguns responsible for the majority of killings, reviewing gun accessibility laws could potentially reduce violent crimes.
4. **Support Victim Protection Programs:** Relationship-based crimes (e.g., wife, girlfriend) suggest a need for stronger domestic violence prevention and awareness programs, and stricter protective laws.
5. **State-Level Policy Adjustments:** States like California and Texas with high crime counts should analyze local causes and tailor strategies to their population dynamics.