Crime Analytics and Insights

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Introduction

Crime analysis plays a crucial role in shaping law enforcement strategies, public safety policies, and resource allocation. Understanding crime patterns, incident locations, and law enforcement responses can help authorities and policymakers make data-driven decisions. This project aims to provide a comprehensive analysis of crime trends using key metrics such as crime type, weapon used, victim demographics, time and location of occurrence, police deployment, and case resolution status. By leveraging BI Tools' interactive dashboards, this project will offer valuable insights into crime distribution and law enforcement efficiency.

Project Overview

This project will analyze a dataset containing crime records across multiple Indian cities. The dataset includes details such as the crime type, date and time of occurrence, victim demographics, weapon used, police deployment levels, and case closure status. The objective is to create an interactive dashboard that visualizes crime trends, hotspots, and law enforcement responses, assisting in better crime prevention and public safety strategies.

Key Objectives

- Crime Trends Analysis: Identify patterns in crime occurrence based on date, time, and location.
- Geospatial Insights: Visualize crime distribution across various cities and regions to detect hotspots.
- Weapon Usage Analysis: Assess the types of weapons used in crimes and their frequency.
- Victim Demographics: Analyze age and gender distribution of victims across different crime categories.
- Law Enforcement Response: Evaluate police deployment levels and case closure rates.
- Crime Severity & Domain Analysis: Understand the proportion of violent crimes, cybercrimes, property crimes, and other offenses.

Key Insights from Dashboard / Findings

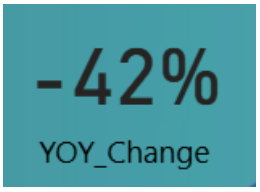
KPI Cards

Total Reports – **18K**

- Finding: 18,000+ crimes are reported in the dataset.

YOY Change – **-42%**

- Finding: There's a **42% decrease** in crime reports compared to the previous year.
- Takeaway: Indicates potential progress in crime control or changes in reporting methods.



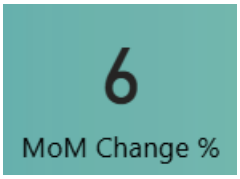
Most Common Gender – **M**

- Finding: Majority of reports involve **males** (either as victims or accused).
- Takeaway: Gender-specific crime prevention campaigns can be designed.

Peak Hour – **Around 5 PM**

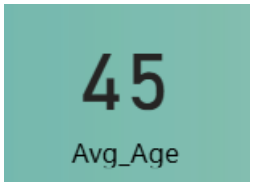
- Finding: Most crimes occur **around 5 PM**, during early evening.
- Takeaway: Indicates a critical time for patrolling and public vigilance.

MoM Change – **+6%**



- **Finding:** There's a **6% increase** in crime from the previous month.

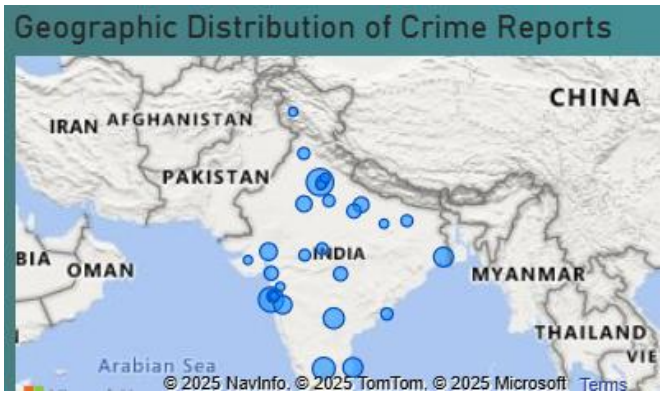
Average Age – **45**



- Finding: Average age associated with crime reports is around **45 years**.
- Takeaway: Could suggest that both perpetrators or victims are middle-aged.

Map – Geographic Distribution of Crime Reports

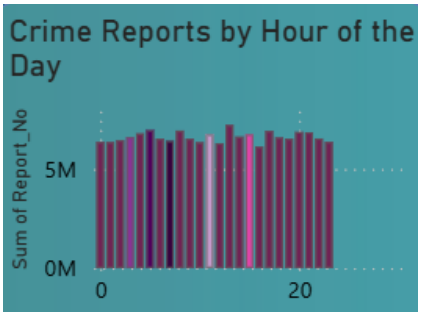
- Finding: Crime incidents are highly concentrated in **urban centers** like Delhi, Mumbai, Hyderabad.
- Takeaway: Urbanization correlates with higher crime reporting.



Bar & Column Charts

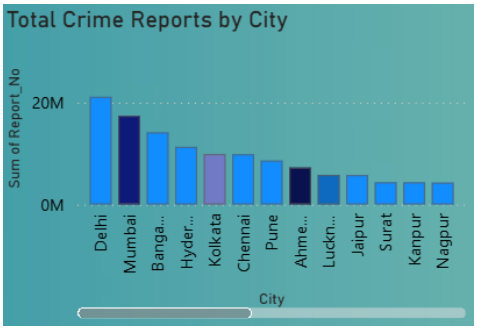
Crime Reports by Hour of the Day

- Finding: Peak between **5 PM – 8 PM**; least activity during late night/early morning.
- Takeaway: Evenings are risk-prone times for public safety.



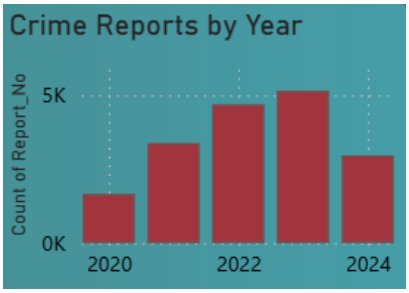
Total Crime Reports by City

- Finding: Delhi, Mumbai, Bangalore, Hyderabad are top cities by volume.
- Takeaway: Reflects population and urban lifestyle correlation with crime.
- Focus: Shows cities with the highest absolute number of reported crimes.



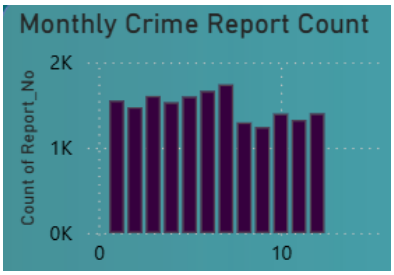
Crime Reports by Year

- Finding: Steady increase till 2023; slight drop in 2024.
- Takeaway: There's an overall upward trend with fluctuations.



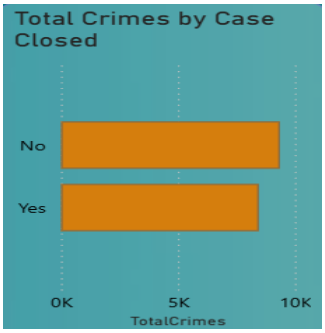
Monthly Crime Report Count

- Finding: Crime is **fairly consistent across months**, with some minor spikes.



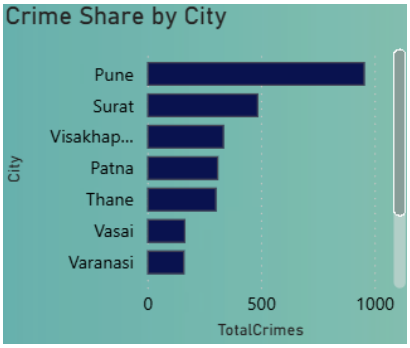
Total Crimes by Case Closed

- Finding: Nearly **half the cases are still open**.
- Takeaway: Case closure efficiency needs improvement.



Crime Share by City

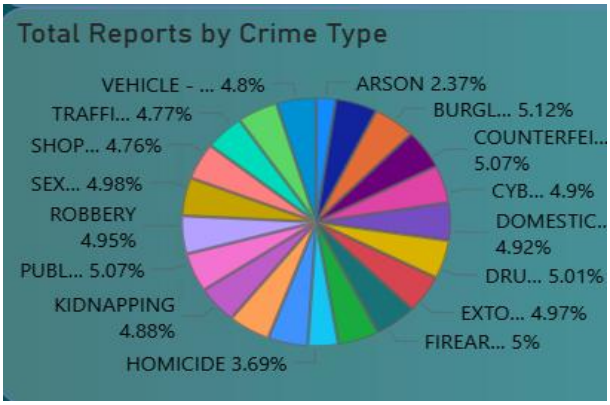
- Finding: **Pune, Surat, Visakhapatnam** are leading in terms of share.
- Focus: Compares how much each city contributes to a specific crime category (e.g., rape, theft, cybercrime).



Pie Charts

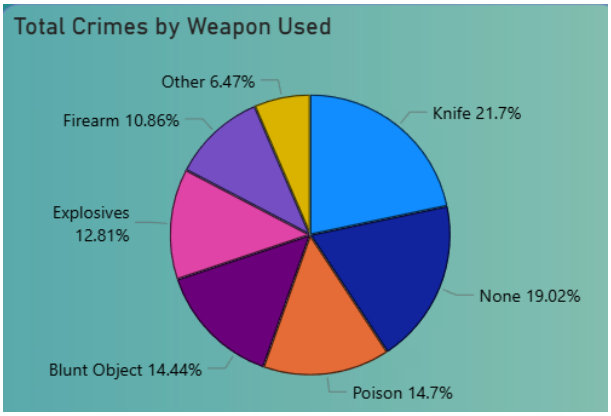
Total Reports by Crime Type

- Finding: Most common crimes are **burglary, cybercrime, robbery, sexual offences**.
- Takeaway: Property and digital crimes are top concerns.



Total Crimes by Weapon Used

- Finding: **Knife (21.7%)** is the most used weapon.
- Followed by Poison (14.7%), Blunt Objects (14.4%), and Explosives (12.8%).
- Takeaway: **Sharp objects and poison** are common in assaults and planned crimes.



Overall Dashboard Insight:

- More gender-specific legal education and support programs.
- Increase police presence during peak crime hours (e.g., 4–8 PM).
- Age-based rehabilitation or awareness strategies might be needed.
- Focused policing in urban crime clusters; deploy smart surveillance systems.
- Cyber-policing teams and anti-theft tech infrastructure are key.
- Launch campaigns to raise awareness about weaponized crimes.

Recommendations for Law Enforcement & Policymakers

- Increase police patrolling and surveillance in Delhi (27.3%) and Mumbai (18.5%), where crime shares are the highest.
- Prioritize crime prevention programs in Pune (22.8%) and Surat (16.6%), where crime levels are disproportionately high compared to city size.
- Strengthen law enforcement presence and community outreach in Visakhapatnam (11.3%) to address rising incidents.
- Conduct awareness campaigns and improve reporting mechanisms in cities with very low reported crimes, suggesting possible underreporting.
- Use data-driven models to allocate law enforcement resources based on actual crime statistics, not just population or geography.