Chicago Crime Analysis(2001 -2023)

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Agenda

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Introduction

The Crimes in Chicago dataset, sourced from the Chicago Police Department's Clear system, spans incidents reported from 2001 to 2023, Excluding the latest seven days. With over 6 million records .It offers key details like unique identifiers, case numbers, dates, and arrest indicators, providing a comprehensive resource for understanding crime trends and city area evolution. Gratitude to the City of Chicago and the Chicago Police Department for openly sharing this invaluable dataset, fostering insights into the dynamic landscape of crime in the city.

Over View Of The Features

- **ID** - Unique identifier for the record.
- **Case Number** - The Chicago Police Department RD Number (Records Division Number), which is unique to the incident.
- **Date** - Date when the incident occurred. this is sometimes a best estimate.
- **Block** - The partially redacted address where the incident occurred, placing it on the same block as the actual address.
- **IUCR** - The Illinois Unifrom Crime Reporting code. This is directly linked to the Primary Type and Description.
- **Primary Type** - The primary description of the IUCR code.
- **Description** - The secondary description of the IUCR code, a subcategory of the primary description.
- **Arrest** - Indicates whether an arrest was made.
- **Location Description** - Description of the location where the incident occurred.
- **Domestic** - Indicates whether the incident was domestic-related as defined by the Illinois Domestic Violence Act.
- **Year** - Year the incident occurred.
- **Updated On** - Date and time the record was last updated.
- **Location** - The location where the incident occurred in a format that allows for creation of maps and other geographic operations on this data portal.

- **Beat** - Indicates the beat where the incident occurred. A beat is the smallest police geographic area – each beat has a dedicated police beat car.
- **District** - Indicates the police district where the incident occurred. See the districts at **https://data.cityofchicago.org/d/fthy-xz3r**.
- **Ward** - The ward (City Council district) where the incident occurred. See the wards at **https://data.cityofchicago.org/d/sp34-6z76**.
- **Community Area** - Indicates the community area where the incident occurred. Chicago has 77 community areas. See the community areas at **https://data.cityofchicago.org/d/cauq-8yn6**.
- **FBI Code** - Indicates the crime classification as outlined in the FBI's National Incident-Based Reporting System (NIBRS).
- **X Coordinate** - The x coordinate of the location where the incident occurred in State Plane Illinois East NAD 1983 projection. This location is shifted from the actual location for partial redaction but falls on the same block.
- **Y Coordinate** - The y coordinate of the location where the incident occurred in State Plane Illinois East NAD 1983 projection. This location is shifted from the actual location for partial redaction but falls on the same block
- **Latitude** - The latitude of the location where the incident occurred.
- **Longitude** - The longitude of the location where the incident occurred.

Problem Statement

The objective of this project is to analyze Chicago crime data from 2001 to 2023 to understand crime patterns and trends.

Chicago Crime Analysis Dashboard

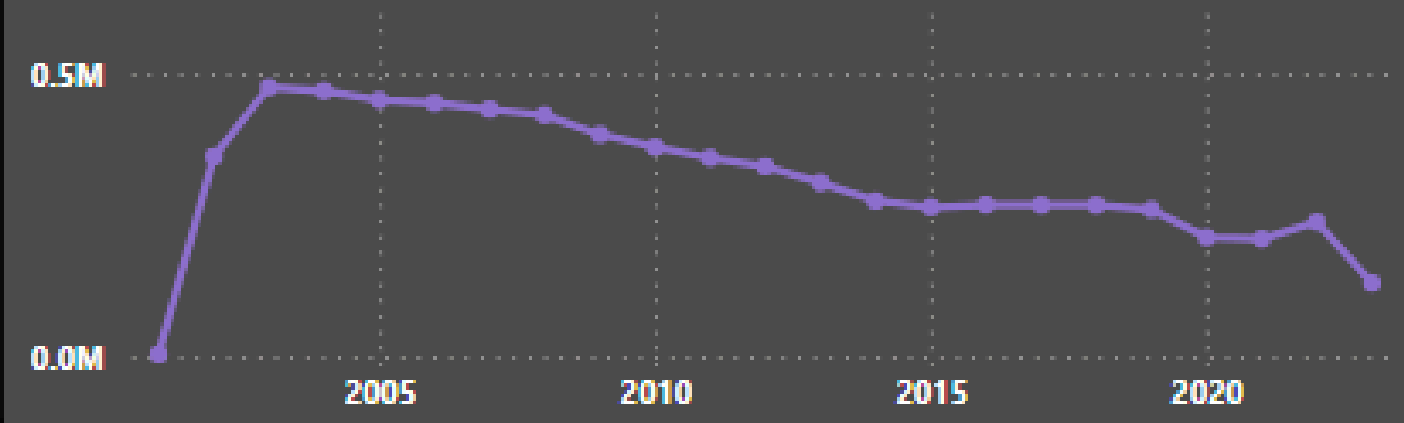Year: All
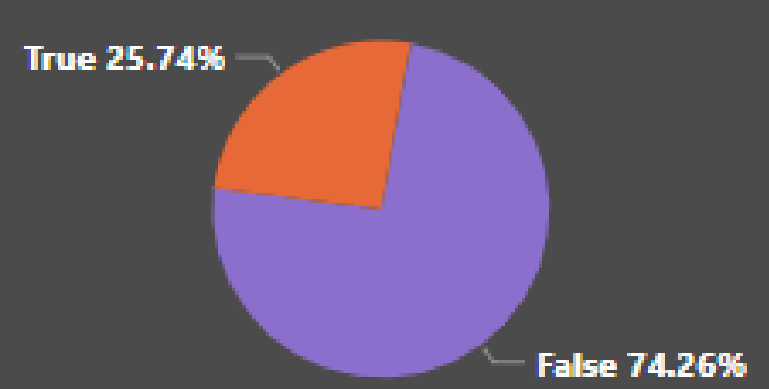
Total Crimes
7M

Most Arrested Crime Type
NARCOTICS

Crime Type
- HOMICIDE
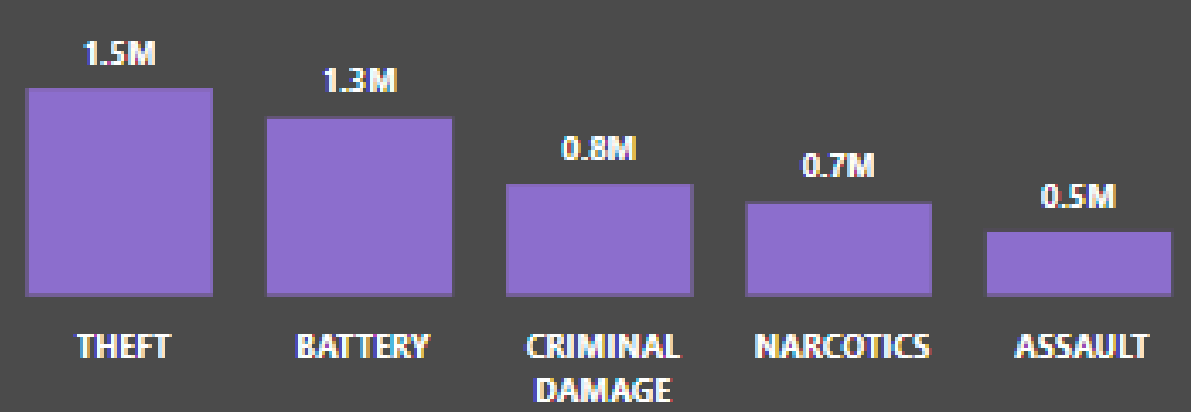- HUMAN TRAFFICKING
- INTERFERENCE WITH PUBLIC ...
- INTIMIDATION
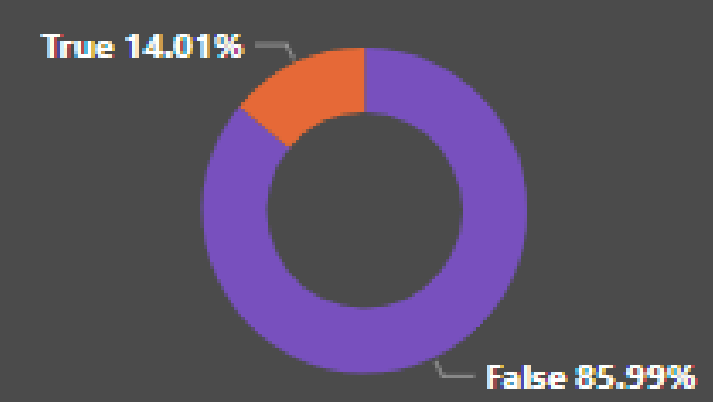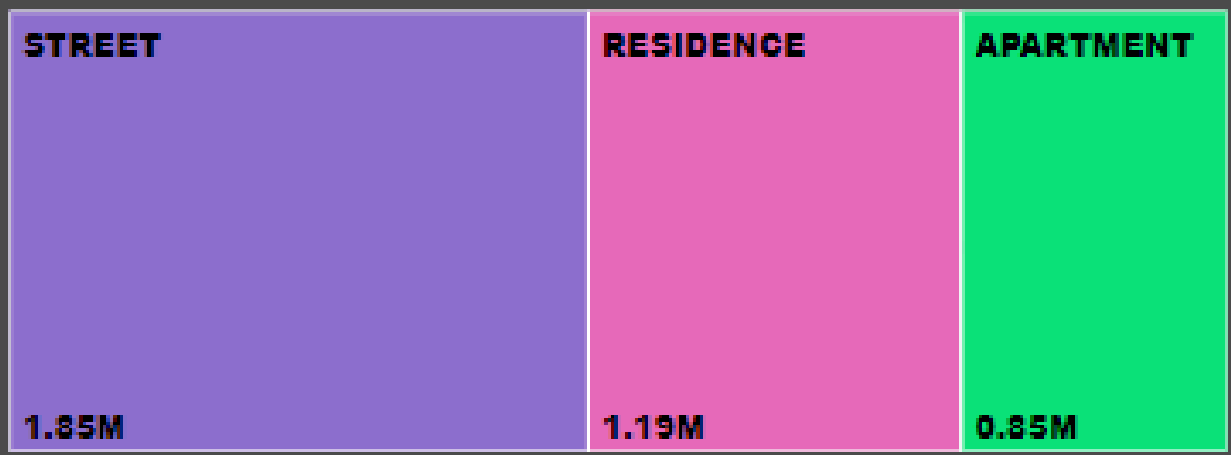
Crimes trend in Chicago over the years and months

- 0.5M
- 0.0M
- 2005
- 2010
- 2015
- 2020

Arrest and Non Arrest Rate

- True 25.74%
- False 74.26%

Top 5 Crime Types

- THEFT 1.5M
- BATTERY 1.3M
- CRIMINAL DAMAGE 0.8M
- NARCOTICS 0.7M
- ASSAULT 0.5M

Crimes By Domestic

- True 14.01%
- False 85.99%

Top 3 Locations of crimes

- STREET 1.85M
- RESIDENCE 1.19M
- APARTMENT 0.85M

Crimes by Ward, District and Community Area

- 0.5M
- 0.0M
- 0
- 5
- 10
- 15
- 20
- 25
- 30
- 35

District
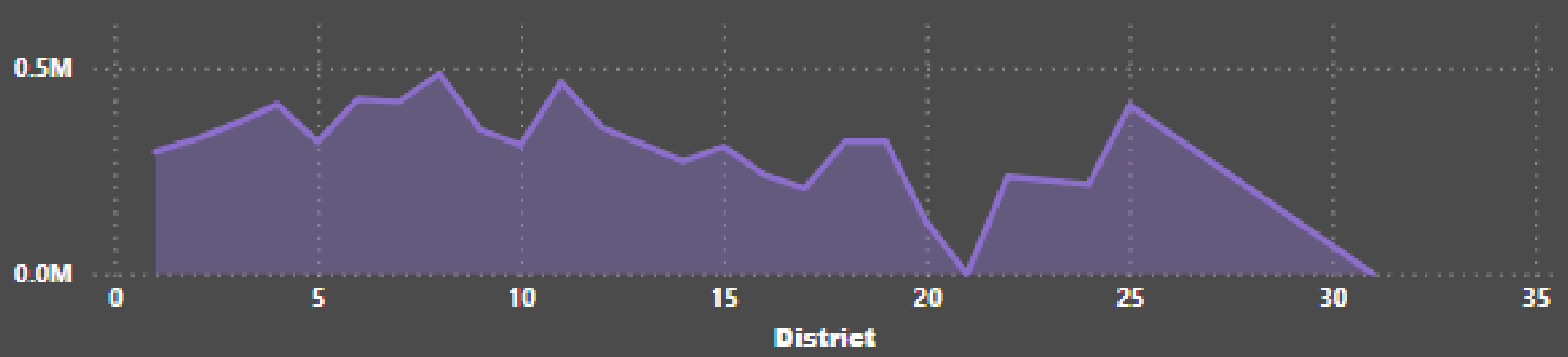
Insights

1. Total crimes occurred: 7 million.

2. The most arrested crime type is Narcotics.

3. The top five crime types are Theft (the highest), Battery, Criminal Damage, Narcotics, and Assault.

4. The year 2003 had the highest number of crimes. After 2003, the amount of crime gradually decreased. Crime in Chicago peaks from May to August.

5. Maximum crimes occurred on the street.

6. Most crimes are non-domestic (86%).

7. The non-arrest rate is much higher (74.3%) compared to the arrest rate (26%).

8. District number 8, ward number 28, and community area number 25 have the highest number of crimes.

Recommendations

Seasonal Planning

During May to August, additional police can be allocated.

Focus on High-Crime Areas

Increase police presence in District 8, Ward 28, and Community Area 25.

Prevent Common Crimes

Target Theft, Battery, and Narcotics with prevention efforts.

Improve Arrest Rates

Develop plans to increase arrests, especially for Narcotics and other major crimes.
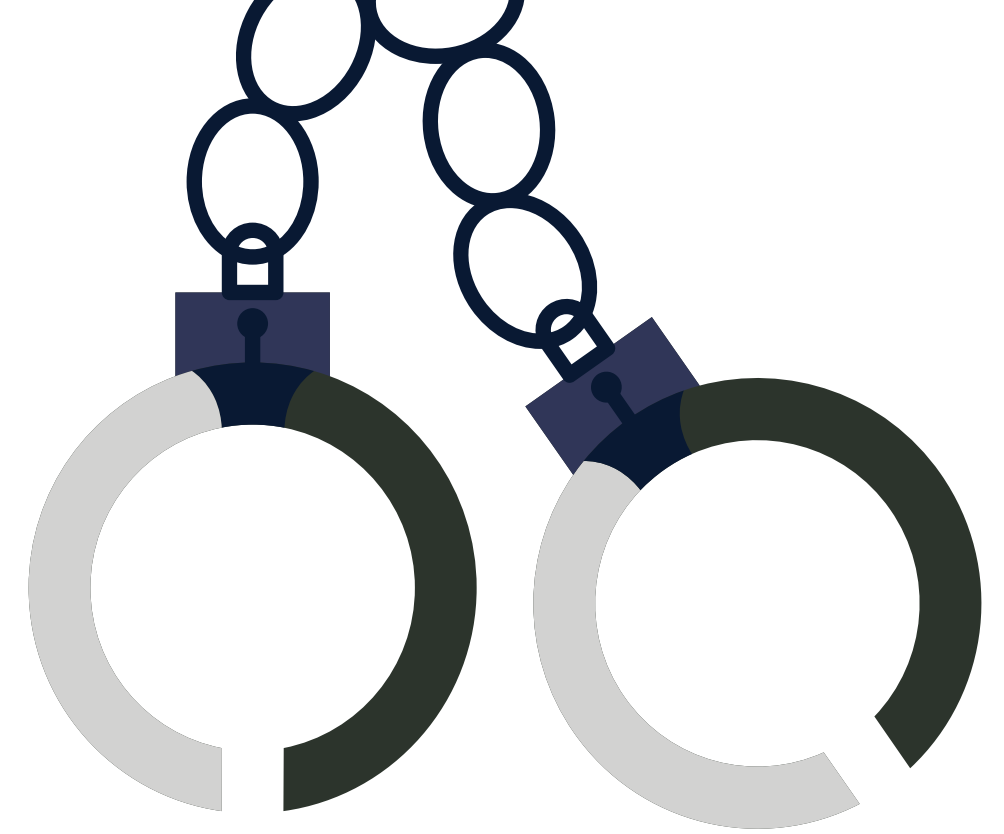
Process

Data Understanding

Data Cleaning

Data Analysis

Uncover Insights

THANK YOU

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GitHub- https://github.com/Mousarcar