# Chicago Reported Incidents Dataset

CIS 4560-01 | Group 3


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# Data Description/Source

**Data Name:** Chicago Crime (01JAN2001-22JUL2020)

**Source:** Chicago P.D.

**Size:** 1.7GB **Format:** CSV

**Dataset URL:**
https://www.kaggle.com/datasets/n3v375/chicago-crime-from-01jan2001-to-22jul2020

**Github URL:**
https://github.com/FranXavier12/Tempo-Spatial-Analysis-of-Chicago-Crime-Data

**Description:** This data records incidents of crime recognized by the Chicago Police Department. It includes location, time, and the categorial reasoning for each incident.

# Specifications

**Cluster Version:** Hadoop Cluster 3.3.3

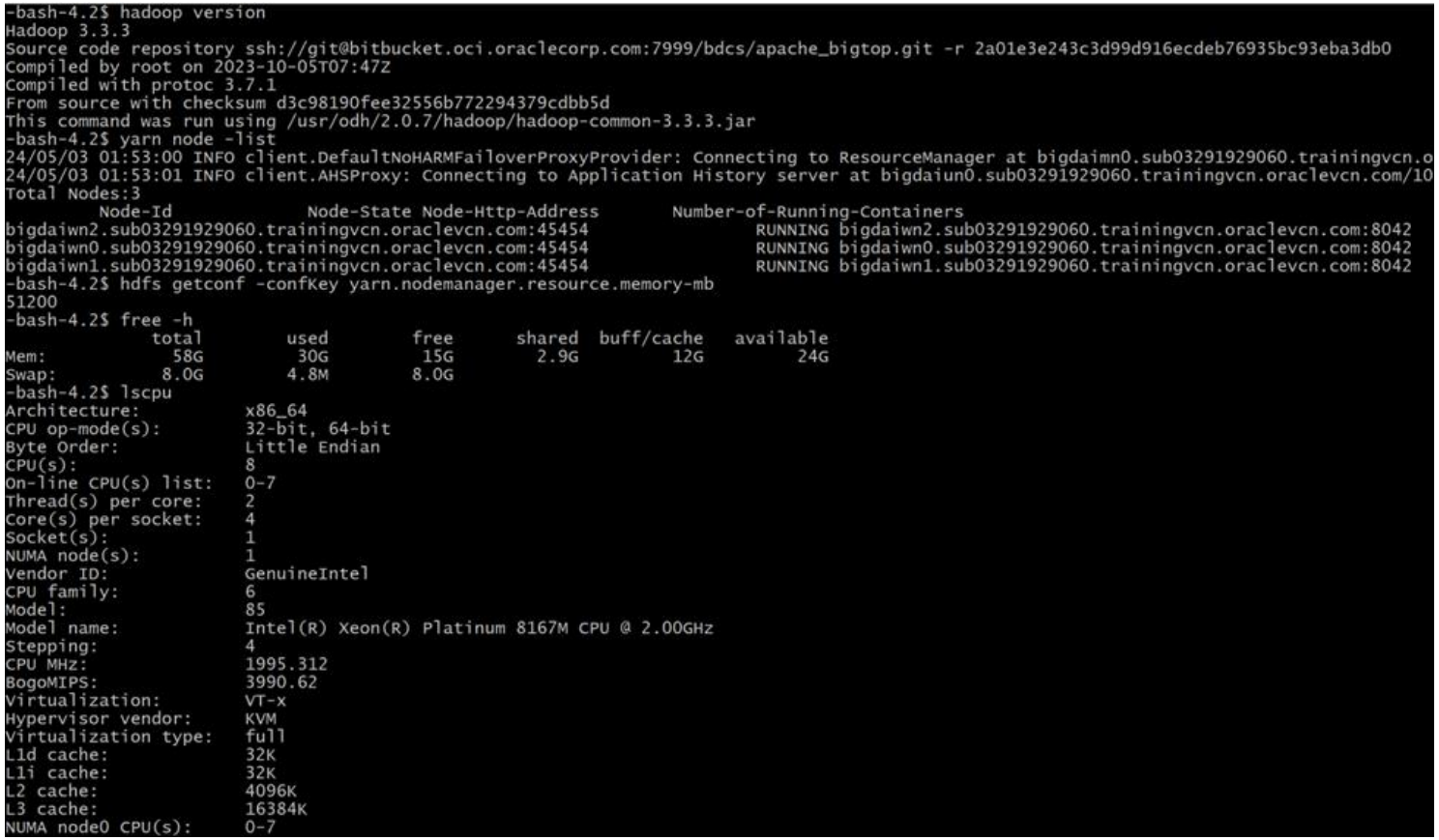
**Number of Nodes**: 3 nodes (1 Master, 2 Worker)

**Memory Size:**

**Master Nodes:** 51.2GB RAM

**Worker Nodes**: 58GB RAM each

**CPU Speed:** 1995.312 MHz




Our cluster is running Hadoop version 3.3.3, consisting of 3 nodes (1 Master and 2 Worker), with the master node having 51.2GB of RAM and each worker node having 58GB of RAM. The CPU speed is approximately 2.00 GHz.

# Top 15 Crime Incident Types

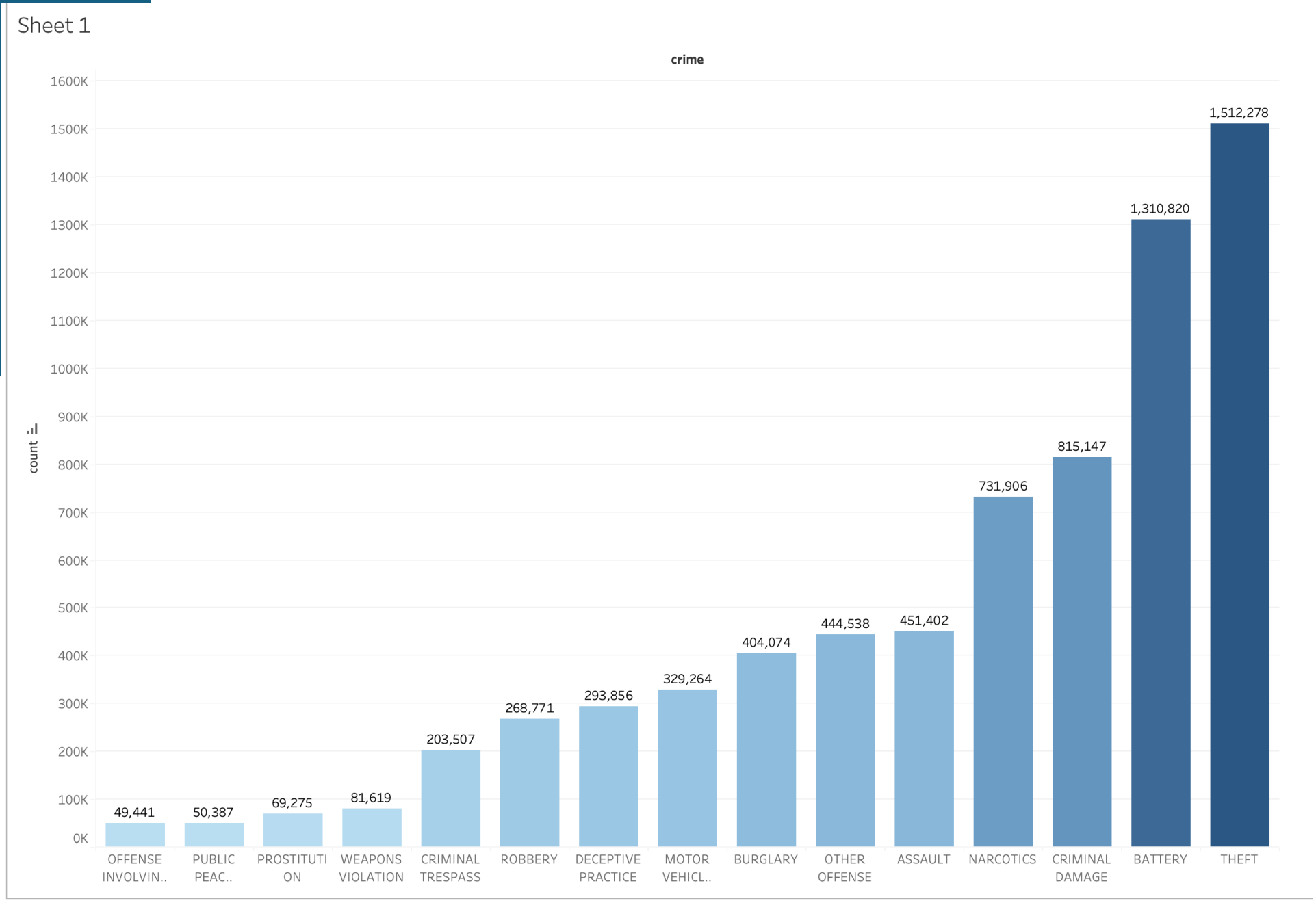
This table provides insights into the top 15 crime types reported in the Chicago Police Department dataset.

Analyzing the distribution of crime types helps identify prevalent issues in the city.

Sheet 1

| crime | |
|---|---|
| OFFENSE INVOLVING CHILDREN | 49,441 |
| PUBLIC PEACE VIOLATION | 50,387 |
| PROSTITUTION | 69,275 |
| WEAPONS VIOLATION | 81,619 |
| CRIMINAL TRESPASS | 203,507 |
| ROBBERY | 268,771 |
| DECEPTIVE PRACTICE | 293,856 |
| MOTOR VEHICLE THEFT | 329,264 |
| BURGLARY | 404,074 |
| OTHER OFFENSE | 444,538 |
| ASSAULT | 451,402 |
| NARCOTICS | 731,906 |
| CRIMINAL DAMAGE | 815,147 |
| BATTERY | 1,310,820 |
| THEFT | 1,512,278 |

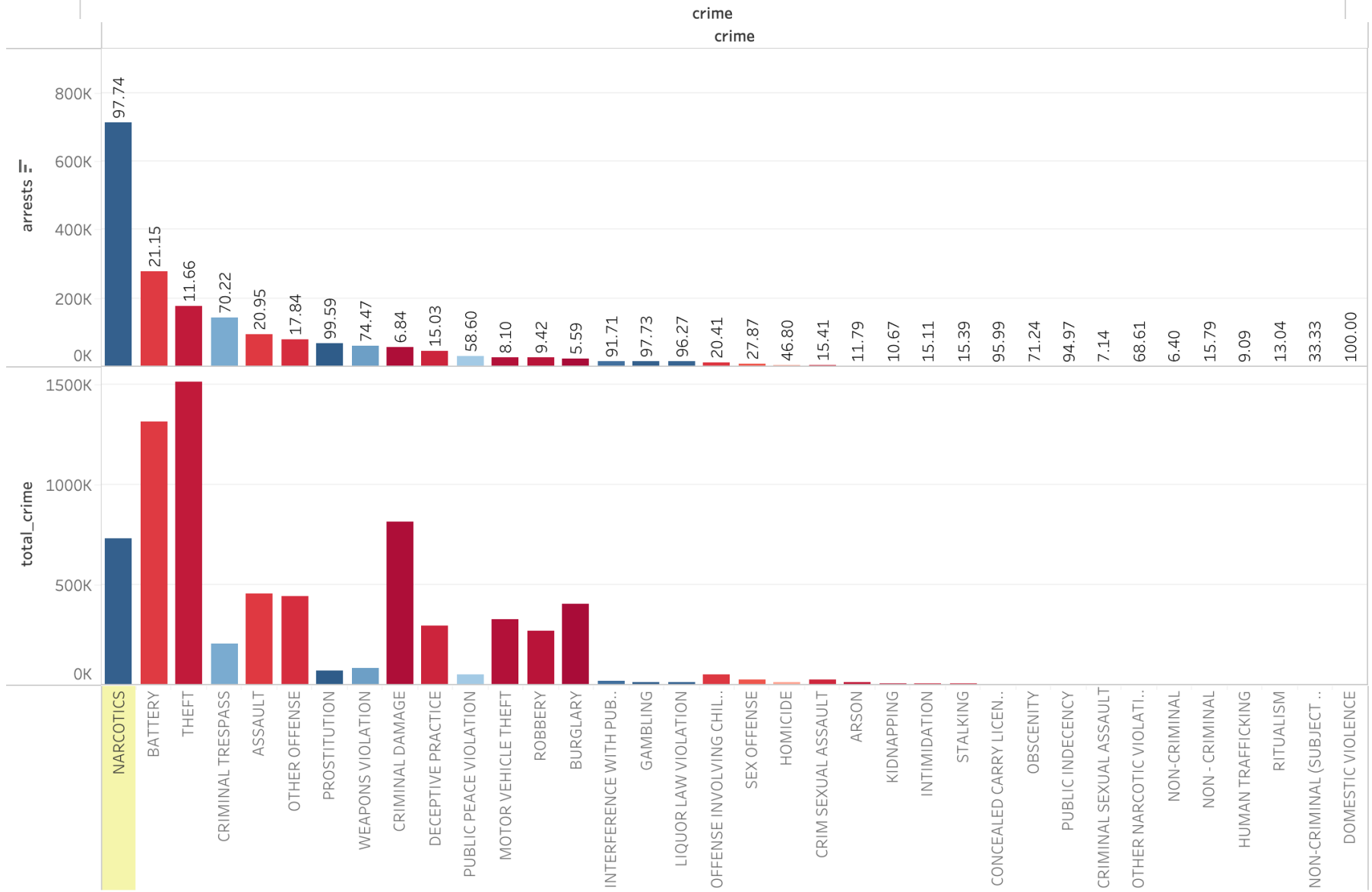
# Top 15 Causes of Incidents Visualization



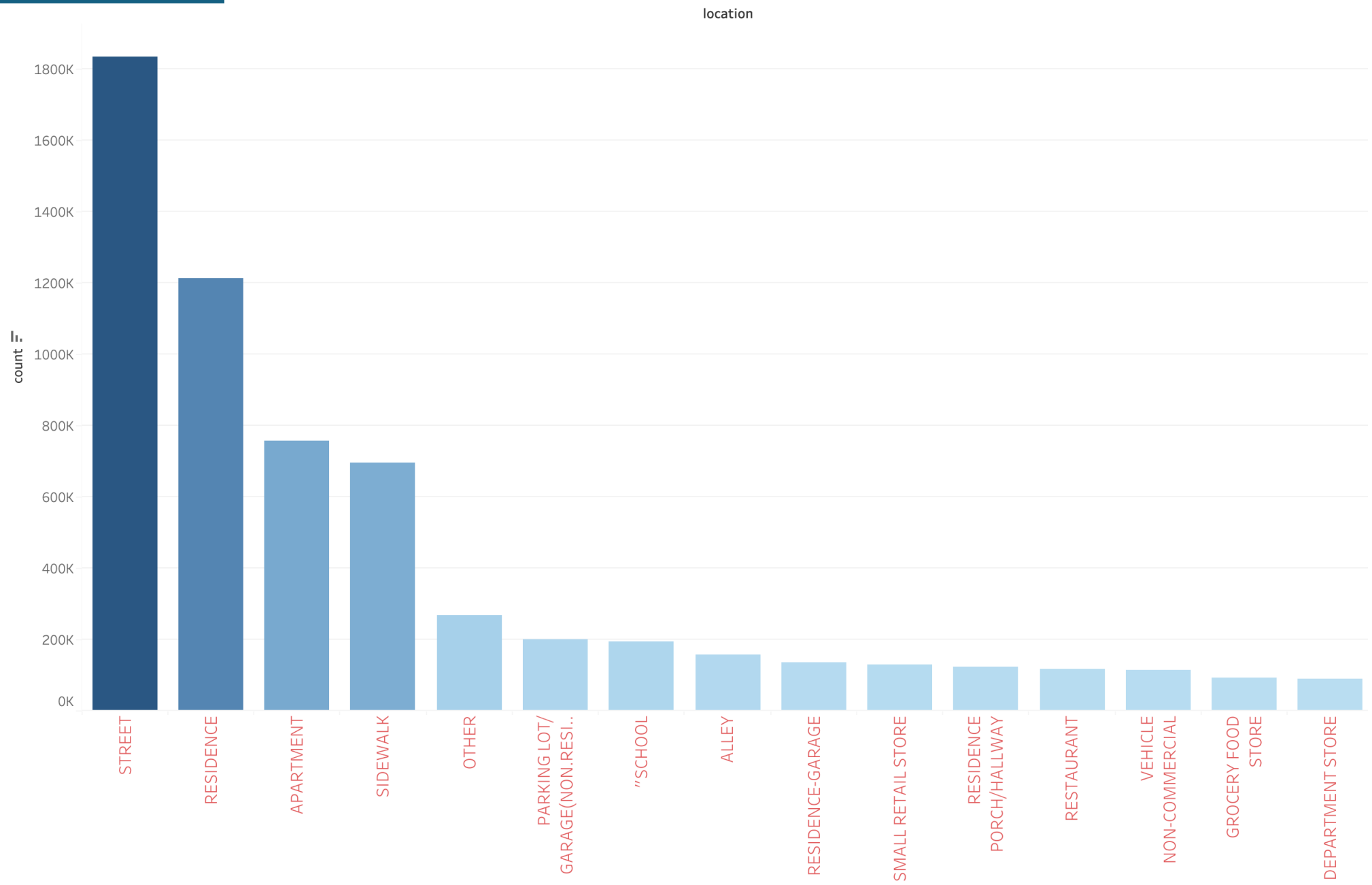
# Arrests Analysis by Crime Type

This bar chart compares the crimes reported to arrests made. This allows us to understand the types of crimes that result in arrests.

The ratio of ‘arrests made’ to ‘crimes reported’ is also shown in percentages.

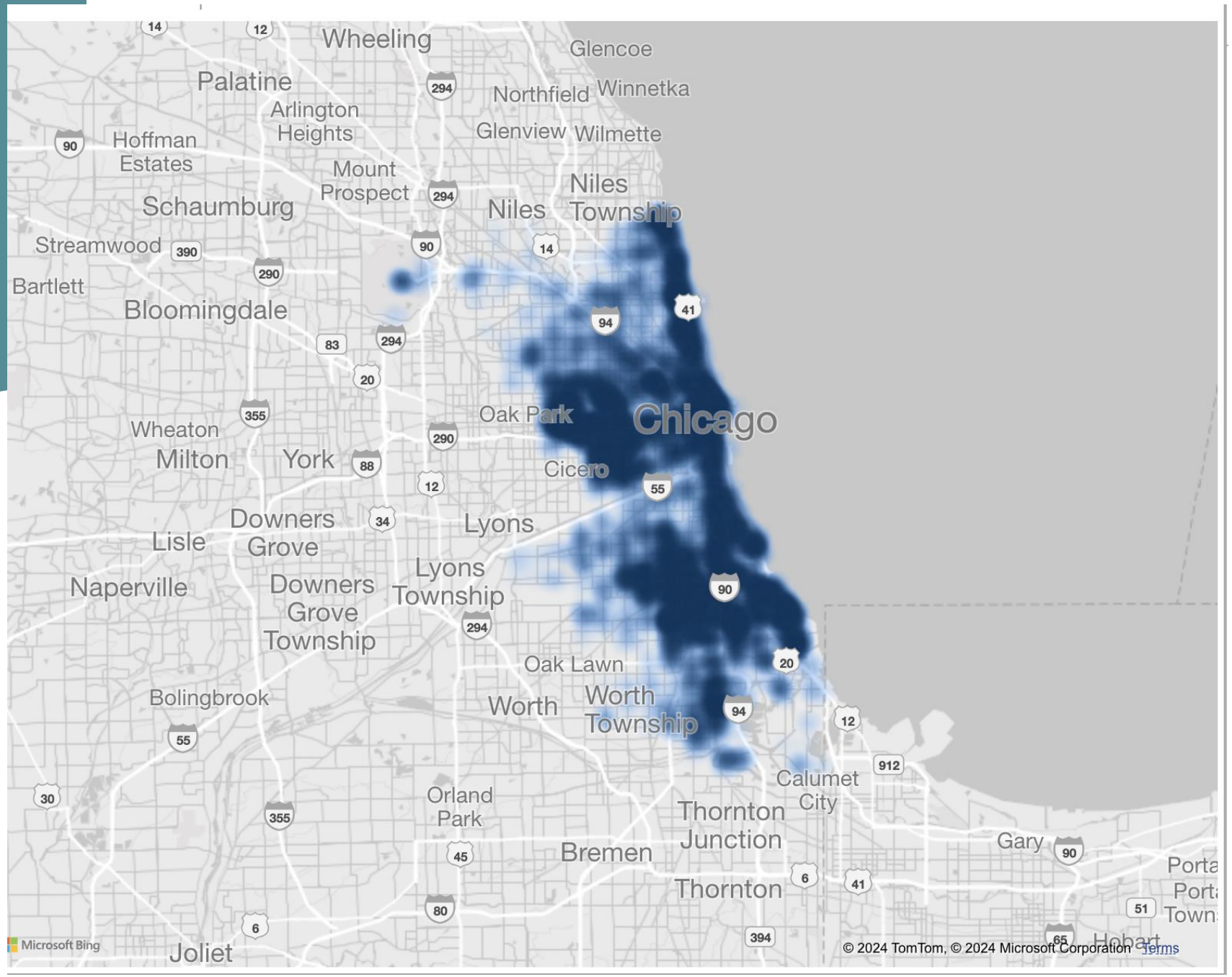


# Crime by Location



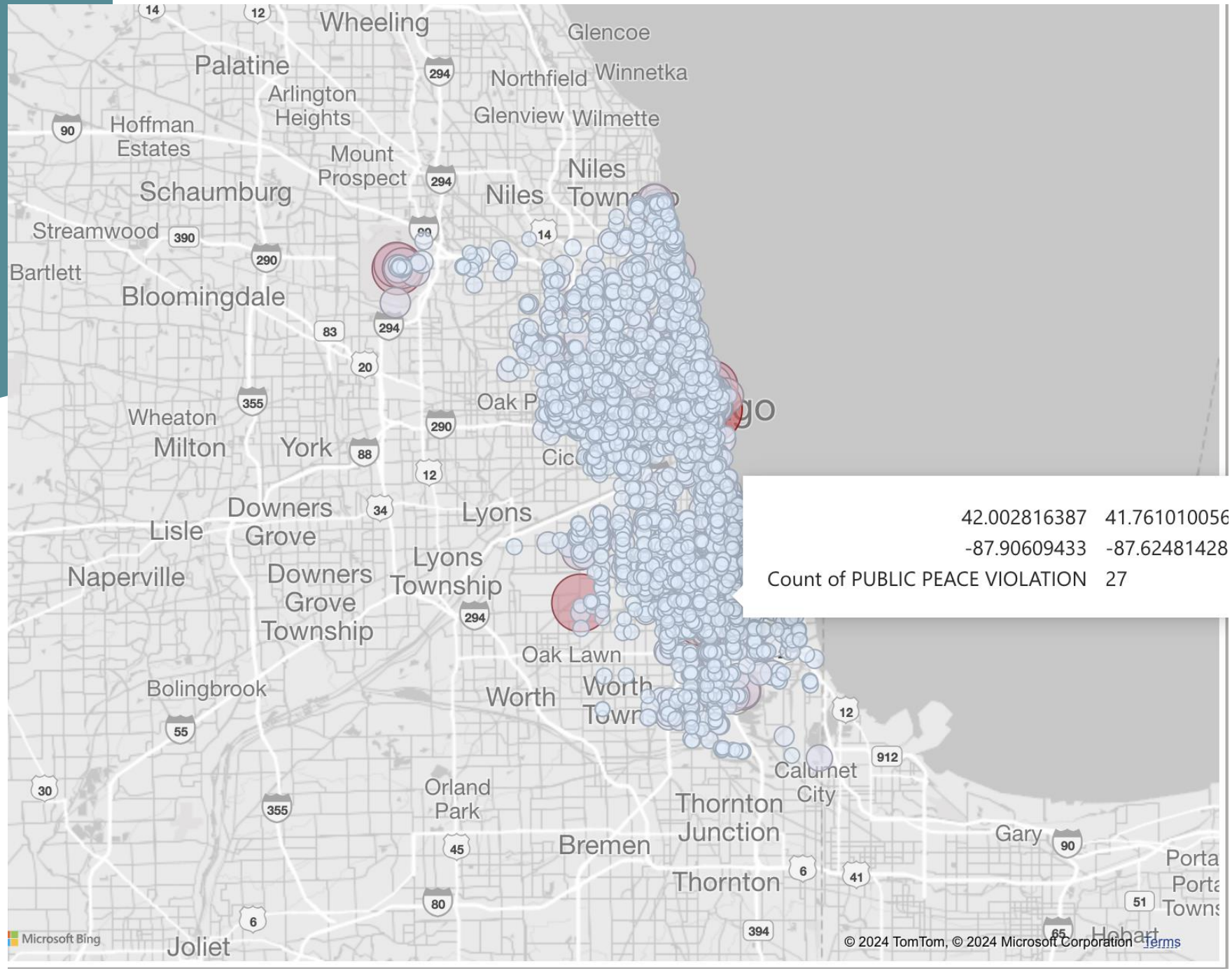
# Geo-Spatial Analysis

## Heatmap



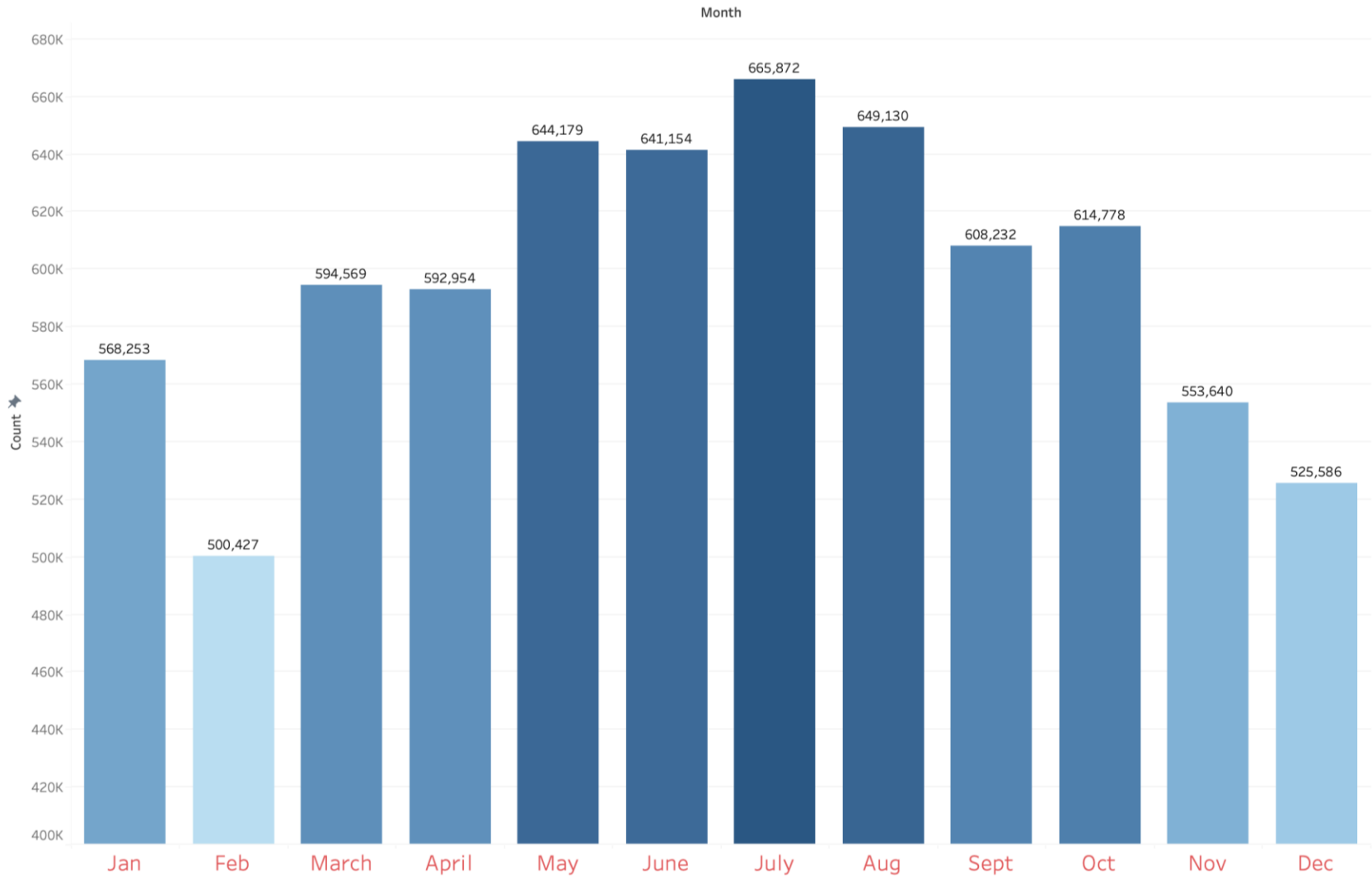
# Geo-Spatial Analysis

## Bubbles



# Temporal Analysis Crime Count by Month

This
Chart compares
the reported
crimes
each month,
providing insights
into the
unresolved
issues across
Chicago.

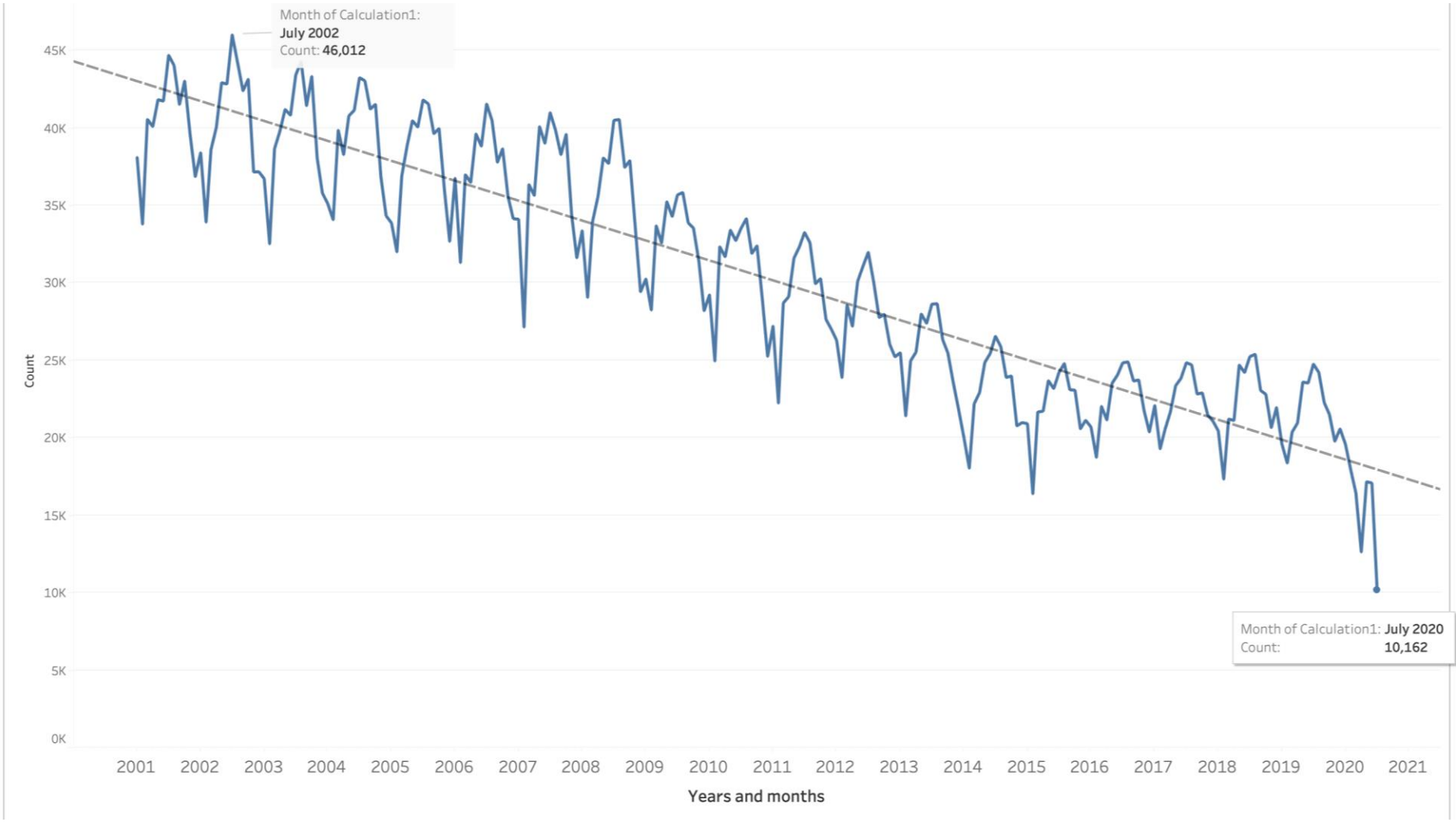


# Temporal Analysis Crime Count by Year

This slide presents a temporal analysis of crime in Chicago from 2001 to 2020.

A peak in crime incidents is observed in July 2002, with a count of 46,012 reported cases.

Despite fluctuations, there is an overall trend of declining crime rates over the observed period.



# Implementation Flow Chart

**Download** the Chicago PD Dataset from Kaggle.com

Step One

**Upload** the Dataset using HDFS

Step Two

**Sort** the Data and **Create Tables** in Beeline/Hive

Step Three

**Use Tools** to do **Data Analysis** and find **Meaning**

Step Four

# Thank you

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