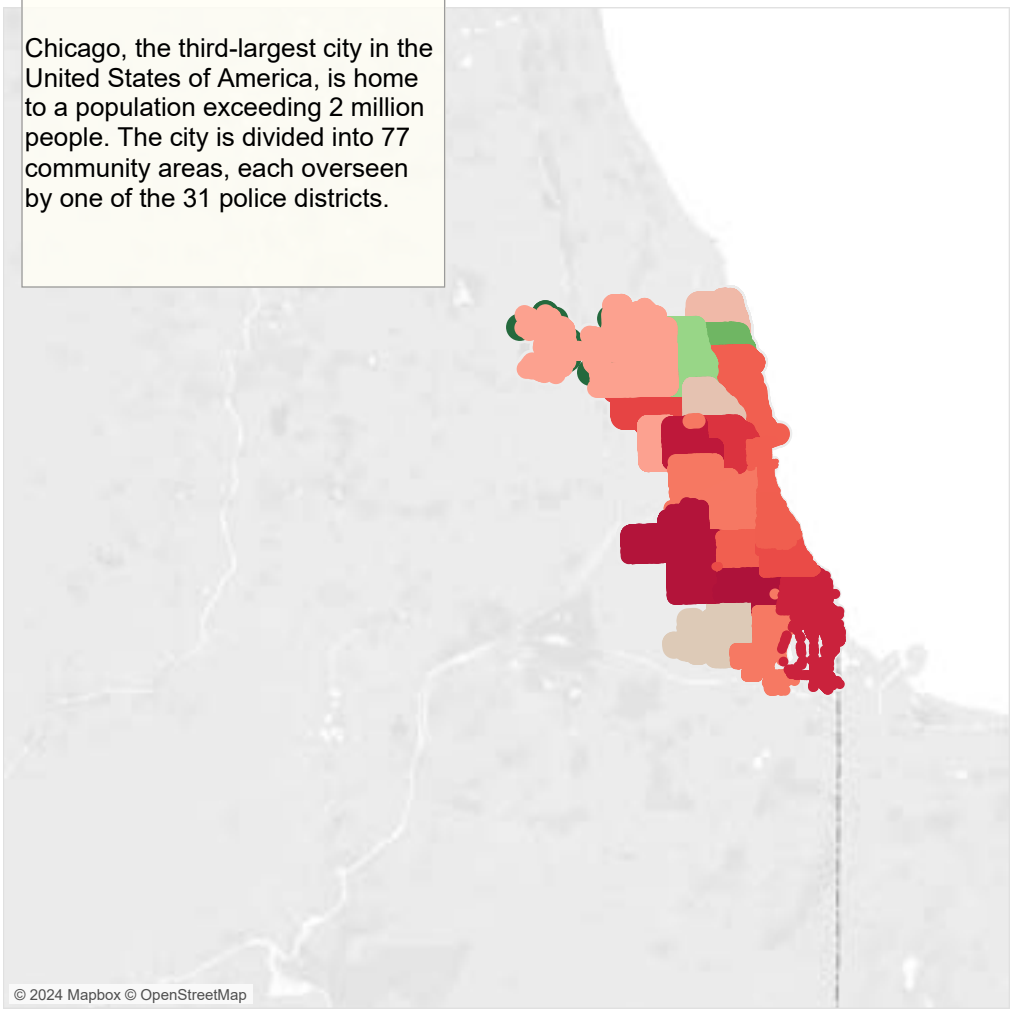
Story

Chicago, the third-largest city in the United States of America, is home to a population exceeding 2 million people. The city is divided into 77 community areas, each overseen by one of the 31 police districts.



Date
2020-01-01 12:00:00 a.m. to 2023-11-2..

District
All

Crimes Reported
45 — 55,694

872,871
Total Crimes Reported

37,946
Crimes Reported By Police District

112,923
Arrests Made

178,661
Domestic Crimes Reported

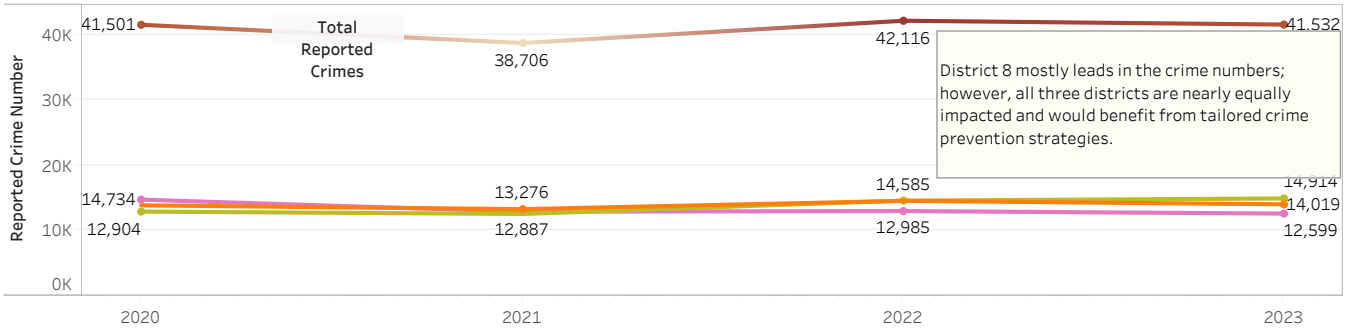
Over the past century, Chicago has experienced continuous increases in criminal activity. In this contemporary era, characterized by the rise of sophisticated analysis and visualization tools, Chicago Analytica is dedicated to pinpointing districts with elevated crime prevalence, particularly focusing on the last 4 years (2020 to 2023). This effort aims to assist the police in targeted interventions, supporting the Chicago Police Department in strategic planning, preparation, and the sustainable management of urban crimes.

Story

Introduction	Top 3 Districts with the most crimes reported	Top 20% Crime Types	Top 3 Most Reported Crime Types within the worst districts over time.	Crime Rate & Arrest Ratio Forecasting	Seasonal Crime & Arrest	Conclusion and Recommendations

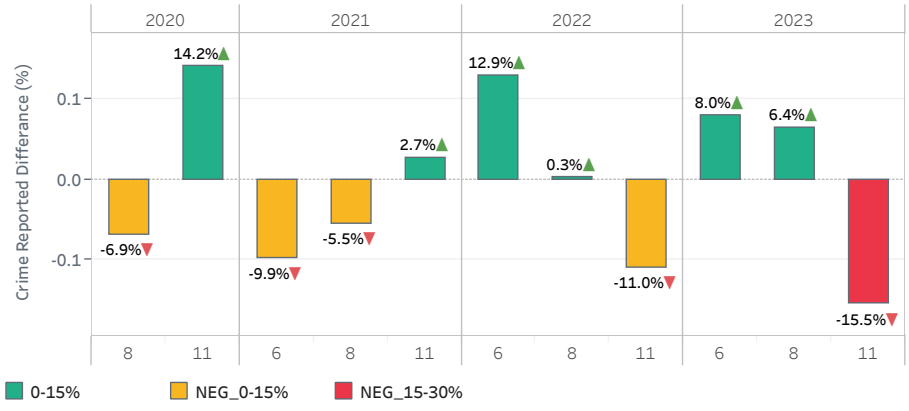
Year of Date
All

Number of Crimes in Top Three Districts Over Time

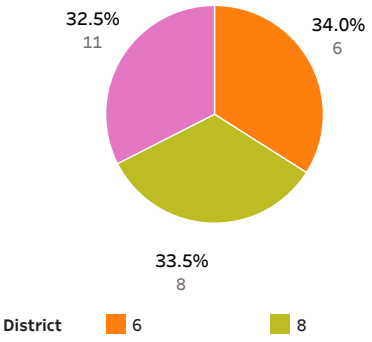


The data presented in these visualizations suggests a dynamic pattern of crime rates over the years 2020 to 2023 across Top 3 districts.

Comparative Analysis of Crime Rate in top Three districts



Crime Rate in Top 3 Districts



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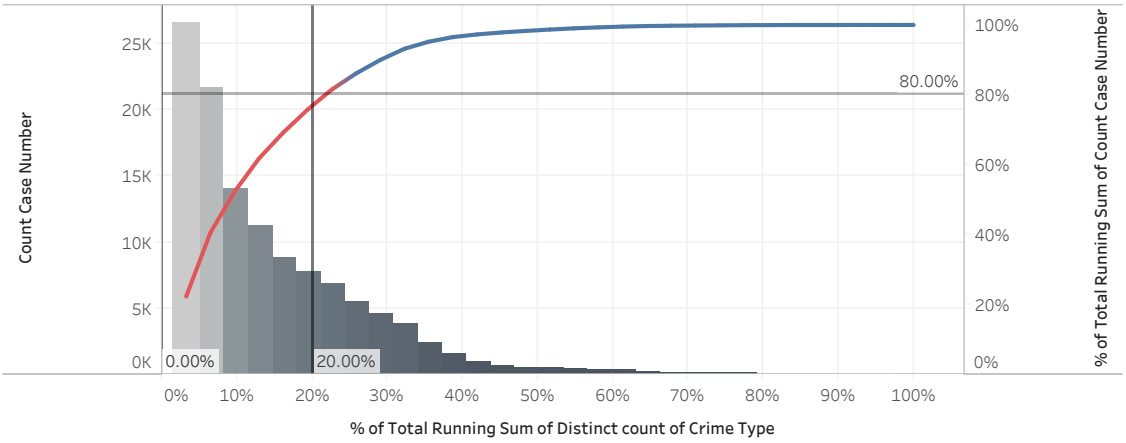
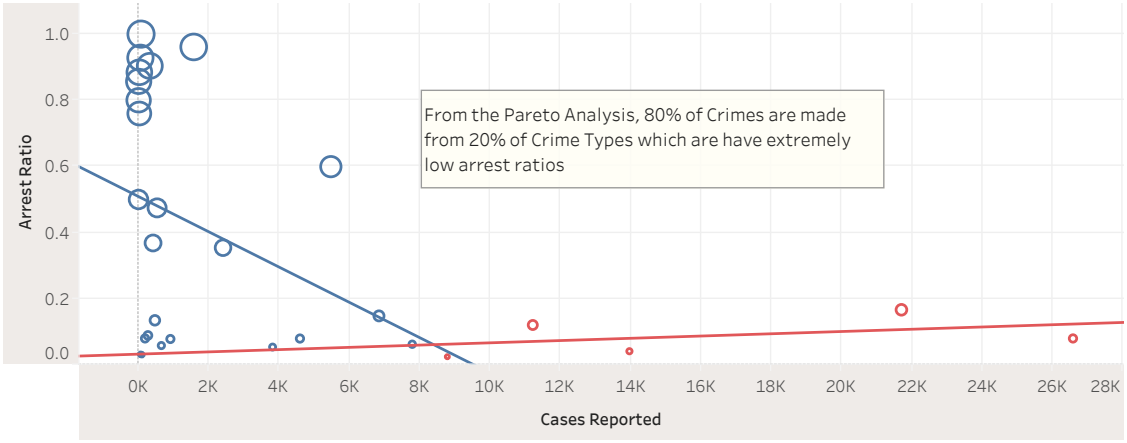
80-20 Crime Type



Count Case Number
2 to 26,575
and Null values

Arrest Ratio



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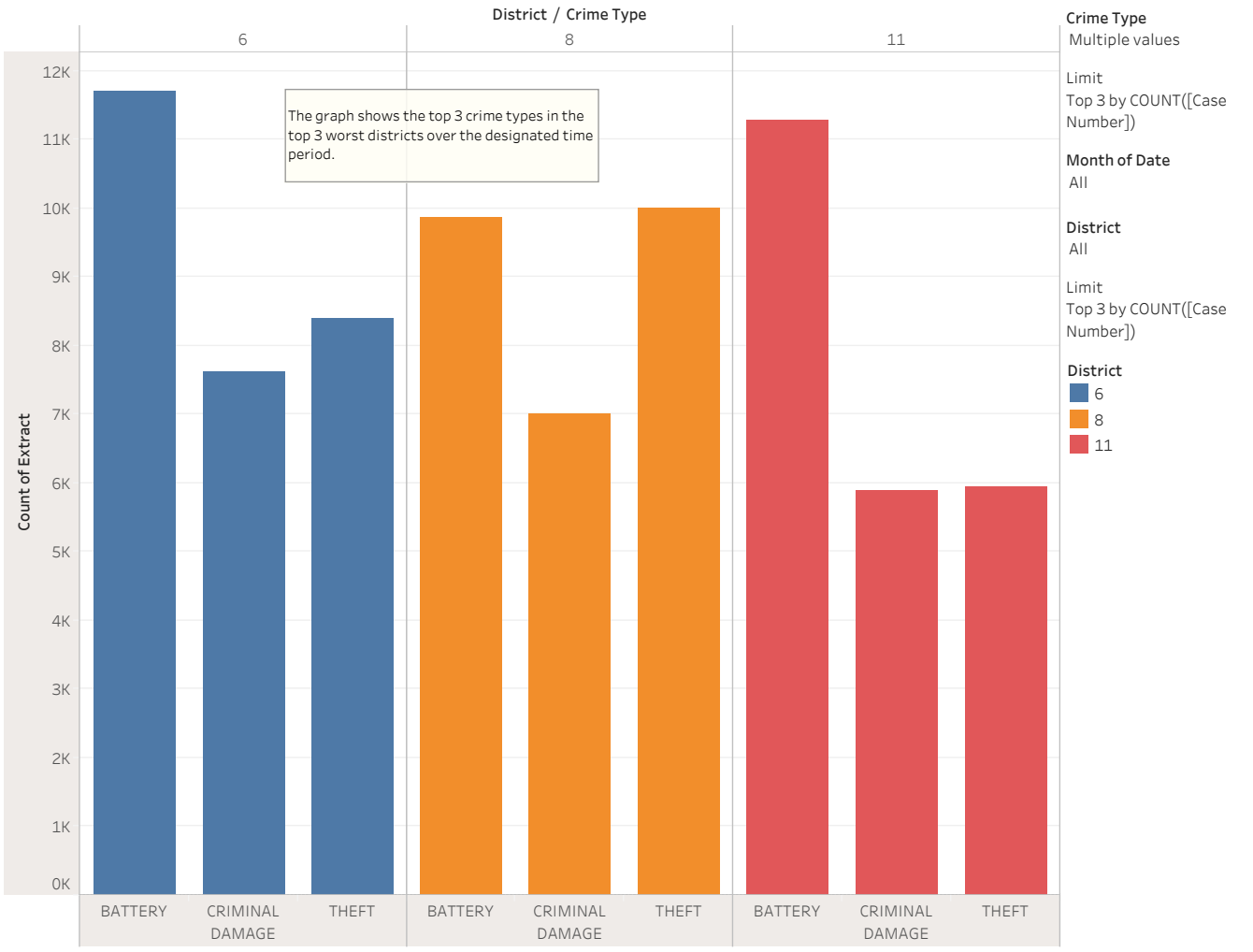

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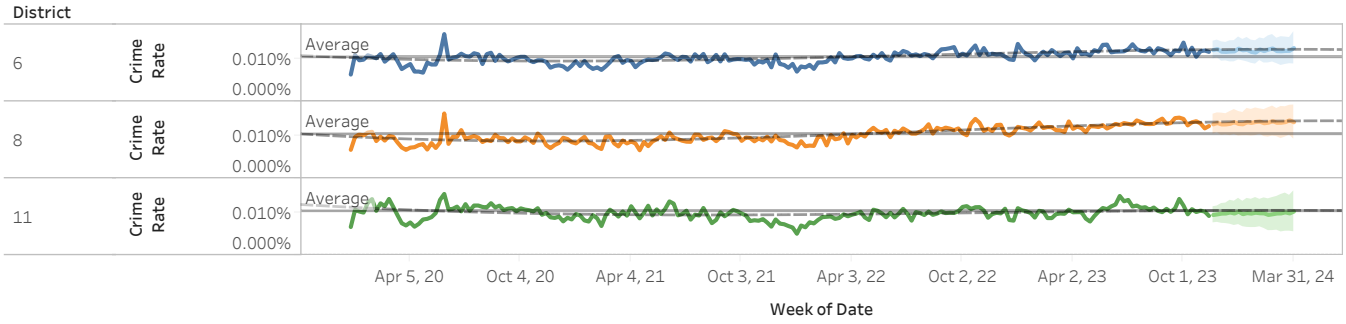
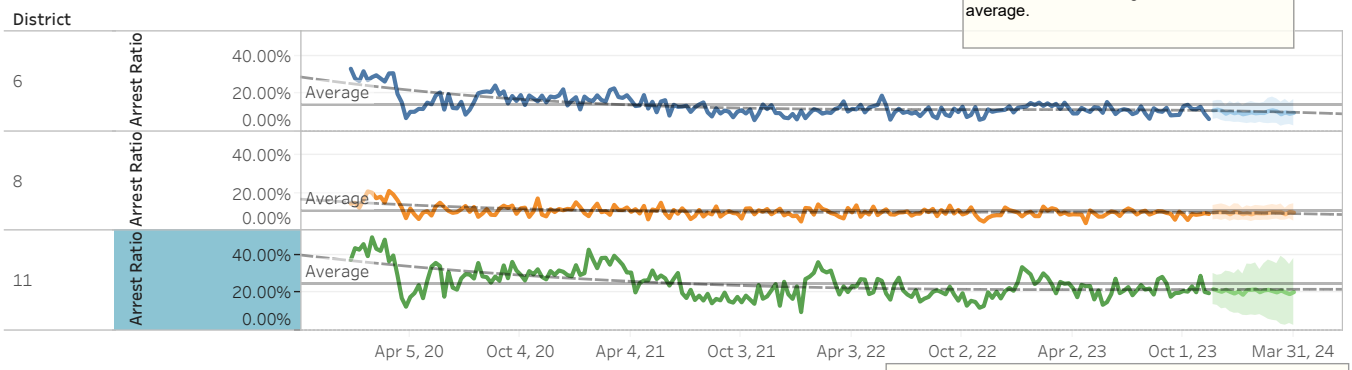
Crime rate and arrest ratio dataset analyzed from Jan 2020 to Nov 2023 in top three districts: 6, 8, and 11.

Crime rate forecasting and trends



Arrest ratio forecasting and trends

-Districts 6 & 8 expected to maintain higher crime rates than average; District 11 around average.



District, Forecast indicator

6, Actual | 6, Estimate | 8, Actual | 8, Estimate | 11, Actual | 11,

-Arrest ratio analysis alongside crime rate data for Districts 6, 8, and 11.
-District 11 consistently shows higher arrest ratio than Districts 6 & 8.
-District 11 to maintain approx. 20% arrest ratio, significantly higher than anticipated 10% for Districts 6 & 8.

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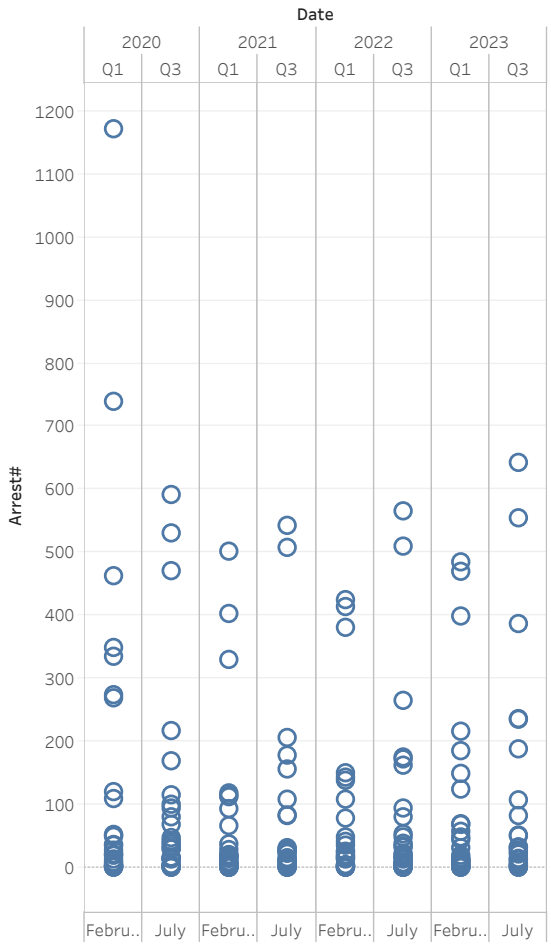
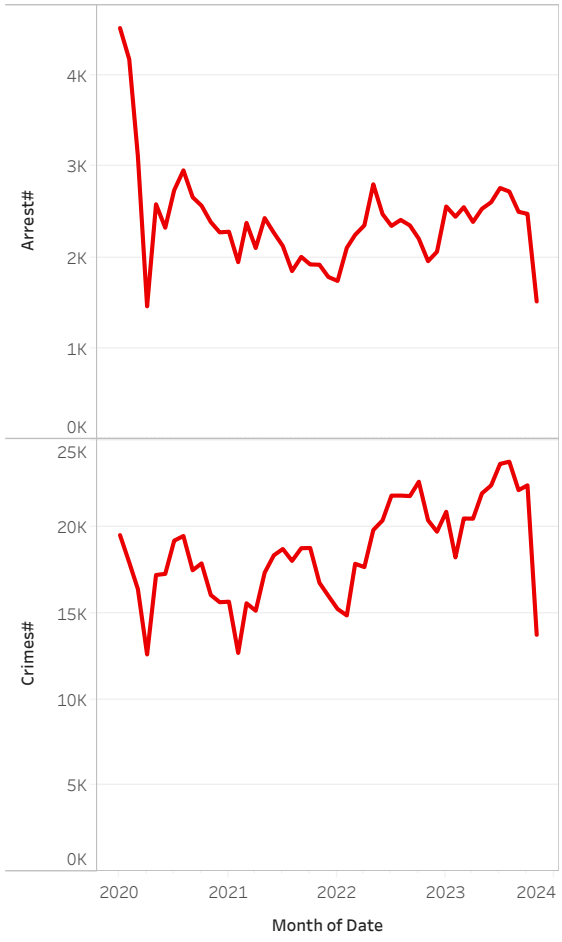
Arrests By Season



Crimes Reported and Arrest by year



Quarter of Date
All

Crime Type
All

Month of Date
Multiple values

Year of Date
All

Month of Date
To Null

Year of Date
All

Month of Date
January to December

This data shows the count of crimes and the number of people arrested by the police during the first and third quarters of each year. The information shows that during the winter (first quarter) of each year, the crime rate is low compared to the third quarter of each year in the summer.

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Conclusion

Based on the analysis of data from 2020 to 2023, employing rigorous statistical methods, it is evident that Districts 6, 8, and 11 exhibit the highest crime rates. Notably, these districts display disproportionately low arrest rates.

This phenomenon can be attributed to the fact that prevalent crimes such as "Theft," "Battery," "Criminal Damage," "Assault," and "Motor Vehicle Theft" are predominantly reported post-incident. Without concrete evidence, law enforcement authorities refrain from making arrests pending thorough investigations.

Projections derived from forecast charts indicate that Districts 6 and 8 are anticipated to sustain crime rates exceeding the average, while District 11 is expected to maintain a more stable trend. Notably, only District 6 is projected to witness a decline in arrest rates.

In light of these findings, we recommend a strategic focus on Districts 6, 8, and 11 by the Chicago Police Force. District 8, in particular, demands heightened attention due to its projected high crime and arrest rates.

For future enhancements, it is advisable to conduct a detailed analysis of the specific locations where incidents occur. This approach will enable law enforcement to better allocate resources and strategically position personnel for improved crime prevention and control.