### Chicago Crime Analysis

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#### Contents

The following analysis was requested by the office of the Mayor of Chicago in order to better understand when criminal events occurred across the city. The request was received by the City of Chicago's Advanced Analysis Division (A2D). The stated purpose of this project was to understand when and what types of criminal activities occurred. Furthermore the analysis was to assist the Mayor in explaining to the public how the determination of the

The data for this analysis was acquired from the Chicago Data Portal<sup>1</sup>. The dataset contains incidents of crime (with the exception of murders where data exists for each victim) that occurred in the City of Chicago from 2001 to present, with the exception of events in the last seven days. The dataset contains 7,672,798 events specifically from, 2001-01-01 to 2022-11-08. If any questions arise concerning the data, please direct them to the Data Fulfillment and Analysis Division (DFA) of the Chicago Police Department.

The Analysis Team began the investigation into crime across the city by first gaining a better understanding of what types of crime typically happened across the city. As seen in Figure 2 the top five offenses seen across the city include: Theft, Battery, Criminal Damage, Narcotics, and Assault.

In addition to understanding what crimes occurred it is also useful to understand where crimes are happening across the City of Chicago. In Figure 3 we can easily observed that the top five locations where crime is committed is: Street, Residence, Apartment, Sidewalk, and Other locations.

We understand what crimes are of the highest likelihood and where these crimes are physically taking place. Now we need to better understand when these crimes are generally occurring. We will start by looking at a all the crimes reported across the entire City across the entire dataset of 7,672,798 events. In Figure 1 we can see that generally speaking crime in Chicago has decreased since 2003, with a few exceptions observed, with the biggest exception being observed in 2020. Which is likely attributed to events related to COVID19.

## 'geom\_smooth()' using method = 'gam' and formula 'y ~ s(x, bs = "cs")'

https://data.cityofchicago.org/Public-Safety/Crimes-2001-to-Present/ijzp-q8t2

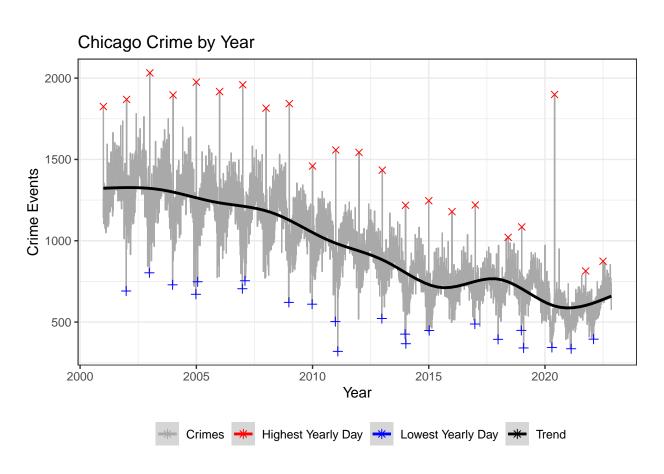


Figure 1: Chicago Crime

### 0.0.1 Appendix

# Type of Crime Committed in Chicago Total number of crimes: 7,672,798

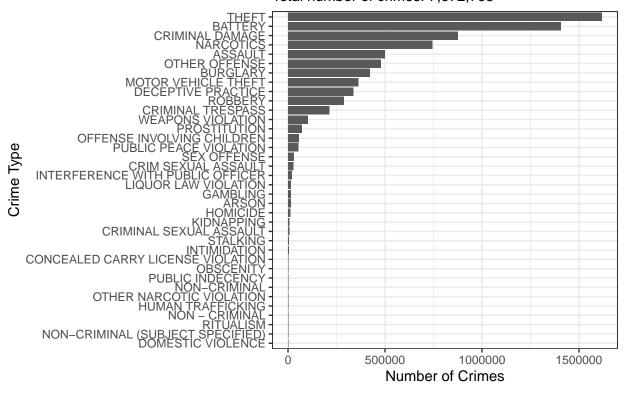


Figure 2: Types of Crime

## Where Crimes occured in Chicago (Top 20) Total number of crimes: 7,672,798

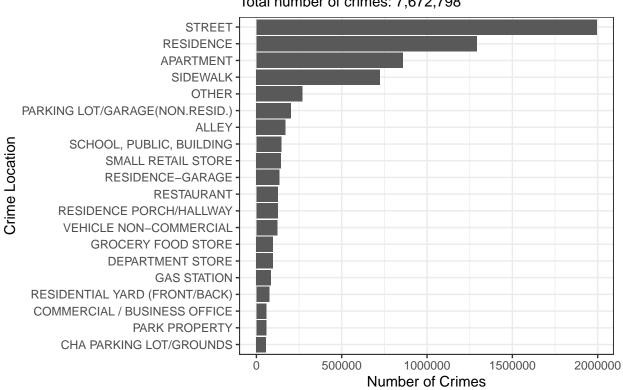


Figure 3: Where Crimes occured in Chicago