City of Chicago Crime Analysis

have chosen a data set provided by the city of Chicago that details its crime statistics in a CSV spreadsheet. With an overwhelming amount of data and limited computing capabilities that would otherwise significantly affect the time to compute, I have limited the analysis of the Data between the dates of 2023-10-01 00:00:00 - 2023-10-2 23:59:00. Although this may seem like a narrow time frame it give a good view of 2 da y working time of what type of crime trends in the City of Chicago.

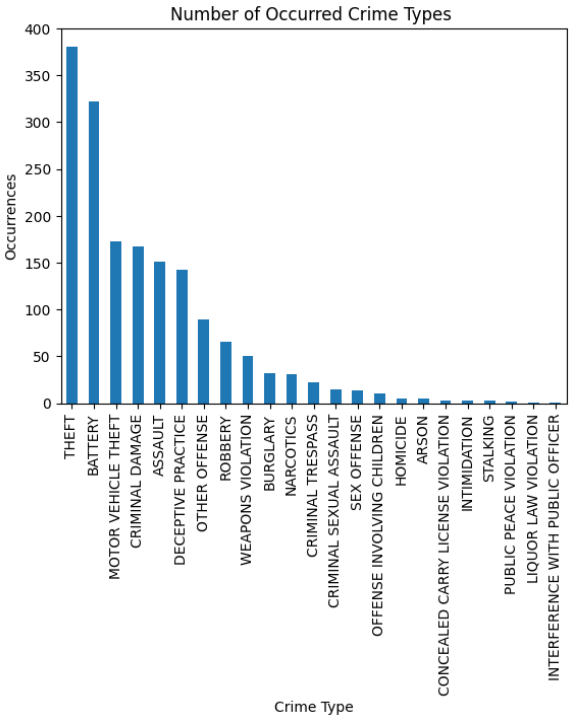

Figure 1

The first breakdown of Crime trends in the City of Chicago will begin with a review of its Occurred Crime Types—figure 1 displays all the crime types sorted by the most occurring crime type in the city. Understanding which type of crimes occur the most helps to understand the city's biggest problems. Theft and Battery far outpace any crime in the city and should be an objective to combat. Figure 2 displays theft per hour in the city. This graph helps establish where resources can be allocated to stem the rise of crime. The consistent rate of crime begins to rise around 9 am when people are out and about and falls drastically before 23:00

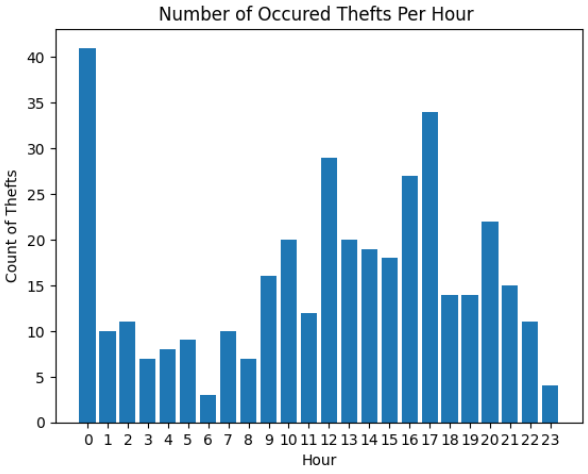

Figure 2

Although the data in Figure 2 is useful, there is an issue of 00:00 hours, with most thefts occurring within that time frame. The conclusion is that 00:00 is the default time set by the city's RMS. Studying the rise and fall of thefts through the day based on the chart would suggest that theft would continue to fall into the 00:00 hours, but instead, they drastically rise. This 00:00-hour count of thefts goes against the city's trend of thefts per hour.

Figure 3 shows an overall trend of Crime per hour throughout the city. While Figure 2 displays only theft per hour, Figure 3 shows all Crime throughout the city per hour. When un-filtering only for thefts, overall, Crime in the city follows the same pattern. This continues the trend of Crime following the movement of people, and Crime rises as people begin their days by traveling, shopping, working, and so much more. The same outliers are visible in Figure 2. According to Figure 3, overall Crime begins to rise around 09:00 hours and decreases around 23:00 hours. Visualizing the data would justify the need for extra personnel to handle the extra Crime during the day.

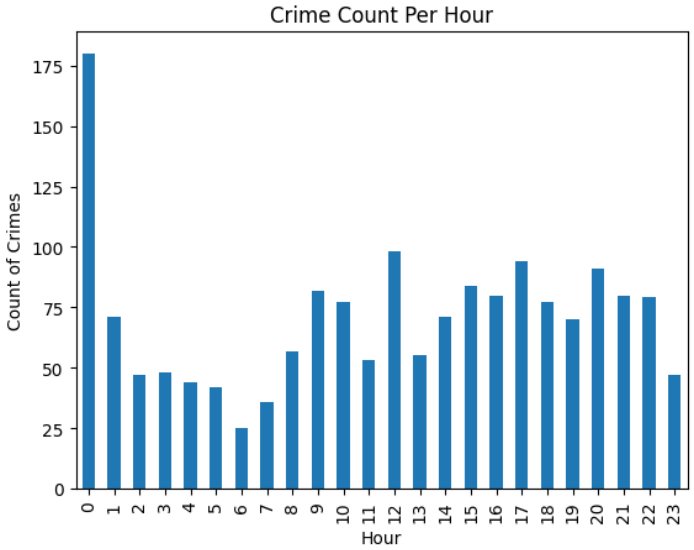

Figure 3

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Figure 4

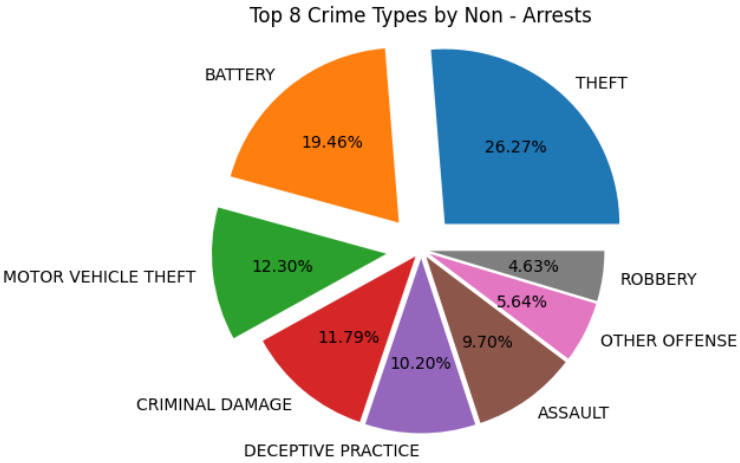
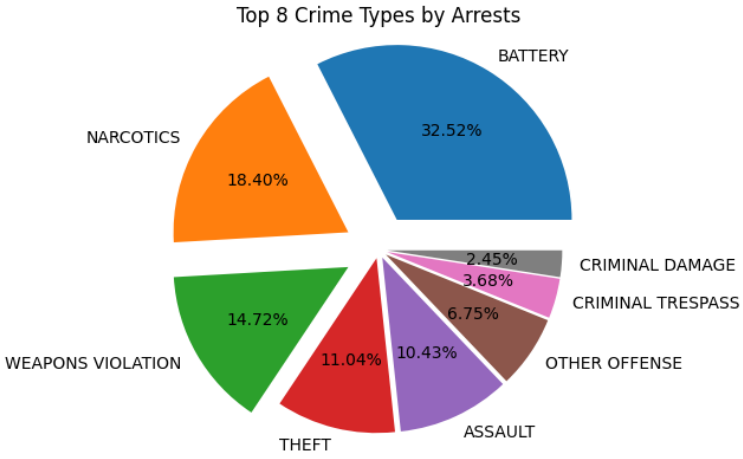


Figure 5



The final analysis of this data will involve a review of arrest statistics by crime type. Reviewing Figure 4 detracts from the trend of thefts being the city's most significant issue rather than Battery offenses being the most prominent issue. Comparing the arrest data of Figures 4 and 5 suggests that it is more challenging to arrest for a theft versus a battery offense. Looking at Arrest statistics alone suggests that battery offenses are the issue, but combining the crime types, arrests, and time creates a bigger picture that overall, Thefts are an enormous problem for the city, but they will be difficult to stem.

While this data set contained a vast amount of data, details of the data were still somewhat limited to the set itself. To further explore Crime in Chicago, data such as population, demographics, and socioeconomic status of the city's wards would create a clearer picture. Including these additional data sets helps better understand what causes these high crime rates and how to address and combat these issues, such as utilizing community policing.