

Crime in Los Angeles

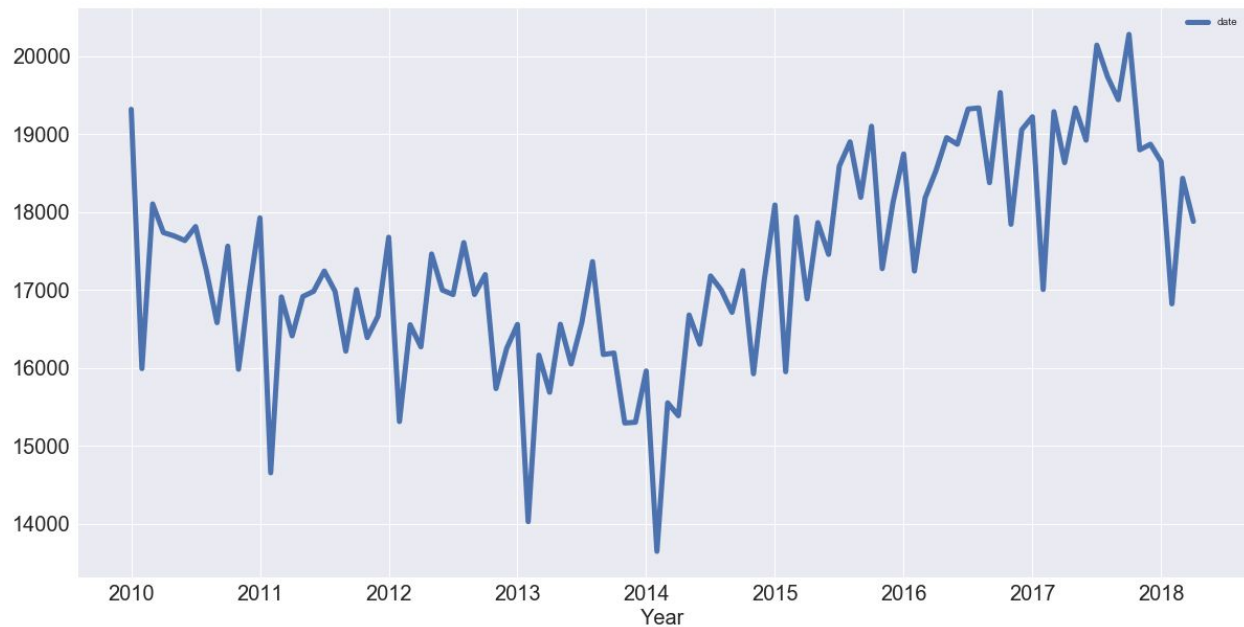
By Jai Bharat Davé

As someone who was born and raised in Southern California, I am deeply interested in helping alleviate the issues we see in our communities. My goal for this project is to develop my data science abilities, conduct a research project from beginning to end, and display my passion for public service.

I obtained the data from the LA city's website. The dataset reflects incidents of crime in the City of Los Angeles dating back from 2010. The data is transcribed from original crime reports that are typed on data, therefore there may be some errors. The provider of the dataset is the Los Angeles Police Department (LAPD) and is refreshed weekly. The dataset contains 1.74 million rows where each row is a crime incident. It contains the date reported, the date occurred, location information, crime description, and victim information. The data is available via API.

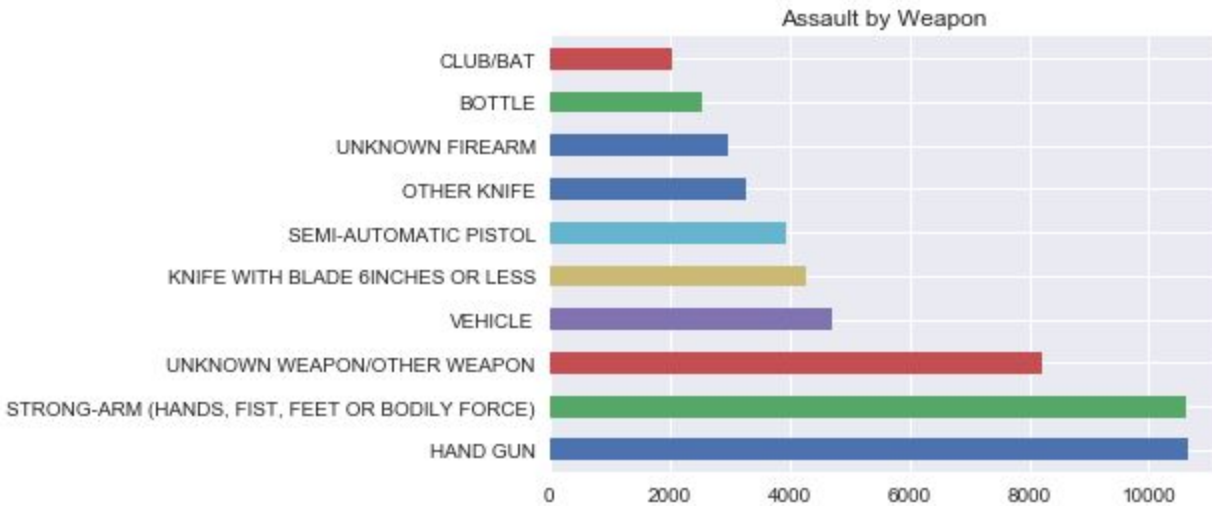
Analyzing the data will be useful to learn more about crime in Los Angeles. Examining the data could lead to finding trends, patterns, and possible ways to lower crime. Police officers could use this data to be more efficient with their patrols, Captains can use it to create procedures to make departments more effective, and policy makers could use it to create legislation that will help alleviate crime.

I investigated where and when crimes are occurring and which populations are more susceptible to being victims of crime. Since the dataset has crime data dating back to 2010 the first thing I looked at was how the crime rate has changed over time.



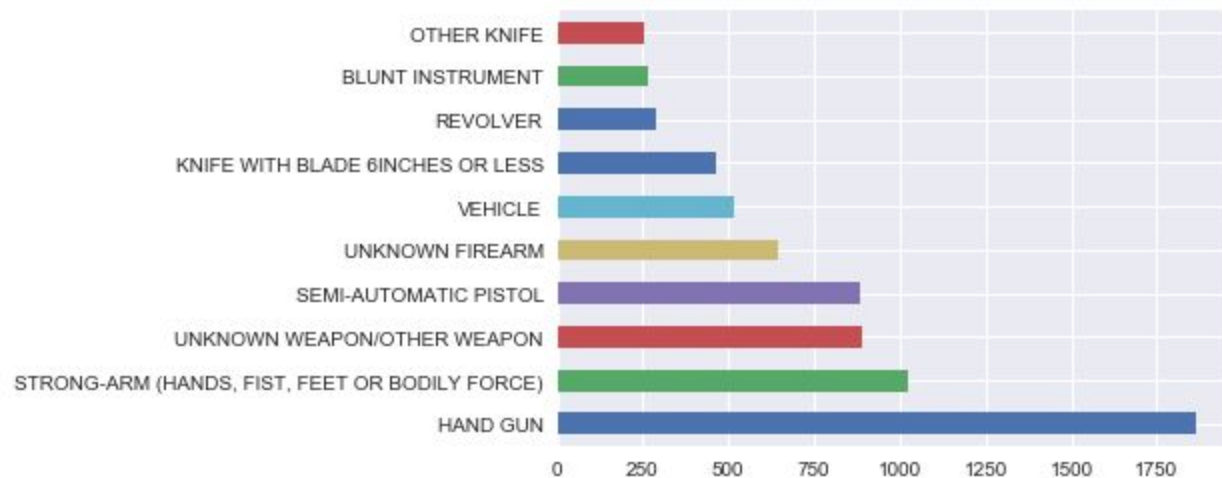
Crime rate appeared to reach it's low in 2014 and has risen steadily since then.

After getting a sense for the data, I began looking at the basic information, such as what are the most common crimes that occurring in Los Angeles. The ten most frequent crimes in LA are: Battery - Simple Assault, Burglary from Vehicle, Vehicle Stolen, Burglary, Theft Plain, Theft of Identity, Intimate Partner - Simple Assault, Vandalism - Felony, Vandalism - Misdemeanor, and Assault with a Deadly Weapon. I then decided to examine assault with a deadly weapon more closely to see what weapons are most commonly being used.



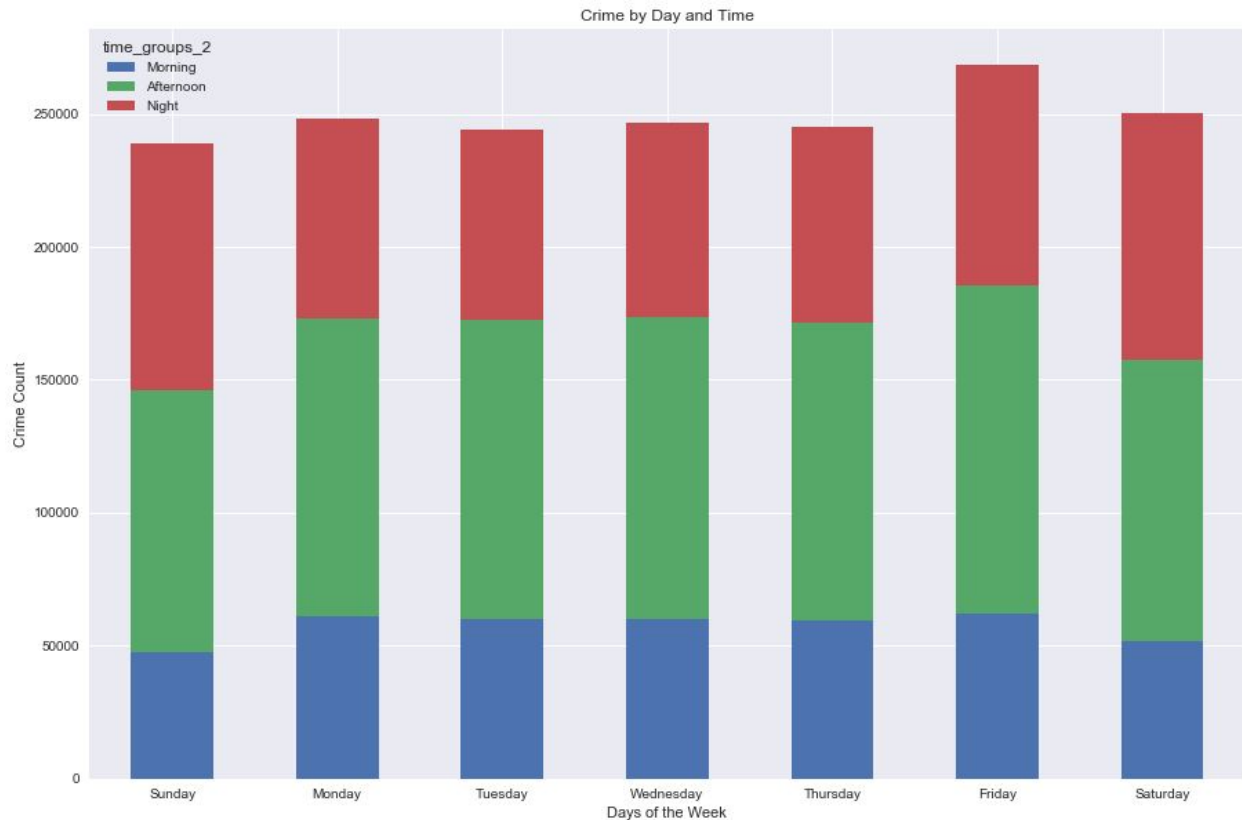
The data shows that handguns are the most commonly used weapon for assaults. Los Angeles has an anonymous gun buyback program. Perhaps by creating similar programs or increasing awareness of the program would reduce the number of assaults with the use of a gun. Making it more difficult to acquire a gun may also help to lower crime.

After examining what kinds of crimes were occurring, I looked at where crimes are occurring. The data shows two areas with significantly more crime than the others. Those two were the 77th street area and the Southwest area. Focusing on the 77th street area, an area in the Southern part of LA, I conducted a proportion test using the stats models. The result was statistically significant. I then determined what crimes were more common in this area and it seemed that assaults were more common than in the general data. I conducted a similar proportion test and determined that it is likely that the proportion of crimes that are assaults in the 77th street area is greater than that of total dataset. Below are the most common weapons used for assaults.



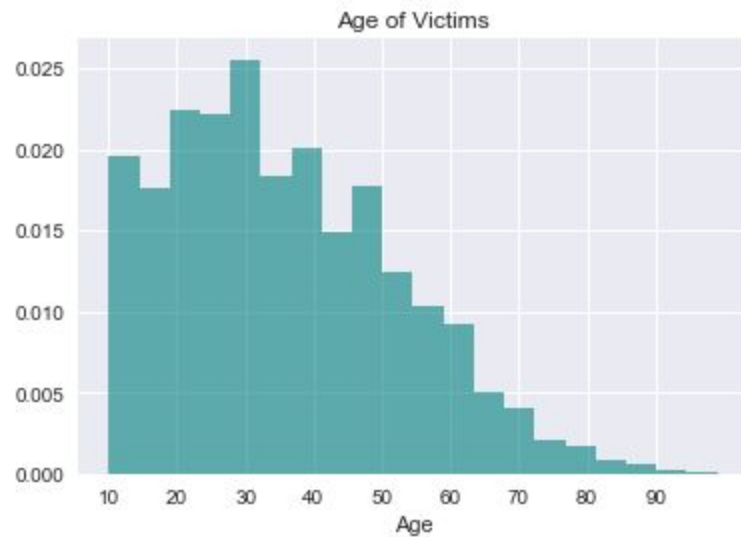
Handguns are by far the most commonly used. From the graph above we can see that the number of assaults with the use of handguns far far surpasses all other types of assaults. Focusing on getting guns off the streets targeted at this area may help lower the number of assaults with the use of a firearm.

After examining what kinds of crimes were occurring, I investigated when crimes were occurring. I put the time column into buckets and created a column indicating the day a crime occurred. I then created a stacked bar chart to show the count of crimes on days and time ranges.



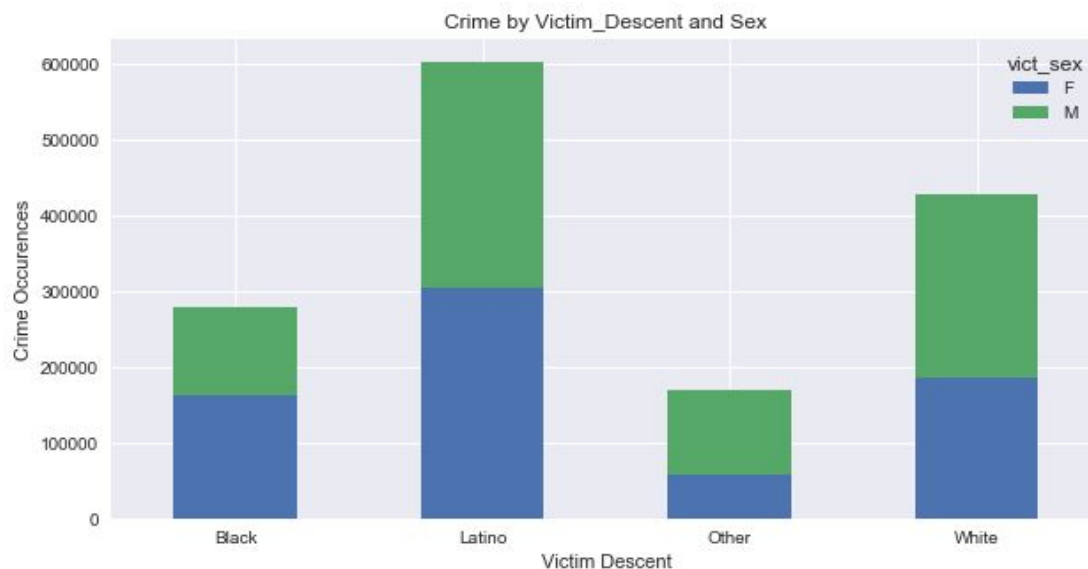
From this graph, it appears that Friday has a higher crime rate than other days. Conducting a proportion test confirms that Friday has a significantly higher crime rate than other days. It appears the difference is in the afternoon. Looking at the most common crimes that occur on Friday afternoons it appears that different kinds of theft are more common. Perhaps this is because individuals have debts that are due at the end of the week and resort to crime out of desperation.

Finally, I studied the data to see what subpopulations were more commonly victimized as a result of crime. To begin I looked at the distribution of victim's age. The average age is 35.98 and the median is 34 which is very close to the median age of Los Angeles as a whole, 34.6.



From this histogram we can see that the portion of the population that are the most victimized are those in their late 20s and early 30s and the risk of victimization appears to drop as individuals get older.

After looking at the distribution of age of victims, I calculated the amount of crimes by victim descent and sex.



Victims are more likely to be hispanic, white, or black. Among black victims females outnumber males. This could possibly be because black victims are less likely to report a crime. This leads me to believe that the number of crimes against the black population is greater than what the data shows. Among white victims it appears that white males are more likely to be victim of crimes than males.

Finally I examined what crimes are most commonly taking place against the homeless population. The mocode 1218 refers to homeless individuals. Three of the five most common crimes experienced by homeless individuals is assault suggesting that a larger proportion of crimes against homeless individuals are assaults.

From my analysis, we can see how the crime rate in Los Angeles has changed over time, when and where crimes are occurring, and who are most commonly victimized by crime. From this we can determine how best to act to alleviate the issues of crime.