Crimes in Boston

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About the dataset

Crimes in Boston is a Kaggle dataset: Link to the data set

This contains records starting from June 14, 2015 until September 3, 2018. Each row in the dataset represents a reported crime giving details on the location, type of crime, date and time of occurrence.

It has 19 columns and over 280k unique crime reports.

The veracity of this dataset is out of question because it is provided by Analyze Boston, which is a government website branch for the City of Boston.

Initial questions for the dataset

1. What are the most common types of crimes in Boston?
2. Where do the crimes occur in Boston?
3. When do the criminal incidents occur the most?

What are the most common types of crimes in Boston?

For answering this question, I decided to have a simple table with the Offense Code Group displayed with its corresponding number of incidents reported.

That visualization returns a lot of results. Therefore to streamline the results, I decided to have a filter to show only offenses with over 5000 incidents reported.

According to that, there are 18 types of crimes that occur most in Boston with Motor Vehicle Accident Response being the most.

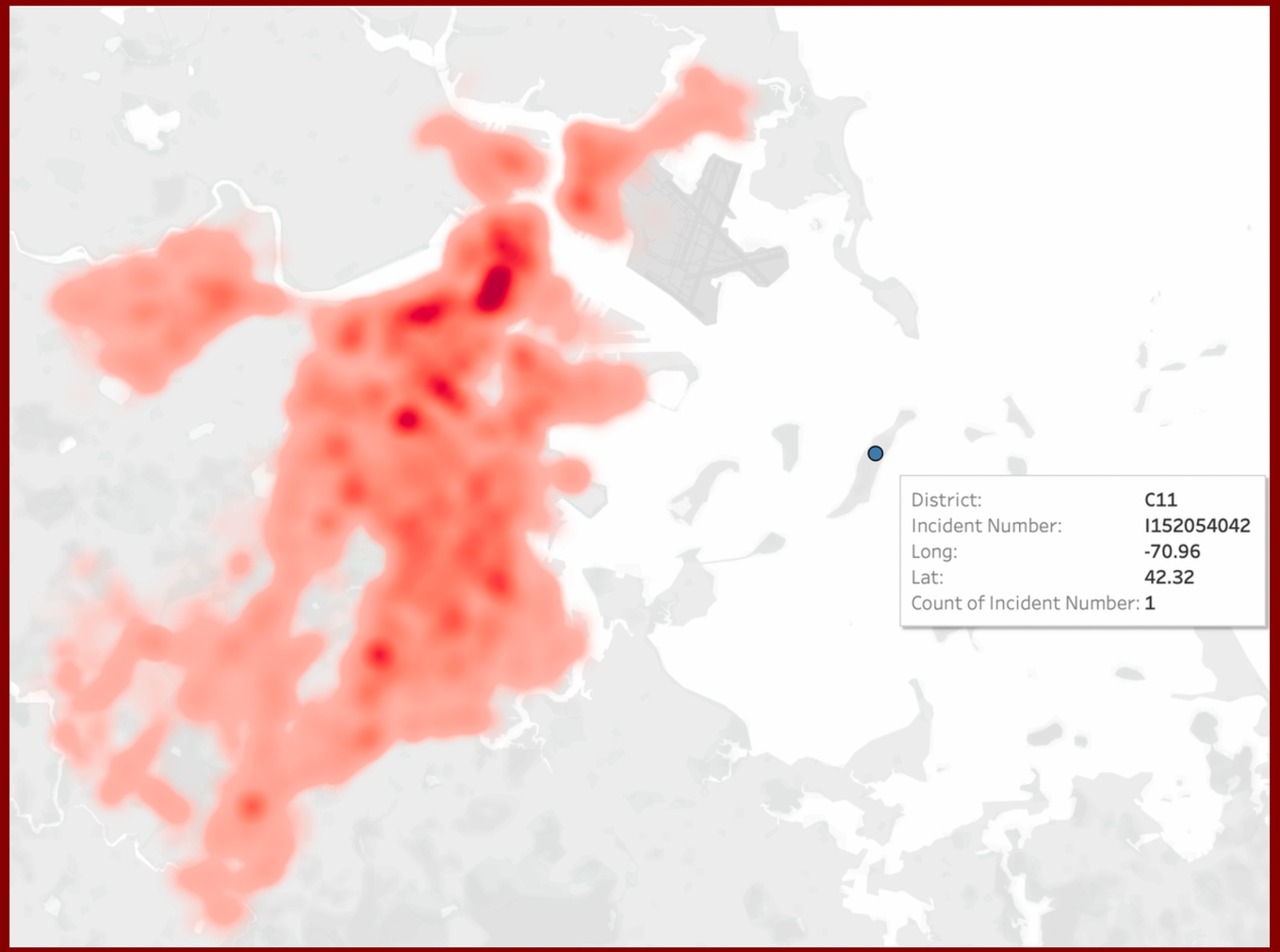
Offense Code Group	
Motor Vehicle Accident Response	37,132
Larceny	25,935
Medical Assistance	23,540
Investigate Person	18,750
Other	18,075
Drug Violation	16,548
Simple Assault	15,826
Vandalism	15,415
Verbal Disputes	13,099
Towed	11,287
Investigate Property	11,124
Larceny From Motor Vehicle	10,847
Property Lost	9,751
Warrant Arrests	8,407
Aggravated Assault	7,807
Violations	6,095
Fraud	5,829
Residential Burglary	5,606

Where do the crimes occur in Boston?

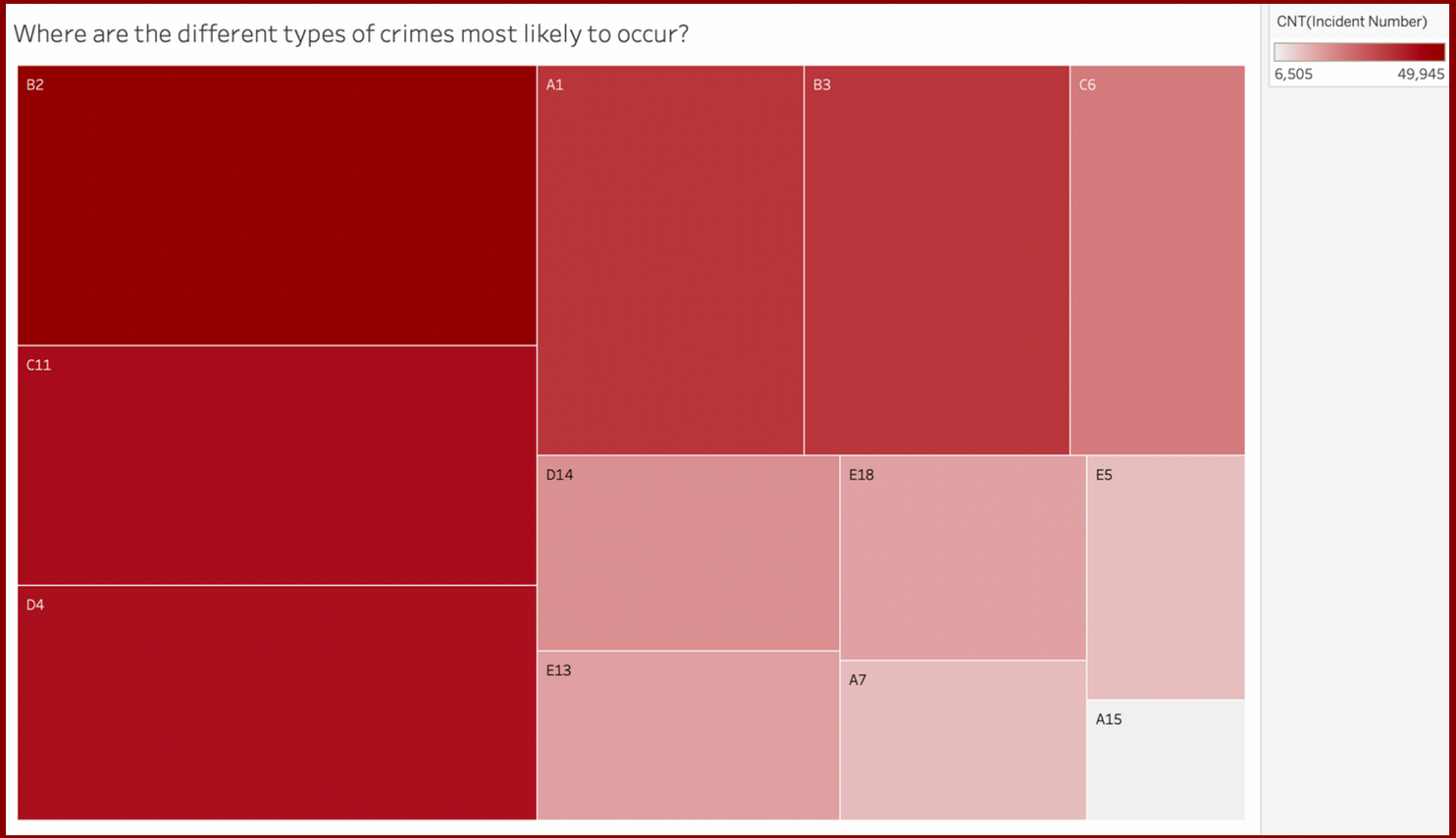
For answering this question, initially, I created this visualization on a geographic map that shows the density of the incidents on the map of Boston.

The inference that we can draw from this map is that there are significantly more criminal incidents concentrated in the main city center as compared to when you start moving away from it.

However, just viewing this visualization did not give me specific information. That is when I decided to explore this in further detail.



Where do the crimes occur in Boston?



When I look at this visualization, I can tell that district B2 is most prone to criminal incidents and district A15 is the least prone.

For answering the question that arose after creating the geographic visualization, I decided to created a tree map for the sake of clarity and making the information directly available with the labels.

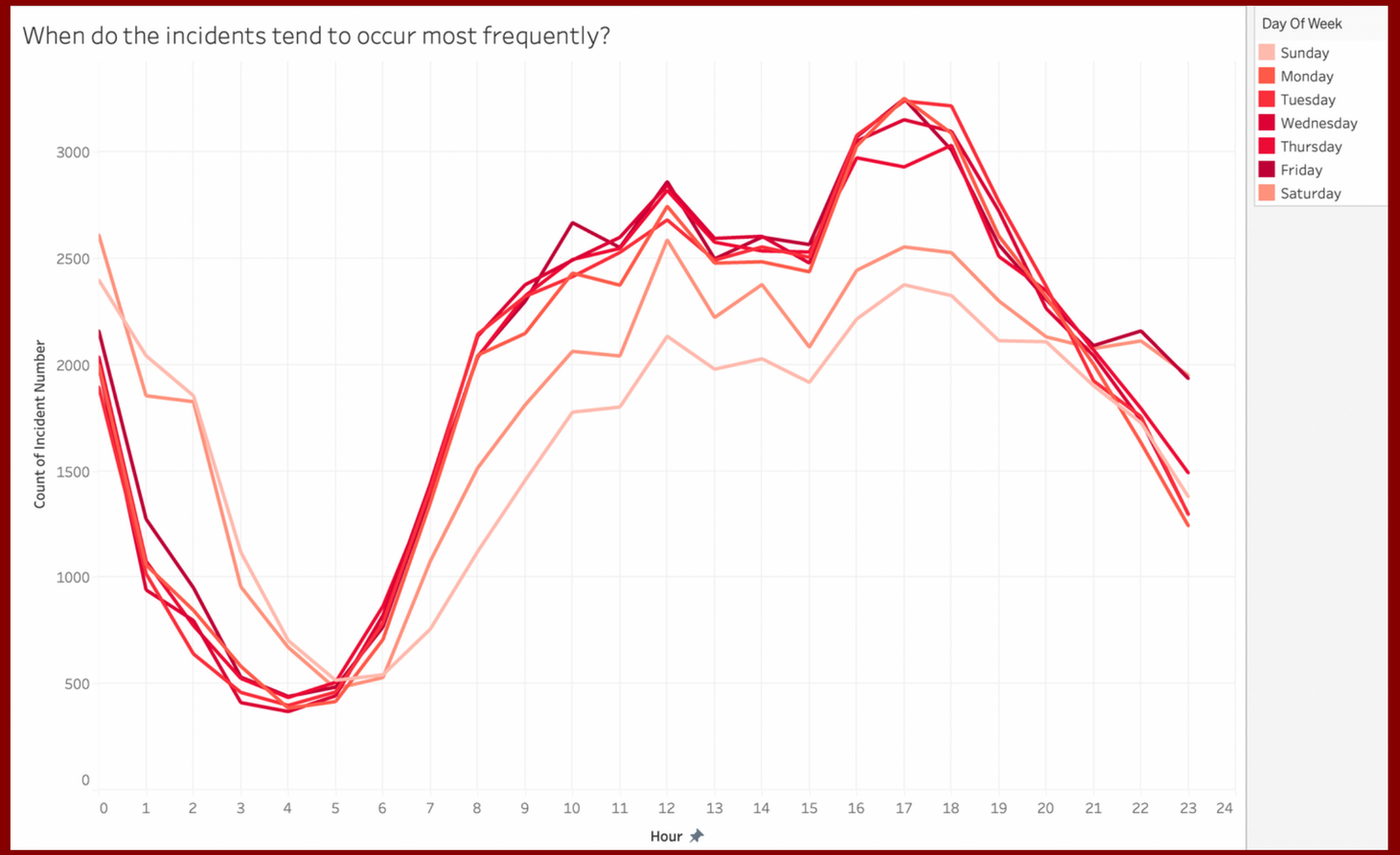
When do the criminal incidents occur the most?

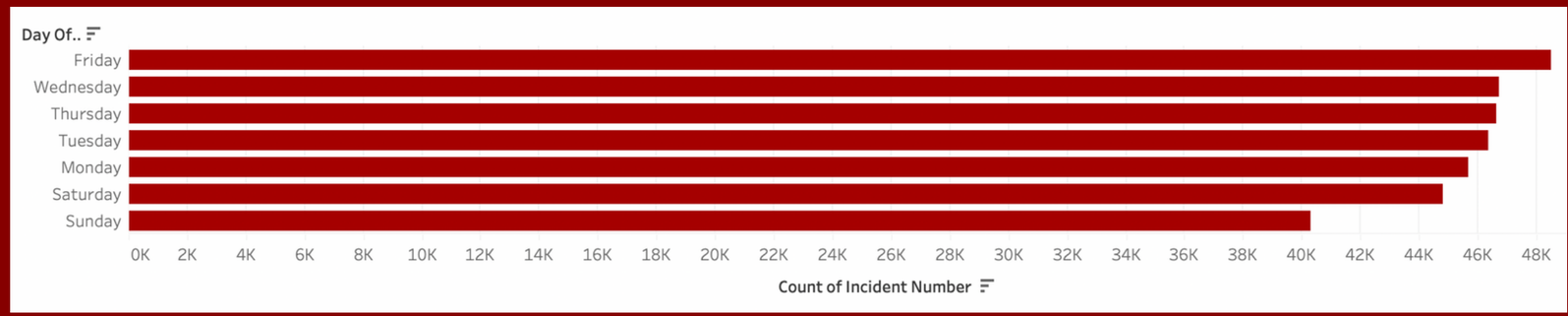
For answering this question, I decided to show the number of incidents that occured during a particular hour of the day, grouped by the day of the week.

As we can se from the first visualization, most of the criminal incidents occured between 3pm and 7pm and significantly lower amount of incidents occur in the wee hours of the day (2am to 7am).

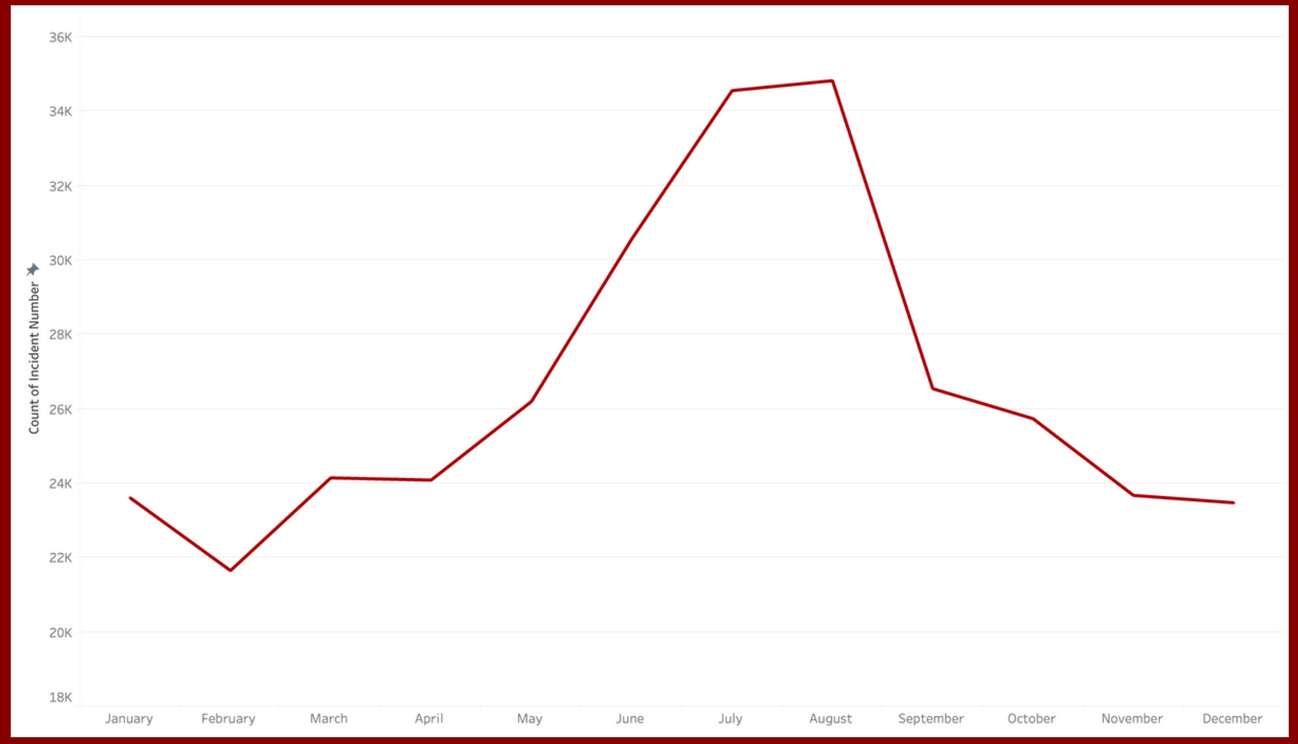
However, trying to group the incidents by day of the week, I found it interesting to note that Saturday and Sunday are the days least number of incidents occur.

Friday turns out to be the day that has the most number of criminal incidents.





When do the criminal incidents occur the most?



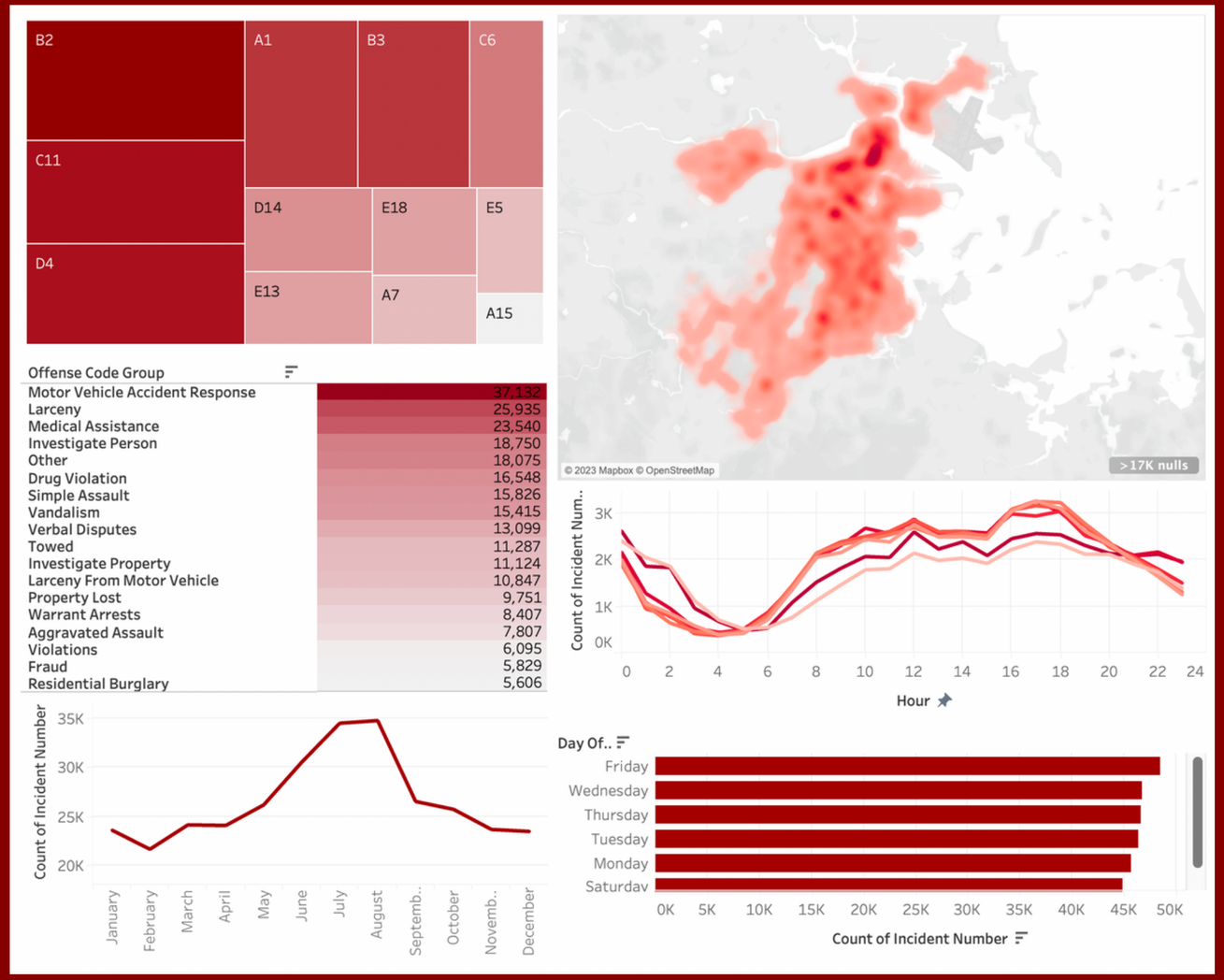
Another detail to note is the distribution of the number of criminal incidents over the months of the year.

Interestingly enough, the summer months of the year (June, July and August) see the highest number of criminal incidents.

This proves my hypothesis of holiday months seeing heightened criminal activity wrong. I foresaw that the colder months would force excess criminal behaviour but I stand corrected.

One piece of modification, I added to this visualization was created a calculated field of the names of the month - they were initially displayed as numbers. For ease of reading the visualization, I changed them to the names of the month.

Key Takeaways and Learnings



Crime rates are higher and more concentrated in the city center of Boston. That makes sense too since the population in the area is much larger and the incentive/opportunity to commit a crime is also higher.

Weekends are the least prone to criminal incidents. My hypothesis here is that people might tend to stay at home more often on the weekends. They step out much more during the week for work, school, etc; which again incentivizes criminal activity of any kind. Also explains the highest occurring criminal activity - motor vehicle accidents.

Months June - August are when the incidents occur the most.

Thank you

My Tableau Workbook can be viewed here
for further clarifications if required:
Drive link