# My Crime Data Analysis Project Report

## My Project Summary

This report is about a project I did to analyze some crime data using a program called Tableau. My main goal was to turn a bunch of numbers and text into cool dashboards that could help the police department and city people understand crime better. I focused on four main parts: looking at the big picture of crime, seeing when crimes happen, checking for trends over time, and comparing different types of crimes. By making these dashboards, I learned how to tell a story with data and make it easy for anyone to understand.

## 1. Overall Crime Dashboard

### My Goal and Why I Did It

For the first part, I just wanted to get a feel for the data. I wanted to answer simple questions like, "How many crimes happened in total?" and "Where are the recent crimes?" I used different charts that are good for showing a quick overview.

### How I Made It

To make this dashboard, I created a few different pages (called worksheets in Tableau):

1. **Total Crime Count:** I made a big, bold number to show the total number of crimes. This was like a quick summary to show how much data I was working with. I just dragged the ID field into the text section and told Tableau to count it.
2. **Types of Crimes Chart:** I used a bar chart to see what kinds of crimes happened the most. I put the Primary Type of crime on one side and the count of all the crimes on the other. I also sorted the chart from biggest to smallest, so I could easily see that theft and battery were the most common.
3. **Map of Recent Crimes:** This was a bit tricky. My data was from a few years ago, so a "last month" filter wouldn't work. Instead, I used a filter for a "Range of Dates" and picked the most recent month in the data, which was December 2021. I put the Latitude and Longitude fields on the map to show every single crime as a dot.

### Putting It All Together

After making the three charts, I put them all onto one dashboard. The cool part is, I made it interactive. I set the crime types bar chart to act as a filter. So if you click on "Theft," the map instantly changes to show you only the theft crimes.

## 2. Time Period Analysis Dashboard

### My Goal and Why I Did It

Next, I wanted to figure out *when* crimes happened. This helps police know when to be more active. I looked at the day of the week and the time of day.

### How I Made It

I created two new pages for this part:

1. **Crimes by Day of the Week:** I made a simple bar chart to show the total count of crimes for each day. I used the Date field and changed it to show just the day of the week, not the full date. It turned out that Saturday had the most crime incidents.
2. **Crimes by Time of Day:** The data didn't have "morning" or "evening" categories, so I had to make a new field for that. I wrote a special formula that looked at the time of each crime and put it into one of four groups: Morning, Afternoon, Evening, or Night. Then, I made a bar chart with these groups and changed it to show percentages. This showed that most crimes happened in the afternoon and evening.

### Putting It All Together

I put these two charts side-by-side on a new dashboard. This made it easy to see the crime patterns for both the day and the time.

## 3. Trend Analysis Dashboard

### My Goal and Why I Did It

The third part was about seeing if crime was going up or down over time. I wanted to look at the big picture, like from year to year, and also compare how each year was different.

### How I Made It

I made two line charts for this:

1. **Overall Crime Trend:** I made a line chart that showed the total number of crimes for each year. I put Year on one side and the count of crimes on the other. The line showed me that crime actually went down from 2017 to 2021.
2. **Year-by-Year Comparison:** To see more detail, I made another line chart. I put the Month on the bottom, and then I added a separate line for each year using a different color. This let me compare the crime trends for 2017, 2018, and all the other years at the same time.

### Putting It All Together

I put both of these charts on a new dashboard. I also added a filter for crime type. That way, you can just click on "Assault" and see what the trend for only that crime looks like over the years.

## 4. Comparing Different Things

### My Goal and Why I Did It

For the last part, I focused on some specific questions. I wanted to see how many crimes resulted in an arrest and also how many were domestic incidents.

### How I Made It

I created two last charts:

1. **Arrest vs. No Arrest:** This was a simple bar chart. I used the Arrest field to see how many crimes had an arrest and how many didn't. The chart showed that way more crimes didn't have an arrest.
2. **Domestic Incidents by Crime Type:** I made a stacked bar chart for this. For each type of crime, the bar was split into two colors to show what percentage was a "domestic" crime (like in a family). I found out that a lot of the assault crimes were domestic.

### Putting It All Together

I made a final dashboard and put all my best charts on it. I included the total crime count, the map, the time trends, and the arrest analysis. This dashboard is the final product and shows everything I learned in one easy-to-read place.

## Conclusion

This project was a great way to learn about data. I was able to take a bunch of raw information and turn it into clear, interactive dashboards. I used different charts to show different things, like a big number for a total count, bars for comparing things, a map for locations, and lines for trends. It was cool to see how data can be used to understand real-world stuff like crime patterns.