WRITE UP: CRIME DATA TABLEAU PROJECT

COL RAKESH PEDRAM: NOV 23 COHORT: SUBMITTED 13 FEB 24

Approach

- Data in the excel format was checked for consistency and outliers and nulls identified.
- The geographic data had more than 1300 nulls which was impossible to rectify in excel.
- The sheet was imported in a pandas data frame and following commands run to fill nearest value from the beat.

```
# Sort the DataFrame by the 'beat' column in ascending order
df = df.sort_values(by='Beat')
df.columns

# Fill null values in the columns
df['Latitude'].fillna(method='ffill', inplace=True)
df['Longitude'].fillna(method='ffill', inplace=True)
df['X Coordinate'].fillna(method='ffill', inplace=True)
df['Y Coordinate'].fillna(method='ffill', inplace=True)
df['Location'].fillna(method='ffill', inplace=True)
```

- The cleaned data was imported in Tableu
- It was checked that the LAT LONG field were recognized as geographic by the globe icon.

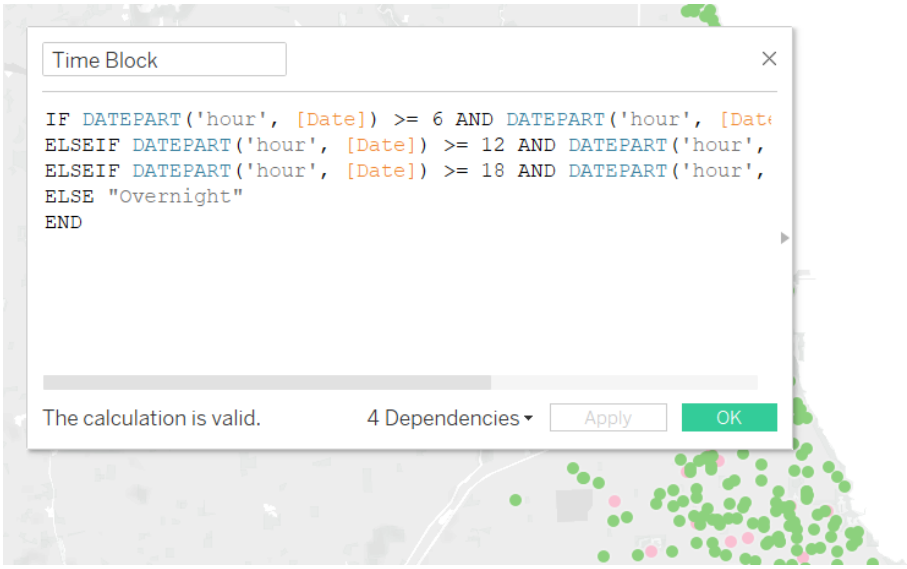
Process

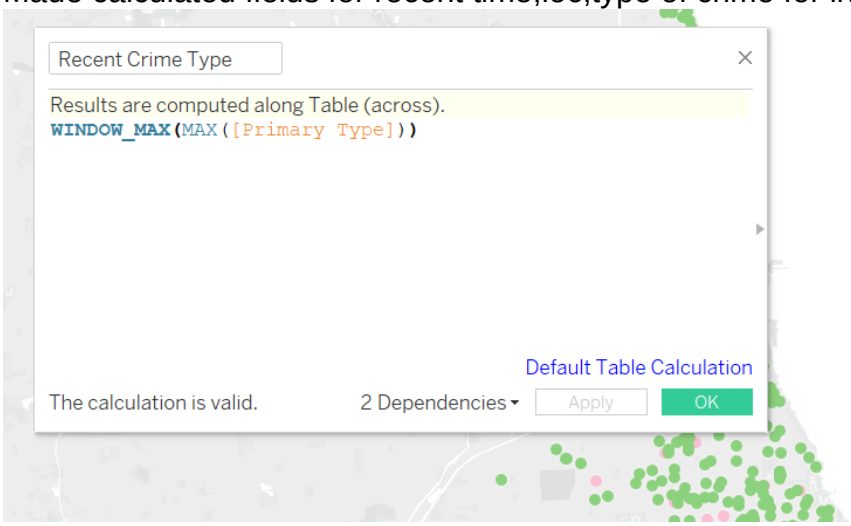
Overall Crime Statistics Dashboard:

1. **Map of Crime Locations:**
   - geo map used to show the locations of all crimes.
   - color or size to encode the type of crime.
   - filter to allow users to select specific types of crimes to view.
2. **Most Common Crimes:**
   - Created a bar chart to show the number of crimes for each type of crime.
   - Sorted the bars by the number of crimes.
3. **Live Crime Feed:**
   - Used a text object to display the total number of crimes reported to date for the current year.
   - Used a text object to display the most recently reported crime, including the time and location.

Time Period Analysis Dashboard:

1. **Distribution of Crimes by Day of Week and Hour:**
   - Created a heatmap to show the number of crimes for each day of the week and hour of the day.
   - Used color to encode the type of crimes.

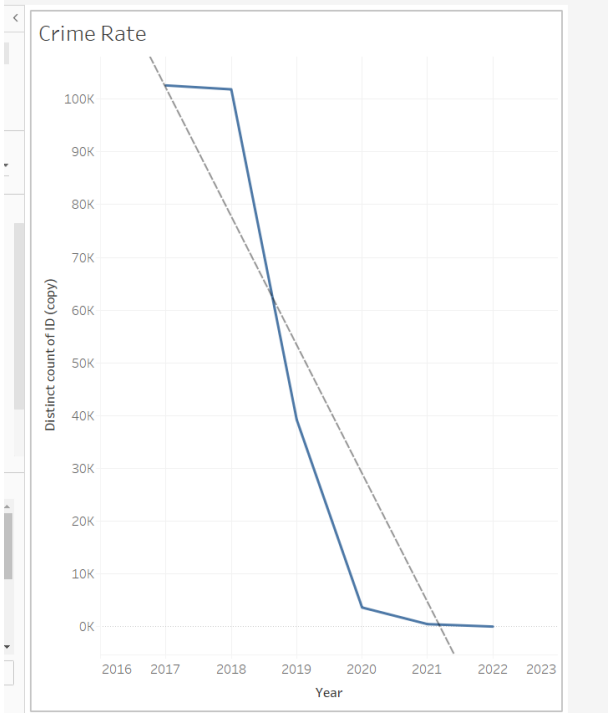
2. **Percentage of Incidents by Time Block:**
    - Created a pie chart to show the percentage of crimes reported for each time block (e.g., afternoon, evening, early morning). Time block made by if statements
    - 

    - Made calculated fields for recent time,loc,type of crime for live dash etc
    - 

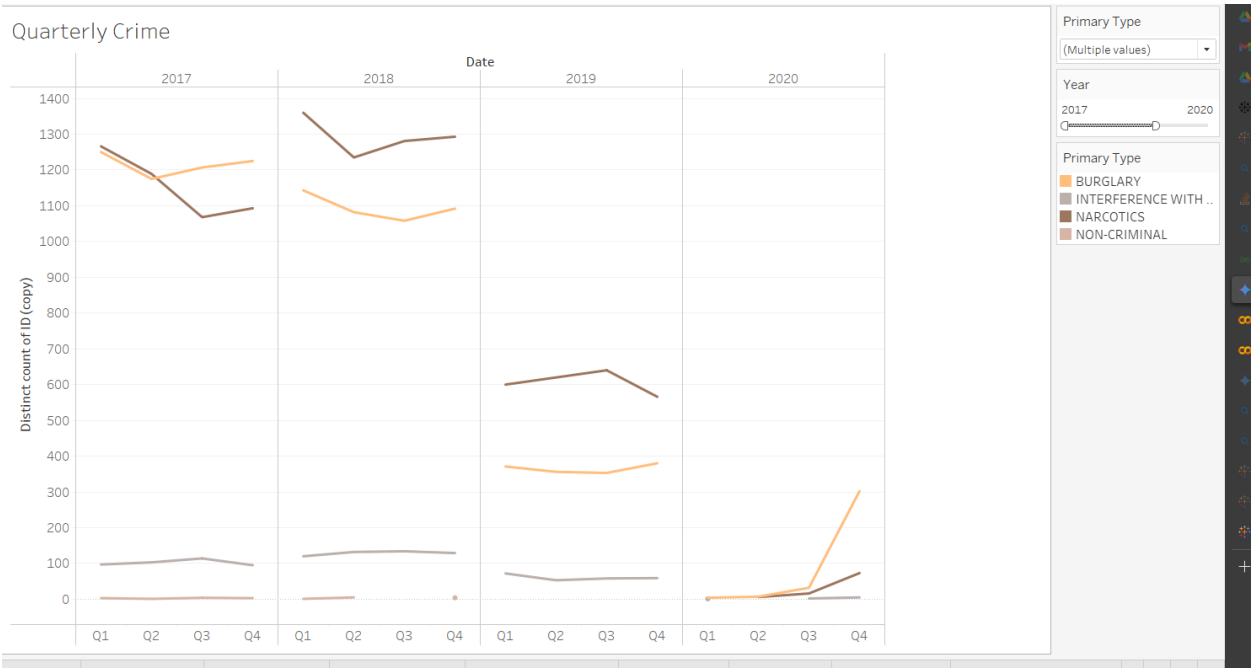
    - Used labels to show the percentage values.

Trend Analysis Dashboard:

1. **Change in Crime Rate Over Time:**
    - Created a line chart to show the number of crimes reported for each year.
    - Used a trend line to show the overall trend in crime rates.

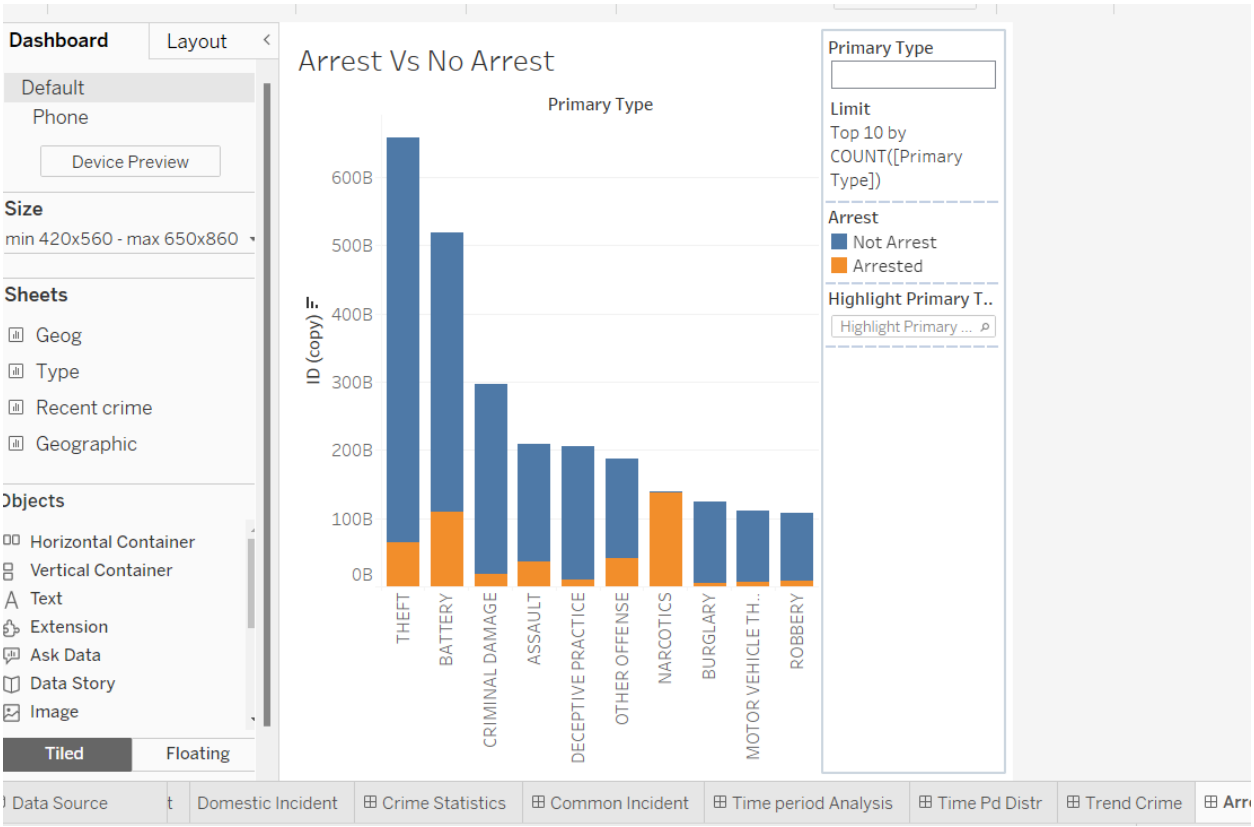


2. **Change in Incident Reporting Over Time:**
   - Created a line chart to show the number of crimes reported for the same date and time in different years.

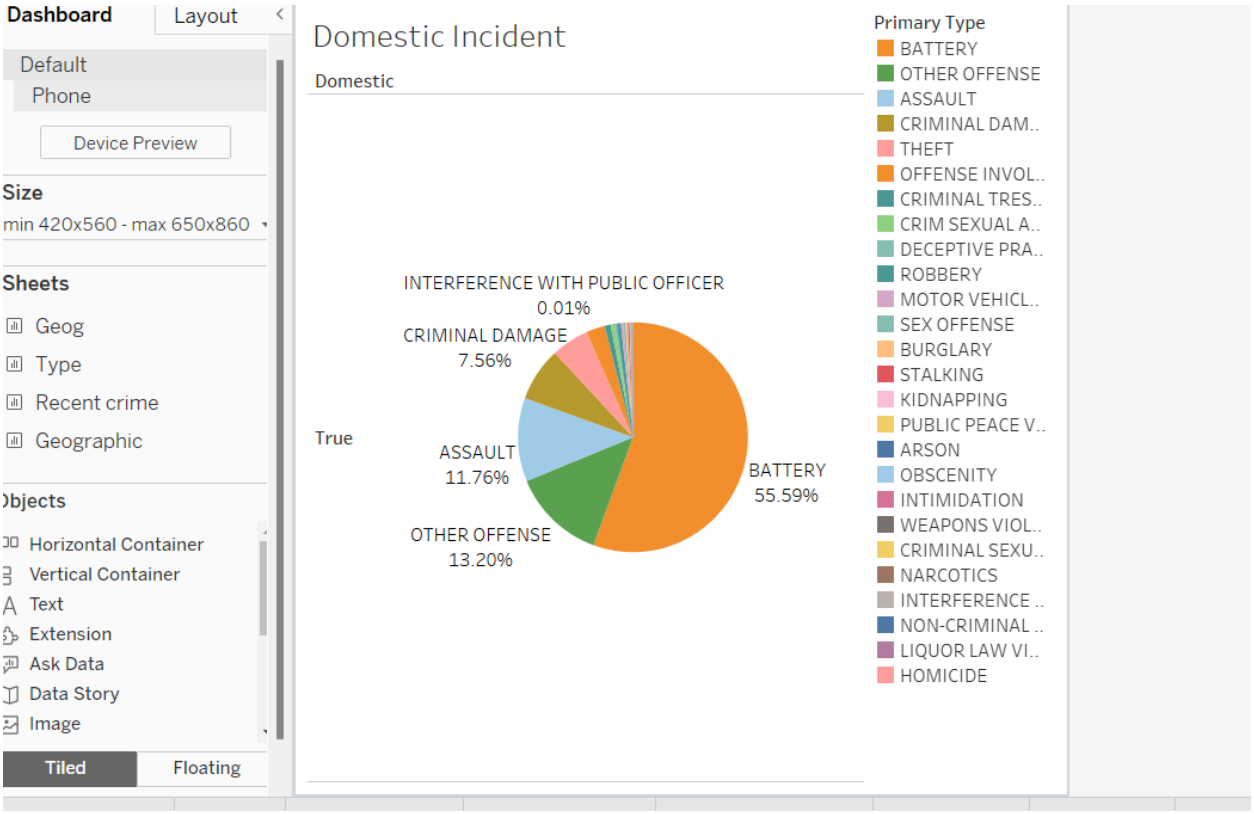


Comparative Analysis Dashboard:

1. **Arrests vs. No Arrests:**
    - Created a bar chart to show the number of crimes for which an arrest was made and the number of crimes for which no arrest was made.



2. **Domestic Incidents:**
    - Create a pie chart to show the percentage of domestic incidents for each type of crime.
    - Usde labels to show the percentage values.



Conclusion

This project was challenging as the data was large. Initially looked very simple took time to get used to the interface and understand the tool. Good learning experience and a well crafted project.

Tableau Public Link

https://public.tableau.com/app/profile/rakesh.pedram/viz/Proj1CrimeDataStory/ArrestVsNoArrest