Boston's Safe Neighborhoods

Introduction: The main motive behind choosing the particular topic for my final project was that I was recently looking for an apartment. I encountered a situation where I was skeptical about the area, specifically the location's safety. I looked online to find more data regarding safety and crimes in Boston. However, most of the representations of safety and crime were either obscure or poorly represented.

Research: I browsed through the datasets provided to us during our course and looked online to find an appropriate dataset that would help me address my problem statement.
Here are the links to a few data sets that I found online:
https://www.kaggle.com/datasets/AnalyzeBoston/crimes-in-boston
https://www.kaggle.com/code/fedi1996/boston-crime-analysis-with-plotly
https://data.boston.gov/dataset/crime-incident-reports-august-2015-to-date-source-new-system
https://data.boston.gov/group/public-safety
https://sarahchou.github.io/BostonCrimeDatabase/
https://www.kaggle.com/datasets/ankkur13/boston-crime-data
https://github.com/Lujainism/Boston-Crime-Visualization

Variables and columns of the data set:

There are ten columns in the data set, which comprises the following:

1. **Incident Number:** The identifier for the registered crime.
2. **Offense Code:** An offense code is a numerical code used to represent a specific criminal offense, such as theft, assault, or drug possession. Each offense code corresponds to a specific criminal offense, as defined by law, and is used by law enforcement agencies to track and report crime data.
3. **Offense Code Group:** An offense code group is a grouping or categorization of similar offense codes.
4. **Offense Description:** One/two-word description of the crime.
5. **District:** Contains the district code where the crime occurred.
6. **Reporting Area:** refers to the geographic area where a police department is responsible for collecting and reporting crime data.
7. **Shooting:** Whether there was a shooting involved or not.
8. **Occurred on date:** Describes the date when the crime occurred.
9. **Uniform Crime Reporting (UCR) Part:** The UCR Program collects information on crimes reported to law enforcement agencies in four categories: murder and nonnegligent manslaughter, rape, robbery, and aggravated assault, collectively known as Part I offenses, as well as property crimes (burglary, larceny-theft, and motor vehicle theft), collectively known as Part II offenses. UCR data is used in various ways, including to measure the relative seriousness of specific crimes and to provide law enforcement

agencies with data they can use to allocate resources and plan crime-reduction programs.

10. **Street:** The street where the crime occurred.

Out of these ten variables and columns, I retained the five variables that I believe were important to the "viewer" or audience should know.

To make the visualization for the dataset, I had to segregate the dataset and create separate CSV files, which consisted of the data sorted according to year and overall crime, by locality, by crimes, by year, month, and week.

Methods: Making a reliable visual narrative from existing data for people looking for accommodation in Boston would demonstrate the safe and unsafe zones of the city so that students can easily choose a suitable locality. Initially, I planned to have an annotated chart, partitioned poster, or a film video/animation for the data sets as it would be a better way to represent my data set visually. Gradually working further, I fixated on creating bar graphs, column charts, and a pie chart to narrate my data set visually. I added some interactions in all these visualization strategies.

Discussion and Future Work: I believe the webpage I created can be used by residents of Boston finding for a new locality to move in Boston or newcomers finding accommodation in Boston. It gives a comparative analysis of the crimes that occurred in Boston, and based on the crime rate, I defined the top ten localities of Boston which would be considered safe according to the data set. For the future steps of this project, I would like to think of more interactive and intuitive visualization techniques to make the webpage more informative and engaging for the audience. I would also like to add other details about the locality, not just the crimes.