

Gun Violence Team - 1

Deliverable I

Team Members: Shaunak Joshi (Team Lead) (U13870687), Hemant Singh, Marcel Aubry (U02577695), Angela Castronuovo (U68837053)

Contacts:

Bruce Boisman - Client

Policy Director

bruce.broisman@boston.gov

Yagev Levi - Technical Engineer @ BU Spark

yagev@bu.edu

Jacqueline Lin - Project Manager @ BU Spark

linjiaqi@bu.edu

Facts at a glance:

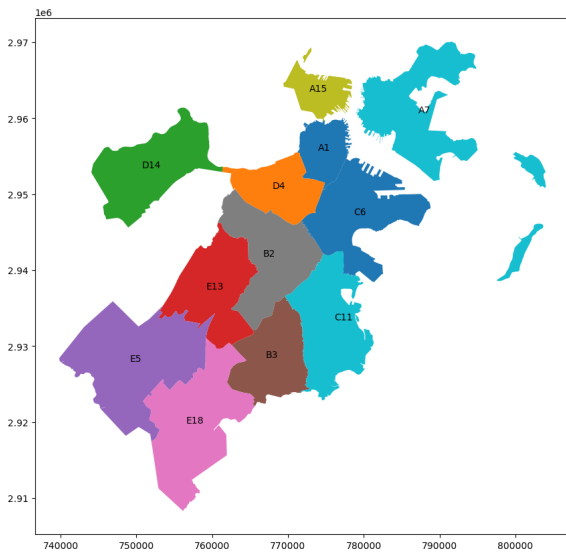
1. Total number of shooting incidents - 1798
2. Total number of shots fired - 7555 shots
3. Total number of deaths from shooting - 300 deaths
4. Total number of collateral deaths - 90 deaths
5. Most dangerous locality - B2, B3, C11 PD

Figures and graphs plotted:

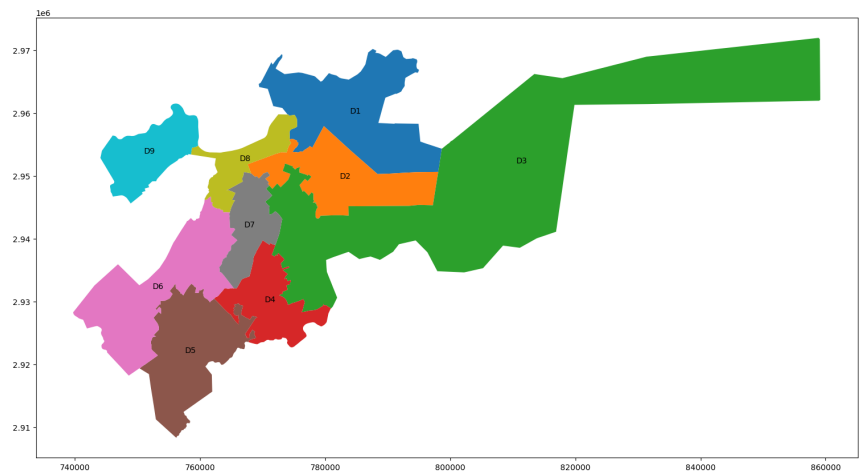
Districts in Boston

We can see D4 is made up of B3 and C11 police districts.

Map of Police Districts in Boston

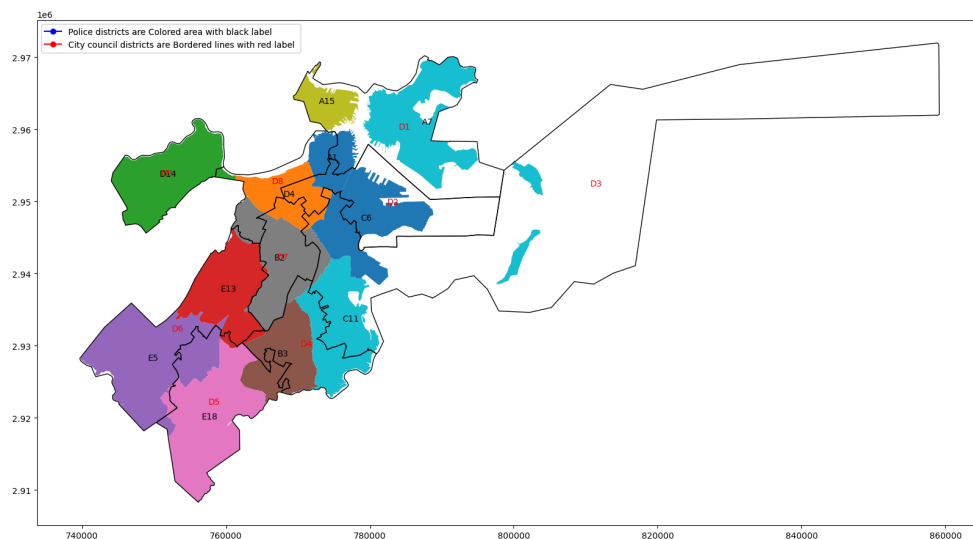


Map of Congressional Districts in Boston



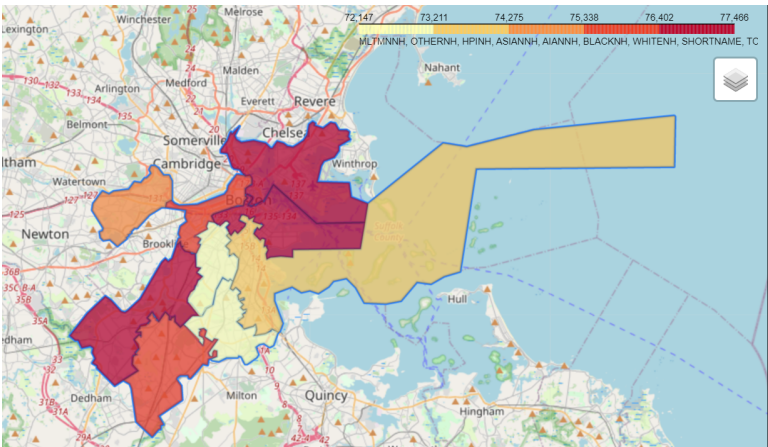
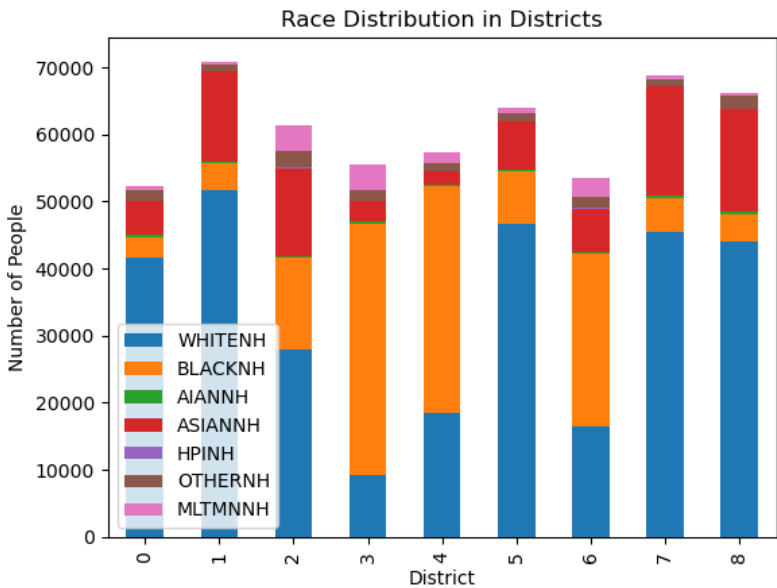
Here we can see the police districts overlaid with the congressional districts.

Overlay of Police Districts on to Congressional Districts:



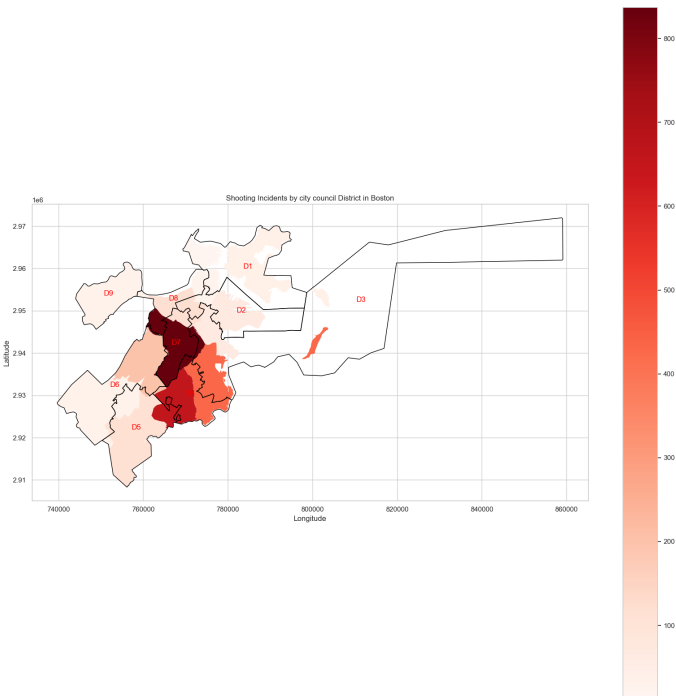
Race Distribution throughout Congressional Districts:

From the Bar graph on the left, we can visualize the demographics of Boston’s congressional districts by population. The map on the right visualizes which district has the highest concentration of each race.



Shootings in Boston Congressional Districts:

The following map displays the concentration of shootings based on congressional districts. We can see that district d4 has the 2nd highest concentration of shootings when compared to the other districts.



Questions to answered:

#1: What is the rate of gun violence in District 4? How does this compare to the rest of the city?

Answer 1:

As we can see the **congressional district D4 is made up of police districts C11 and B3** (referred to from now on as D4) where we can see based on Figure 1.1 based on the data from 2015-2023 for **shooting incidents in D4 there were a total of 1088 incidents** which took place. As for referring to Figure 1.2 D4 we can see there has been a pattern rise and fall however the median remains the same. We can also see that in terms of race affected the most and the least, **Black males were the most affected** by the shooting incidents and in terms of females, **Black females were the most affected**. **Asians were the least affected** / non affected demographic. White males were mildly affected and White females were mostly unaffected.

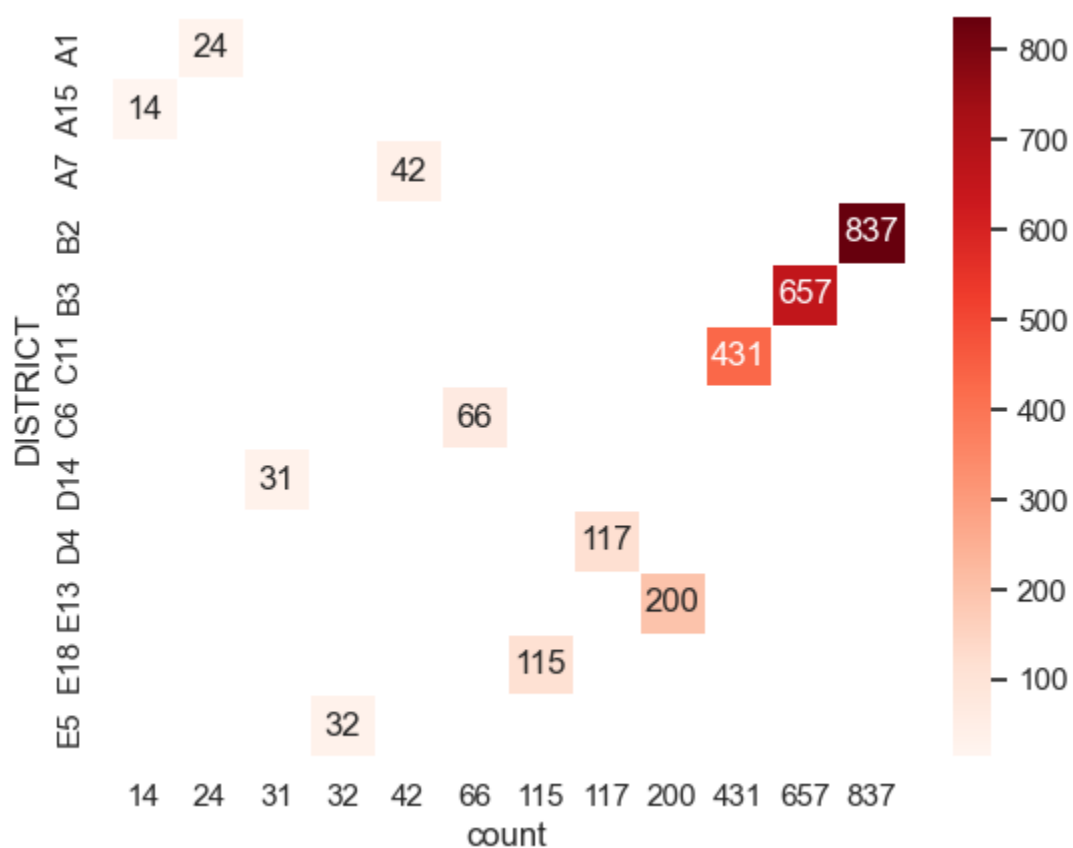


Fig. 1.1 Shooting incidents in different police districts in the year 2015 - 2023

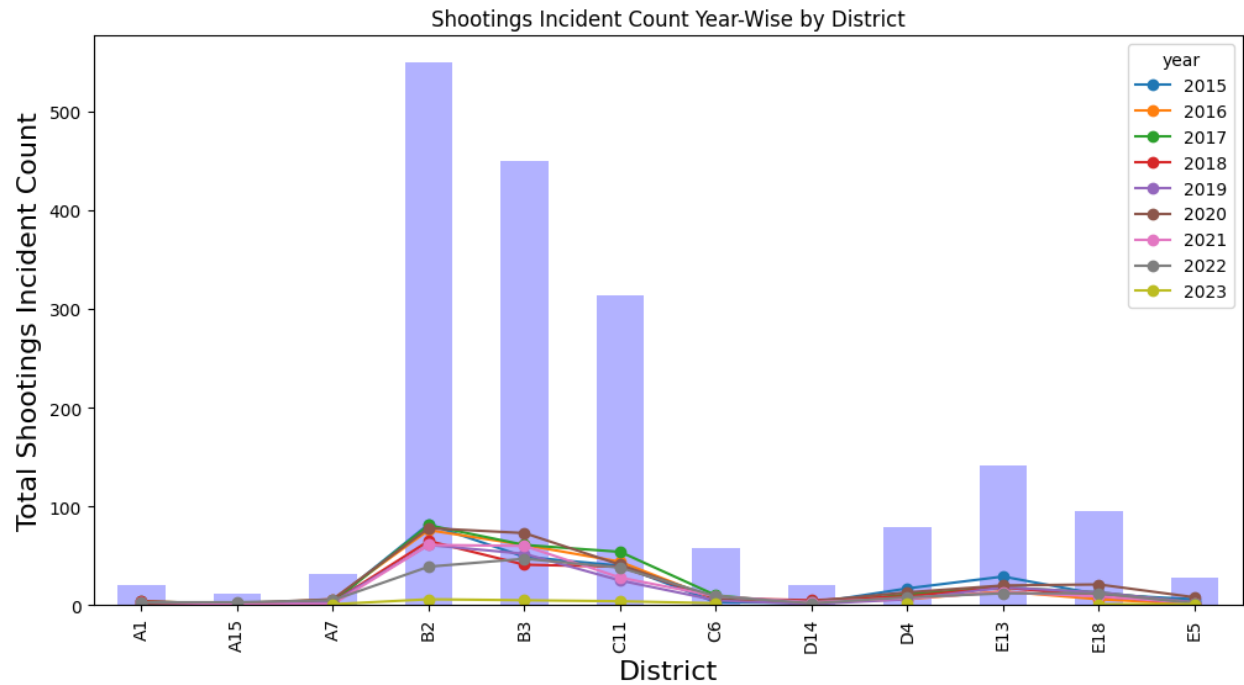


Fig. 1.2 Total shooting per district along with shootings in a particular year.

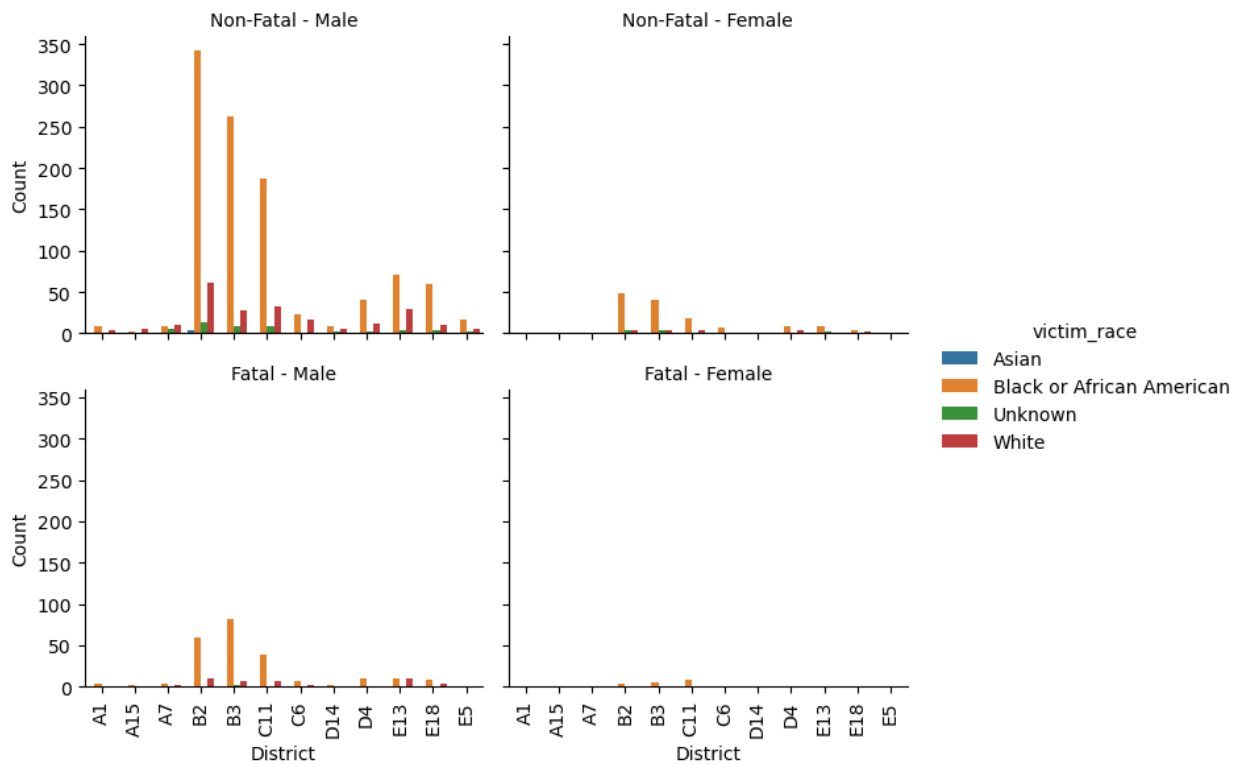


Fig. 1.3 Bar chart of victims in shooting incidents in police districts

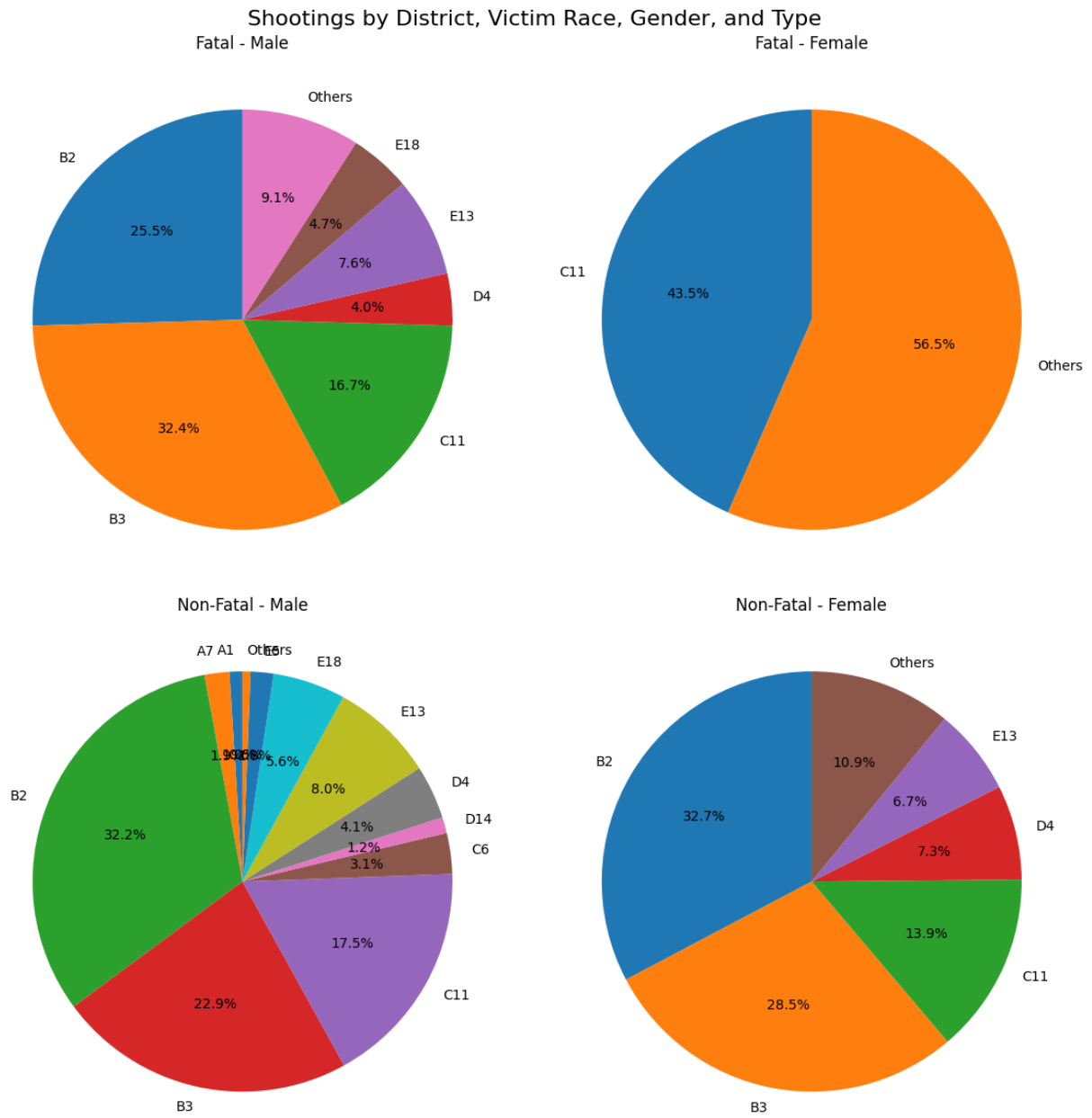


Fig. 1.4 Shootings by district, victims race, gender and fatality type

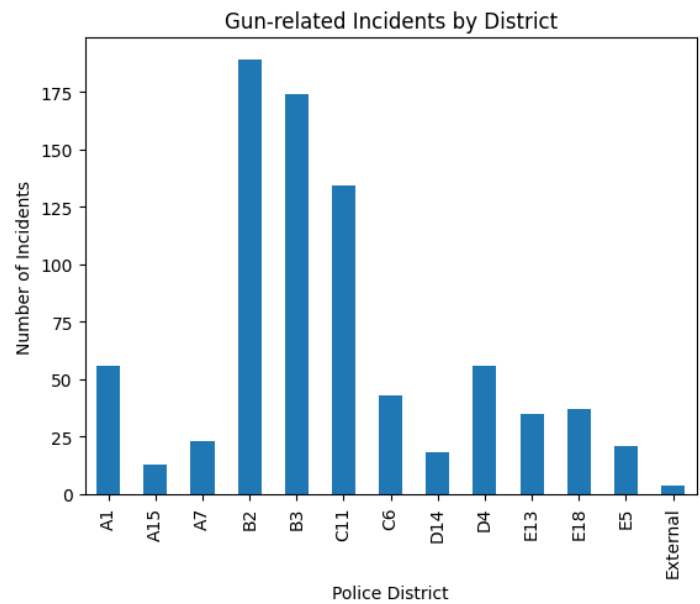
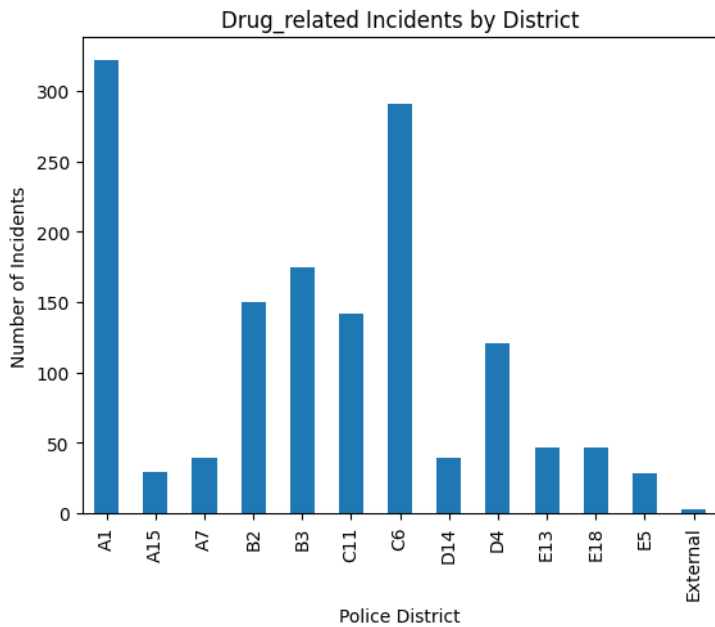
#2: Are there patterns in terms of type of violence in District 4? How does this compare to the rest of the city?

Answer 2:

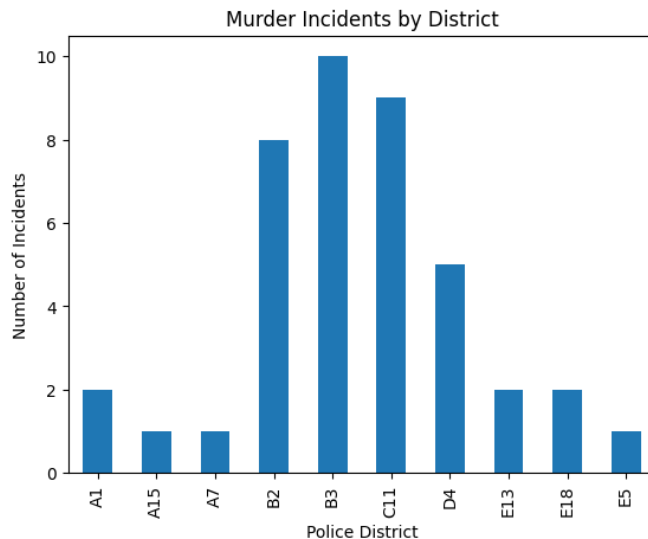
Some patterns that we can see arise in terms of type of violence include high concentrations of gun-related and murder incidents when compared to the other districts. District 4's concentrations of drug related incidents did not appear to be significantly more or less concentrated than the other districts. The variation of types of violence in district 4 appeared to be higher than that of the other districts. There did not seem to be any violence patterns among districts when comparing incidents of weapons in schools.

From the following bar graphs we can see several patterns when comparing police districts B3 and C11 (which happen to be in congressional district 4) to the other police districts. We can see that drug related incidents in B3 and C11 have the 3rd and 5th most drug related incidents respectively.

We can also see that police districts B3 and C11 have the 2nd and 3rd most gun-related incidents respectively, when compared to the other police districts.

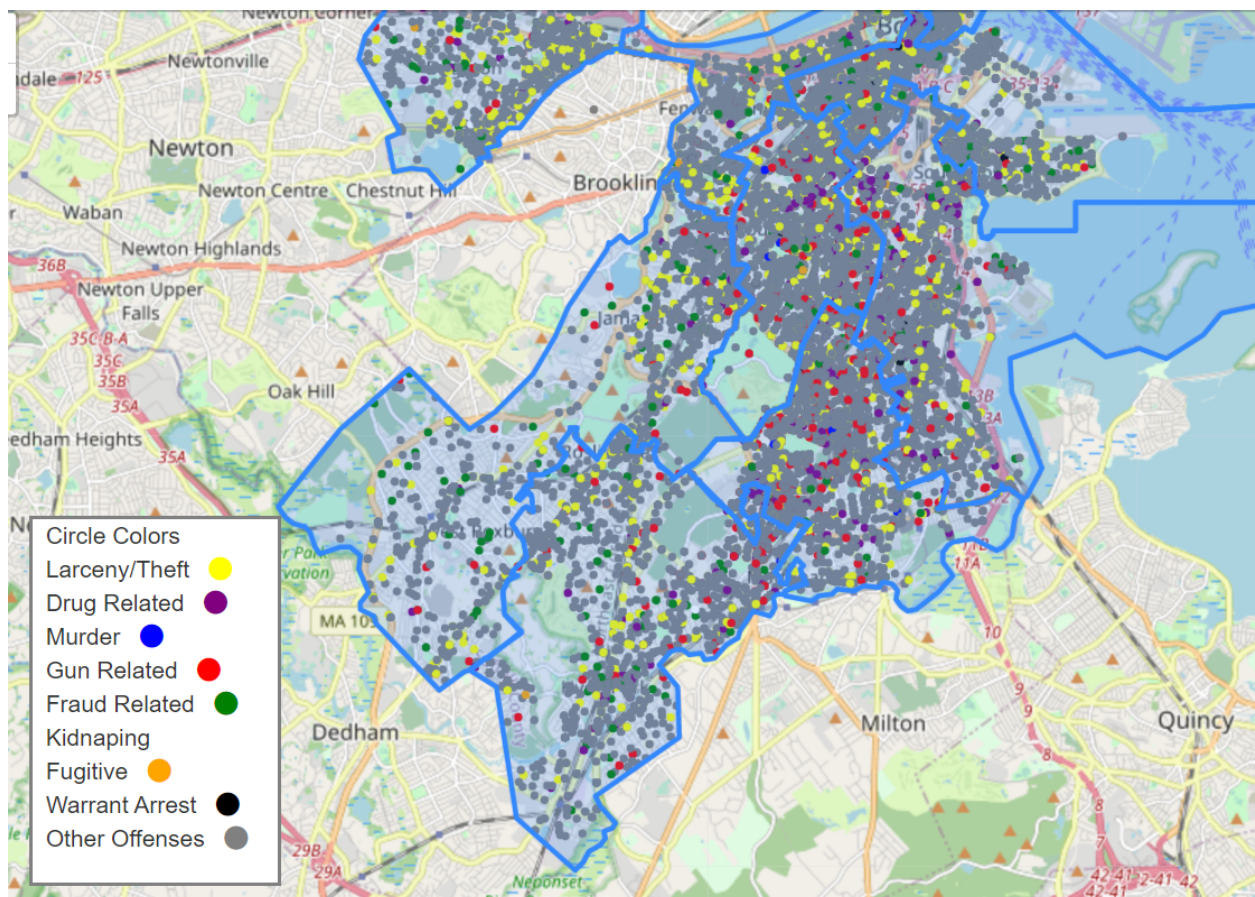


From the graph, we can see that murder incidents in districts B3 and C11 have the highest and second highest number of incidents than the other districts. This means that congressional district 4 has the highest number of murder incidents.



Map of Different Types of Violence in Boston:

The following map shows a high concentration of violent acts in the downtown boston area as well as the district 4 area. It is interesting to note that even though the district 4 area is not the most concentrated for violent acts, there is more variation in types of violent acts in district 4 than there is in the downtown area.



Map of Incidents of Weapons found in Schools throughout Boston:

The following map shows points where there was at least one incident where a student brought a weapon on the school campus. We can see that there does not appear to be a high concentration of these incidents in district 4. Because of this, we can conclude that incidents of students bringing weapons to campus do not contribute to the patterns of violence in district 4.

