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# Gun Violence

Spring 2023 CS506 Data Science

## Project Description

Councilor Worrell, a Boston City Councilman for District 4, seeks to understand Gun Violence in the community first focusing on District 4 and then the city as a whole and its impact. There has been an uptick in gun possession amongst the youth which is concerning. This project seeks to understand what variables may be associated with increases or decreases in (police presence, poverty, population movements, etc) and look at existing programs meant to help or curb such a thing. Ultimately the project goal is to determine what drivers of violence looks like in District 4 as compared to other areas, but as a foundation, we need to understand the comparative volume and geographic distribution of gun violence in the district and beyond. The results of this analysis will hopefully inform policies that can be beneficial for improving the district.

## Project Steps

### Key Initial Steps

1. Review Project Description and determine questions or clarifications needed from the client.
2. Create a work plan with your team and determine the breakdown of tasks into weekly sprints on the Trello board.

### Part 1: Data Sets & Sources Base

1. You will use the following data sets and sources:
  - a. [Shapefile](#)
  - b. Police Districts (population covered, # of officers, units represented, ratio)
    - i. [Boston, Massachusetts Police Districts | GIS Map Data](#) OR [Districts — bpdnews.com](#)
  - c. Police Records of Violence/Firearm Activity
    - i. [Shots Fired](#)
    - ii. [Shootings - Datasets - Analyze Boston](#)
    - iii. [CDC](#)
    - iv. [Discipline records from schools for school discipline](#) (List offenses)
      1. Focus on outright violent offenses
        - a. Do not include: destruction, bullying, felony, theft, harrasment, threats, vandalism
  - d. Police reports
    - i. [Crime Incident Reports - Datasets - Analyze Boston](#)
    - ii. Bruce to try to get police reports for shootings at least
  - e. Police Presence
    - i. BPD presence - patrol schedules - hopefully forthcoming per Bruce
    - ii. Boston police assigned to schools - Bruce get specific assignments for schools
    - iii. [BPD Field Interrogation and Observation \(FIO\) - Datasets - Analyze Boston](#)

### Part 1: Analysis & Tasks

1. Establish what violence looks like in District 4:
  - a. Use the [Shapefile](#) and sources in Police Districts (b) & Police Records of Violence/Firearm Activity (c) & Police reports (d)
  - b. Comparison to the rest of the city
2. Establish what police presence looks like in District 4:
  - a. Use the [Shapefile](#) and sources in Police Presence (e) to map out where officers are in District 4
  - b. Comparison to the rest of the city
3. [Discipline records from schools for school discipline](#)

### Part 1: Questions

1. What are the drivers of violence in District 4? How does this compare to the rest of the city?
2. What is the rate of gun violence in District 4? How does this compare to the rest of the city?
3. Are there patterns of violence in terms of location in District 4? How does this compare to the rest of the city?
4. Are there patterns in terms of type of violence in District 4? How does this compare to the rest of the city?

### Part 2: Extension Data Sets & Sources

1. This next part of this project is to get creative with additional data that you think would tell an interesting story. This extension should be something your team finds compelling. You will create a mid-semester [proposal](#) for this extension project that the client will approve. These may be helpful datasets or topics to consider, but you are welcome to research other datasets and sources:
  - a. Potential Data Sets:
    - i. Schools
      1. Truancy/ Attendance rates
        - a. [2022-23 Enrollment by Grade Report \(District\)](#)
        - b. [2021-22 \(End of year\) Attendance Report \(District\) - All Students](#)
      2. [Dropout Data](#)
    - ii. School Performance:
      1. [School Directories](#)
      2. [Grades Offered by District Report](#)
      3. [Accountability](#)
    - iii. Facilities:
      1. [Boston Public Schools \(BPS\) Facilities Dashboard](#)
      2. [BPS Capital Projects](#)
    - iv. Environmental/ Community Factors
      1. Green space: [Parks Conservation & Recreation](#)
      2. Googleplaces API: points of interests
      3. [Tree Canopy: More Tree Canopy Data](#)
      4. Community Programming: [Community Centers](#)
    - v. Interactions
      1. Routes from schools to public transit stops
        - a. [Transit stops](#)
        - b. [Schools](#)

2. [Pedestrian](#) and mobility (cubiq or [safegraph](#)) Bruce to request from BTB 2017-2022
3. [Non-emergency issues](#) (311 data)

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## Expected Final Deliverable

1. Create a report with key visualizations and answers to your client's questions.

## Additional Information

- [Crime Insights](#) \*

## Contact Information

Role	First Name	Last Name	Email
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## Meeting Notes

Meeting 1: Kickoff Meeting, Date  
Attendance

