# Boston Police District Analysis

W200 - Storytelling with Data Authors: Arun Surendranath, Samuel Omosuyi

## Introduction

#### Goals

- 1. How is Boston city spending its budget?
- 2. What is Boston Police Department spending its budget?
- Understand Boston crime data
- 4. Understand Boston shooting data
- 5. Narrow into a particular police district

## Greater Boston area police double their base pay with overtime, detail work

Emma Plante, Reporter March 15, 2021

In 2020, Capt. Richard McCusker of the Quincy Police Department made \$263,000. The other top nine earners on Quincy's payroll were members of the police force and all made more than \$225,000. Mayor Thomas Koch made \$160,000.

U.S. Attorneys » District of Massachusetts » News

#### Department of Justice



U.S. Attorney's Office

District of Massachusetts

FOR IMMEDIATE RELEASE

Friday, June 4, 2021

#### Former Boston Police Sergeant and Officer to Plead Guilty in Overtime Fraud Scheme

BOSTON – A former Boston Police Sergeant and a former officer have agreed to plead guilty in connection with an ongoing investigation of overtime fraud at the Boston Police Department's (BPD) evidence warehouse.

## Approach

#### Data

- Boston city spending data 2015-2020
- Boston Crime
  Data 2015-2020
  - Boston All crime data
  - Boston Shooting data

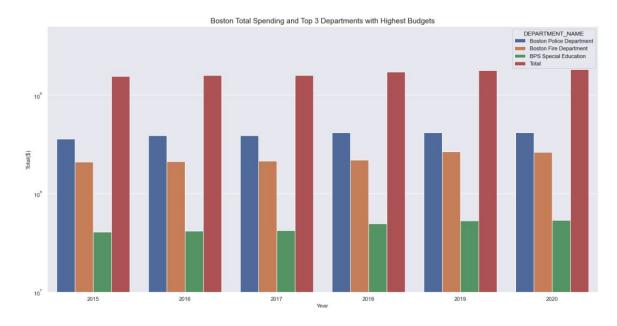
### **Data Cleaning**

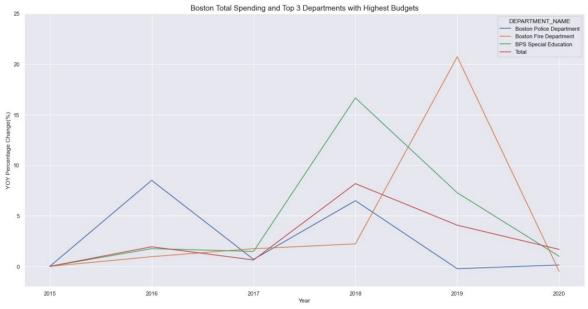
- Spending Data
- Merging all spending data 2015-2020
- Data cleaning for both spending and crime

## Data Insights

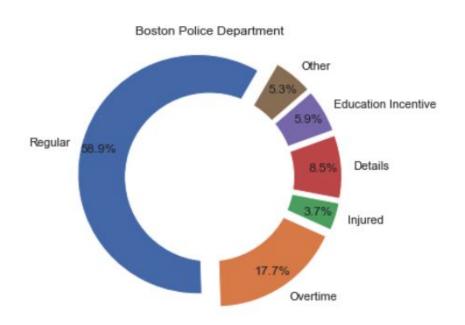
- Data analysis insight for city of Boston police department
- Crime analysis insights
- Correlation between spending and crime analysis

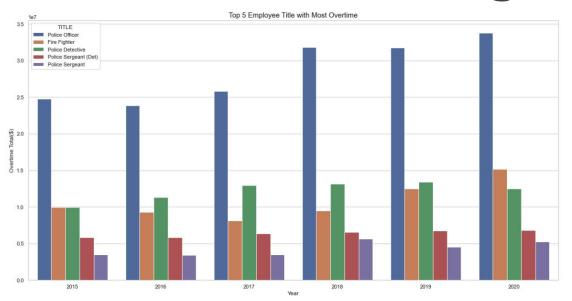
## **Understand Boston spending**

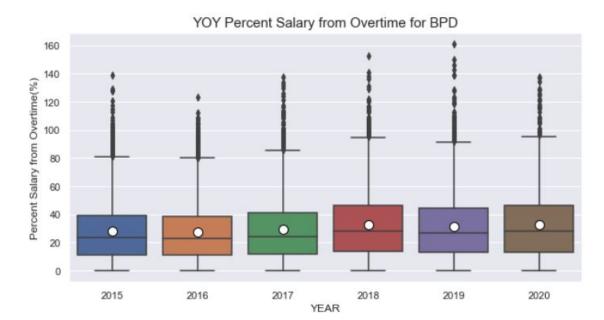




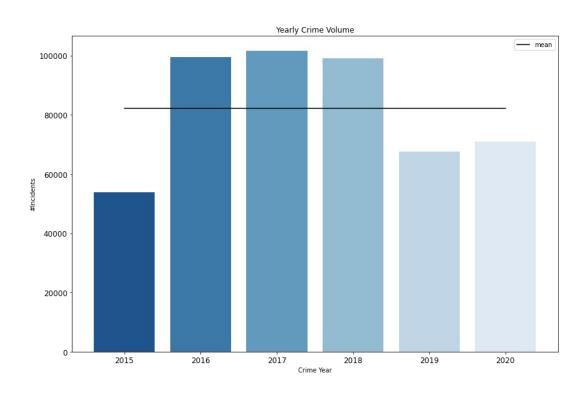
## Understand Boston police department spending

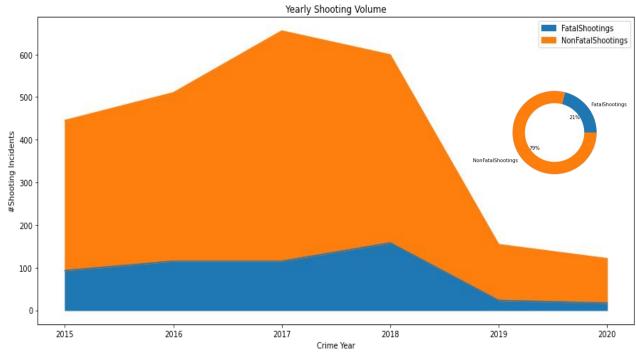




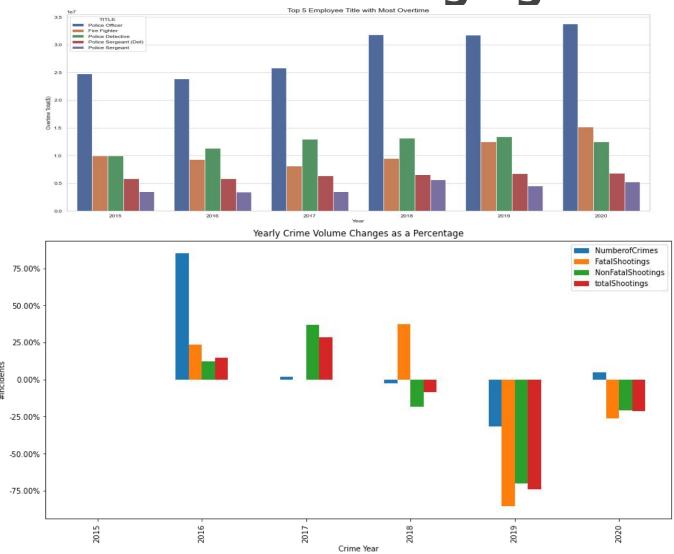


# Understand Boston Incident Reported & Shooting data





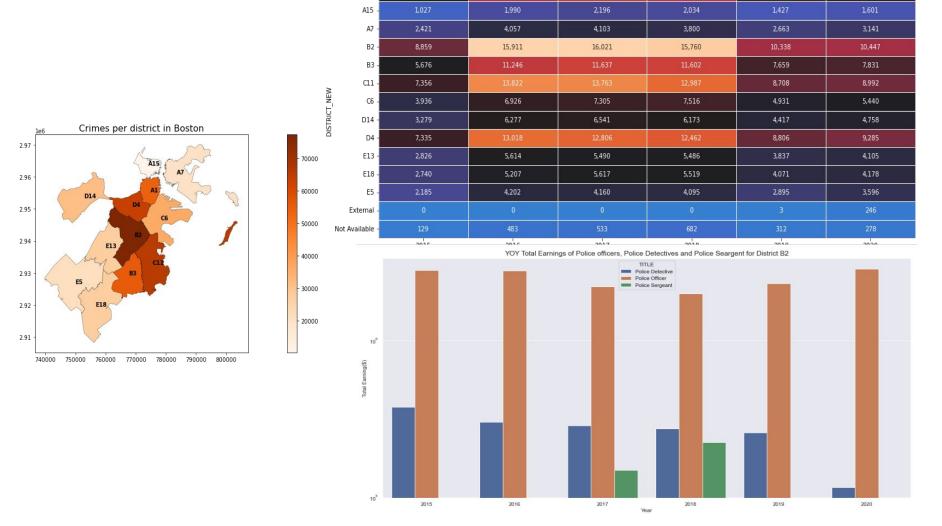
## Understand What's Changing?



## Narrow into a particular police district (B2)

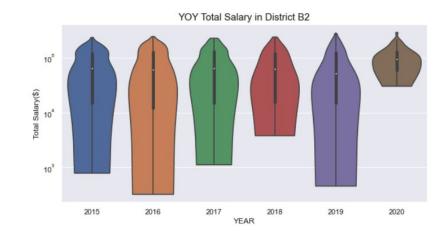
- 14000

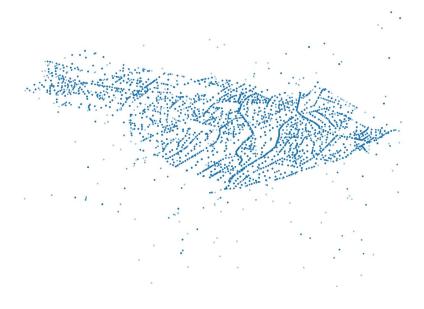
- 12000



## Conclusion

- Boston city spends over \$1.55 Billion each year on its various public departments 3 departments, Boston Police, Boston Fire and Boston Public school
- Boston Police and Boston Fire employees earnings from overtime is over 30%, in some cases as high as 150%
- The police officers employee growth rate (CAGR) was 1.6% between 2015 and 2020
- The police department overtime growth rate (CAGR) was 6.5% between 2015 and 2020
  - O This was ~ 5x more than the employee count growth rate
- The crime incident volume growth rate (CAGR) was 4.6% between 2015 and 2020
- The 2018 Shift
  - 2.5% decrease in incidents reported with a 20% increase in overtime spending and relatively same number of police officers. What was the overtime for?
  - O The deadliest shooting year with the highest ratio of fatal shootings

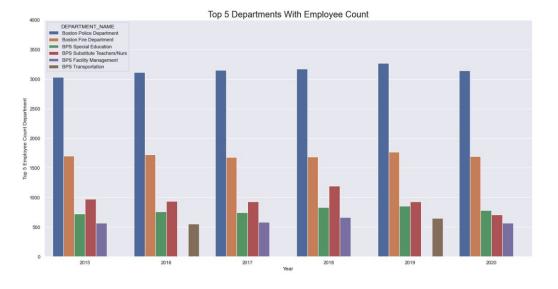






# **Appendix**





# **Appendix**

