The following is a revised and extended overview of our project that contributes to an initial project overview written by Matt McCloskey and Lauren Chambers

Police Overtime and Budget Analysis	
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Project Description	Nine Boston police union collective bargaining agreements are currently being re-negotiated after expiring in June and September 2020. Historic levels of citizen engagement around divesting from police led the Boston City Council to cut $10 million from the BPD overtime budget this summer. New analysis around the Boston police – its budget, waste, and excesses – has the potential to influence both union contracts for years to come and the upcoming allocation of the FY22 Boston city budget. Analyze records on BPD budgets, overtime, and payroll to equip advocacy around police divestment and accountability by (1) identifying instances of financial excess in BPD spending, (2) characterizing wasteful BPD overtime practices, and (3) using data to fill in narratives around waste & misconduct by individual BPD officers.
Datasets	Data sets include: ● Employee Earnings Report 2011-2019 (search for police) and payroll definitions ● Overtime requests vs. actuals for overtime related to court appearances (2014 - 2019) ● Campaign Finance Data ● Field Incident reports (including name of involved officer and race/ ethnicity and location of person stopped) ● Suffolk County DA Police Watch List

Strategic Questions	**(1) Identifying instances of financial excess in BPD spending**
	- How has the BPD budget changed year-over-year?
	  - Where have funds grown or shrunk, overall and intra-departmentally?
	  - How has funding shifted between departments?
	- How have BPD paychecks changed year-over-year? Both the average amount, as compared with non-BPD Boston city employees, and the breakdown (regular pay v. overtime pay, etc.)?

	- How much BPD officer pay came from injury pay? What percentage of officers took injury pay in a given year?
	
	(2) Characterizing wasteful BPD overtime practices
	- How do overtime hours paid compare to overtime hours worked? What does the discrepancy financially amount to, year after year?
	- How has overtime for court appearances changed year-over-year?
	- What is the distribution of ratios of overtime worked vs. overtime paid? Are there any outliers? (WRKDHRS vs. OTHOURS in the court OT database).
	- Are certain officers (e.g., white, old, male, long tenure, high ranking title) more likely than others to have lower worked-to-paid ratios?
	
	(3) Using data to fill in narratives around waste & misconduct by individual BPD officers
	- How much overlap is there between frequency overtime users and officers who:
	  - have the highest salaries on the force?
	  - are listed on the Suffolk County police watch list?
	  - have previously been disciplined for overtime abuse or other misconduct?
	  - have internal affairs complaint records?

Approach	1) We will explore the BPD budget with the questions outlined and identify the patterns and trends, will primarily use Pandas and potentially some visualization with Matplotlib. 2) We will next explore the overtime data, for this portion we want to look at both the court overtime dataset and the paid details information using the strategic questions outlined above. 3) We will then consolidate all the previous information to identify areas of waste in the budget and correlate that to odd patterns in the overtime datasets. Presenting the data with visualizations will be key here.

	Other relevant information
	
	Tools
	● *Python Libraries*
	  ○ Pandas for all kinds of data preprocessing and cleaning, a very versatile tool that we will be using a lot, especially to export the data into spreadsheets, CSVs.
	  ○ Matplotlib, Seaborn, Plotly - Some visualization libraries for quick visualizations to present the data when needed.
	  ○ Scipy and Scikit for statistical tools such as regressions and correlations if needed.