

The following were the initial questions that our clients were interested in answering at the outset of the project. Over the course of working with the client coming up before the Council Hearing, some of the questions shifted, and we made visualizations for the clients accordingly.

In general, the questions that were posed by our clients were answered far more descriptively with the vizzes that we created than they could be by a verbal summary so where appropriate in this deliverable we'll be supplying an answer as the viz itself.

These data are a bit sensitive given that they are analysis of a hot-topic political issue and so it's far more useful to summarize our findings in a visual way which allows the viewer to take from the vizzes what they will.

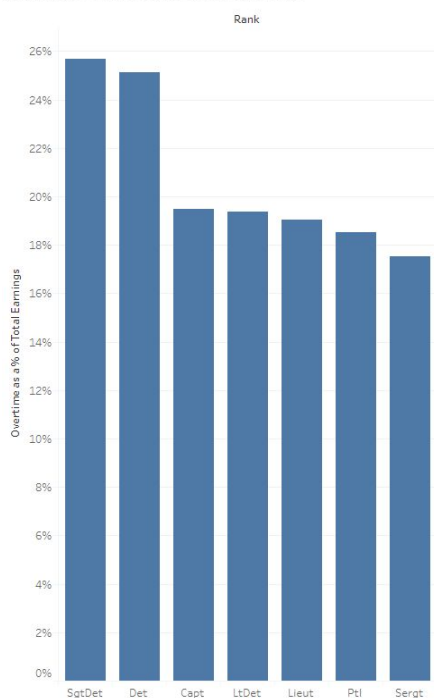
Our clients wanted to use our analysis to build a case that would be presented as testimony at a city council hearing. As a result of this we had to be relatively fast to react to new viz requirements. This workflow generated a large backlog of vizzes [here](#) that, while not immediately relevant to our initial outline of questions, helped our clients to support the narrative they were interested in conveying at the hearing.

Those questions that remained unanswered were those that became uninteresting to our clients as our project began to yield findings and their specific needs changed.

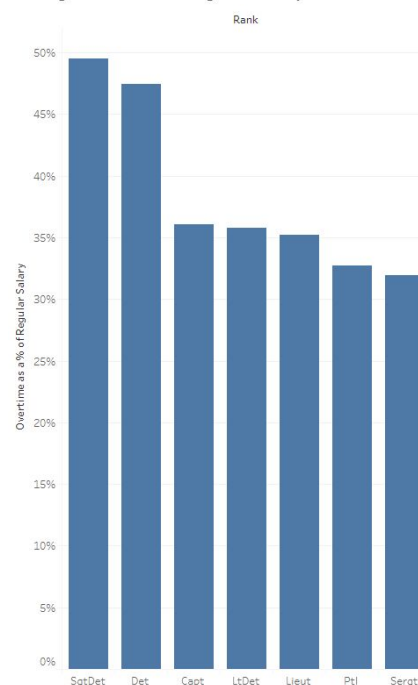
### Question 1: Identifying instances of financial excess in BPD spending

- 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.)?

Average OT as a % of Total Earnings



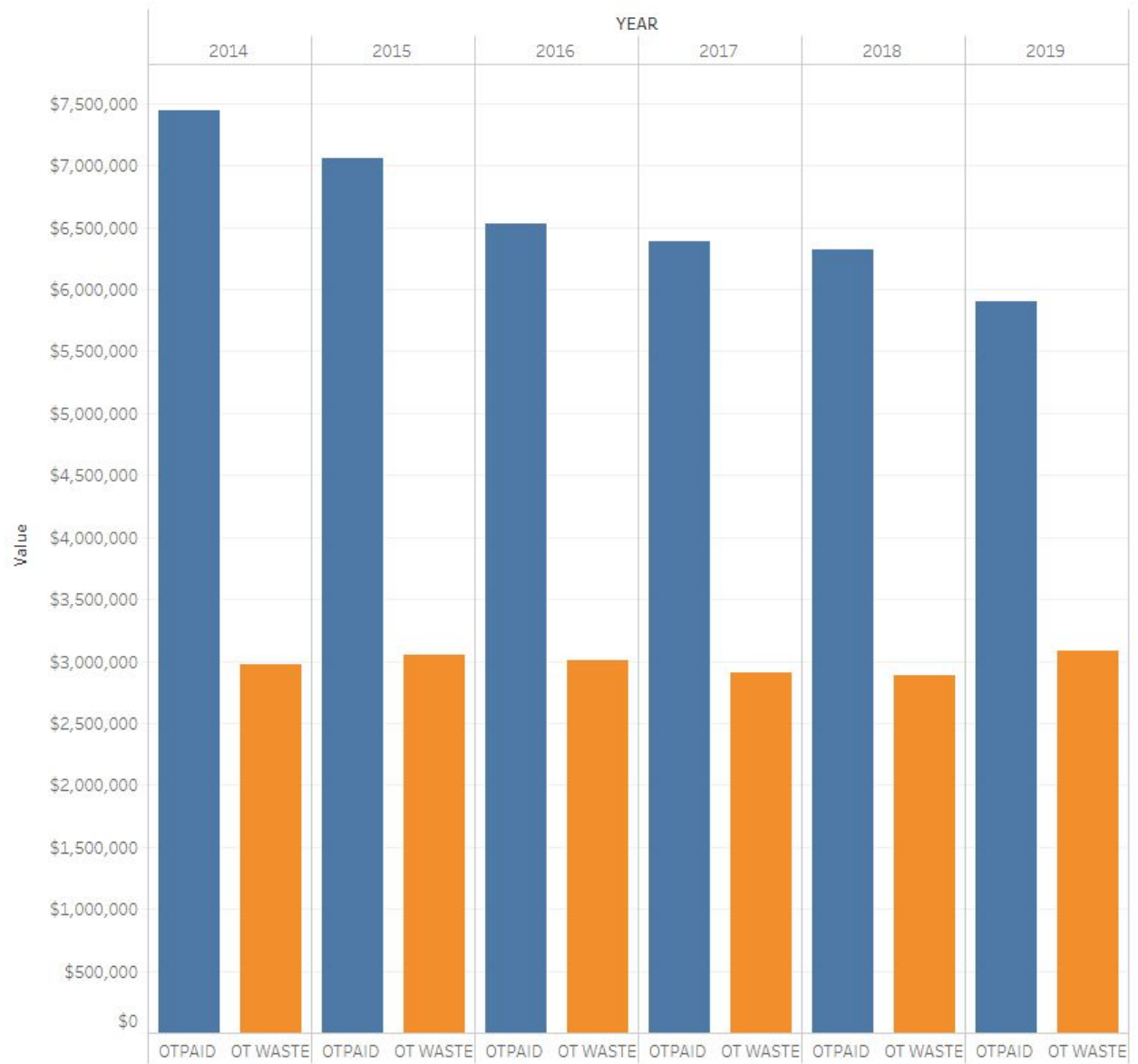
Average OT as a % of Regular Salary



### Question 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?

YoY Court OT Paid vs. Waste



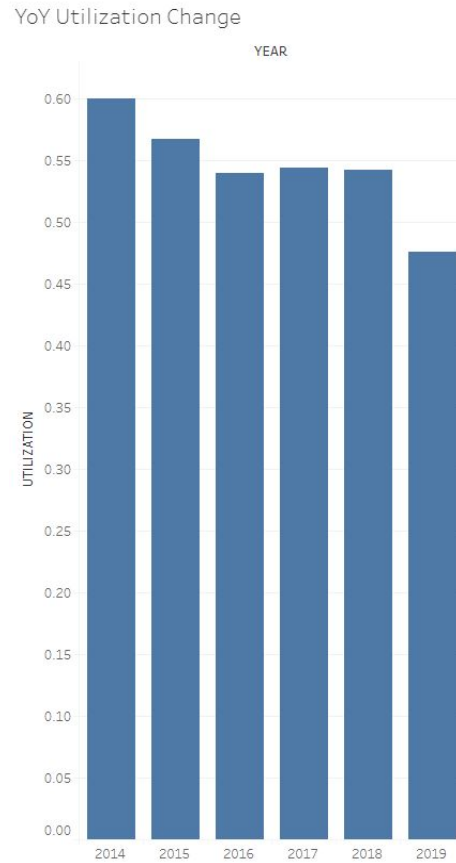
- How has overtime for court appearances changed year-over-year?

YoY Court OT Paid vs. Waste

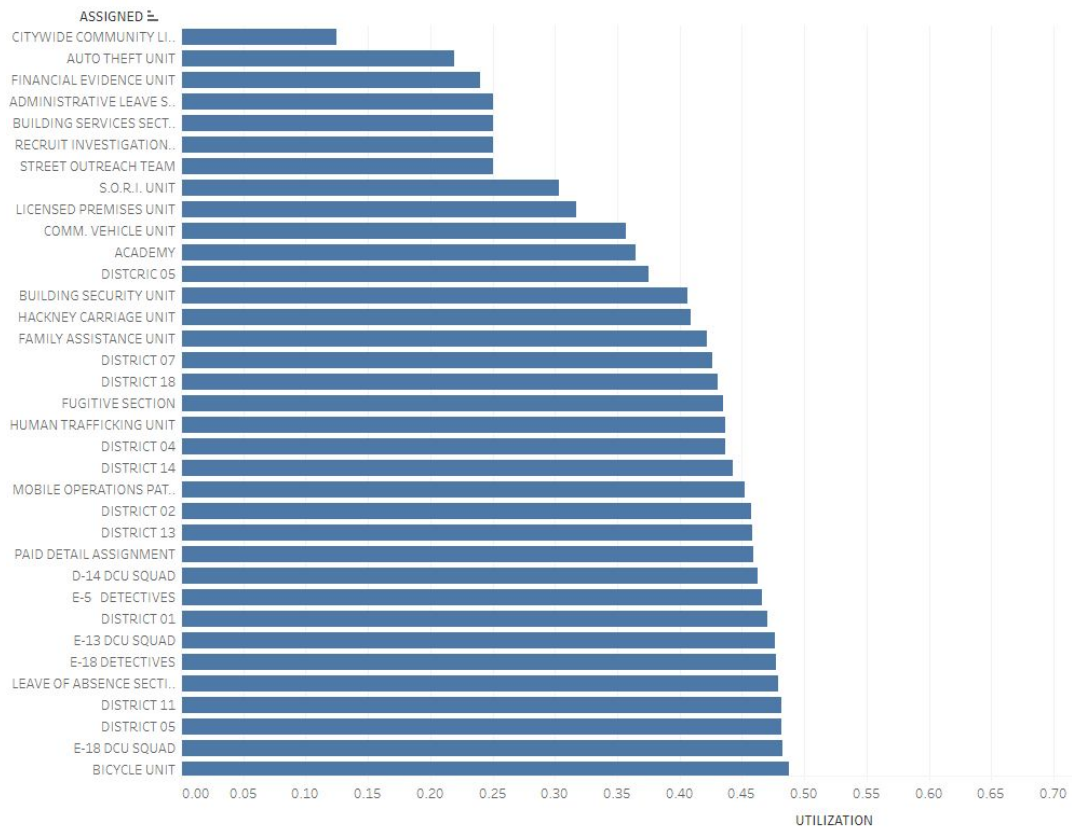


Utilization = ratio of worked hours in comparison to the hours reported

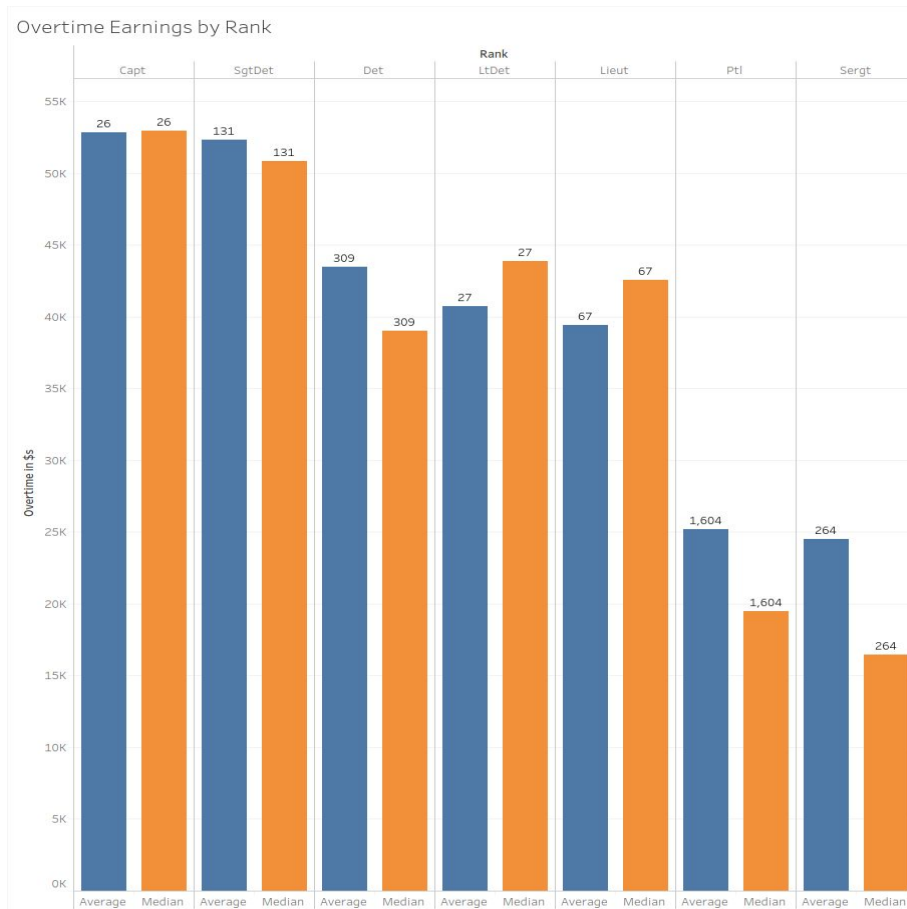
- What is the distribution of ratios of overtime worked vs. overtime paid? Are there any outliers?



Utilization by Unit

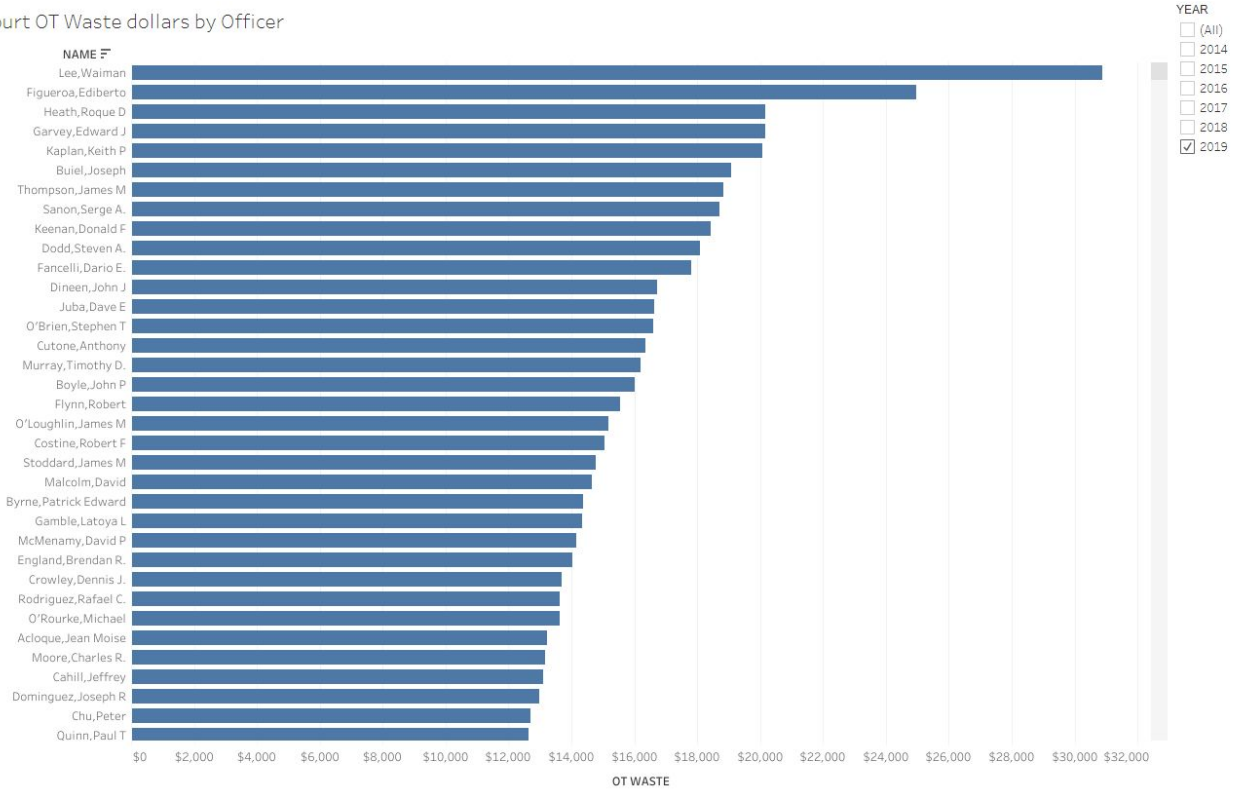


- (WRKDHRS vs. OTHOURS in the court OT database).
- Are certain officers (e.g., white, old, male, long tenure, high ranking title) more likely than others to have lower worked-to-paid ratios?



### Question 3: Using data to fill in narratives around waste & misconduct by individual BPD officers

Court OT Waste dollars by Officer



Top 10 Court OT hours

NAME	RANK	YEAR					
		2014	2015	2016	2017	2018	2019
Blair, Steven F	Det	469.8	525.0	408.5	451.5	75.0	
	Ptl					25.0	
	Sergt					7.0	
	SgtDet					5.0	
Figueroa, Ediberto	Capt					2.0	
	Det	163.0	373.5	379.0	440.3	107.8	501.3
	Lieut					3.5	
	Ptl					218.5	
Green, Stephen W	Sergt					21.5	
	SgtDet					20.8	
	Det					144.8	
	Ptl	286.0	342.5	457.0	238.3	104.8	
Heath, Roque D	Sergt					131.0	13.8
	SgtDet					34.8	205.3
	Det	154.0	253.5	294.0	273.5	132.0	405.0
	Ptl					241.8	
Kaplan, Keith P	Sergt					20.0	
	SgtDet					27.0	
	Capt					0.0	
	Det					65.3	
Keenan, Donald F	Lieut					3.3	
	Ptl	216.0	318.3	272.0	383.5	179.3	403.0
	Sergt					18.0	
	SgtDet					32.5	
Lee, Waiman	Det					150.8	
	Ptl					148.3	
	Sergt					17.0	
	SgtDet	277.3	300.8	302.8	276.0	46.0	321.3
O'Rourke, Michael	Capt					1.3	
	Det	501.3	631.0	638.0	604.5	176.0	620.3
	Ptl					277.5	
	Sergt					41.0	
Quinn, Paul T	SgtDet					30.5	
	Det					74.5	
	Lieut					0.0	
	Ptl	311.3	271.0	324.8	453.0	124.5	273.5
Stoddard, James M	Sergt					25.8	
	SgtDet						

In future deliverables/final submission, we'll be focusing on the final main points they wanted us to pinpoint with Vizzes, and explaining what our results indicate + how they can be used by the Boston City Council.