Report v2

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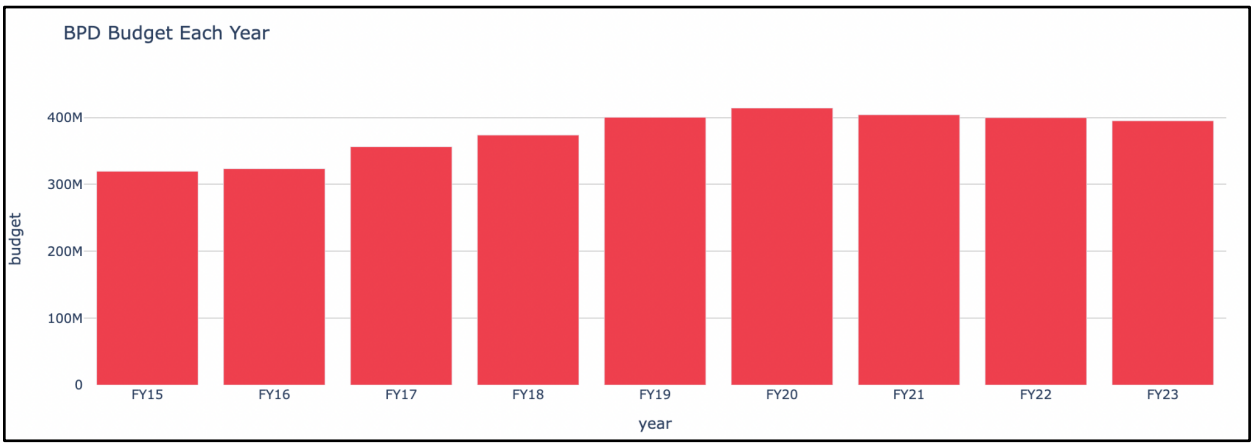
Introduction

Every year a budget is approved and adopted by the City of Boston for its police department. Our goal is to analyze and understand how funds are being allocated to and from the BPD and find any trends. This report will include our team's answers to each of the base questions given to us. Each answer will include a graph as well as an analysis of the associated budget data. The end of the report will also include our updated extension project proposal.

Note: This is a draft. Suggestions and criticism of graphs and the extension project is welcome!

Base Questions

Question 1 – BPD budget (adopted) vs previous years

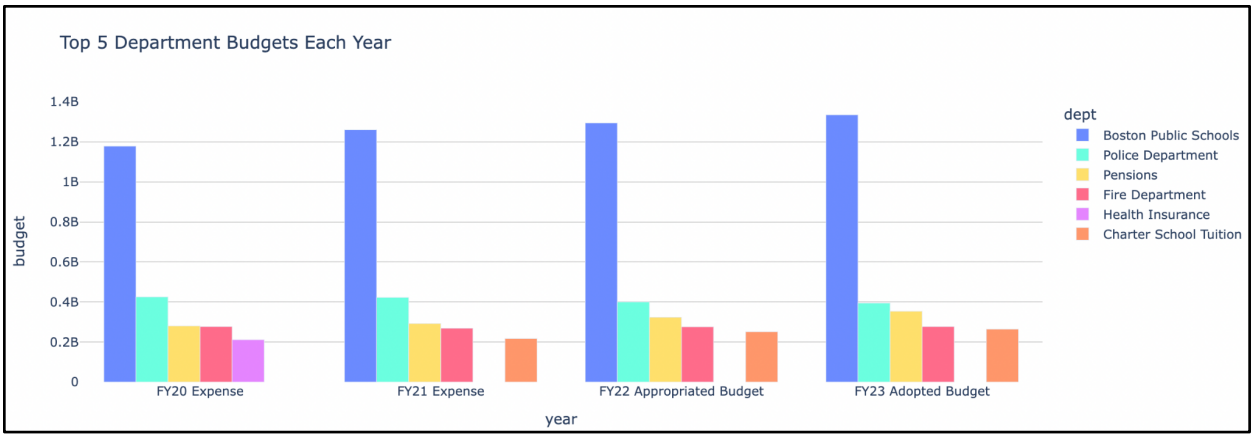


Analysis:
We can see that the adopted budget has been increasing from 2015 to 2020 but afterwards decreases slightly. In response to calls for a decrease in police spending in Boston, BPD budget has only slightly decreased, remaining mostly the same.

Data source:
Boston.gov operating budget data

Issues / limitations:
N/A

Question 2 – BPD budget vs other departments

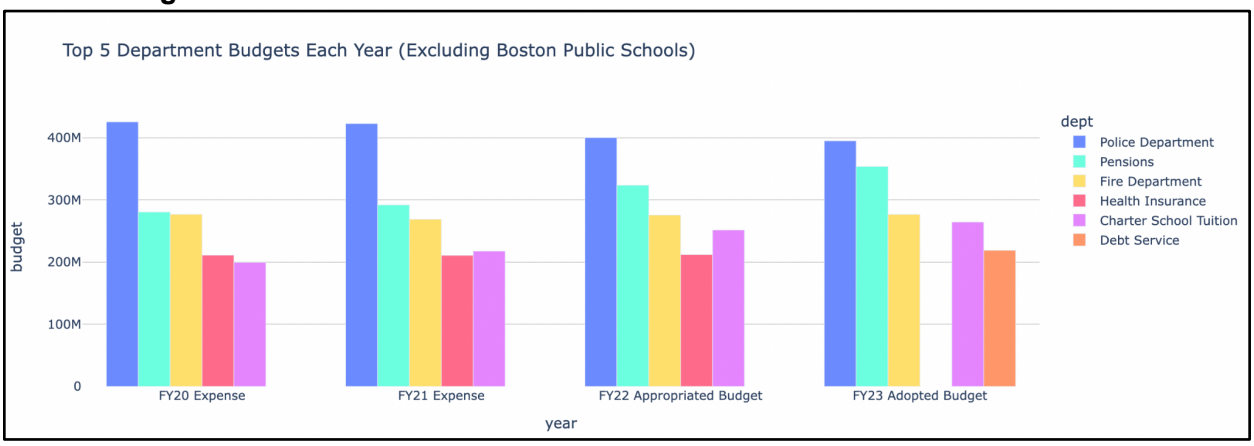


Analysis:
BPD remained the department with the second highest budget each year despite decreases in budget. BPD has the highest budget among “public safety” departments.

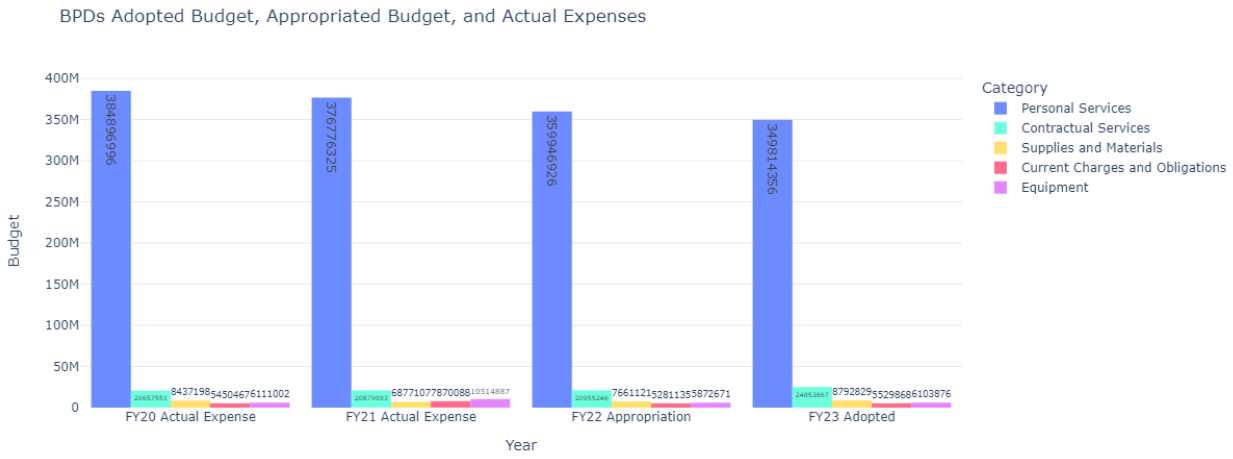
Data source: Boston.gov operating budget data

Issues / limitations:
N/A

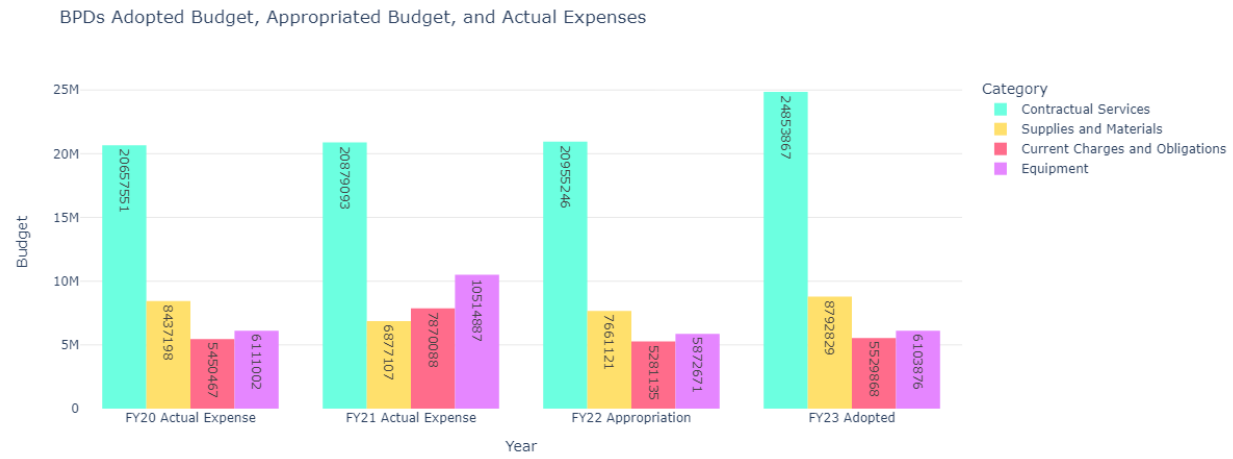
… excluding Boston Public Schools



Question 3 - BPD Budget spend categories + change over time



…



Analysis: Personal Services is the category with the highest budget. A lot more than the other categories.

Data source: Boston.gov operating budget data

Issues / limitations: N/A

Question 4 – BPD proposed vs adopted budget (changed measured values)

NOTE: We found it difficult to find proposed budget data so instead we looked at adopted budget vs appropriated budget vs actual expense data. We also believe this will give more useful information on spending throughout the year.

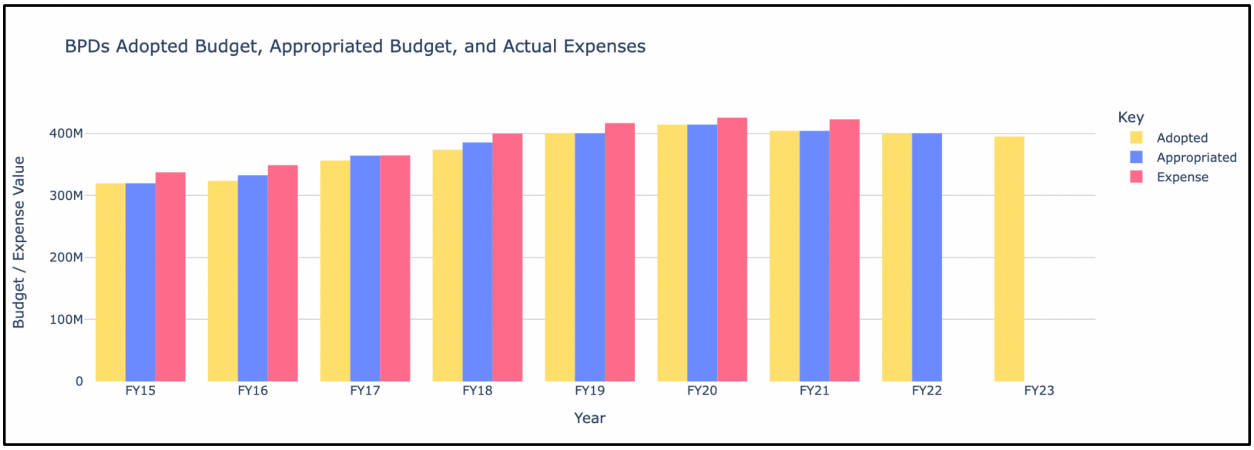
Definitions (clarified by the Budget Director of Boston):

"Adopted budget": The budget that is initially accepted by the city to use at the beginning of the financial year.

"Appropriated budget": The budget which includes supplemental budget changes that happen throughout the year.

"Actual expenses": Expenses calculated after the financial year has ended.

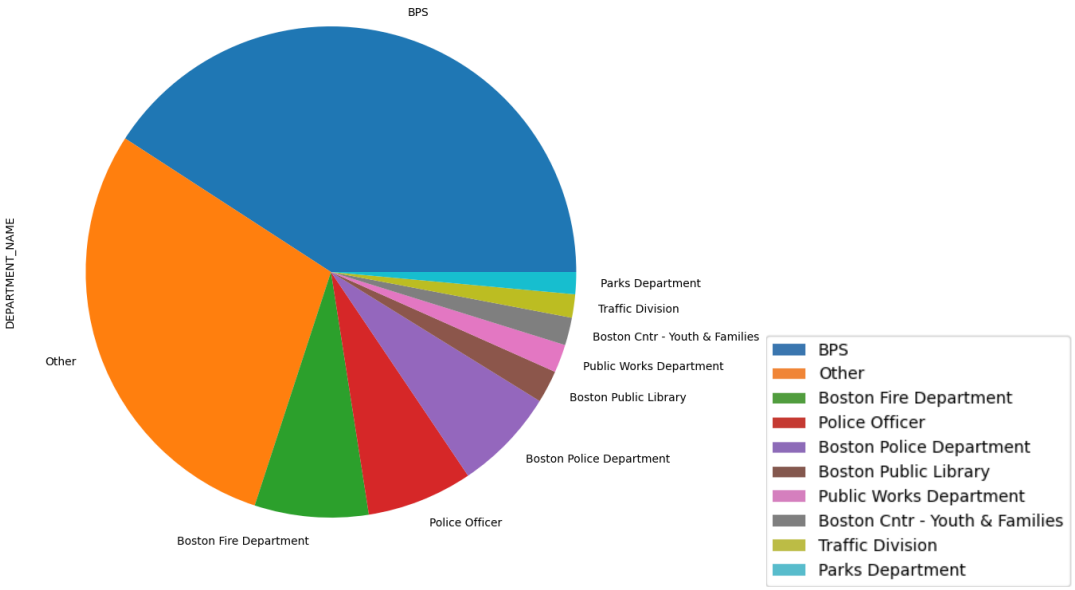
…

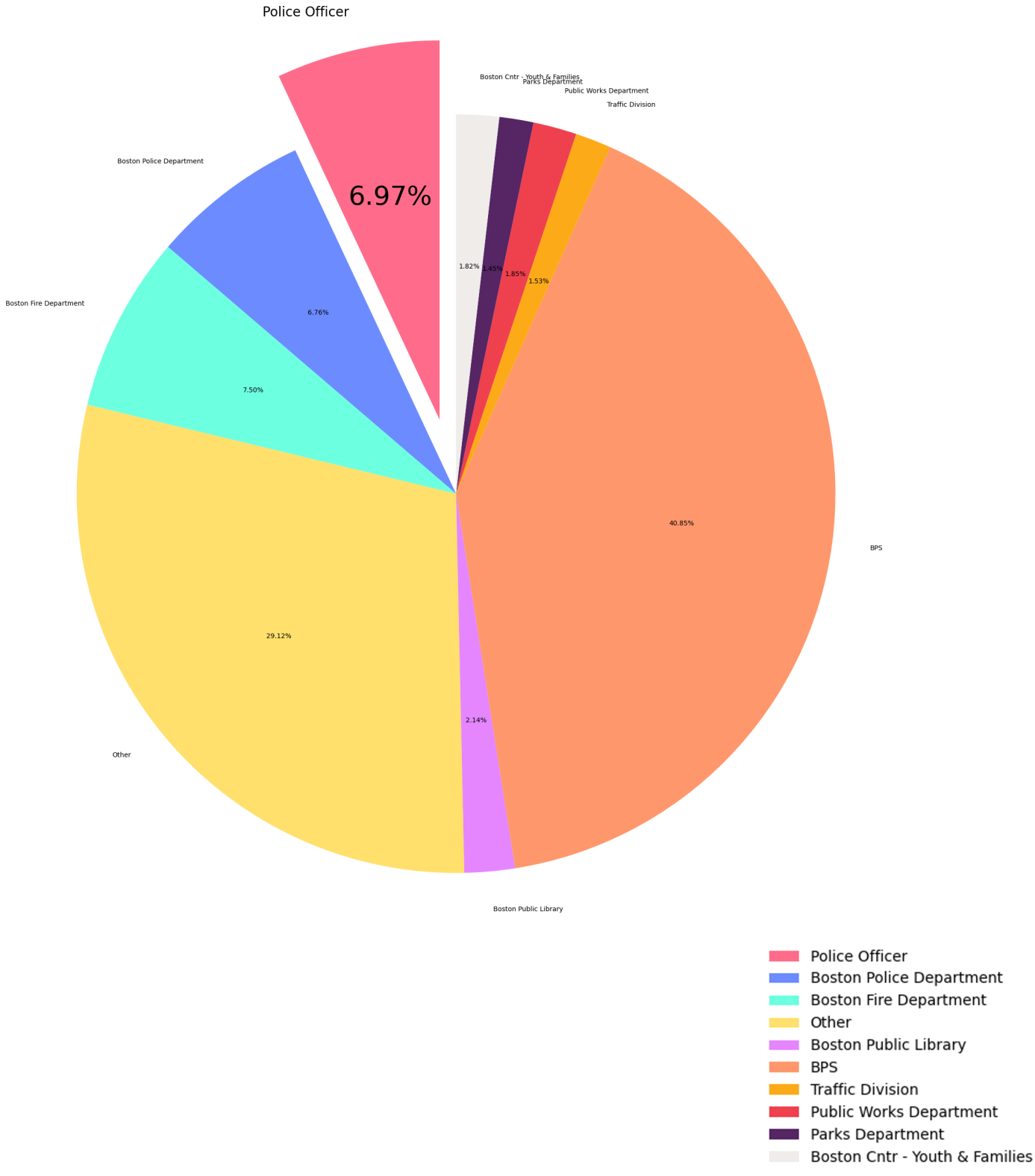


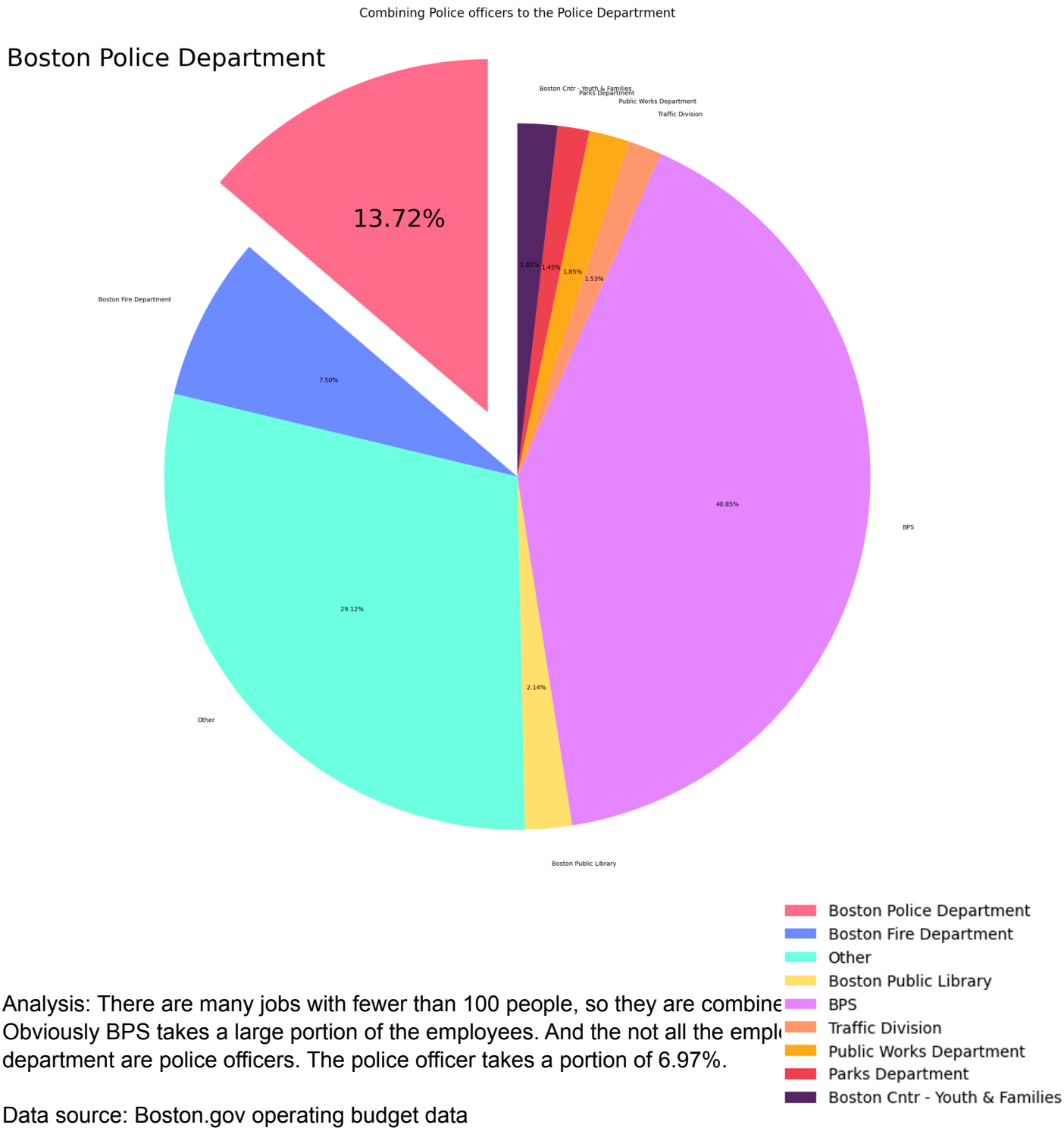
Analysis:
We can see in each financial year, the appropriated budget either matches or exceeds the adopted budget and the actual expense either matches or exceeds the appropriated budget. In every year measured, actual expenses always exceeded the adopted budget. BPD fails to stick with the budget every year. From FY15 - FY20 it seems like the adopted budget each year is based on the previous year's actual expenses which may help explain the upward trend of adopted budget in those years. We can see that the adopted budget finally stabilizes after FY20 (and even has a slight downward trend)

Data source:
Manually collected data from adopted budget report pdf posted on Boston.gov

Question 5 - Number of police officers (compared to other boston employees)


DEPARTMENT_NAME
BPS
Other
Boston Fire Department
Police Officer
Boston Police Department
Boston Public Library
Public Works Department
Boston Cntr - Youth & Families
Traffic Division
Parks Department


Police Officer
6.97%
Boston Police Department
6.76%
Boston Fire Department
7.50%
Other
29.12%
Boston Public Library
2.14%
BPS
40.85%
Traffic Division
1.53%
Public Works Department
1.85%
Parks Department
1.45%
Boston Cntr - Youth & Families
1.82%
Police Officer
Boston Police Department
Boston Fire Department
Other
Boston Public Library
BPS
Traffic Division
Public Works Department
Parks Department
Boston Cntr - Youth & Families

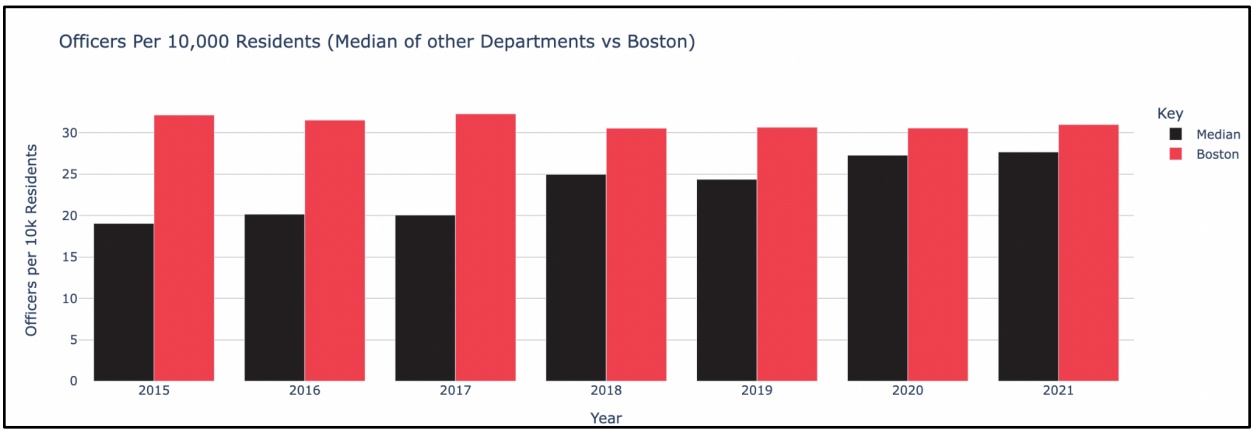


Analysis: There are many jobs with fewer than 100 people, so they are combine
Obviously BPS takes a large portion of the employees. And the not all the empl
department are police officers. The police officer takes a portion of 6.97%.

Data source: Boston.gov operating budget data

Issues / limitations: N/A

Question 6 – Number of BPD officers per 10,000 residents

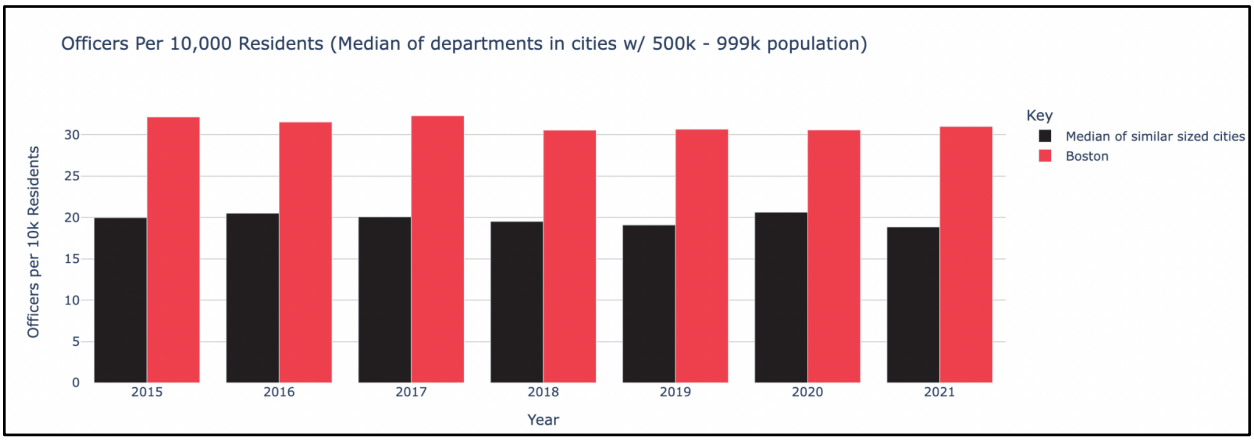


Analysis:
Boston constantly ranks higher than the median in terms of officers per 10k residents. Boston's officers per 10k pop has decreased slightly over the years but has generally stayed the same. Meanwhile the median has steadily increased (read limitations section).

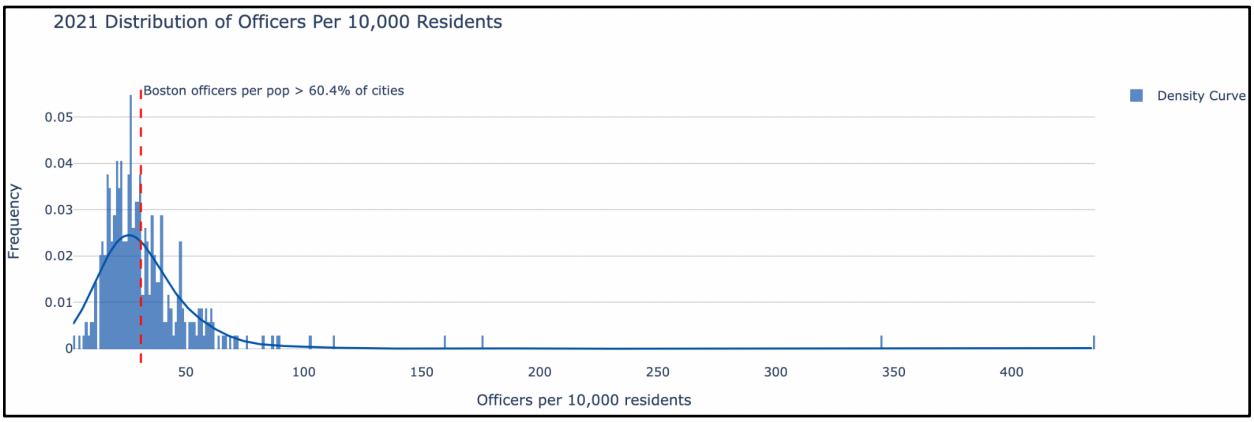
Data source:
FBI Uniform Crime Reporting data

Issues / limitations:
Interestingly, the number of cities which submitted UCR data has been steadily decreasing. This is because UCR is not mandatory! The upward trend of median could potentially be explained by this. Another possible factor is that larger cities (which typically have larger police forces and more resources) may continue to report UCR while smaller cities may have opted out.

… same but we only look at cities of similar population to Boston (500k - 999k pop)



Question 6.2 – Another way of displaying the same data

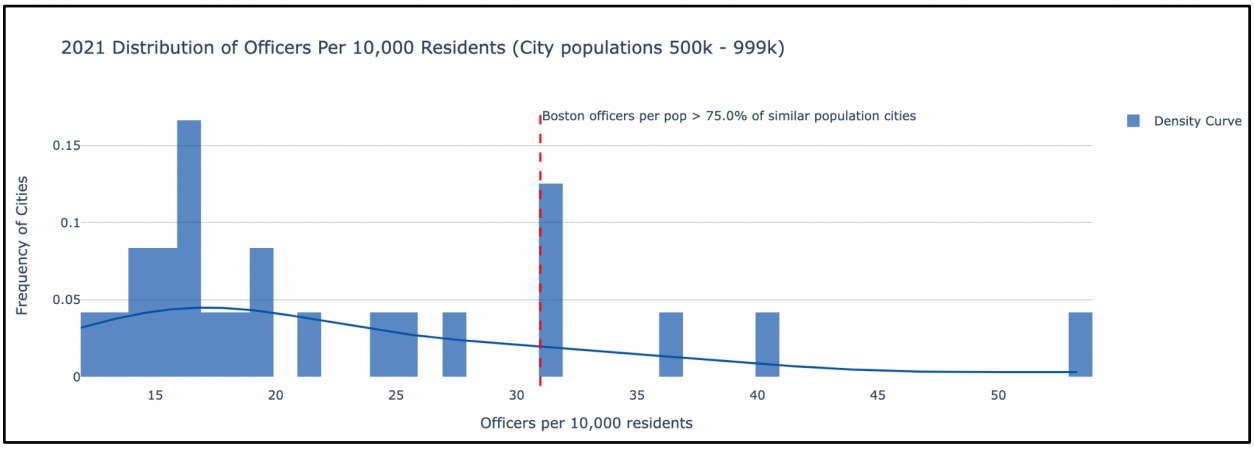


Analysis:
This is a different way of displaying the "Officers / 10k residents" statistic. We are able to see where Boston lies compared to other cities. Boston's percentile is also displayed

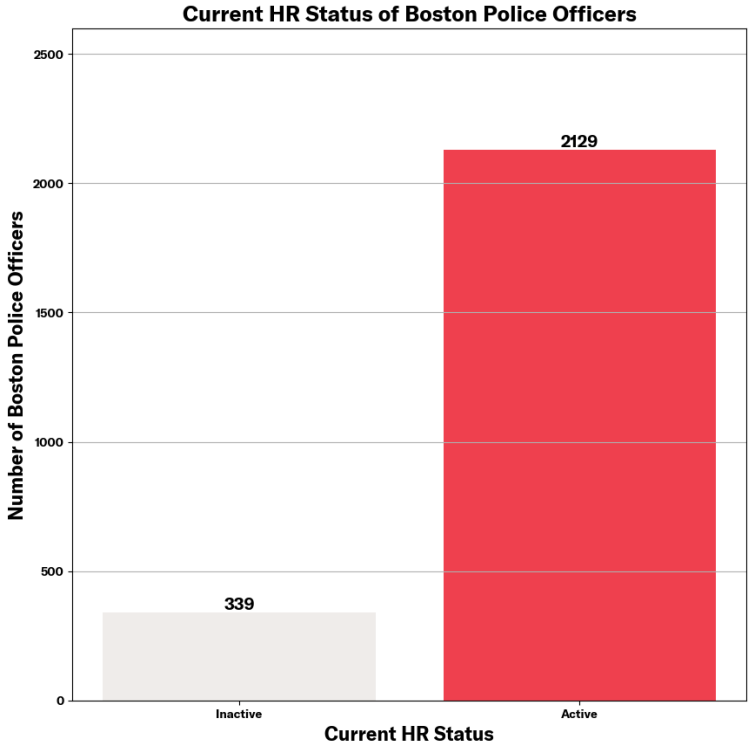
Issues:

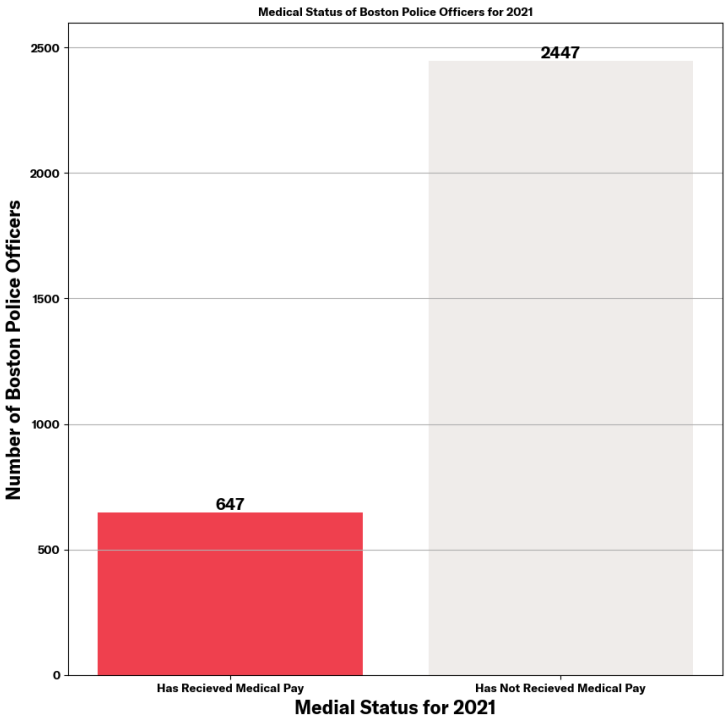
- Outliers
- Can only plot values for 1 year

… same but we only look at cities of similar population to Boston (500k - 999k pop)

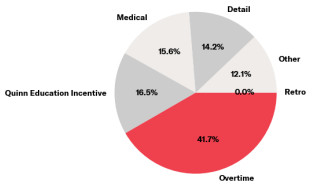


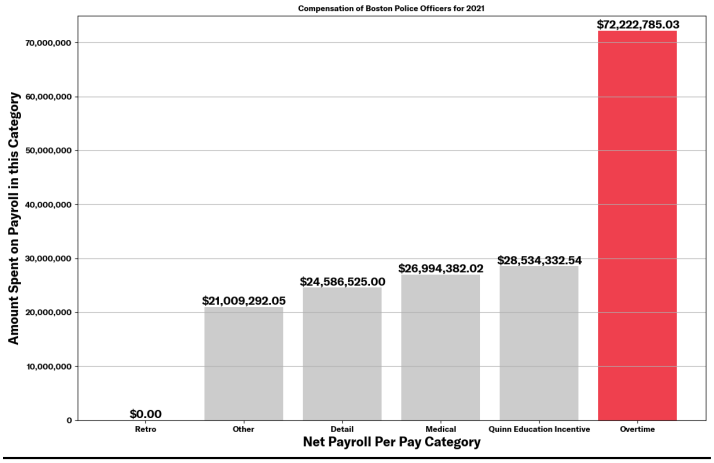
Question 7 - Number of Police Officers Active, Medical Leave, etc.

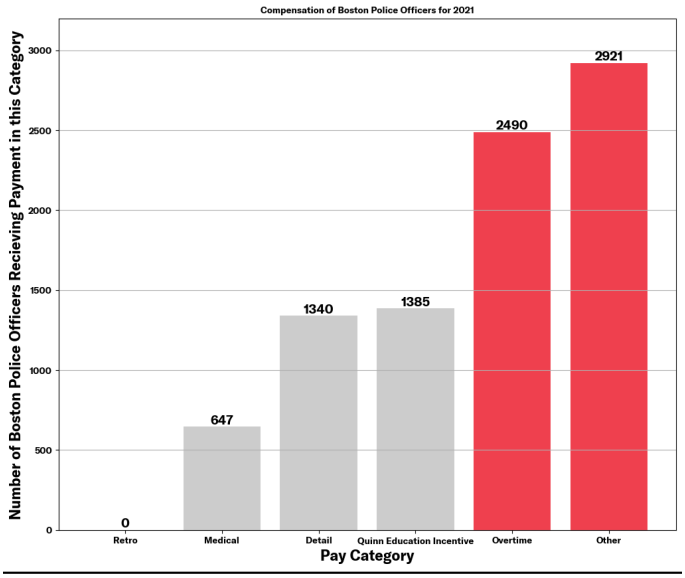




The first graph shows the number of BPD officers active vs inactive, to the right we have a graph showing the number of BPD officers who have received medical compensation this fiscal year.

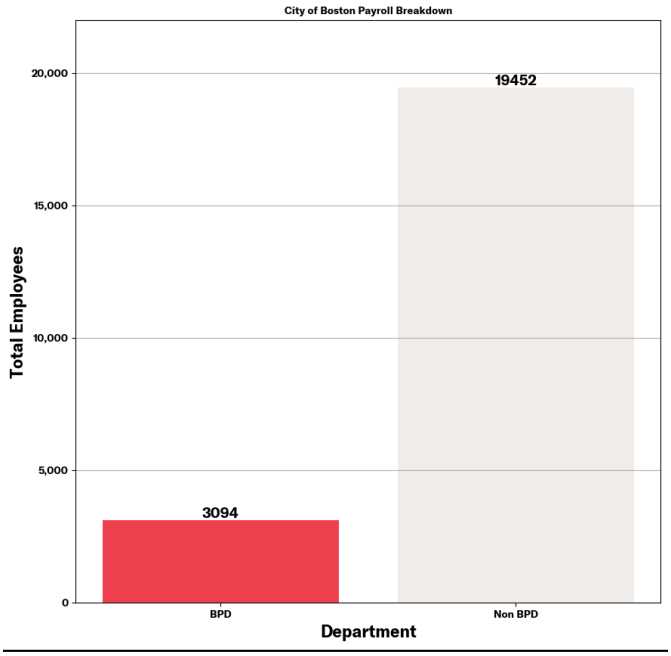


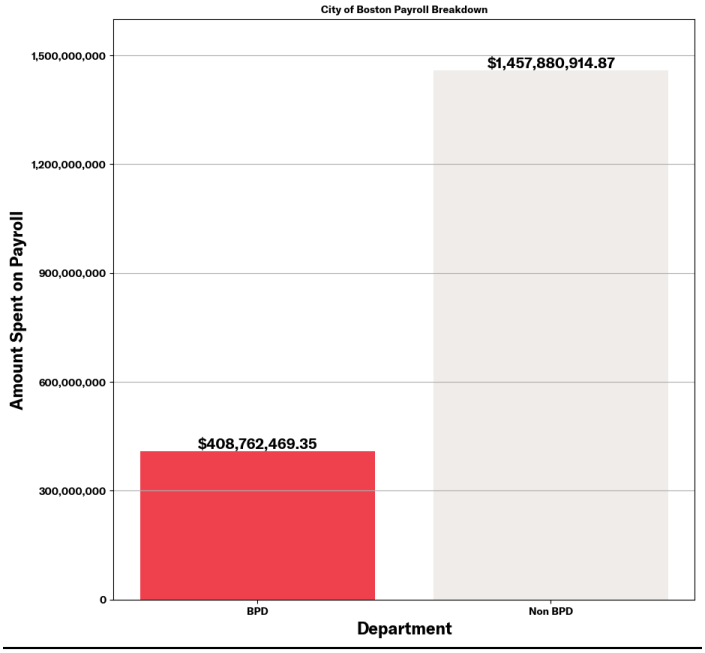


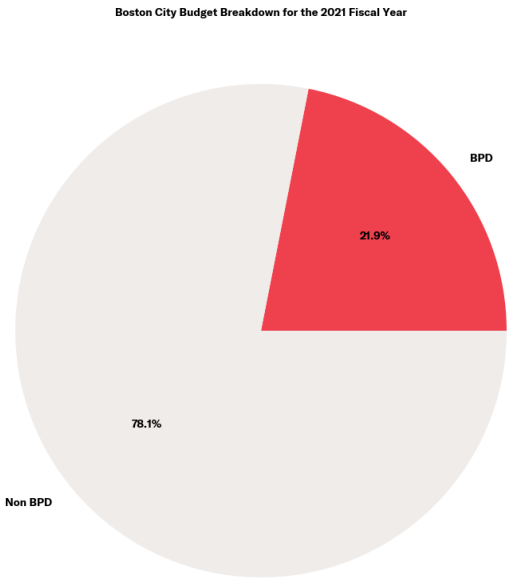


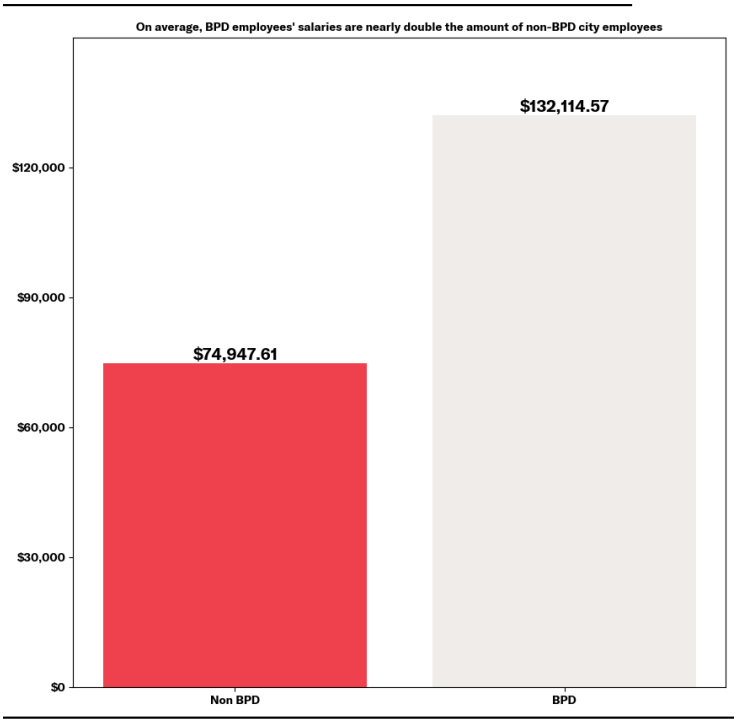
The graph above shows the number of BPD officers receiving payments in the 6 major payment categories. To the right we see that same compensation but in the form of the sum being said to said officers. We can see that the averages for each category will be as expected since each graph follows an almost identical trend.

Question 8 - Employee compensation comparison to non-BPD employees

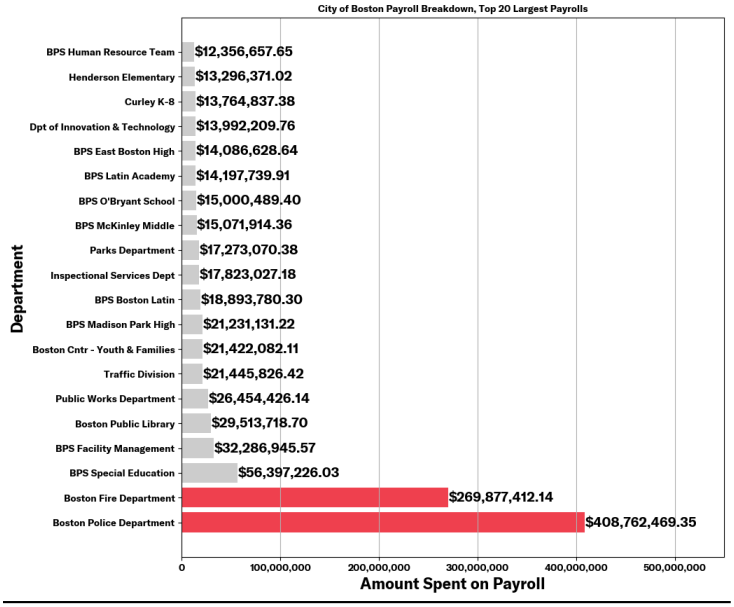

City of Boston Payroll Breakdown
20,000
15,000
10,000
5,000
0
Total Employees
19452
3094
BPD
Non BPD
Department

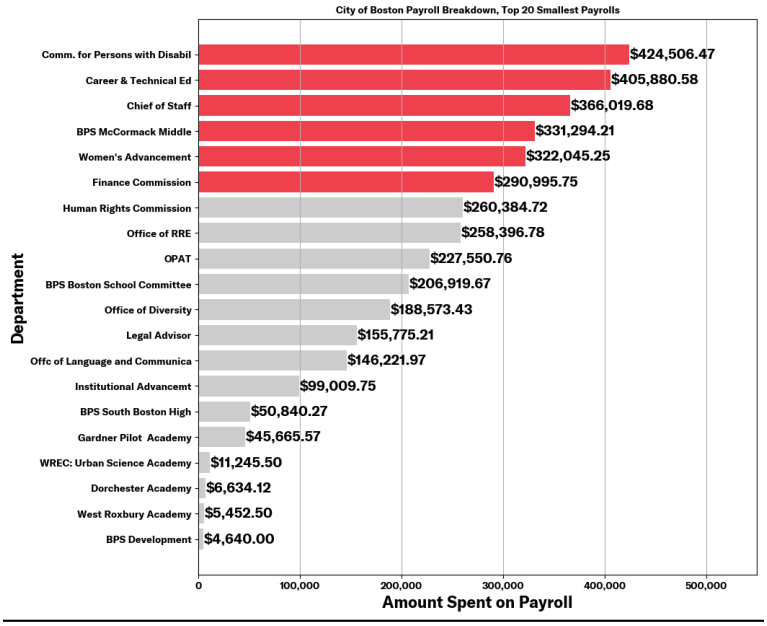

City of Boston Payroll Breakdown
1,500,000,000
1,200,000,000
900,000,000
600,000,000
300,000,000
0
Amount Spent on Payroll
$1,457,880,914.87
$408,762,469.35
BPD
Non BPD
Department

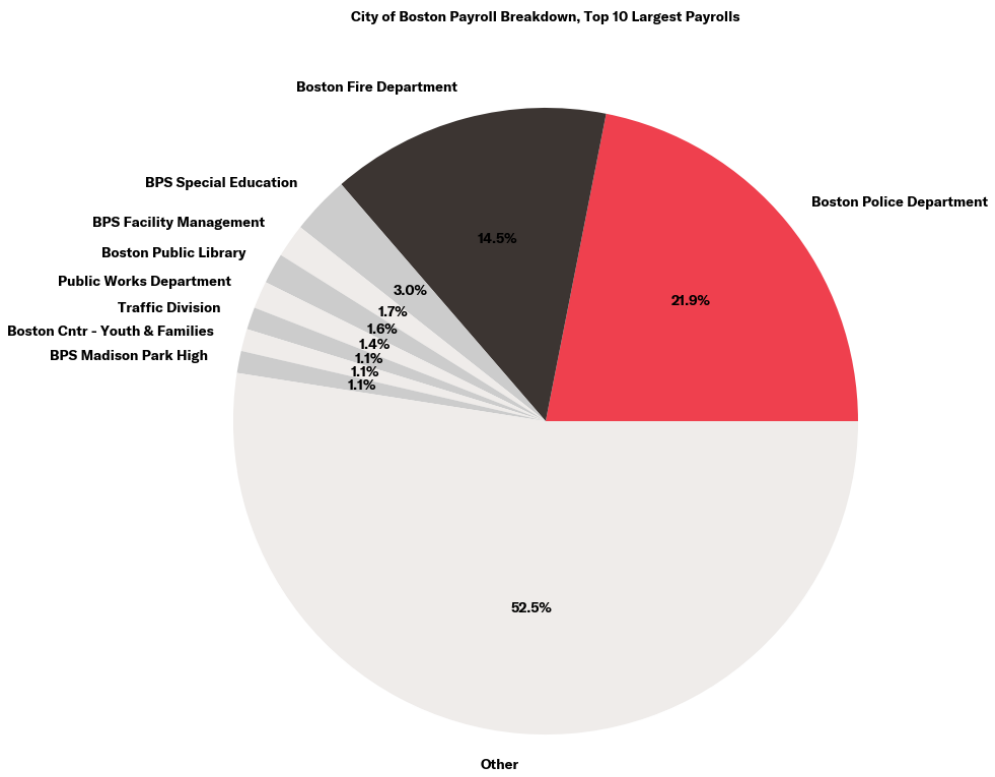




The graph above shows the number of employees in the Boston Police Department vs the rest of the city. To the right we have that same graph but using the sum of the BPD's payroll vs the rest of the cities departments payrolls. On the bottom left we have another graph showing the average salary for a BPD employee vs an employee working for any other department in the city. The pie chart to the right displays this same data however using percentages. From these graphs we can see that a BPD employee's average salary is nearly double that of the average salary of an employee working for any other department in the city of Boston.

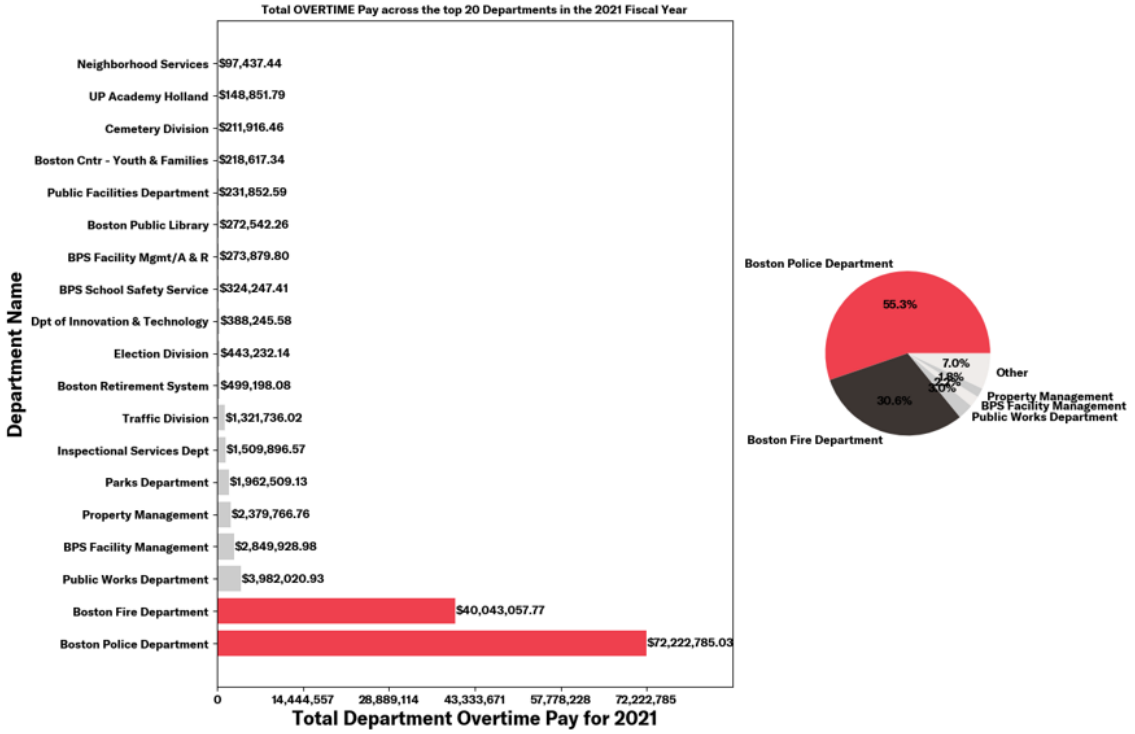

City of Boston Payroll Breakdown, Top 20 Largest Payrolls
Department
BPS Human Resource Team $12,356,657.65
Henderson Elementary $13,296,371.02
Curley K-8 $13,764,837.38
Dpt of Innovation & Technology $13,992,209.76
BPS East Boston High $14,086,628.64
BPS Latin Academy $14,197,739.91
BPS O'Bryant School $15,000,489.40
BPS McKinley Middle $15,071,914.36
Parks Department $17,273,070.38
Inspectional Services Dept $17,823,027.18
BPS Boston Latin $18,893,780.30
BPS Madison Park High $21,231,131.22
Boston Cntr - Youth & Families $21,422,082.11
Traffic Division $21,445,826.42
Public Works Department $26,454,426.14
Boston Public Library $29,513,718.70
BPS Facility Management $32,286,945.57
BPS Special Education $56,397,226.03
Boston Fire Department $269,877,412.14
Boston Police Department $408,762,469.35
0
100,000,000
200,000,000
300,000,000
400,000,000
500,000,000
Amount Spent on Payroll

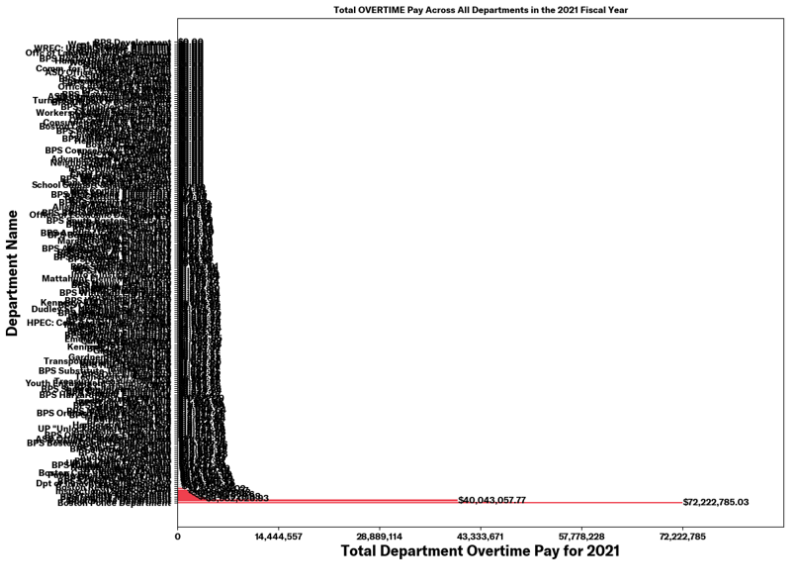

City of Boston Payroll Breakdown, Top 20 Smallest Payrolls
Department
Comm. for Persons with Disabil $424,506.47
Career & Technical Ed $405,880.58
Chief of Staff $366,019.68
BPS McCormack Middle $331,294.21
Women's Advancement $322,045.25
Finance Commission $290,995.75
Human Rights Commission $260,384.72
Office of RRE $258,396.78
OPAT $227,550.76
BPS Boston School Committee $206,919.67
Office of Diversity $188,573.43
Legal Advisor $155,775.21
Offc of Language and Communica $146,221.97
Institutional Advancemt $99,009.75
BPS South Boston High $50,840.27
Gardner Pilot Academy $45,665.57
WREC: Urban Science Academy $11,245.50
Dorchester Academy $6,634.12
West Roxbury Academy $5,452.50
BPS Development $4,640.00
0
100,000
200,000
300,000
400,000
500,000
Amount Spent on Payroll

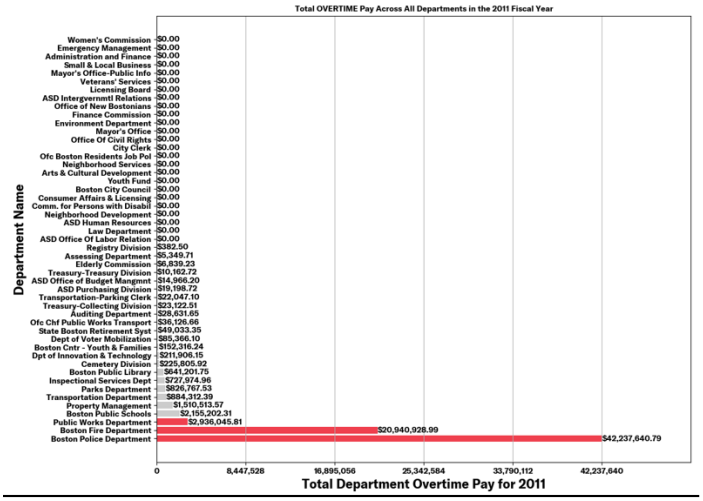


Above we have the 20 smallest total payrolls in the city of Boston for the 2021 fiscal year, to the right we have a graph of the 20 largest payrolls in the city of Boston for the 2021 fiscal year. Below we have a pie chart displaying the 10 largest payrolls with the 10th category being all other departments as a whole. From these graphs we can see the massive size of the Boston Police Department Payroll in comparison to the remainder of the city. Being that the Boston Police Department Payroll makes us over 21.9% of the city's total payroll.

9 - Total overtime of top departments + over time


Total OVERTIME Pay across the top 20 Departments in the 2021 Fiscal Year
Department Name
Neighborhood Services
UP Academy Holland
Cemetery Division
Boston Cntr - Youth & Families
Public Facilities Department
Boston Public Library
BPS Facility Mgmt/A & R
BPS School Safety Service
Dpt of Innovation & Technology
Election Division
Boston Retirement System
Traffic Division
Inspectional Services Dept
Parks Department
Property Management
BPS Facility Management
Public Works Department
Boston Fire Department
Boston Police Department
$97,437.44
$148,851.79
$211,916.46
$218,617.34
$231,852.59
$272,542.26
$273,879.80
$324,247.41
$388,245.58
$443,232.14
$499,198.08
$1,321,736.02
$1,509,896.57
$1,962,509.13
$2,379,766.76
$2,849,928.98
$3,982,020.93
$40,043,057.77
$72,222,785.03
0
14,444,557
28,889,114
43,333,671
57,778,228
72,222,785
Total Department Overtime Pay for 2021
Boston Police Department
55.3%
7.0%
Other
Property Management
BPS Facility Management
Public Works Department
30.6%
Boston Fire Department

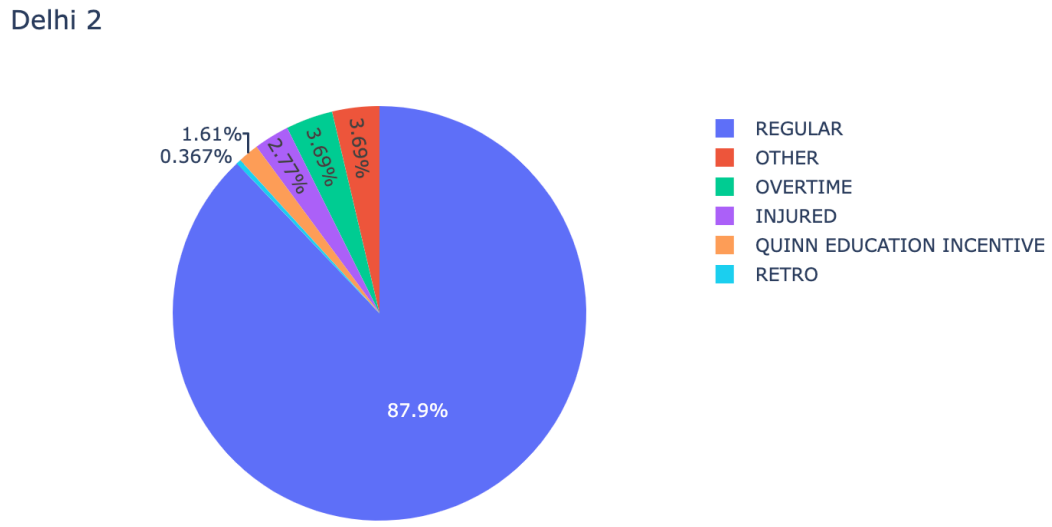




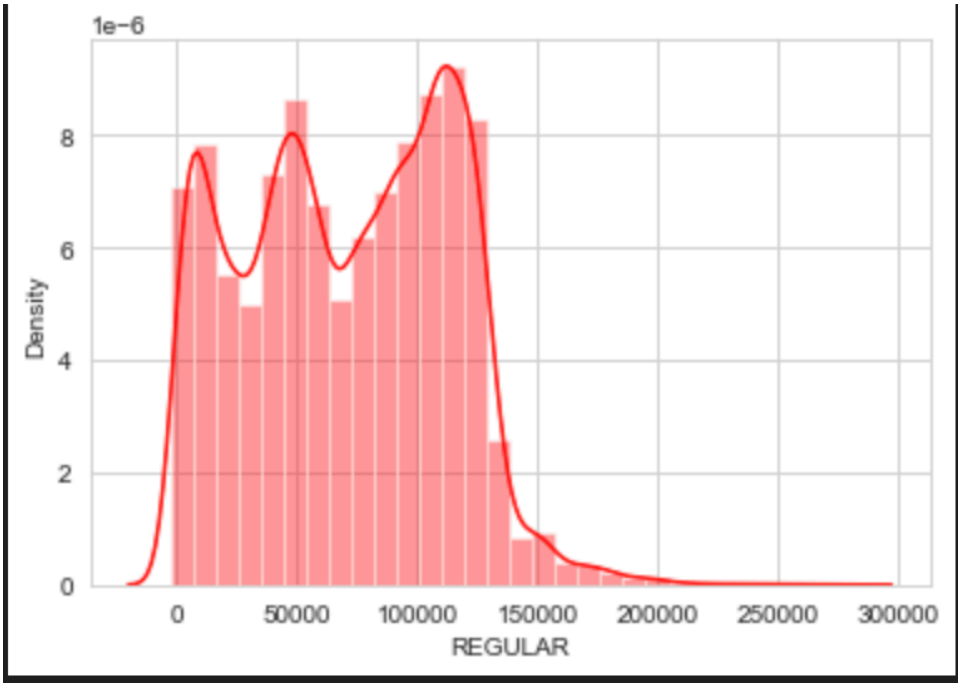
The graph above shows the total amount paid for overtime across the top 20 Departments. To the right of this graph we have a pie chart showing the same data however using percentages rather than the sum of the payroll category. Below we have two graphs both showing the same data as well however with an expanded scope. The graph on the bottom left shows overtime pay across all departments for the 2021 fiscal year, while the graph to the right shows overtime pay across all departments for the 2011 fiscal year. We can see from these graphs that the Boston Police Department's overtime pay makes up over 50% of the city's total overtime pay.

Interestingly enough the data for both the top and bottom graphs from 2021-2011 looked very similar as we can see with the bottom graphs. As a result I choose to neglect all other years, however the graphs are present in the github repository.

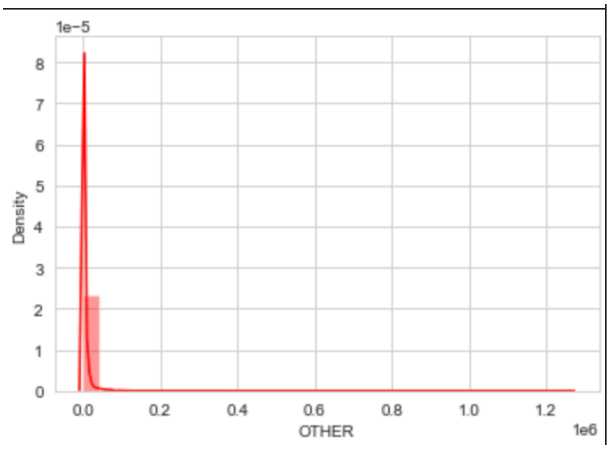
Question 10 Payroll distribution over time (base, overtime, retro, detail, etc.)

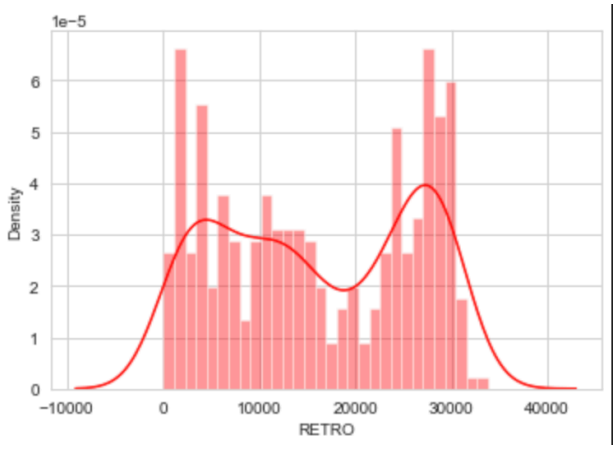


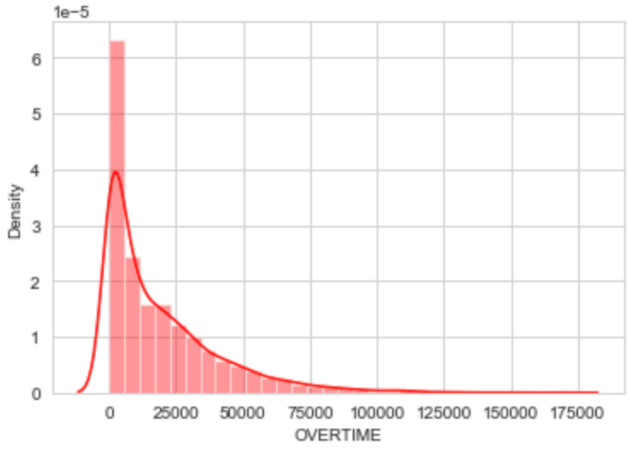
This is the pir chart of total pay roll type. Base the above pie chart. We can see that regular(base) is taking the majority of the of the payroll which is 87.9% while other takes 3.69% overtime takes 3.69%, retro takes 0.367%, quinn education incentive takes about 1.61%, and injured takes 2.77%.

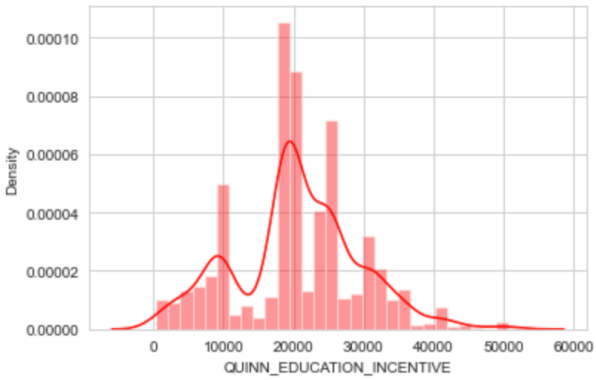


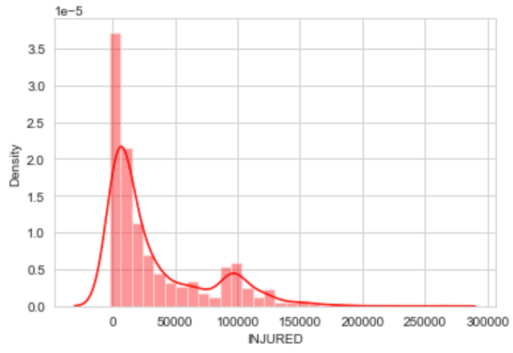
From the above pie chart we can see the regular pay is the majority. This graph shows the density distribution of regular pay. We can see the regular(Base) payroll is most clustered in the range 50000 to 120000.





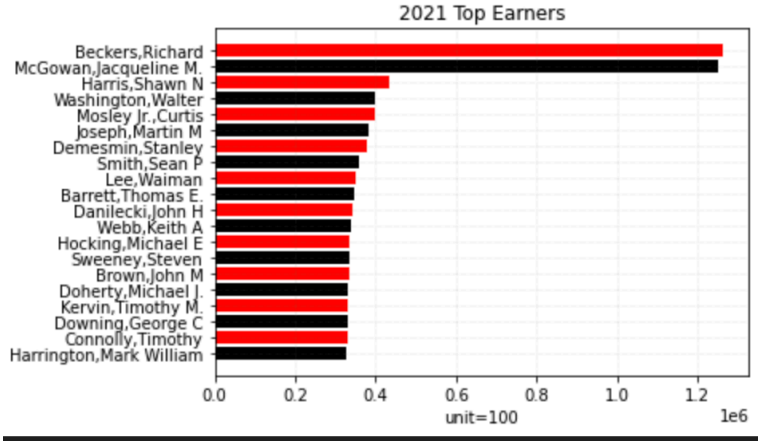




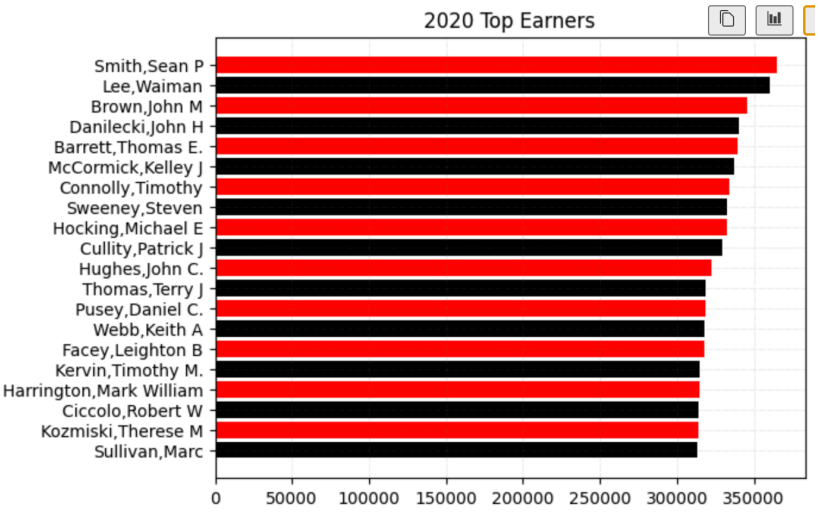


These graphs show the density distribution of other payroll types. We can find other, overtime and injured distributions show a smaller mean value than the median, which means these are the overall low wage.

Question 11 Top 20 Earners (change from previous year)

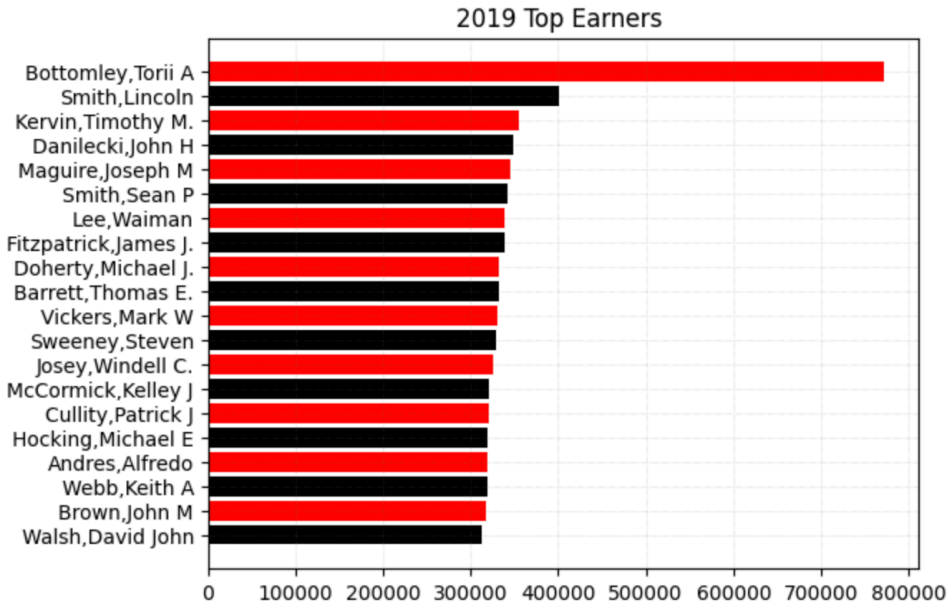


The top 20 earners for 2021 are
Beckers,Richard, McGowan,Jacqueline M., Harris,Shawn N, 'Washington,Walter, Mosley Jr.,Curtis, Joseph,Martin M, Demesmin,Stanley, Smith,Sean P, Lee,Waiman, Barrett,Thomas E., Danilecki,John H, Webb,Keith A, Hocking,Michael E, Sweeney,Steven, Brown,John M, Doherty,Michael J., Kervin,Timothy M., Downing,George C, Connolly,Timothy, Harrington,Mark William.

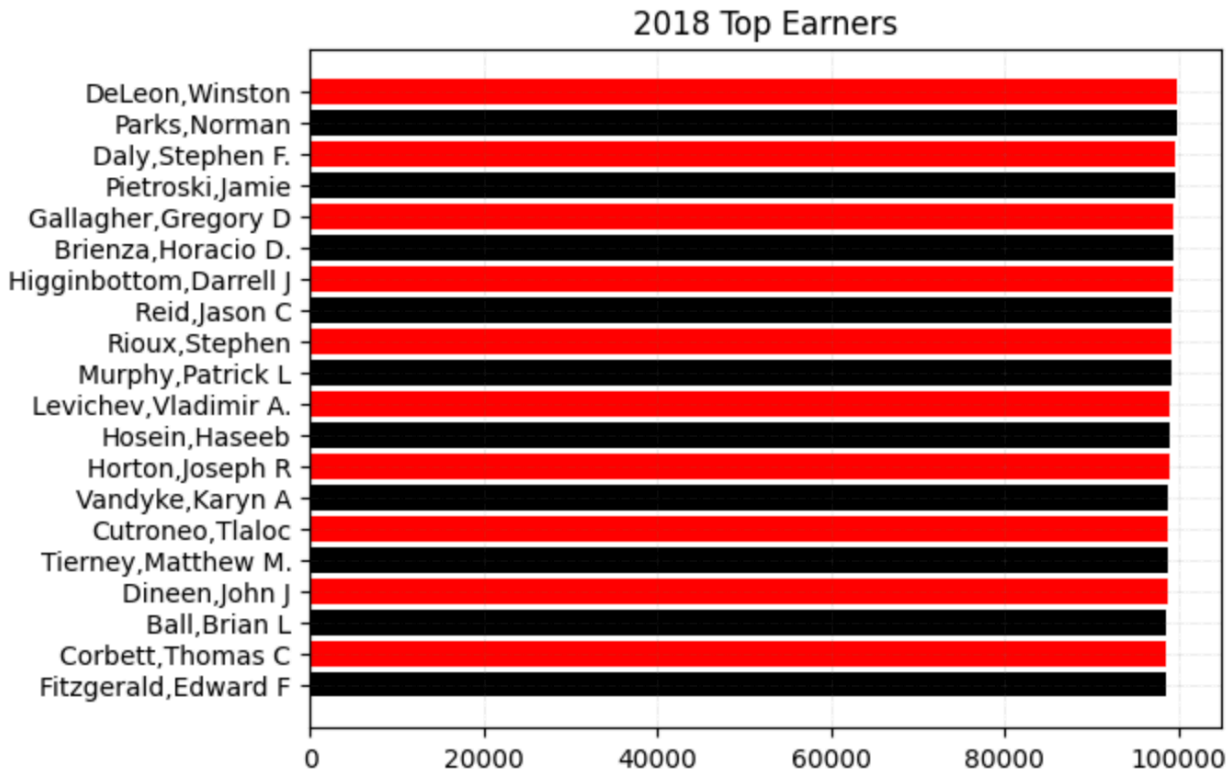


The top 20 owners for 2022 are

Smith,Sean P, Lee,Waiman, Brown,John M, Danilecki,John H, Barrett,Thomas E., McCormick,Kelley J, Connolly,Timothy, Sweeney,Steven, Hocking,Michael E, Cullity,Patrick J, Hughes,John C., Thomas,Terry J, Pusey,Daniel C., Webb,Keith A, Facey,Leighton B, Kervin,Timothy M., Harrington,Mark William, Ciccolo,Robert W, Kozmiski,Therese M, Sullivan,Marc

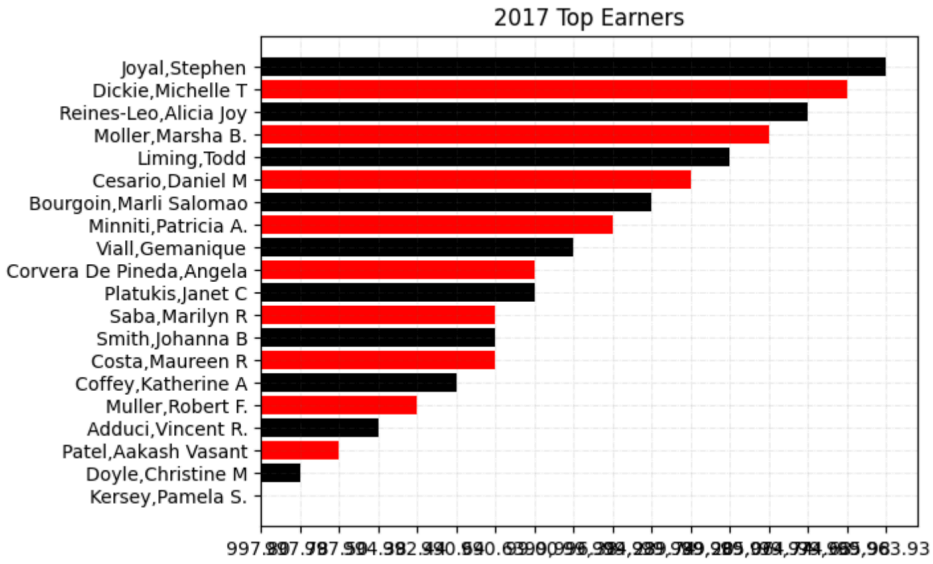


The top 20 earners for 2019 are
Bottomley,Torii A, Smith,Lincoln, Kervin,Timothy M., Danilecki,John H, Maguire,Joseph M, 'Smith,Sean P, Lee,Waiman, Fitzpatrick,James J., Doherty,Michael J., Barrett,Thomas E., 'Vickers,Mark W, Sweeney,Steven, Josey,Windell C., McCormick,Kelley J, Cullity,Patrick J, 'Hocking,Michael E, Andres,Alfredo, Webb,Keith A, Brown,John M, Walsh,David John

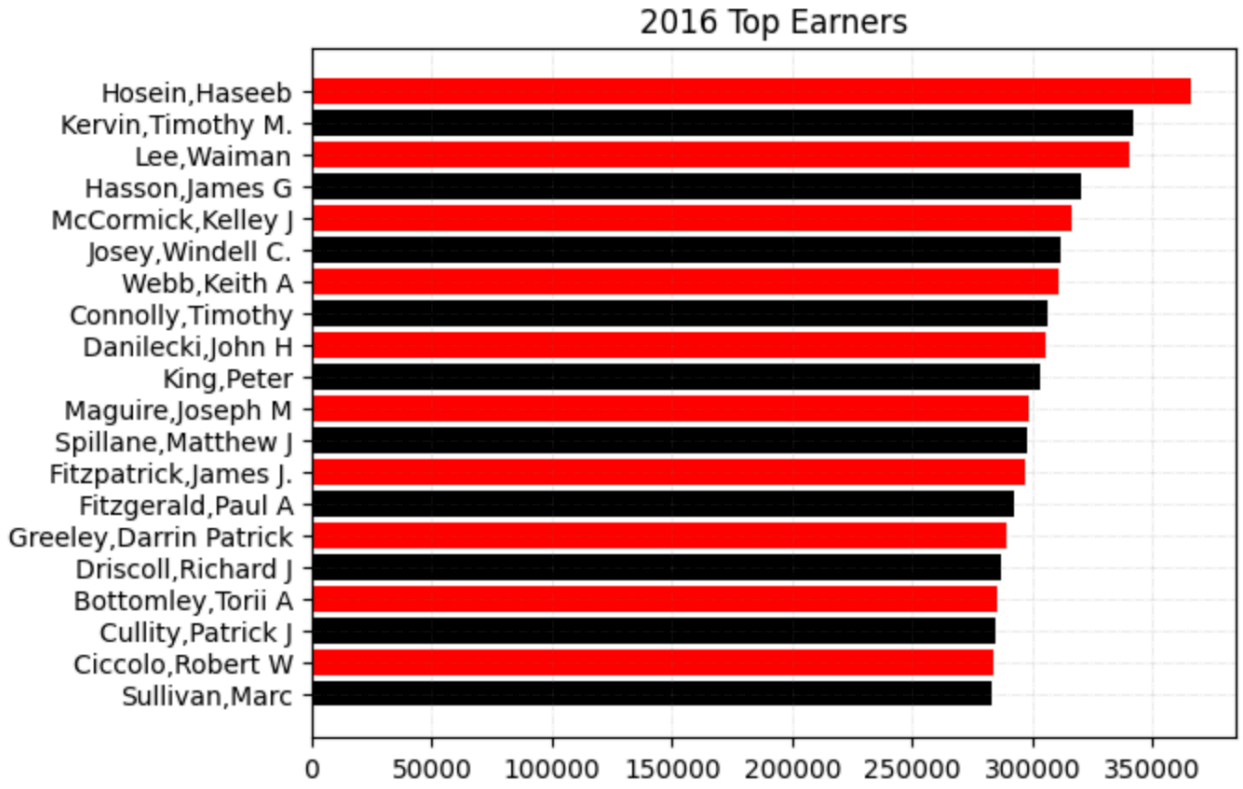


Top 20 earners for 2018 are

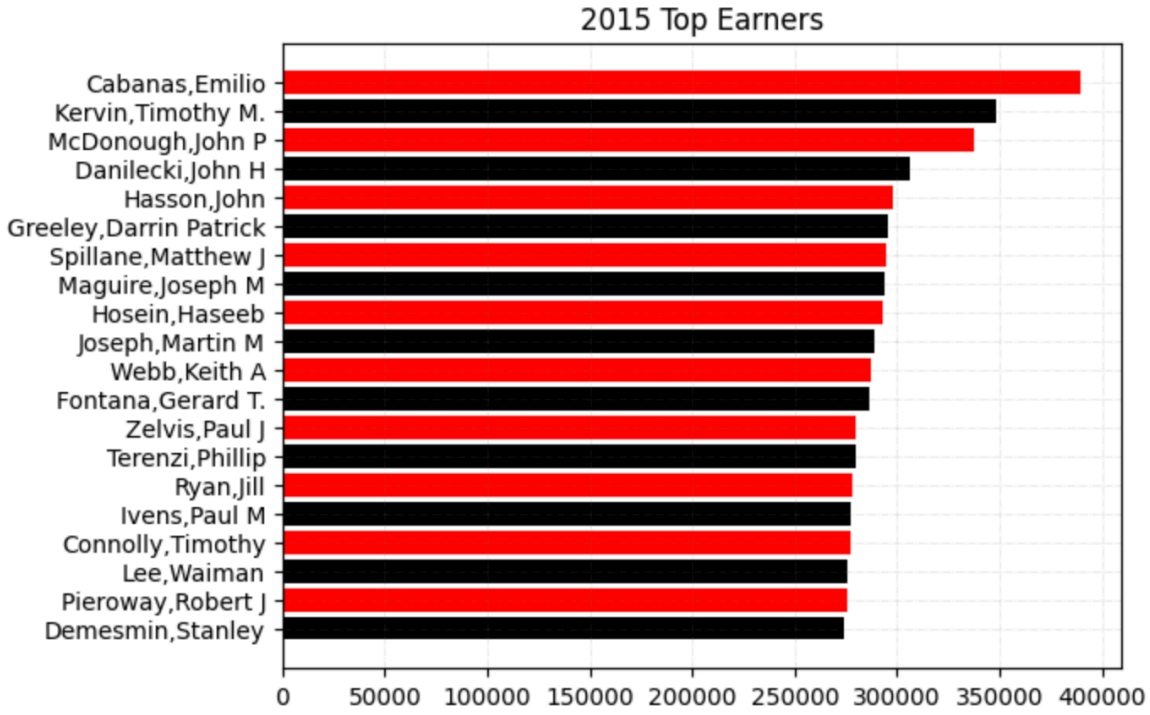
DeLeon,Winston, Parks,Norman, Daly,Stephen F., Pietroski,Jamie, Gallagher,Gregory D, Brienza,Horacio D., Higginbottom,Darrell J, Reid,Jason C, Rioux,Stephen, Murphy,Patrick L ,Levichev,Vladimir A., Hosein,Haseeb, Horton,Joseph R, Vandyke,Karyn A, Cutroneo,Tlaloc, Tierney,Matthew M., Dineen,John J, Ball,Brian L, Corbett,Thomas C, Fitzgerald,Edward F



Top 20 earners for 2017 are
Kersey,Pamela S., Doyle,Christine M, Patel,Aakash Vasant, Adduci,Vincent R., Muller,Robert F., Coffey,Katherine A, Costa,Maureen R, Smith,Johanna B, Saba,Marilyn R, Platukis,Janet C, Corvera De Pineda,Angela, Viall,Germanique, Minniti,Patricia A., Bourgoin,Marli Salomao, Cesario,Daniel M, Liming,Todd, Moller,Marsha B., Reines-Leo,Alicia Joy, Dickie,Michelle T, Joyal,Stephen

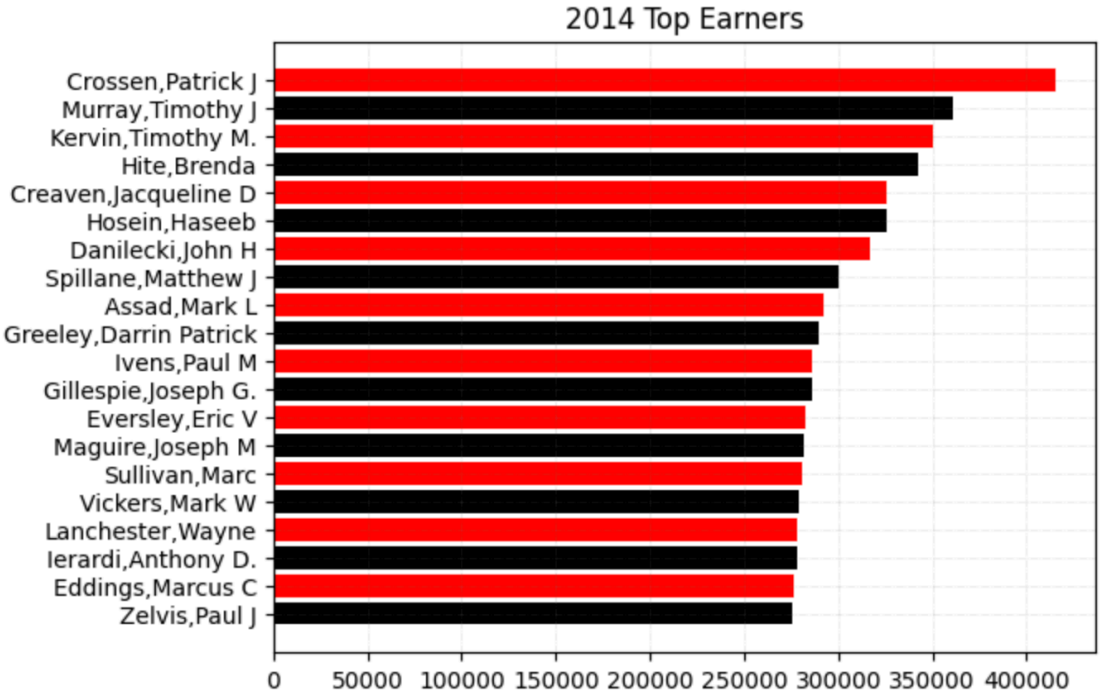


Top 20 earners for 2016 are
Hosein,Haseeb, Kervin,Timothy M., Lee,Waiman, Hasson,James G, McCormick,Kelley J, Josey,Windell C., Webb,Keith A, Connolly,Timothy, Danilecki,John H, King,Peter, Maguire,Joseph M, Spillane,Matthew J, Fitzpatrick,James J., Fitzgerald,Paul A, Greeley,Darrin Patrick, Driscoll,Richard J, Bottomley,Torii A, Cullity,Patrick J, Ciccolo,Robert W, Sullivan,Marc



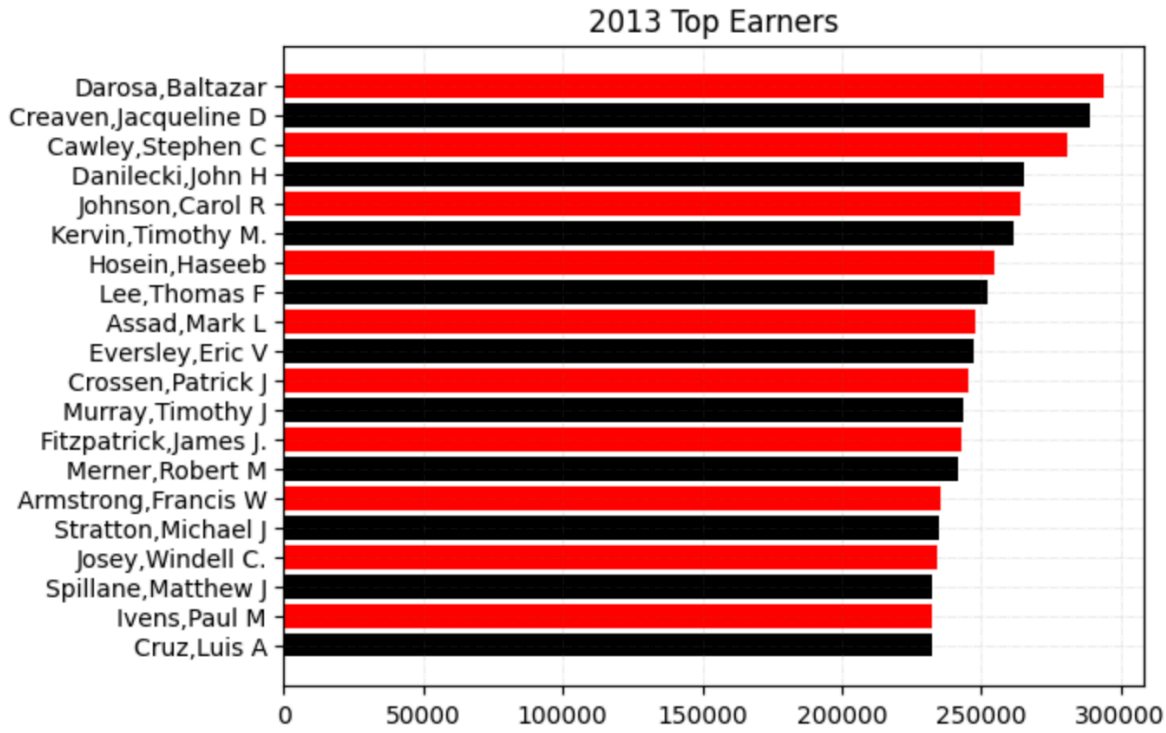
Top 20 earners for 2015

Cabanas,Emilio, Kervin,Timothy M., McDonough,John P, Danilecki,John H, Hasson,John, Greeley,Darrin Patrick, Spillane,Matthew J, Maguire,Joseph M, Hosein,Haseeb, Joseph,Martin M, Webb,Keith A, Fontana,Gerard T., Zelvis,Paul J, Terenzi,Phillip, Ryan,Jill, Ivens,Paul M, Connolly,Timothy, Lee,Waiman, Pieroway,Robert J, Demesmin,Stanley



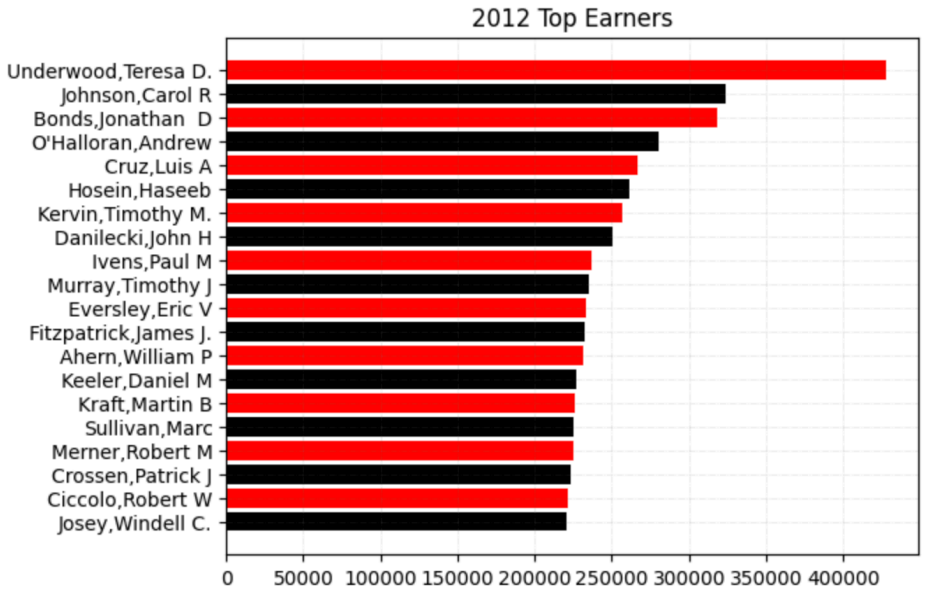
Top 20 earners for 2014

Crossen,Patrick J, Murray,Timothy J, Kervin,Timothy M., Hite,Brenda, Creaven,Jacqueline D, Hosein,Haseeb, Danilecki,John H, Spillane,Matthew J, Assad,Mark L, Greeley,Darrin Patrick, Ivens,Paul M, Gillespie,Joseph G., Eversley,Eric V, Maguire,Joseph M, Sullivan,Marc, Vickers,Mark W, Lanchester,Wayne, Ierardi,Anthony D., Eddings,Marcus C, Zelvis,Paul J

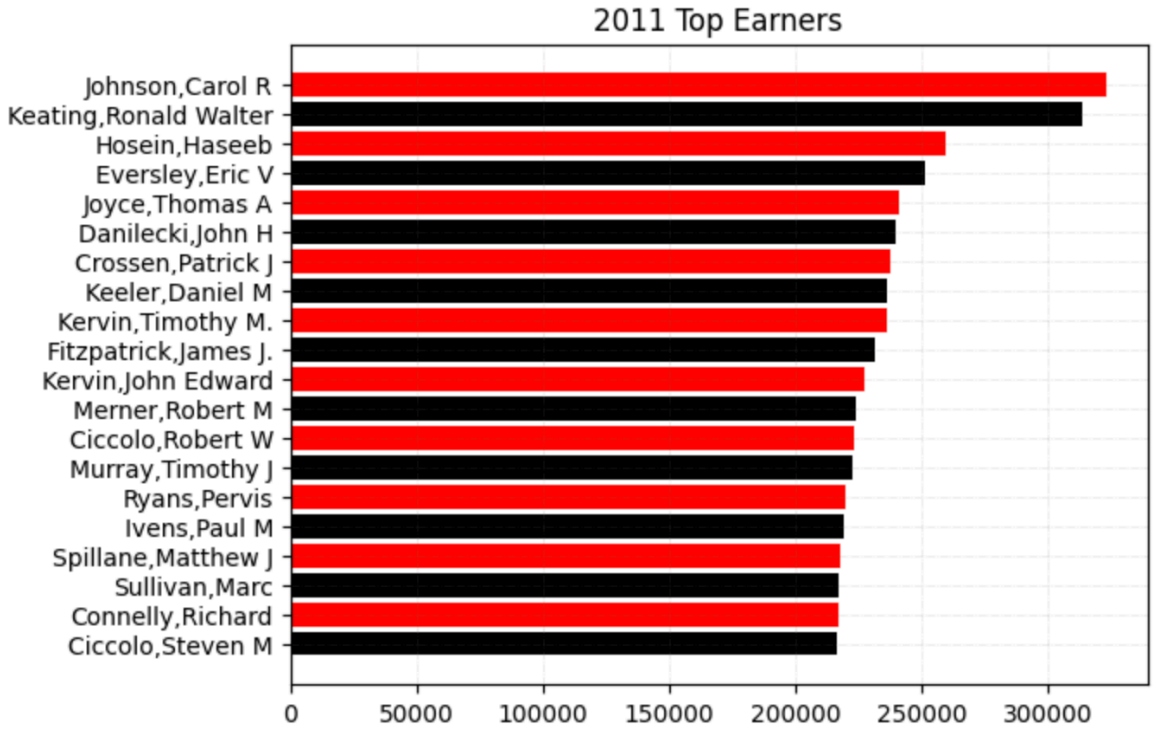


Top 20 earners for 2013

Darosa,Baltazar, Creaven,Jacqueline D, Cawley,Stephen C, Danilecki,John H, Johnson,Carol R, Kervin,Timothy M., Hosein,Haseeb, Lee,Thomas F, Assad,Mark L, Eversley,Eric V, Crossen,Patrick J, Murray,Timothy J, Fitzpatrick,James J., Merner,Robert M, Armstrong,Francis W, Stratton,Michael J, Josey,Windell C., Spillane,Matthew J, Ivens,Paul M, Cruz,Luis A



Top 20 earners for 2012:
Underwood,Teresa D., Johnson,Carol R, Bonds,Jonathan D, O'Halloran,Andrew, Cruz,Luis A, Hosein,Haseeb, Kervin,Timothy M., Danilecki,John H, Ivens,Paul M, Murray,Timothy J, Eversley,Eric V, Fitzpatrick,James J., Ahern,William P, Keeler,Daniel M, Kraft,Martin B, Sullivan,Marc, Merner,Robert M, Crossen,Patrick J, Ciccolo,Robert W, Josey,Windell C.



Top 20 earners for 2011

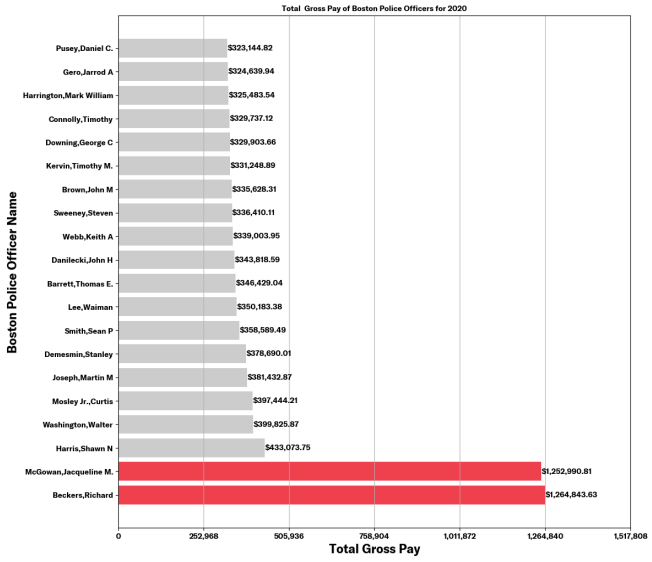
Johnson,Carol R, Keating,Ronald Walter, Hosein,Haseeb, Eversley,Eric V, Joyce,Thomas A, Danilecki,John H, Crossen,Patrick J, Keeler,Daniel M, Kervin,Timothy M., Fitzpatrick,James J., Kervin,John Edward, Merner,Robert M, Ciccolo,Robert W, Murray,Timothy J, Ryans,Pervis, Ivens,Paul M, Spillane,Matthew J, Sullivan,Marc, Connelly,Richard, Ciccolo,Steven M

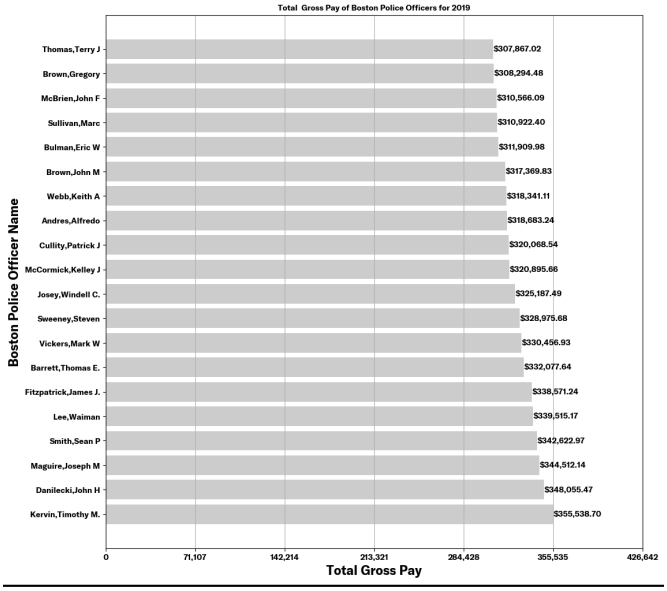
Base on the above information, from 2019 to 2021 the following people are always in top 20 earners.
From 2019 to 2021: Lee,Waiman, Brown,John M, Smith,Sean P, Sweeney,Steven, Kervin,Timothy M., Danilecki,John H, Hocking,Michael E, Webb,Keith A, Barrett,Thomas E.

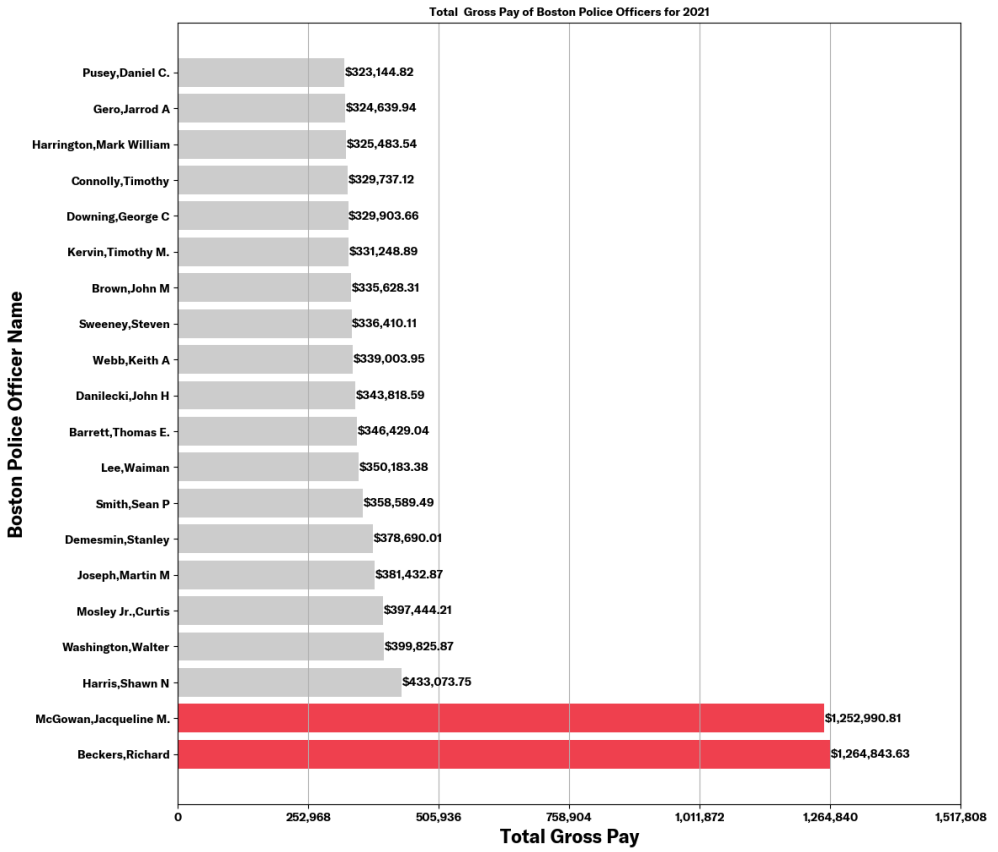
There are no duplicated top 20 earners from 2016 to 2019.

From 2011 to 2016 the following people always on the top 20 earners.
Danilecki,John H, Hosein,Haseeb, Kervin,Timothy M

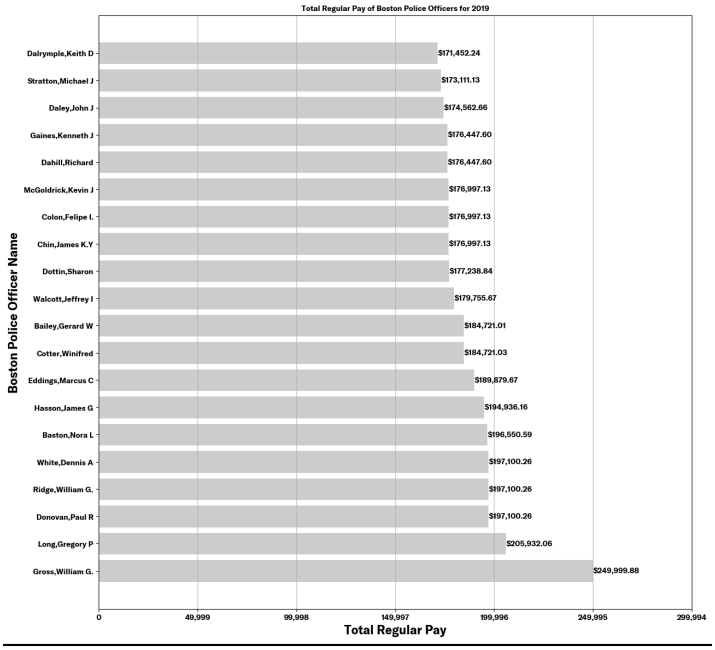
12 - Top 20 Earners (OT, Base, Other)

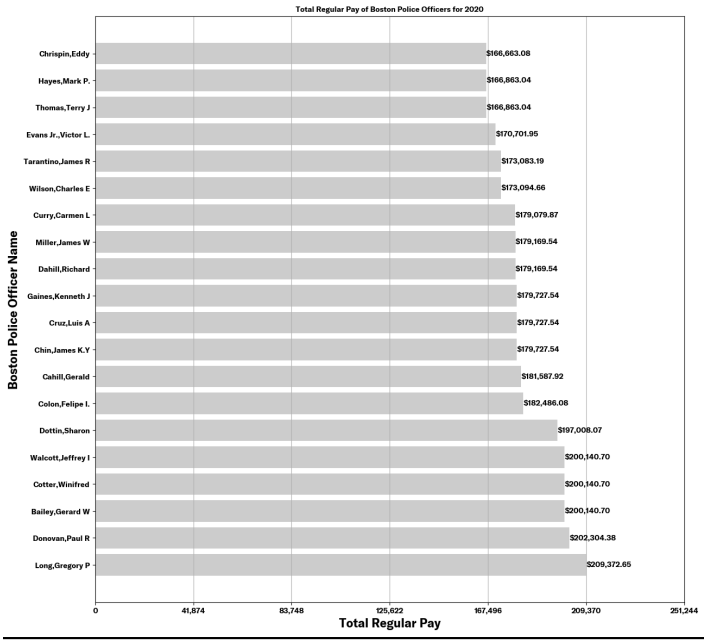

Total Gross Pay of Boston Police Officers for 2020
Boston Police Officer Name
Pusey,Daniel C.
$323,144.82
Gero,Jarrod A
$324,639.94
Harrington,Mark William
$325,483.54
Connolly,Timothy
$329,737.12
Downing,George C
$329,903.66
Kervin,Timothy M.
$331,248.89
Brown,John M
$335,628.31
Sweeney,Steven
$336,410.11
Webb,Keith A
$339,003.95
Danilecki,John H
$343,818.59
Barrett,Thomas E.
$346,429.04
Lee,Waiman
$350,183.38
Smith,Sean P
$358,589.49
Demesmin,Stanley
$378,690.01
Joseph,Martin M
$381,432.87
Mosley Jr.,Curtis
$397,444.21
Washington,Walter
$399,825.87
Harris,Shawn N
$433,073.75
McGowan,Jacqueline M.
$1,252,990.81
Beckers,Richard
$1,264,843.63
0
252,968
505,936
758,904
1,011,872
1,264,840
1,517,808
Total Gross Pay

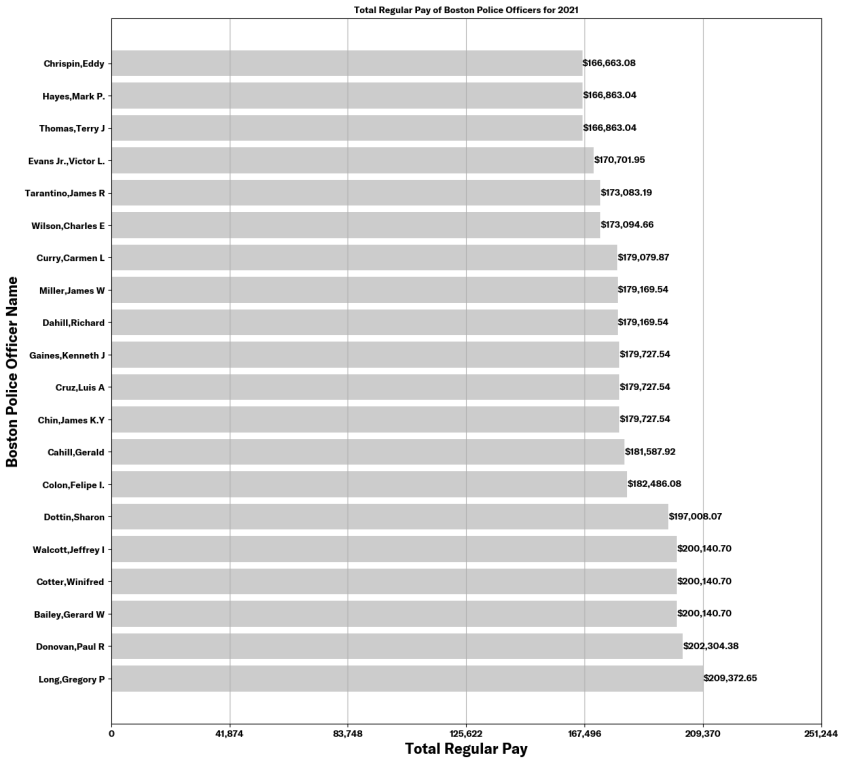

Total Gross Pay of Boston Police Officers for 2019
Boston Police Officer Name
Thomas,Terry J
$307,867.02
Brown,Gregory
$308,294.48
McBrien,John F
$310,566.09
Sullivan,Marc
$310,922.40
Bulman,Eric W
$311,909.98
Brown,John M
$317,369.83
Webb,Keith A
$318,341.11
Andres,Alfredo
$318,683.24
Cullity,Patrick J
$320,068.54
McCormick,Kelley J
$320,895.66
Josey,Windell C.
$325,187.49
Sweeney,Steven
$328,975.68
Vickers,Mark W
$330,456.93
Barrett,Thomas E.
$332,077.64
Fitzpatrick,James J.
$338,571.24
Lee,Waiman
$339,515.17
Smith,Sean P
$342,622.97
Maguire,Joseph M
$344,512.14
Danilecki,John H
$348,055.47
Kervin,Timothy M.
$355,538.70
0
71,107
142,214
213,321
284,428
355,535
426,642
Total Gross Pay



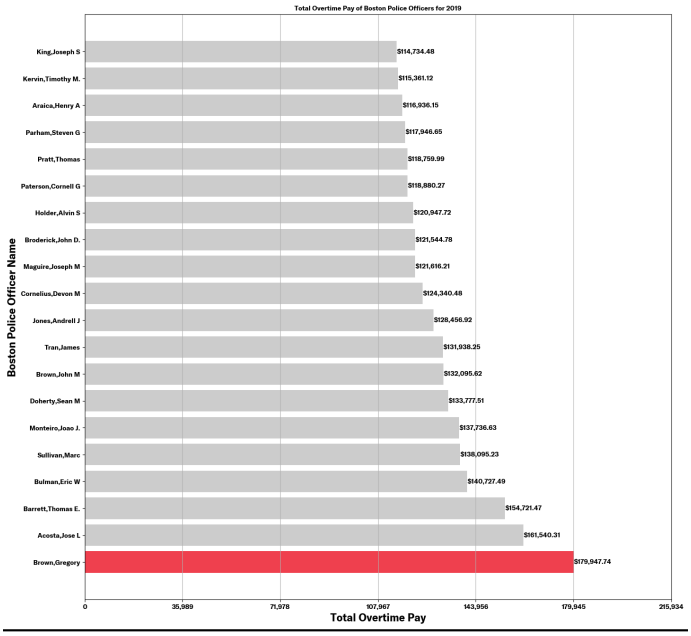
Above we have graphs displaying the total gross pay for Boston police officers for the 2021 and 2011 fiscal years. The 2021 data has 2 obvious outliers that are only present in 2021, these outliers are better displayed in the graphs below.

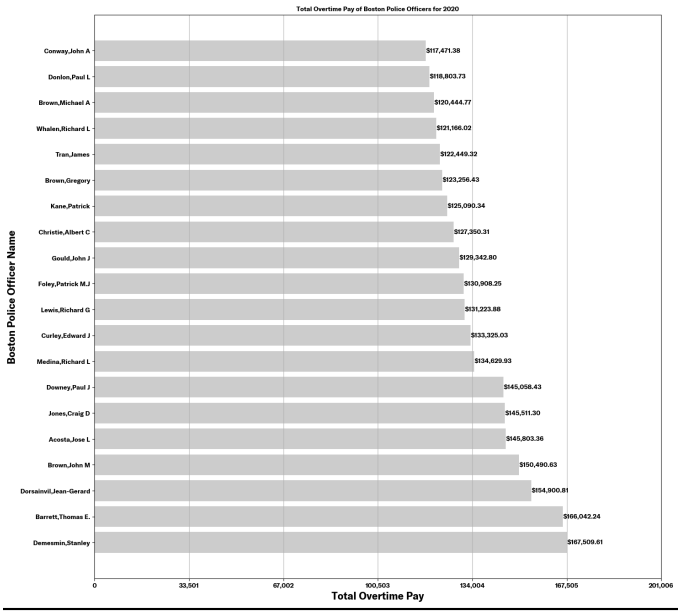

Total Regular Pay of Boston Police Officers for 2019
Boston Police Officer Name
Dalrymple,Keith D
Stratton,Michael J
Daley,John J
Gaines,Kenneth J
Dahill,Richard
McGoldrick,Kevin J
Colon,Felipe I.
Chin,James K.Y
Dottin,Sharon
Walcott,Jeffrey I
Bailey,Gerard W
Cotter,Winifred
Eddings,Marcus C
Hasson,James G
Baston,Nora L
White,Dennis A
Ridge,William G.
Donovan,Paul R
Long,Gregory P
Gross,William G.
$171,452.24
$173,111.13
$174,562.66
$176,447.60
$176,447.60
$176,997.13
$176,997.13
$176,997.13
$177,238.84
$179,755.67
$184,721.01
$184,721.03
$189,879.67
$194,936.16
$196,550.59
$197,100.26
$197,100.26
$197,100.26
$205,932.06
$249,999.88
0
49,999
99,998
149,997
199,996
249,995
299,994
Total Regular Pay

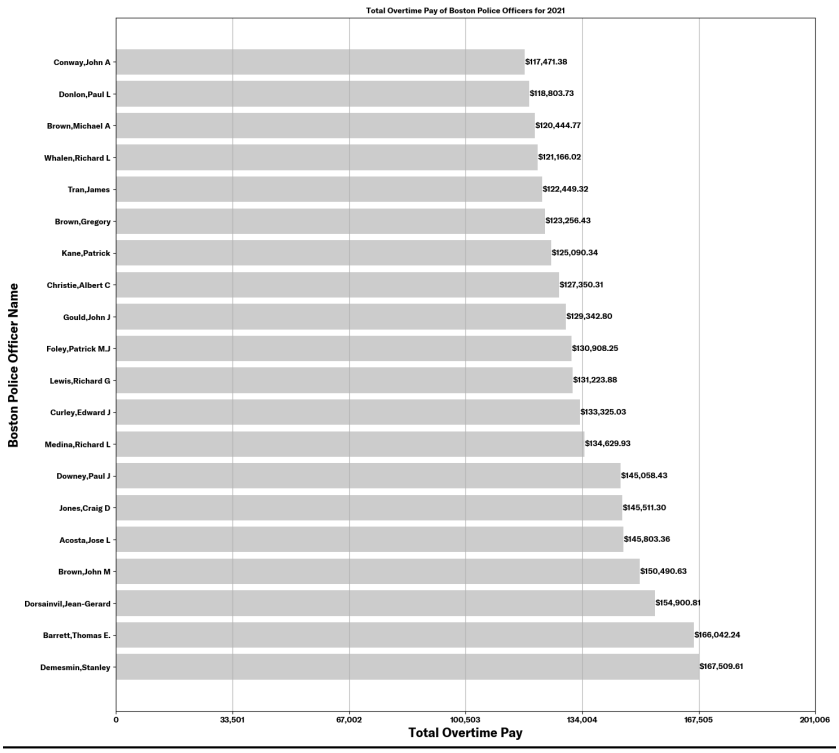

Total Regular Pay of Boston Police Officers for 2020
Boston Police Officer Name
Chrispin,Eddy
Hayes,Mark P.
Thomas,Terry J
Evans Jr.,Victor L.
Tarantino,James R
Wilson,Charles E
Curry,Carmen L
Miller,James W
Dahill,Richard
Gaines,Kenneth J
Cruz,Luis A
Chin,James K.Y
Cahill,Gerald
Colon,Felipe I.
Dottin,Sharon
Walcott,Jeffrey I
Cotter,Winifred
Bailey,Gerard W
Donovan,Paul R
Long,Gregory P
$166,663.08
$166,863.04
$166,863.04
$170,701.95
$173,083.19
$173,094.66
$179,079.87
$179,169.54
$179,169.54
$179,727.54
$179,727.54
$179,727.54
$181,587.92
$182,486.08
$197,008.07
$200,140.70
$200,140.70
$200,140.70
$202,304.38
$209,372.65
0
41,874
83,748
125,622
167,496
209,370
251,244
Total Regular Pay



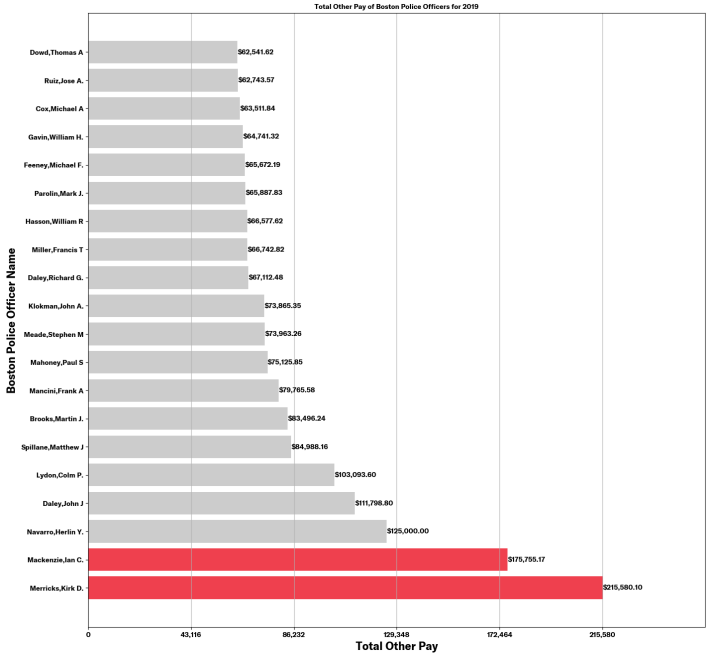
Above we have graphs displaying the total regular pay for Boston police officers for the 2021 and 2011 fiscal years. The outliers mentioned above are not yet displayed, showing that regular pay is clearly not the source of these outliers.

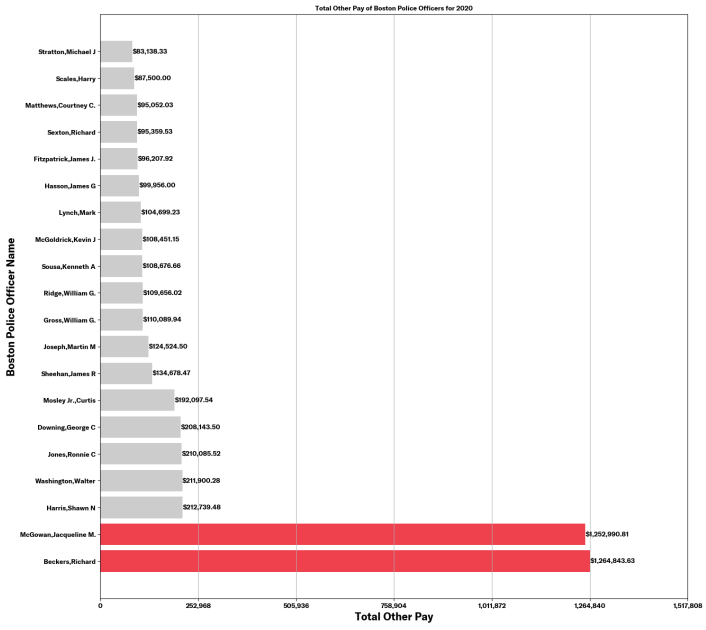

Total Overtime Pay of Boston Police Officers for 2019
Boston Police Officer Name
King,Joseph S
Kervin,Timothy M.
Araica,Henry A
Parham,Steven G
Pratt,Thomas
Paterson,Cornell G
Holder,Alvin S
Broderick,John D.
Maguire,Joseph M
Cornelius,Devon M
Jones,Andrell J
Tran,James
Brown,John M
Doherty,Sean M
Monteiro,Joao J.
Sullivan,Marc
Bulman,Eric W
Barrett,Thomas E.
Acosta,Jose L
Brown,Gregory
$114,734.48
$115,361.12
$116,936.15
$117,946.65
$118,759.99
$118,880.27
$120,947.72
$121,544.78
$121,616.21
$124,340.48
$128,456.92
$131,938.25
$132,095.62
$133,777.51
$137,736.63
$138,095.23
$140,727.49
$154,721.47
$161,540.31
$179,947.74
0
35,989
71,978
107,967
143,956
179,945
215,934
Total Overtime Pay

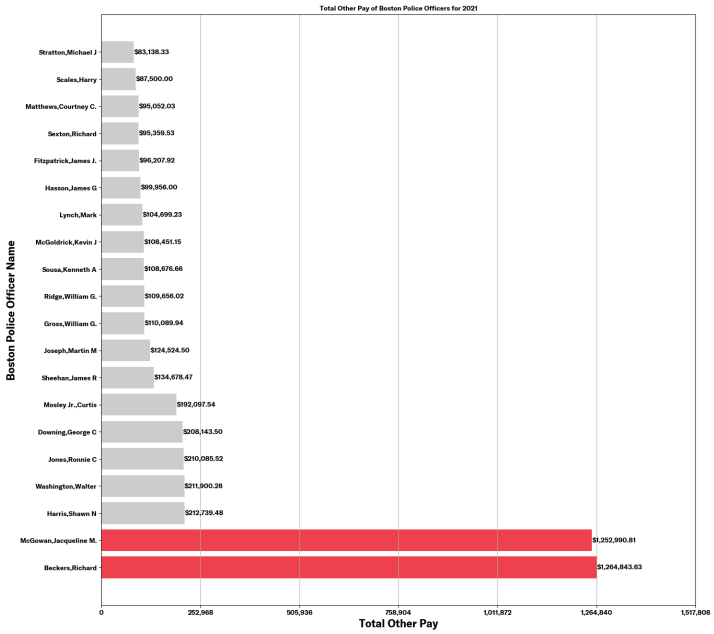

Total Overtime Pay of Boston Police Officers for 2020
Boston Police Officer Name
Conway,John A
Donlon,Paul L
Brown,Michael A
Whalen,Richard L
Tran,James
Brown,Gregory
Kane,Patrick
Christie,Albert C
Gould,John J
Foley,Patrick M.J
Lewis,Richard G
Curley,Edward J
Medina,Richard L
Downey,Paul J
Jones,Craig D
Acosta,Jose L
Brown,John M
Dorsainvil,Jean-Gerard
Barrett,Thomas E.
Demesmin,Stanley
$117,471.38
$118,803.73
$120,444.77
$121,166.02
$122,449.32
$123,256.43
$125,090.34
$127,350.31
$129,342.80
$130,908.25
$131,223.88
$133,325.03
$134,629.93
$145,058.43
$145,511.30
$145,803.36
$150,490.63
$154,900.81
$166,042.24
$167,509.61
0
33,501
67,002
100,503
134,004
167,505
201,006
Total Overtime Pay



Above we have graphs displaying the total overtime pay for Boston police officers for the 2021 and 2011 fiscal years. The outliers mentioned above are not yet displayed, showing that regular pay is clearly not the source of these outliers.

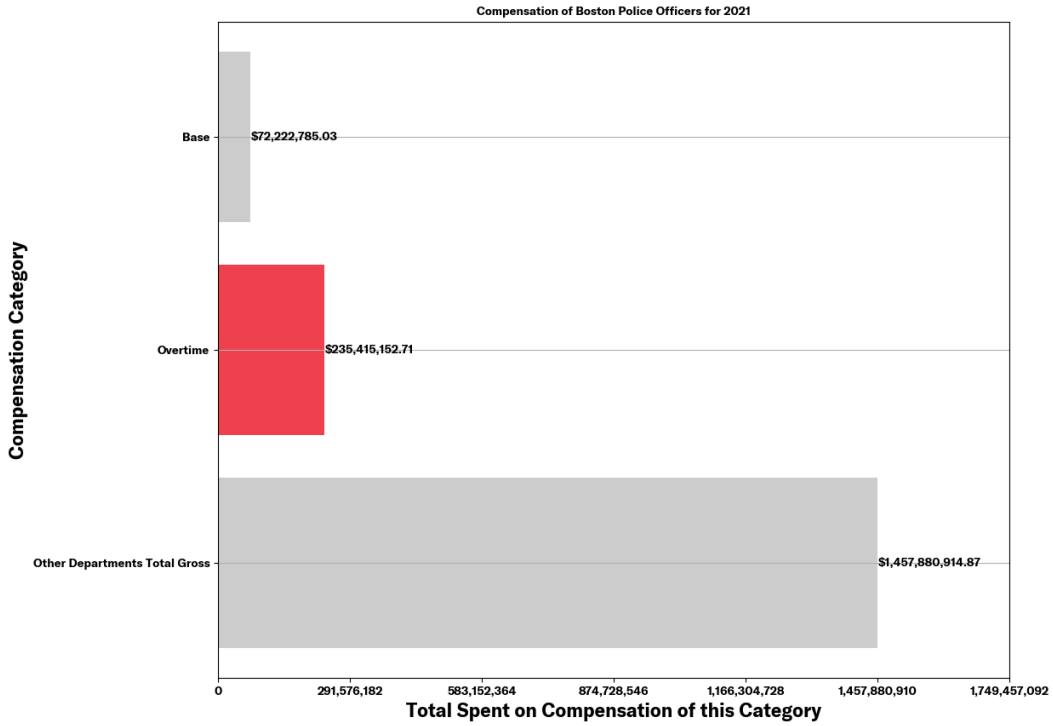

Total Other Pay of Boston Police Officers for 2019
Boston Police Officer Name
Dowd,Thomas A
Ruiz,Jose A.
Cox,Michael A
Gavin,William H.
Feeney,Michael F.
Parolin,Mark J.
Hasson,William R
Miller,Francis T
Daley,Richard G.
Klokman,John A.
Meade,Stephen M
Mahoney,Paul S
Mancini,Frank A
Brooks,Martin J.
Spillane,Matthew J
Lydon,Colm P.
Daley,John J
Navarro,Herlin Y.
Mackenzie,Ian C.
Merricks,Kirk D.
$62,541.62
$62,743.57
$63,511.84
$64,741.32
$65,672.19
$65,887.83
$66,577.62
$66,742.82
$67,112.48
$73,865.35
$73,963.26
$75,125.85
$79,765.58
$83,496.24
$84,988.16
$103,093.60
$111,798.80
$125,000.00
$175,755.17
$215,580.10
0
43,116
86,232
129,348
172,464
215,580
Total Other Pay


Total Other Pay of Boston Police Officers for 2020
Boston Police Officer Name
Stratton,Michael J
Scales,Harry
Matthews,Courtney C.
Sexton,Richard
Fitzpatrick,James J.
Hasson,James G
Lynch,Mark
McGoldrick,Kevin J
Sousa,Kenneth A
Ridge,William G.
Gross,William G.
Joseph,Martin M
Sheehan,James R
Mosley Jr.,Curtis
Downing,George C
Jones,Ronnie C
Washington,Walter
Harris,Shawn N
McGowan,Jacqueline M.
Beckers,Richard
$83,138.33
$87,500.00
$95,052.03
$95,359.53
$96,207.92
$99,956.00
$104,699.23
$108,451.15
$108,676.66
$109,656.02
$110,089.94
$124,524.50
$134,678.47
$192,097.54
$208,143.50
$210,085.52
$211,900.28
$212,739.48
$1,252,990.81
$1,264,843.63
0
252,968
505,936
758,904
1,011,872
1,264,840
1,517,808
Total Other Pay

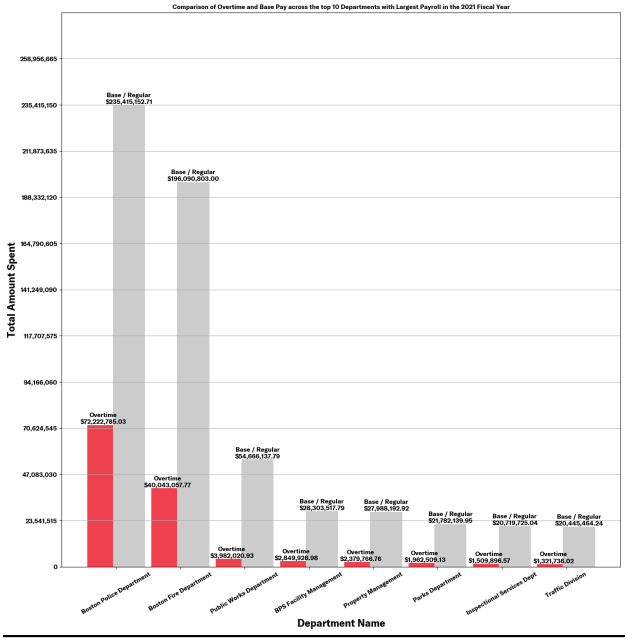


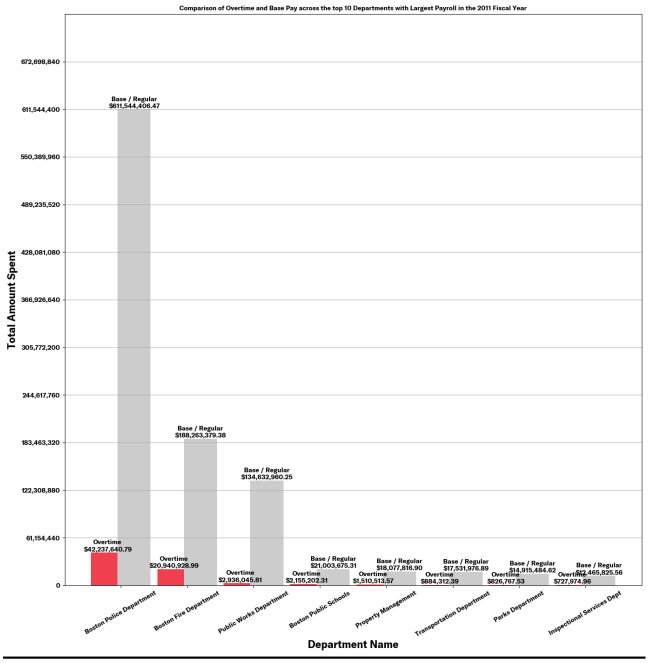
Above we have a graph displaying the total other pay for Boston police officers for the 2021 fiscal year. We can clearly see that the source of the outliers is due to this other pay category.

13 - High level overtime analysis (base salary vs. overtime vs. other departments)



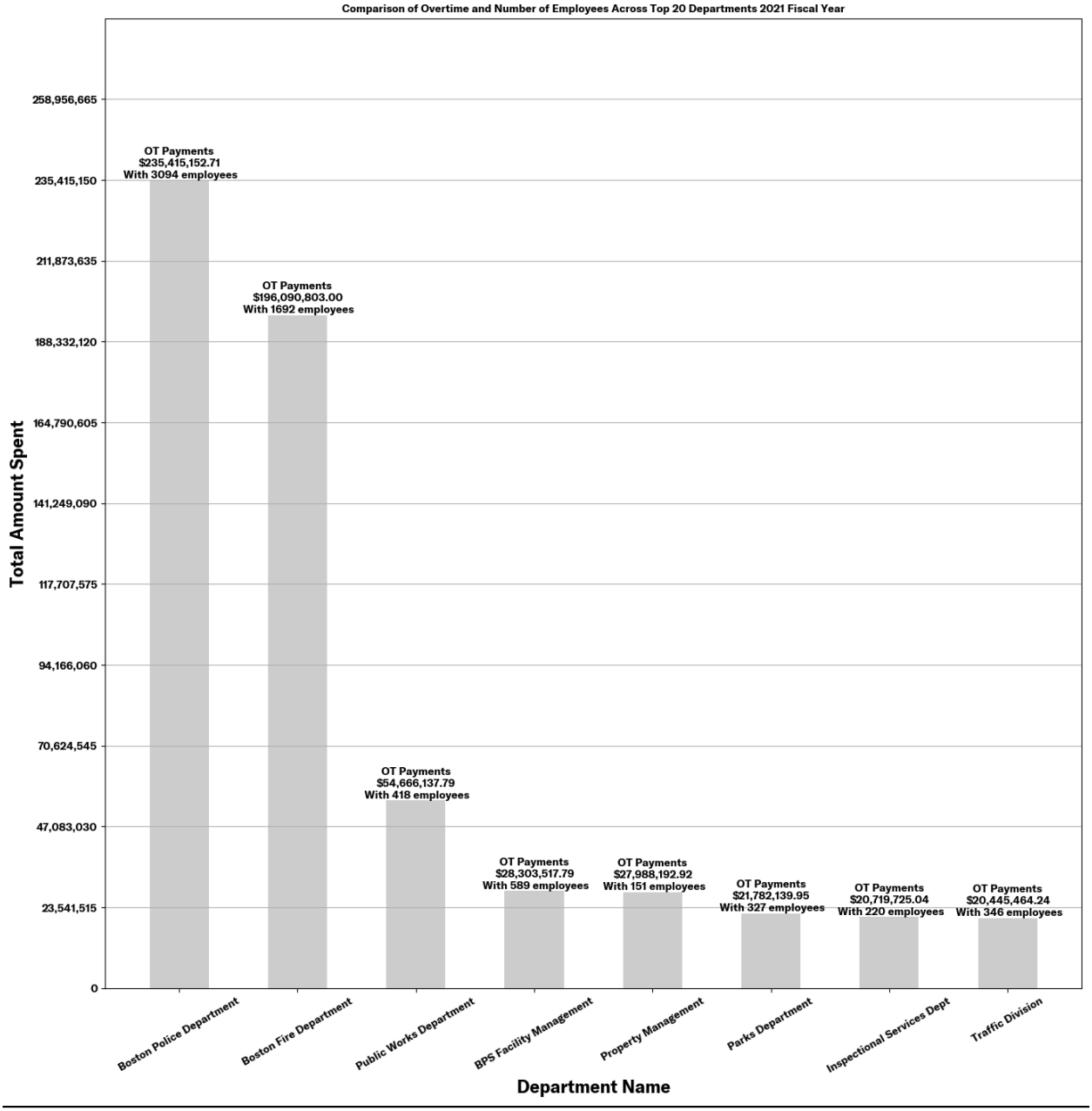
This graph above shows the compensation of Boston Police Officers for the 2021 financial year, broken down by base pay and overtime pay of BPD officers vs total gross pay of all other departments of the Boston city. We can see that the base pay of BPD officers is roughly 16% of the total gross pay across all other city departments.

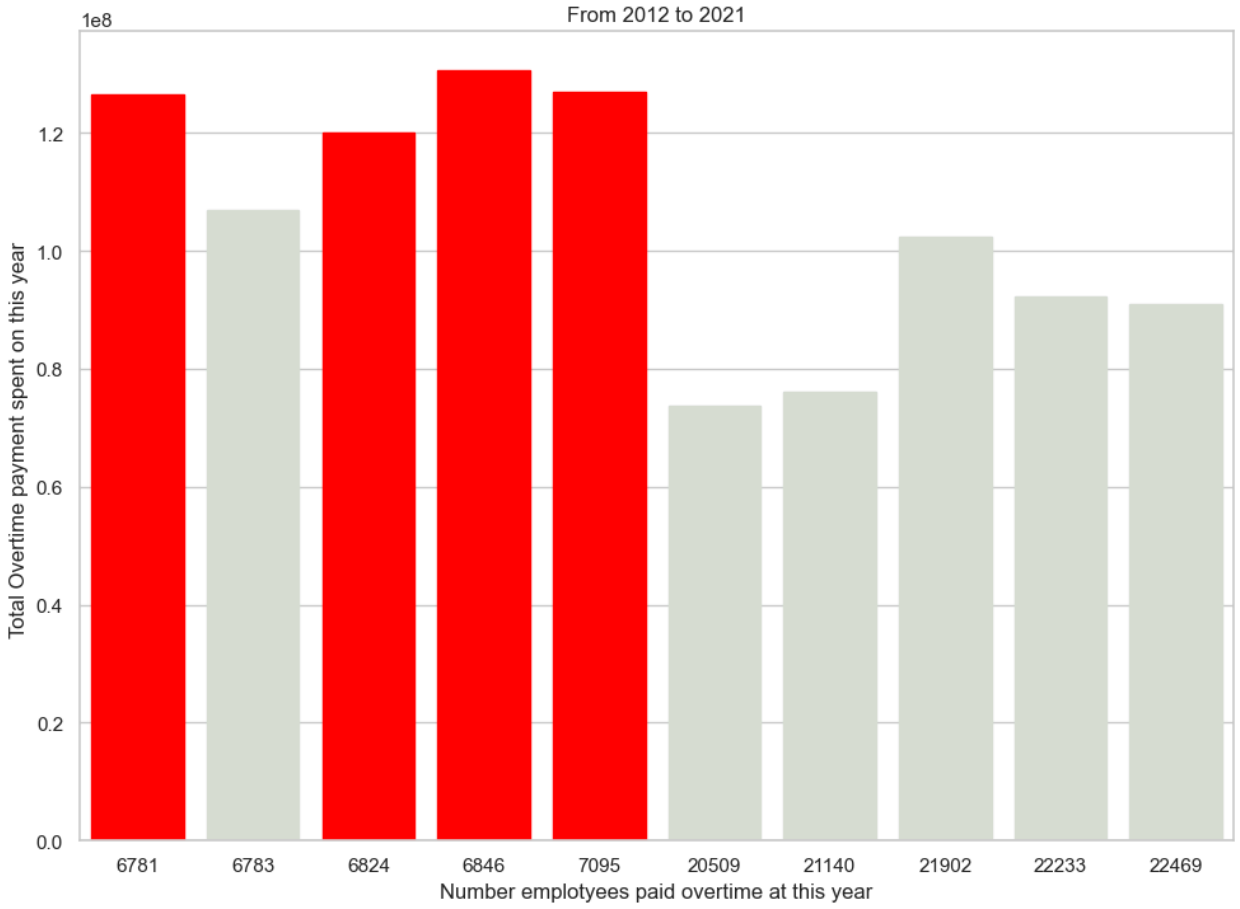




This graph above shows the compensation of Boston Police Officers for the 2021 financial year, broken down by base pay and overtime pay of BPD officers vs total gross pay of all other departments of the Boston city. We can see that the base pay of BPD officers is roughly 16% of the total gross pay across all other city departments.

14 - Number of employees vs. OT spend


Comparison of Overtime and Number of Employees Across Top 20 Departments 2021 Fiscal Year
Total Amount Spent
258,956,665
235,415,150
211,873,635
188,332,120
164,790,605
141,249,090
117,707,575
94,166,060
70,624,545
47,083,030
23,541,515
0
OT Payments $235,415,152.71 With 3094 employees
OT Payments $196,090,803.00 With 1692 employees
OT Payments $54,666,137.79 With 418 employees
OT Payments $28,303,517.79 With 589 employees
OT Payments $27,988,192.92 With 151 employees
OT Payments $21,782,139.95 With 327 employees
OT Payments $20,719,725.04 With 220 employees
OT Payments $20,445,464.24 With 346 employees
Boston Police Department
Boston Fire Department
Public Works Department
BPS Facility Management
Property Management
Parks Department
Inspectional Services Dept
Traffic Division
Department Name



This graph shows the over time data from 2012 to 2021. The X axis shows the number how much is the budget spent on overtime payment each year and the Y axis shows the total employees enrolled in overtime payment of this year. We can see from the employees that overtime continues increasing in these years, but the payment is decreasing.

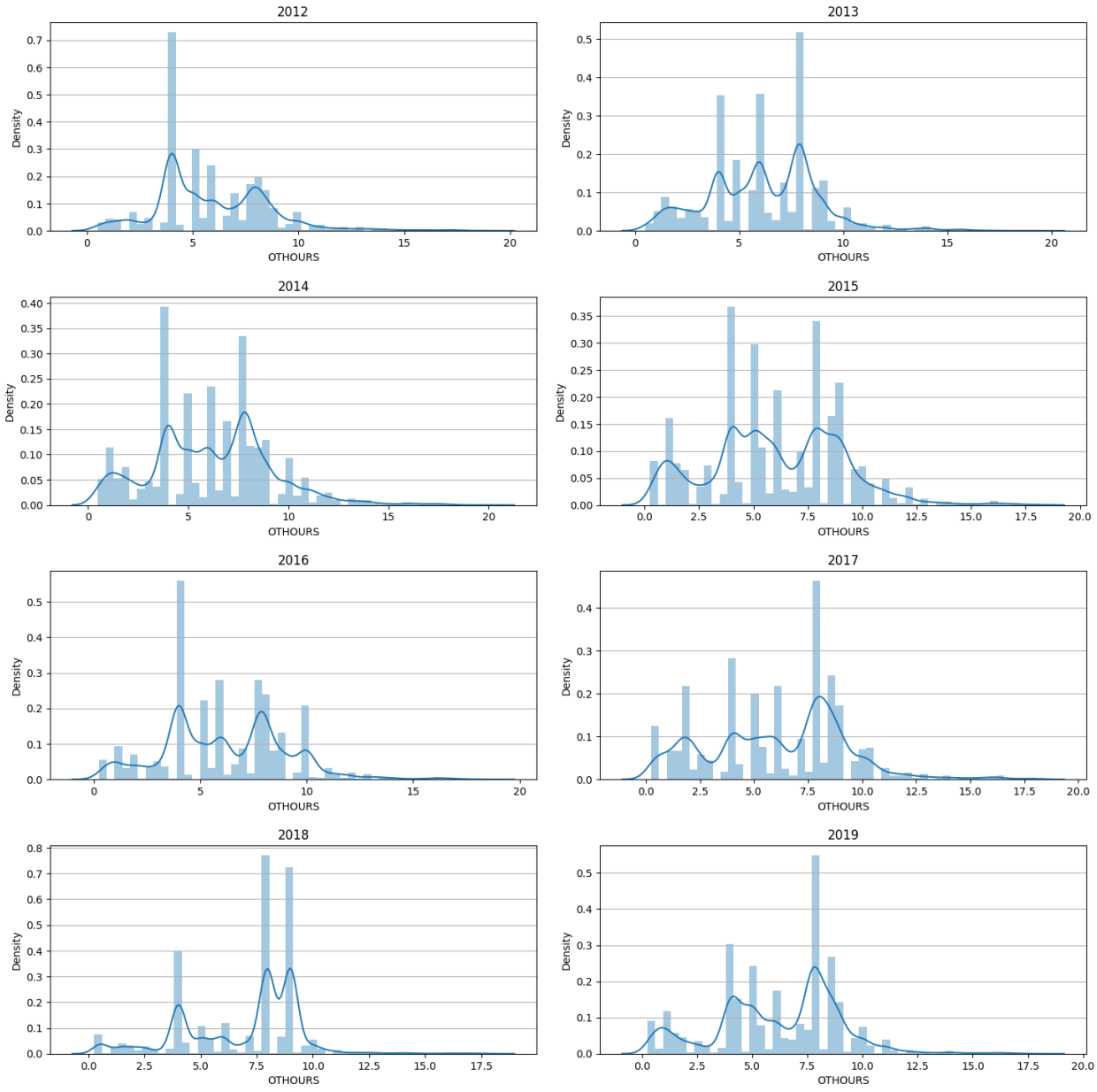
Updated Extension Project Proposal

- We want to look at police overtime hours worked at the Massachusetts Avenue and Melnea Cass Boulevard homeless encampment.
- This article here, talks about how the millions of overtime pay used on policing could have been attributed to health and recovery services.
- Mayor Wu has made a statement here on the strategic direction to improve systems of care for the homeless.
- City government website has a dashboard for the progress made so far here
- Note: Previous mayor has made a attempt to provide similar services but it ultimately made little progress
- We want to look at police OT hour data at Mass/Cass and look for any trends, maybe we could include Mass/Cass dashboard somehow but we likely will not use it.
- **Datasets needed:**

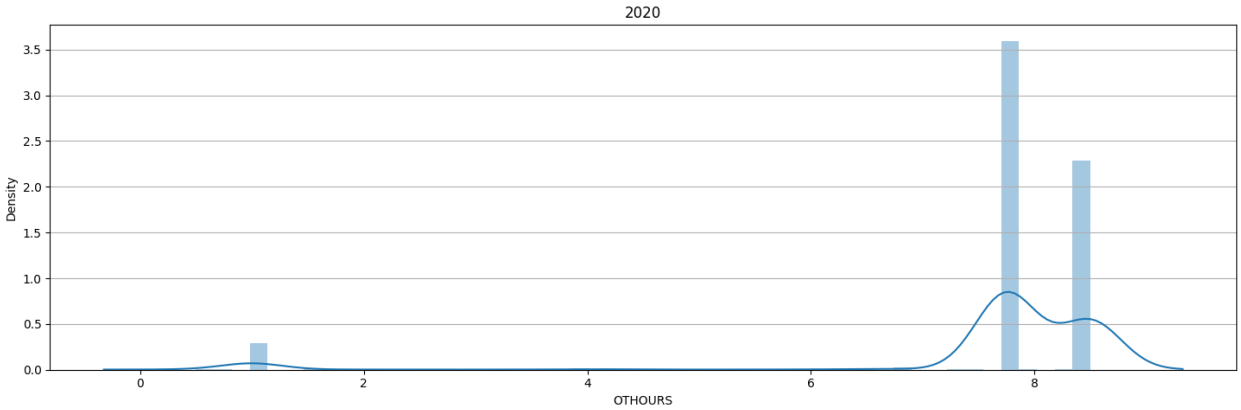
- **Police OT hours**
- **Data from [Mass/Cass dashboard]**

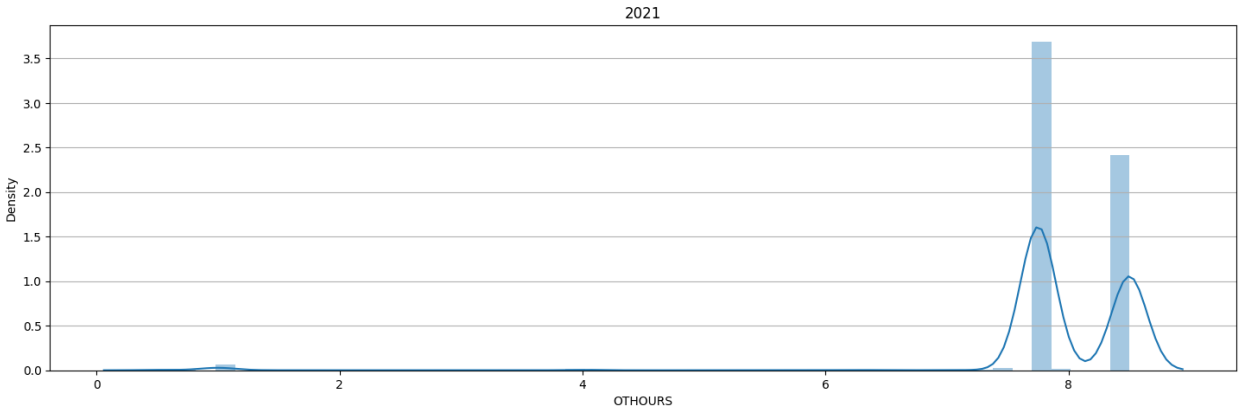
- **Visualizations:**
  - Line graphs which show for example the police OT hours worked per week vs substance treatment placements

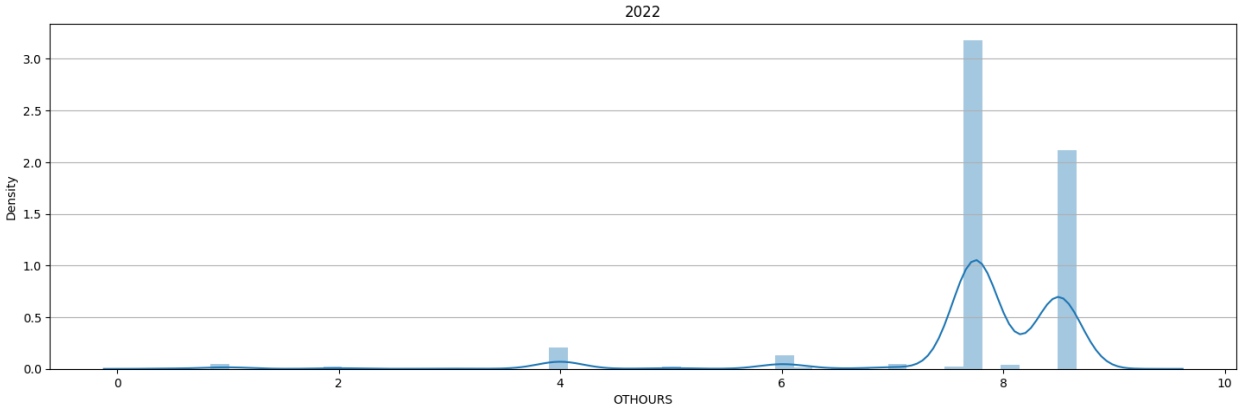
Extension Project Progress:



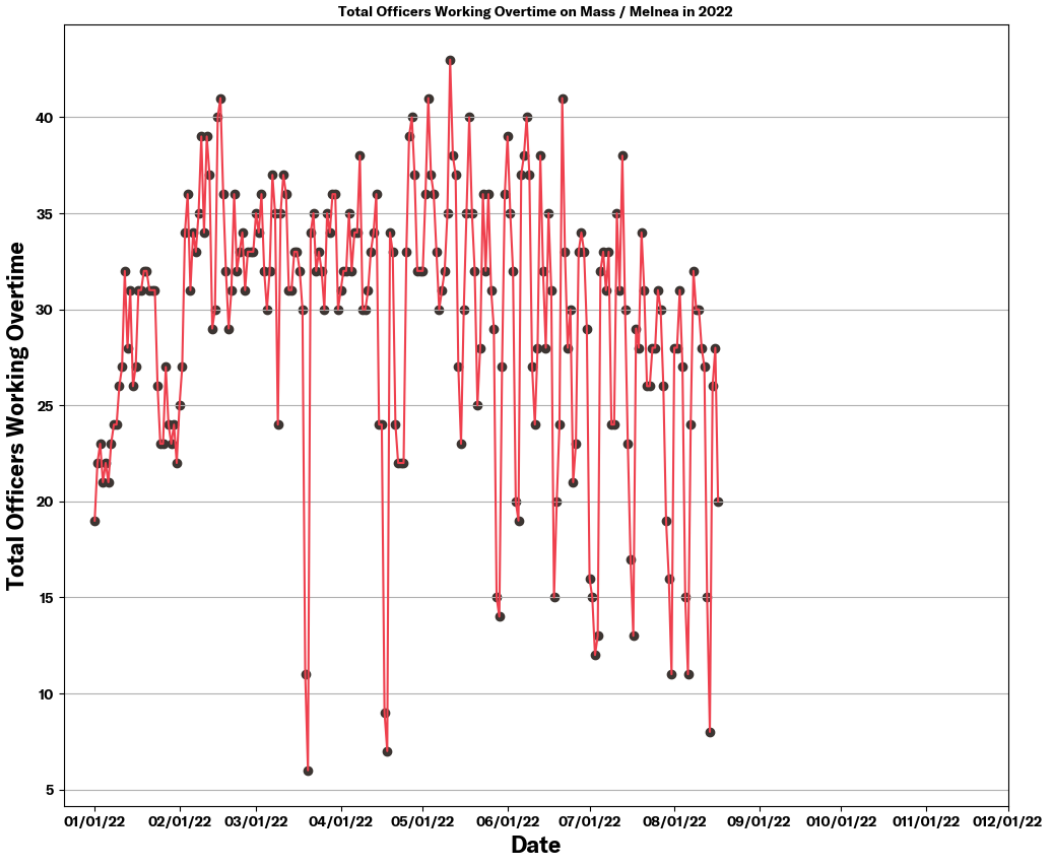
This is the density distribution of overtime data. We can see there is a obvious trends that the total overtime hours in continue increasing from 2012 to 2019.

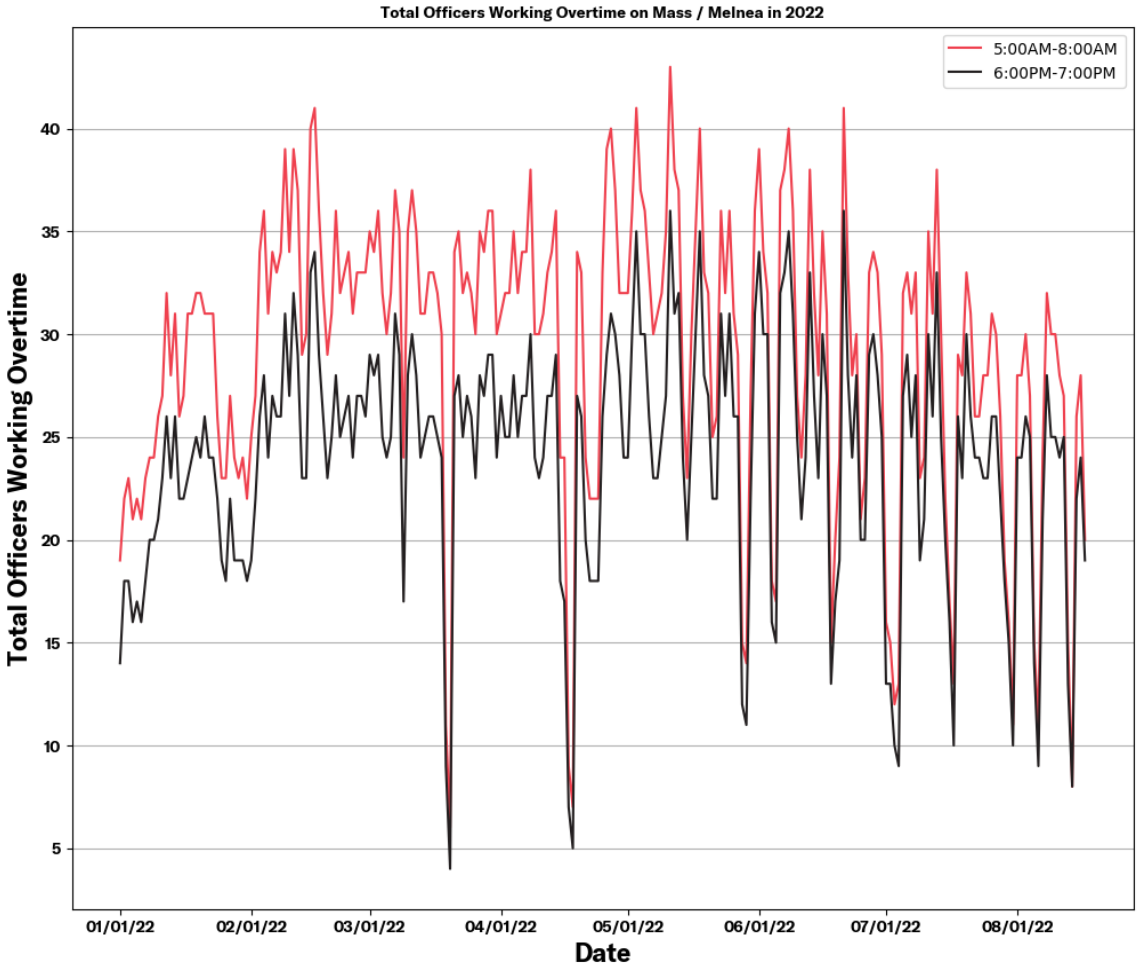




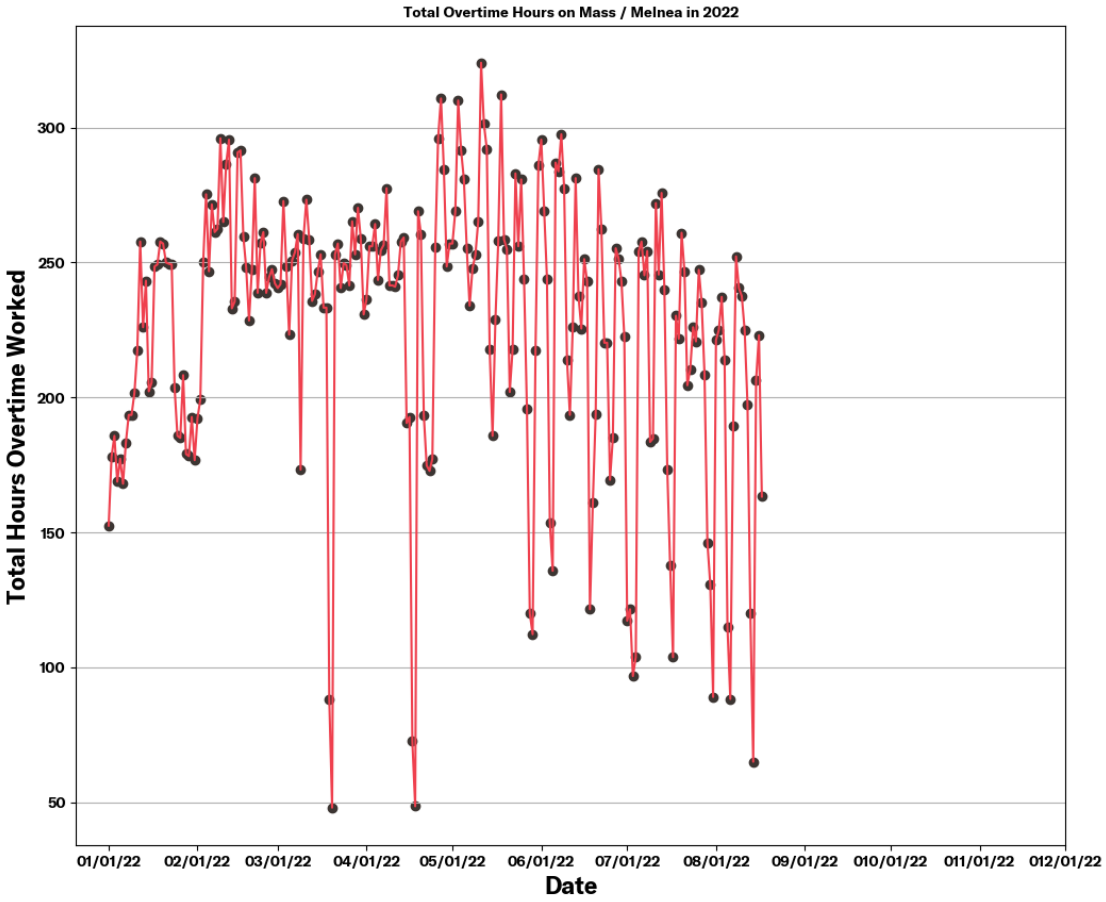


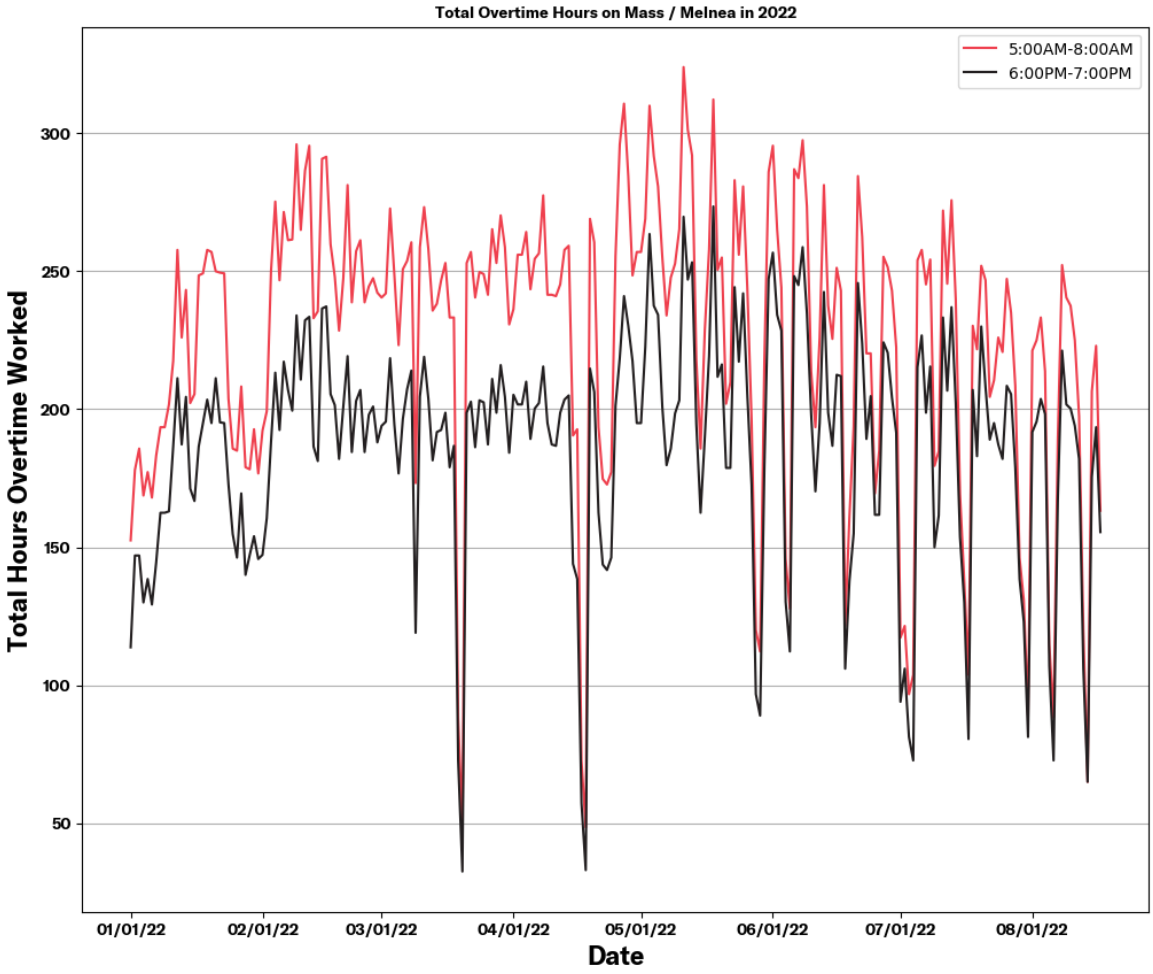
In the overtime data from 2020 to 2022 we have the description of which tells about the location, these are the graph distribution of MASS / MELNEA area data. We can see the the over time hours are mainly clustered around 8 hour, which seems good for the the statement Mayor Wu has made here on the strategic direction to improve systems of care for the homeless.


Total Officers Working Overtime on Mass / Melnea in 2022
Total Officers Working Overtime
40
35
30
25
20
15
10
5
01/01/22
02/01/22
03/01/22
04/01/22
05/01/22
06/01/22
07/01/22
08/01/22
09/01/22
010/01/22
011/01/22
012/01/22
Date



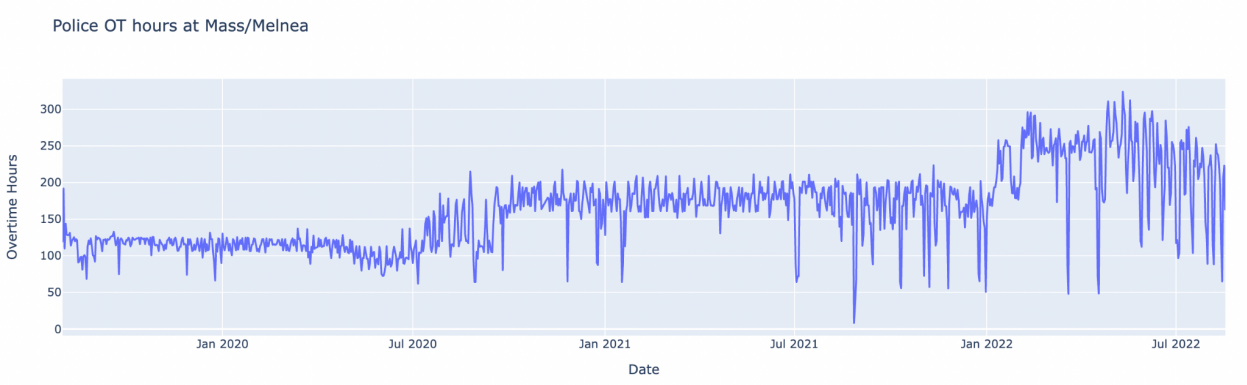
Above we have a graph of the total number of BPD officers working overtime for Mass / Melnea by the date that the overtime occurred. Using this graph we can compare the curve to those found in the graphs given in the Mass / Cass dashboard. Under that graph is the same graph but using the same time breakdown used in the Mass / Cass Dashboard.

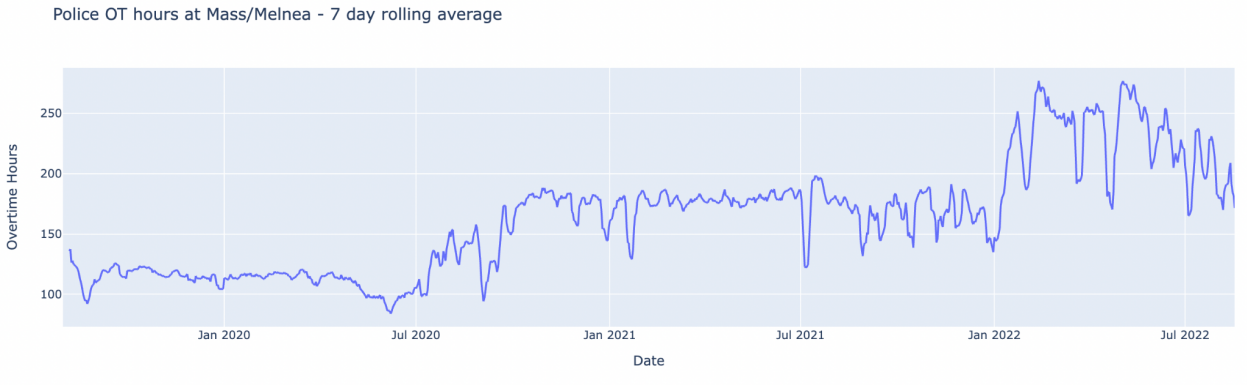

Total Overtime Hours on Mass / Melnea in 2022
Total Hours Overtime Worked
300
250
200
150
100
50
01/01/22
02/01/22
03/01/22
04/01/22
05/01/22
06/01/22
07/01/22
08/01/22
09/01/22
010/01/22
011/01/22
012/01/22
Date

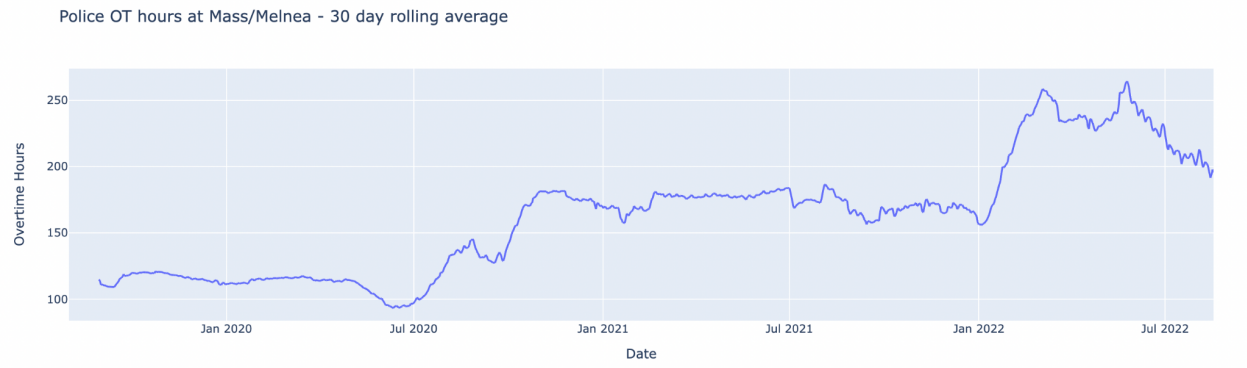


Above we have a graph of the total number of overtime hours worked by BPD officers working overtime for Mass / Melnea by the date that the overtime occurred. Using this graph we can compare the curve to those found in the graphs given in the Mass / Cass Dashboard. Under that graph is the same graph but using the same time breakdown used in the Mass / Cass Dashboard.

‘Mass / Melnea’ in OT dataset first appeared in 2019







Analysis:

- We can see Police OT jump once during Mayor Walsh's term and again soon after Mayor Wu's term begins