

# CITY BUDGET

**TEAM F**

# TEAM

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# GOALS OF THE PROJECT

- Showcase how Boston city budget is distributed across Cabinets, Departments and Geography
- Portray how it has changed over time
- Evaluate city's financial management
- Providing valuable insights that can help the stakeholders make decisions
- Suggest ideas which can help distribute budget in a way which empowers and helps more boston residents

# MOTIVATION FOR THE PROJECT

Project has the potential to impact the lives of millions of Boston residents

It will help bring transparency and bring accountability to the budgeting process promoting informed governance practices

Data driven approach can highlight areas of focus and increase efficiency in use of public funds

Can help engage citizens in the budgeting process

CABINETS

—





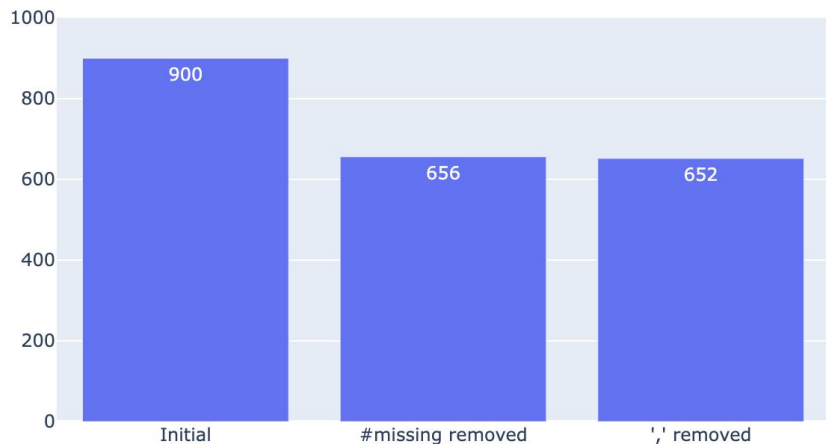
# OPERATING DATA - RAW

	Cabinet	Dept	Program	Expense Category	FY21 Actual Expense	FY22 Actual Expense	FY23 Appropriation	FY24 Adopted
count	900	900	900	900	900	900	900	900
unique	21	82	220	7	710	755	698	738
top	Finance Cabinet	Boston Public Schools	Film & Special Events	Personnel Services	#Missing	#Missing	#Missing	#Missing
freq	115	90	6	201	176	141	115	88



# DATA CLEANING PROCESS

- Strip each value of spaces
- Remove rows which have '#missing' values
- Remove rows which have ',' values
- Convert values to float



Cabinet	
Finance Cabinet	90
Streets Cabinet	77
Public Safety Cabinet	76
Education Cabinet	70
Operations Cabinet	50
Human Services Cabinet	44
Mayor's Cabinet	39
People Operations Cabinet	34
Environment, Energy & Open Space Cabinet	33
Economic Opportunity & Inclusion Cabinet	30
Non-Mayoral Departments	25
Information & Technology Cabinet	21
Equity & Inclusion Cabinet	17
Housing Cabinet	13
Community Engagement Cabinet	9
OPAT Cabinet	7
Other	7
Worker Empowerment Cabinet	5
Arts & Culture Cabinet	4
Public Health Cabinet	1

A word cloud visualization of the data from the table. The words are arranged in a circular pattern, with their size corresponding to their count. The colors are green for 'Economic', 'Education', 'Streets', and 'Human'; purple for 'Finance', 'People', 'Operations', 'Mayor's', 'Environment,', and 'Equity'; and blue for 'Public', 'Housing', 'Non-Mayoral', 'Community', 'Information', and 'Worker'. The word 'Finance' is the largest and most central, followed by 'Streets' and 'Education'.

Economic  
 Education  
 Finance  
 Streets  
 People  
 Operations  
 Mayor's  
 Environment,  
 Equity  
 Human  
 Public  
 Housing  
 Non-Mayoral  
 Community  
 Information  
 Worker  
 Arts  
 OPAT  
 Other

CABINETS - 20 UNIQUE

```
ExpenseCategory
Personnel Services    171
Contractual Services  154
Supplies & Materials  131
Current Charges & Obligations 113
Equipment             64
Other Expenses        19
Name: count, dtype: int64
```

Equipment  
Current Charges & Obligations  
Other Expenses  
Contractual Services  
Supplies & Materials  
Personnel Services

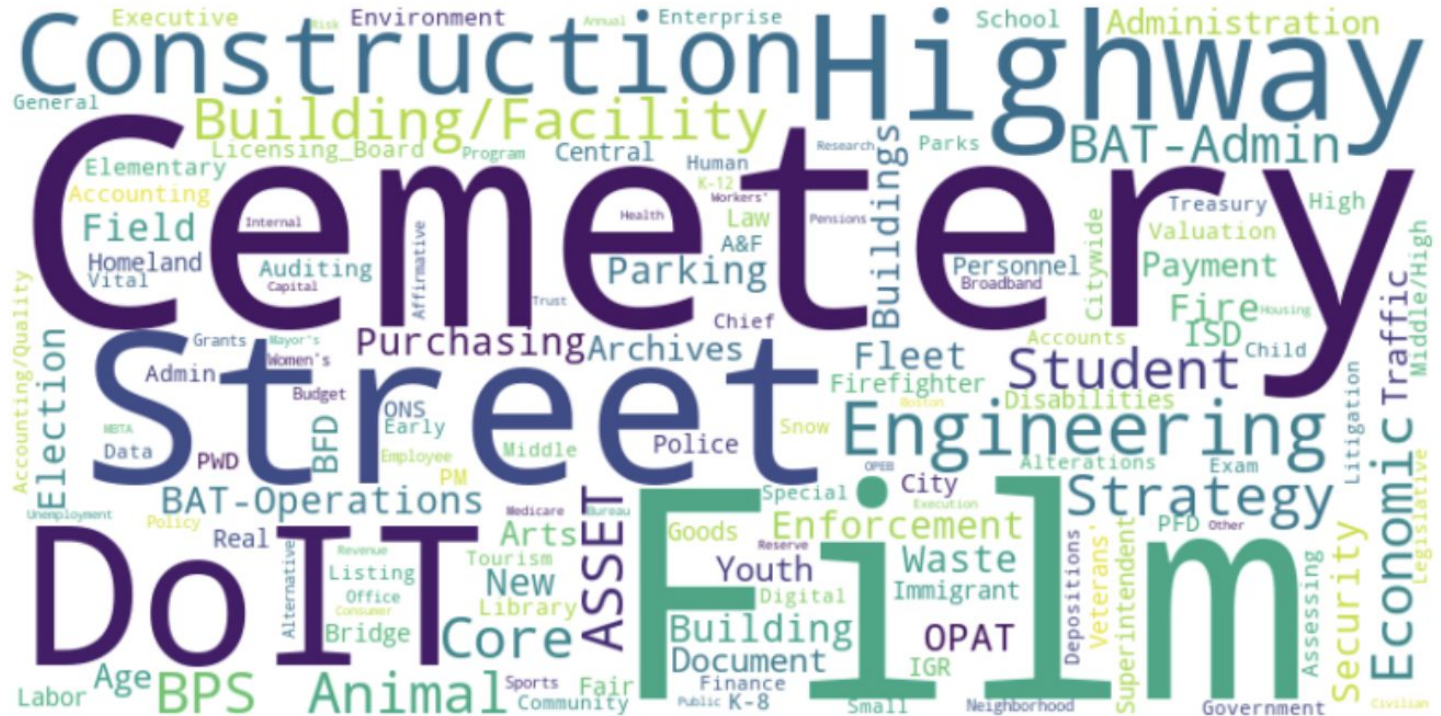
EXPENSE CATEGORY - 6 UNIQUE

Dept	
Boston Public Schools	70
Public Works Department	39
Police Department	38
Fire Department	34
Parks & Recreation Department	29
Treasury Department	28
Property Management Department	27
Transportation Department	26
Department of Innovation and Technology	21
Auditing Department	20
Inspectional Services Department	19
Human Resources	16
Age Strong	15
Mayor's Office	15
Boston Center for Youth & Families	14
Office of Tourism	13
Mayor's Office of Housing	13
Procurement	13
Assessing Department	12
City Council	11



DEPT - 63 VALUES

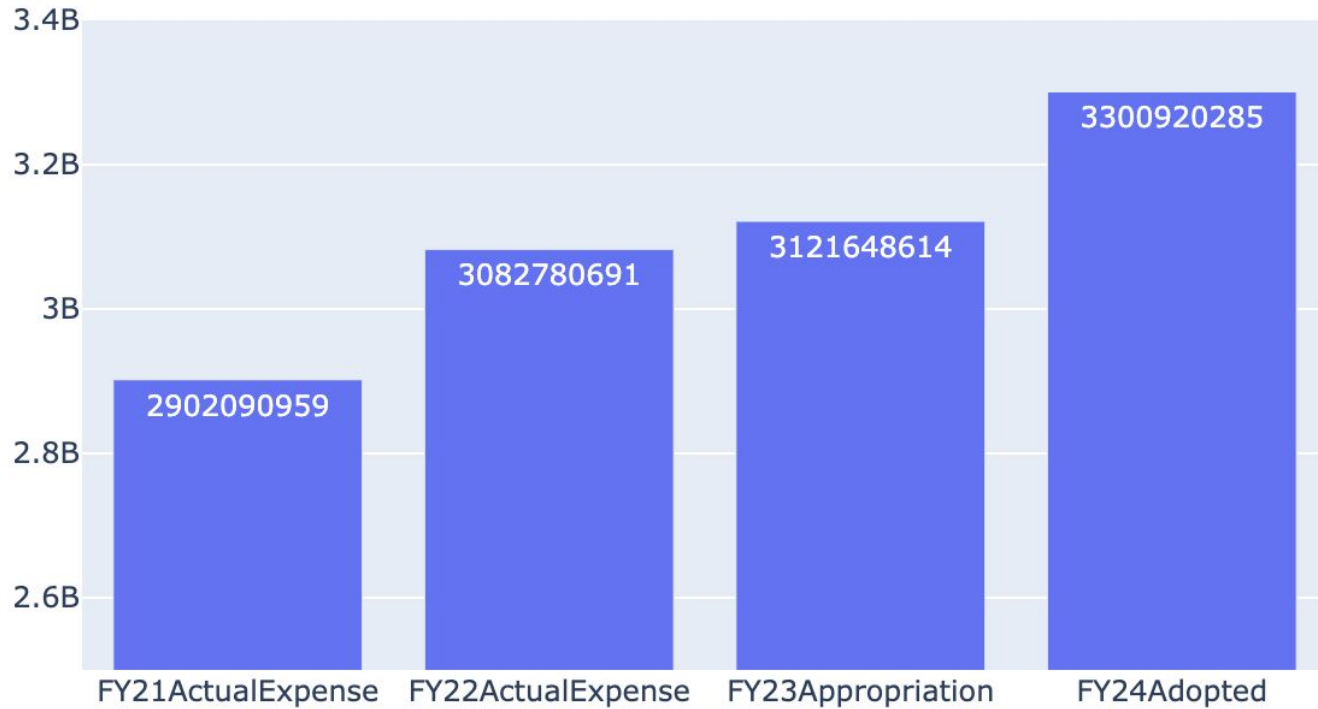
Program	
Cemetery	6
BFD Maintenance	6
Film & Special Events	6
Parks Operations	6
Street Lights	6
DoIT Operations	5
Parks & Recreation Administration	5
Highway Field Operations	5
Age Strong Transportation	5
Youth Employment and Opportunity Admin	5
Construction Management	5
Engineering	5
Building/Facility Maintenance	5
Student Support Services (C)	5
Strategy	5
BPS Finance	5
ASSET	5
BPS Operations	5
Bureau of Investigative Services	5
Mayor's Office of Housing Administration	5



PROGRAM - 183 VALUES

TOTAL OPERATING  
BUDGET

# TOTAL YEARLY OPERATING BUDGET 2021-24



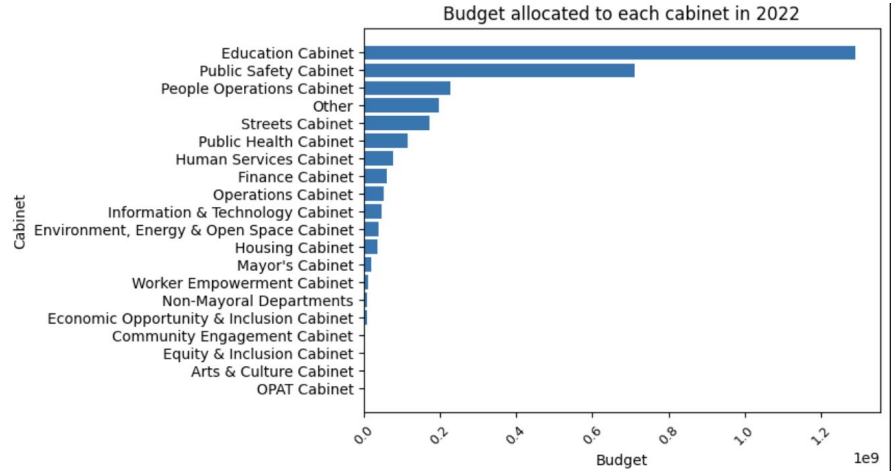
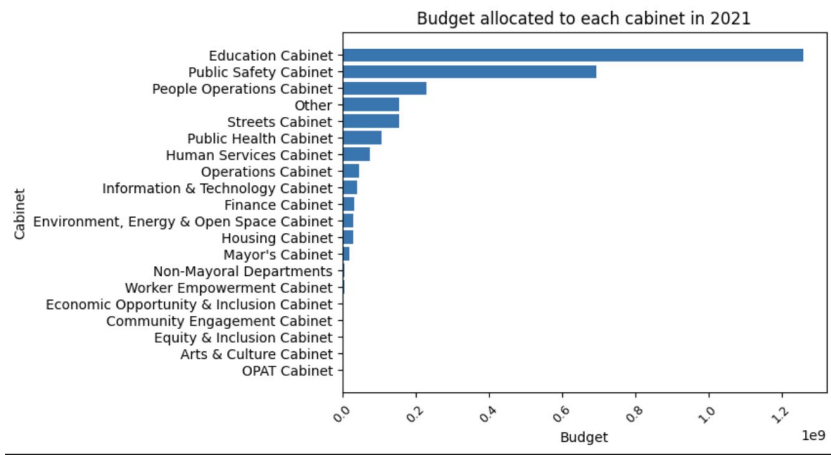
7.5%

INCREMENT IN OPERATING BUDGET FROM 2021 TO 2023



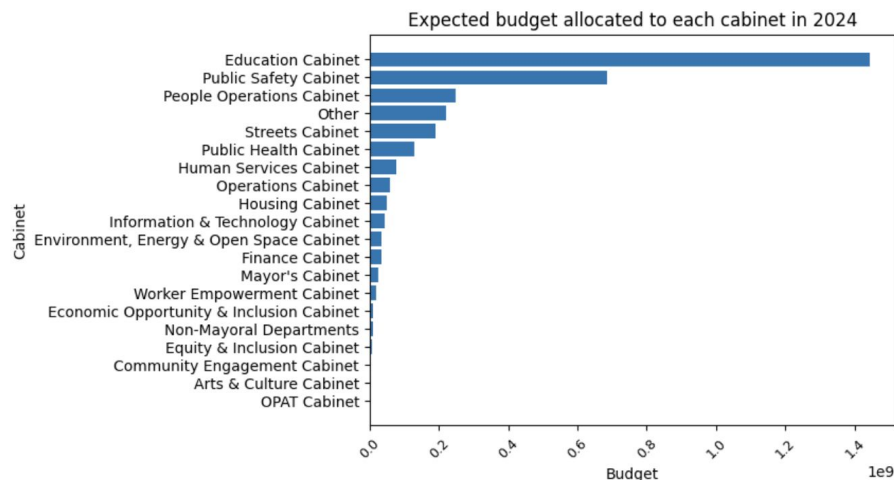
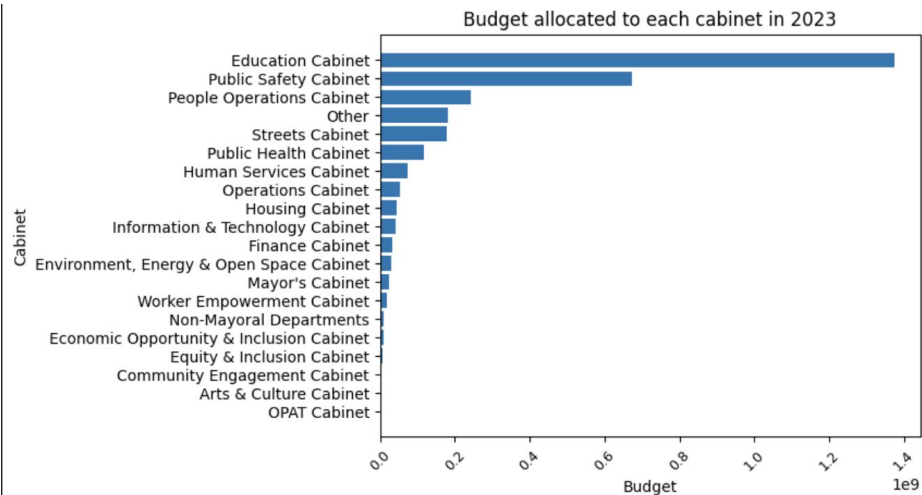
OPERATING BUDGET  
DISTRIBUTION  
ACROSS CABINETS

## 2021 vs 2022



Only Non-Mayoral and Worker Empowerment switch positions. Otherwise the order is same and relative percentages are also similar

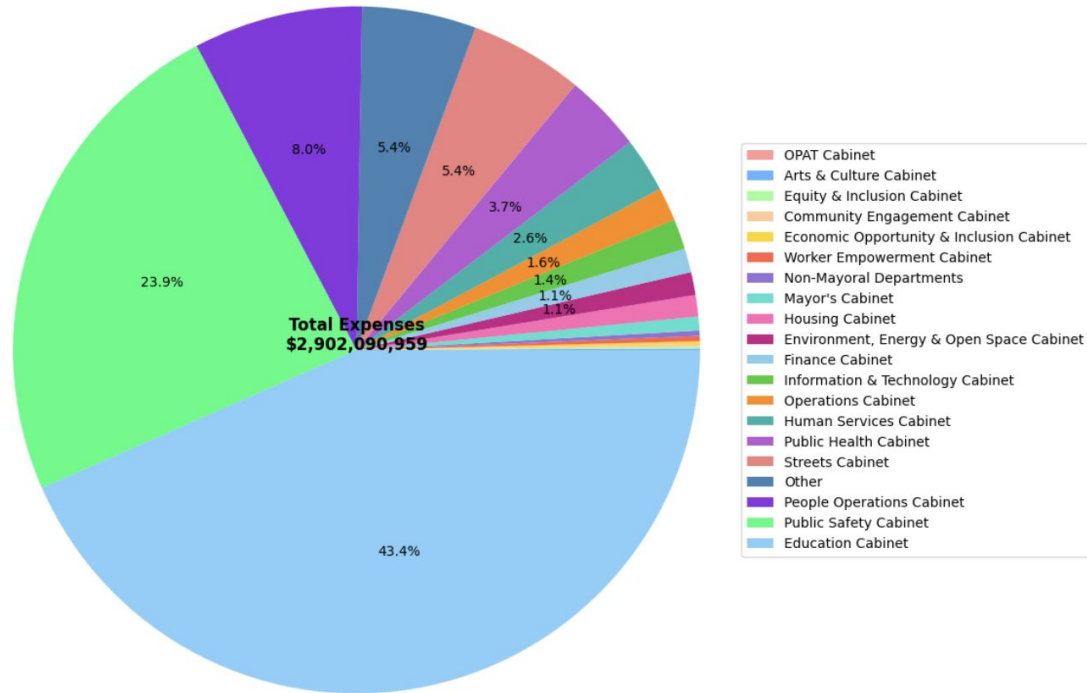
# 2023 vs 2024



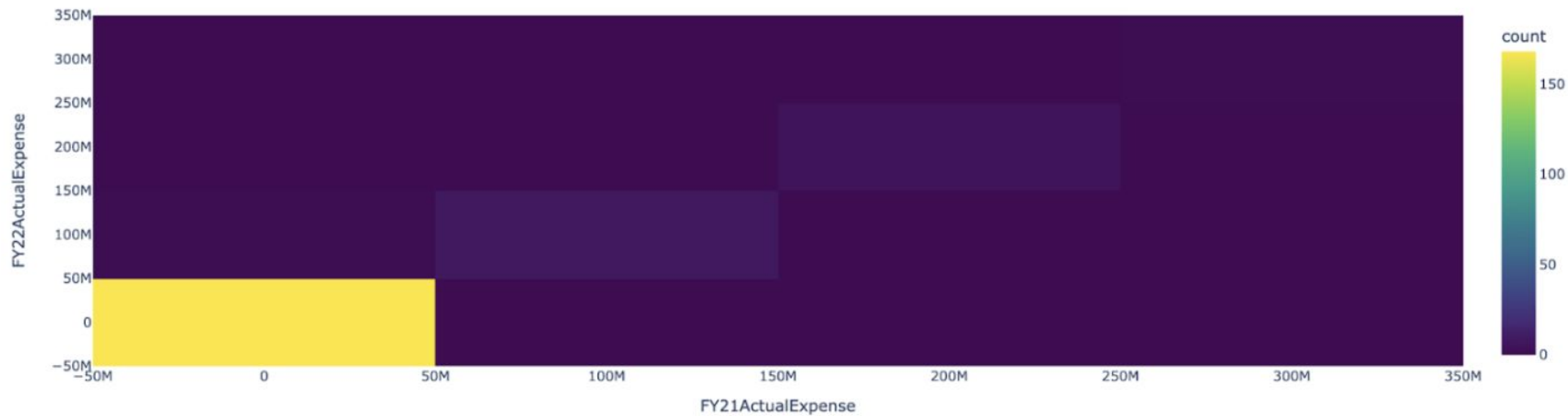
Couple of relative order switches

# PERCENTAGE BREAKDOWN

Budget Breakdown by Cabinet for 2021

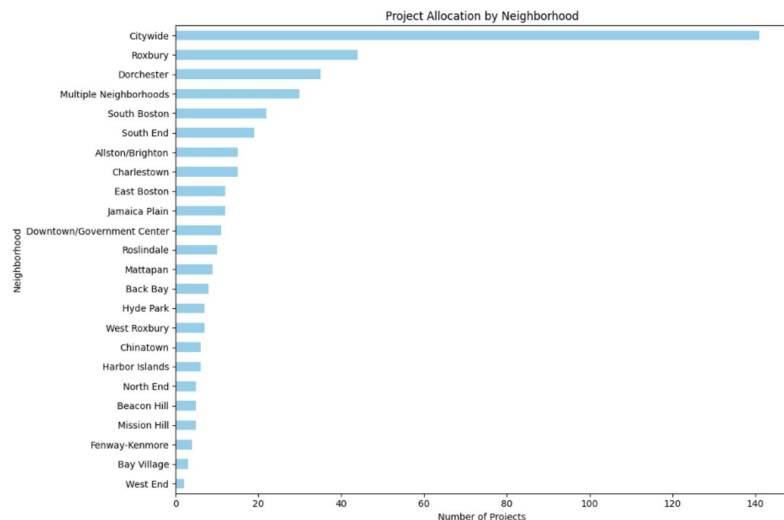


# OPERATING BUDGET BY DEPARTMENT - RANGE

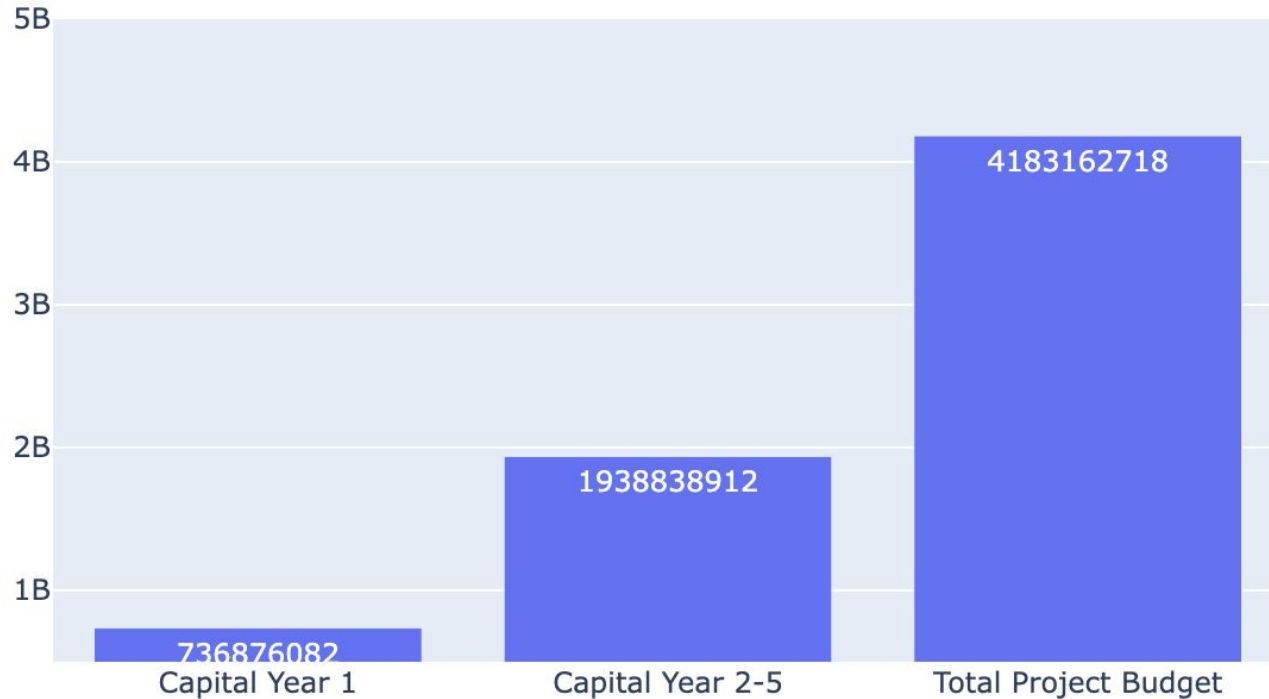


# CAPITAL BUDGET

# CAPITAL BUDGET - NEIGHBORHOODS

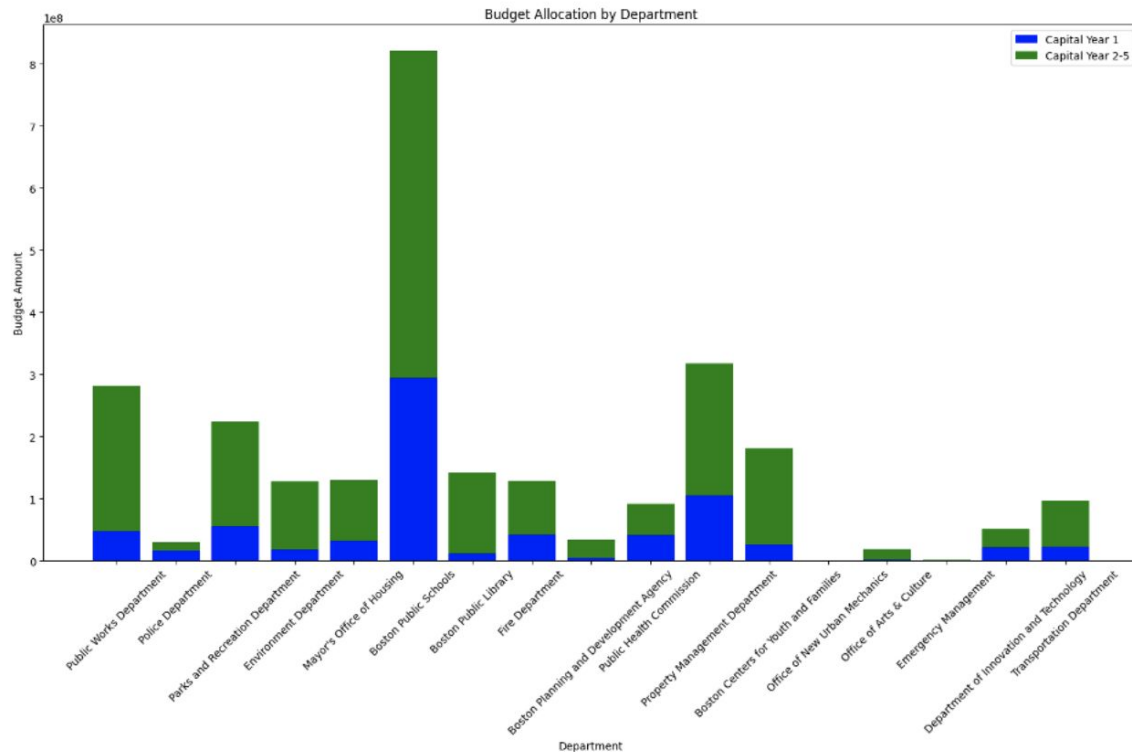


# CAPITAL BUDGET SPLIT 1ST VS 2-5 YEARS VS TOTAL



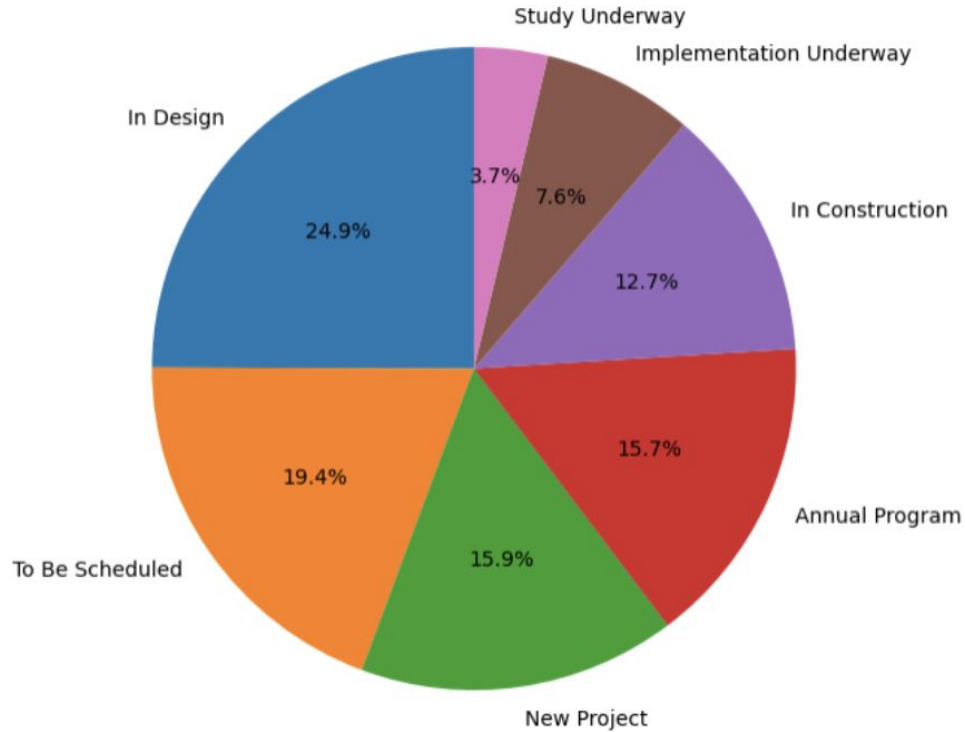


# BY DEPT

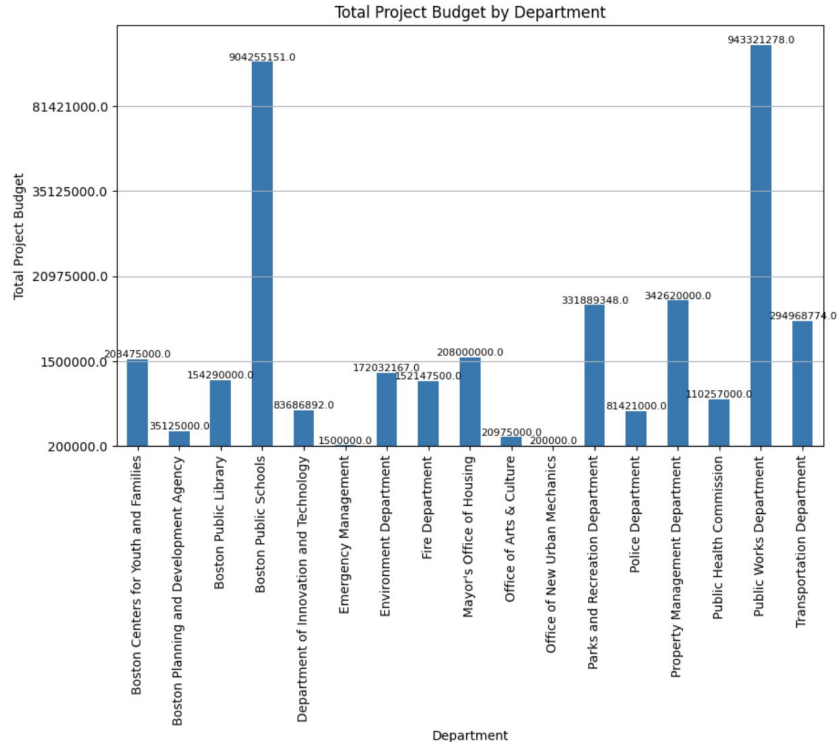


Budget split is consistent across the years

# PROJECT STATUS DISTRIBUTION

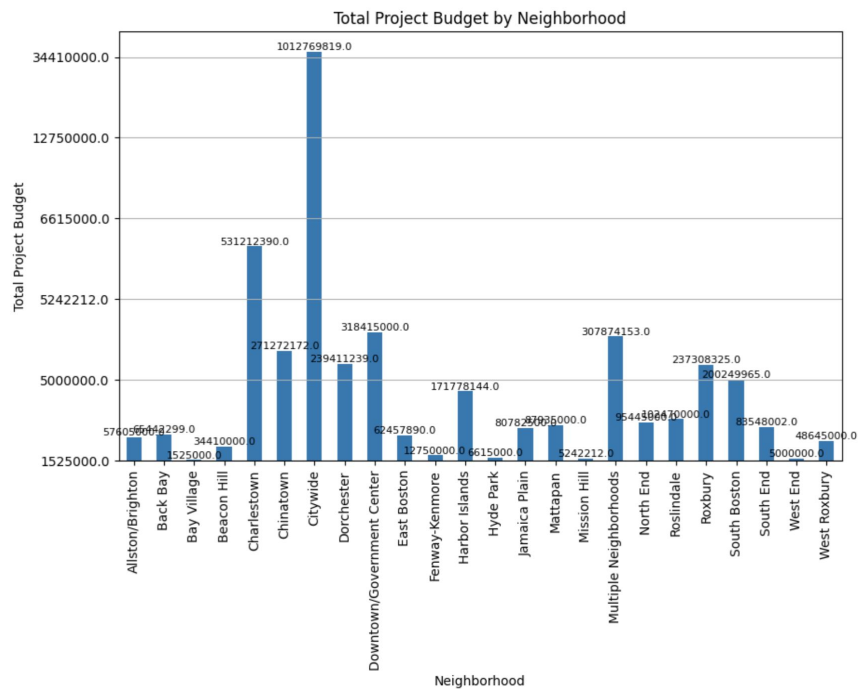


# TOTAL PROJECT BUDGET (BY DEPT)

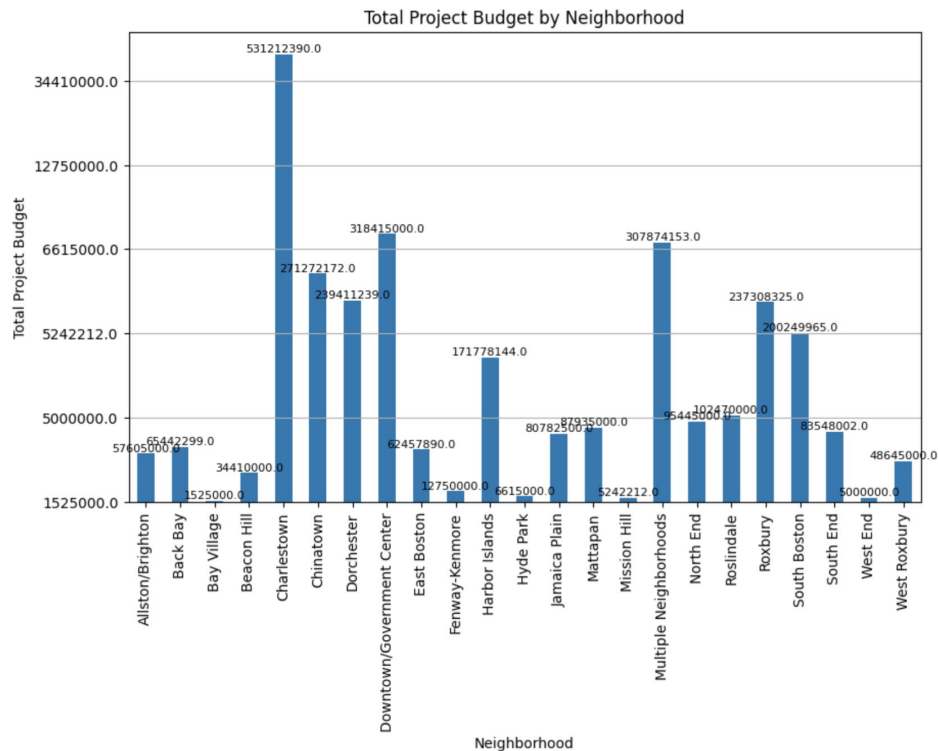


Boston Public Schools and the Public Works Department are given a significant amount of the budget

# TOTAL PROJECT BUDGET (BY NEIGHBORHOOD)



# AFTER REMOVING 'CITYWIDE'



Removing Citywide shows a slightly clearer picture of where the budget is being allocated regarding each neighborhood. We can see that Charlestown has been allocated the highest budget, which makes sense as they're currently planning a 30-year redevelopment project there.

# DISCREPANCY -1

	Department	Project_Name	Scope_Of_Work	PM_Department
0	Boston Centers for Youth and Families	BCYF Security and Technology Upgrades	Improvements to technology infrastructure and ...	Boston Centers for Youth and Families
1	Boston Centers for Youth and Families	BCYF Tobin Community Center Retaining Wall	Repair or replace the retaining wall adjacent ...	Public Facilities Department
2	Boston Centers for Youth and Families	BCYF North End Community Center	Develop a design for a new North End Community...	Public Facilities Department
3	Boston Centers for Youth and Families	Pool Repairs	Renovate and upgrade locker rooms and pools in...	Boston Centers for Youth and Families
4	Boston Centers for Youth and Families	Youth Budget Round 4	Engage youth across the City to create a capit...	Youth Engagement and Employment

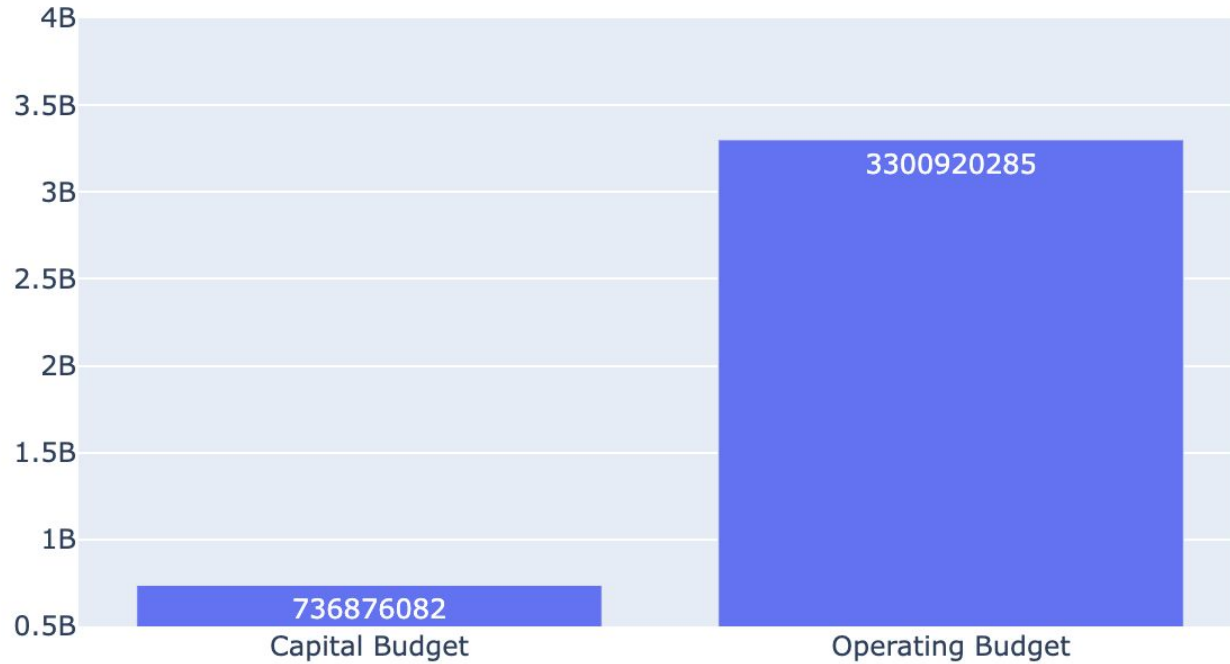
Department and 'PM\_Department' have different values. Need help from the clients in understanding differences b/w them

# DISCREPANCY - 2

```
c.columns
✓ 0.0s
Index(['Department', 'Project_Name', 'Scope_Of_Work', 'PM_Department',
      'Project_Status', 'Neighborhood', 'Authorization_Existing',
      'Authorization_FY', 'Authorization_Future', 'Grant_Existing ',
      'Grant_FY ', 'Grant_Future ', 'GO_Expended', 'Capital_Year_0',
      'CapitalYear_1 ', 'Capital_Year_25', 'Grant_Expended', 'Grant_Year_0',
      'Grant_Year_1 ', 'GrantYear_25', 'External_Funds',
      'Total_Project_Budget'],
      dtype='object')
```

We dont understand the use of a lot of columns and many columns also have a lot of 0's

# 2024 CAPITAL VS OPERATING BUDGET





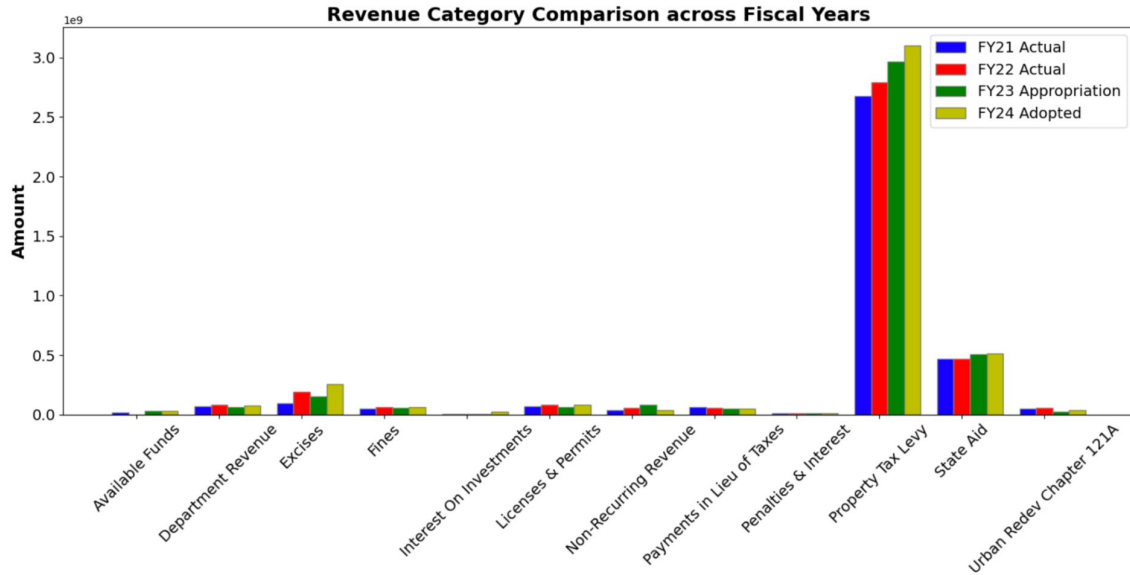
REVENUE

# NEGATIVE RENENUE

<b>_id</b> ⬇️⬆️	<b>Revenue Category</b> ⬆️⬆️	<b>Account</b> ⬆️⬆️	<b>Cabinet</b> ⬆️⬆️	<b>Department</b> ⬆️⬆️	<b>FY21 Actual</b> ⬆️⬆️	<b>FY22 Actual</b> ⬆️⬆️	<b>FY23 Appropriation</b> ⬆️⬆️	<b>FY24 Adopted</b> ⬆️⬆️
1	Property Tax Levy	Real Estate Taxes	Finance	Assessing Department	2,490,082,613	2,630,469,593	2,784,133,324	2,913,736,657
2	Property Tax Levy	Personal Property Tax	Finance	Assessing Department	189,939,113	196,499,737	209,010,762	214,236,031
3	Property Tax Levy	Property Tax Overlay	Finance	Assessing Department	-3,735,387	-33,174,590	-29,845,007	-30,000,000

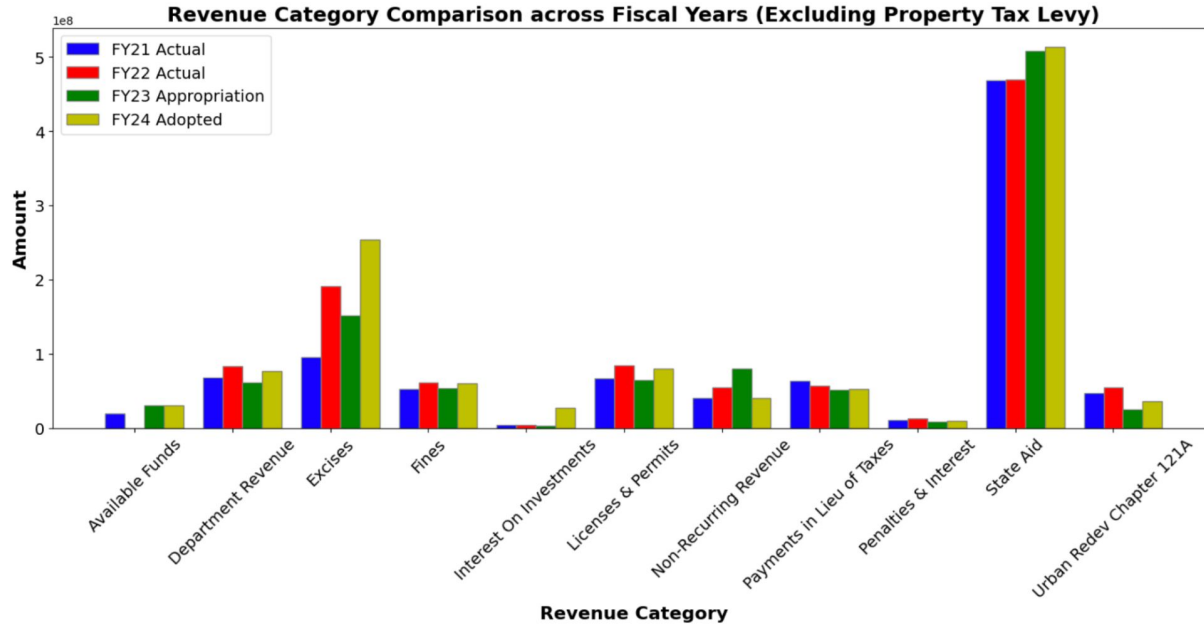
Is it an expense or error?

# REVENUE CATEGORY COMPARISON (ACROSS FISCAL YEARS)



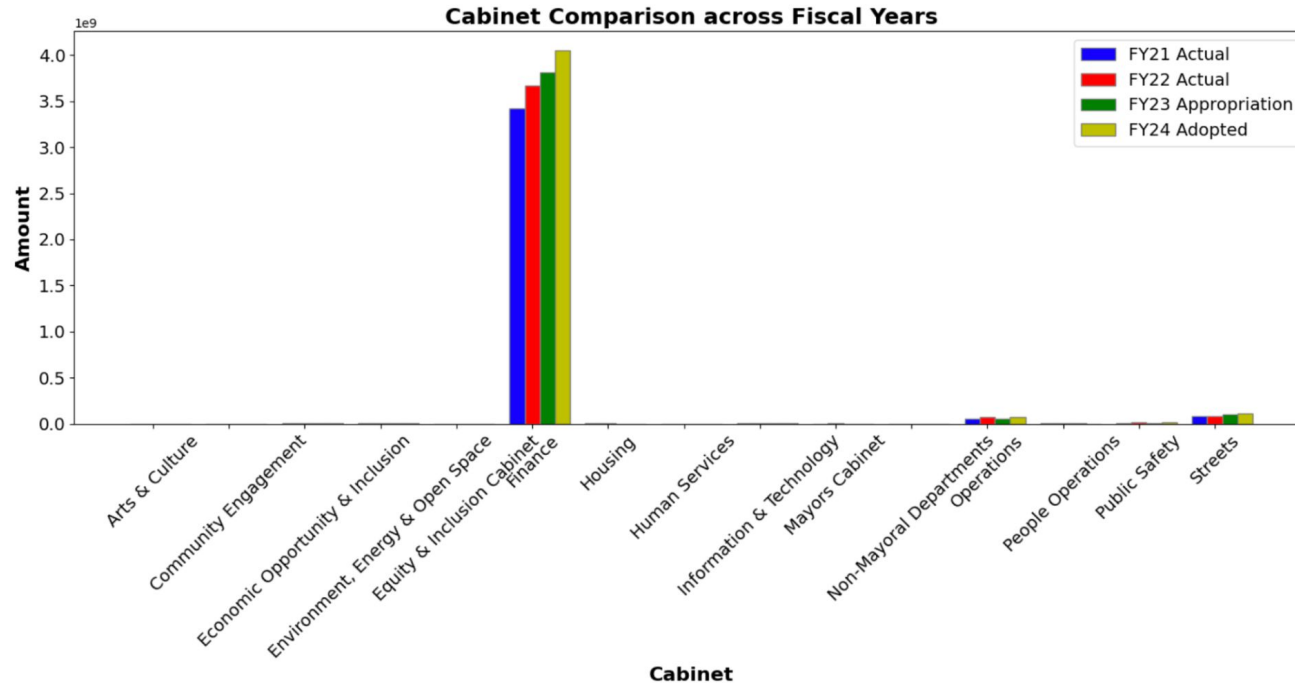
The "Property Tax Levy" stands out significantly, indicating its dominant role in revenue generation

# EXCLUDING PROPERTY TAX



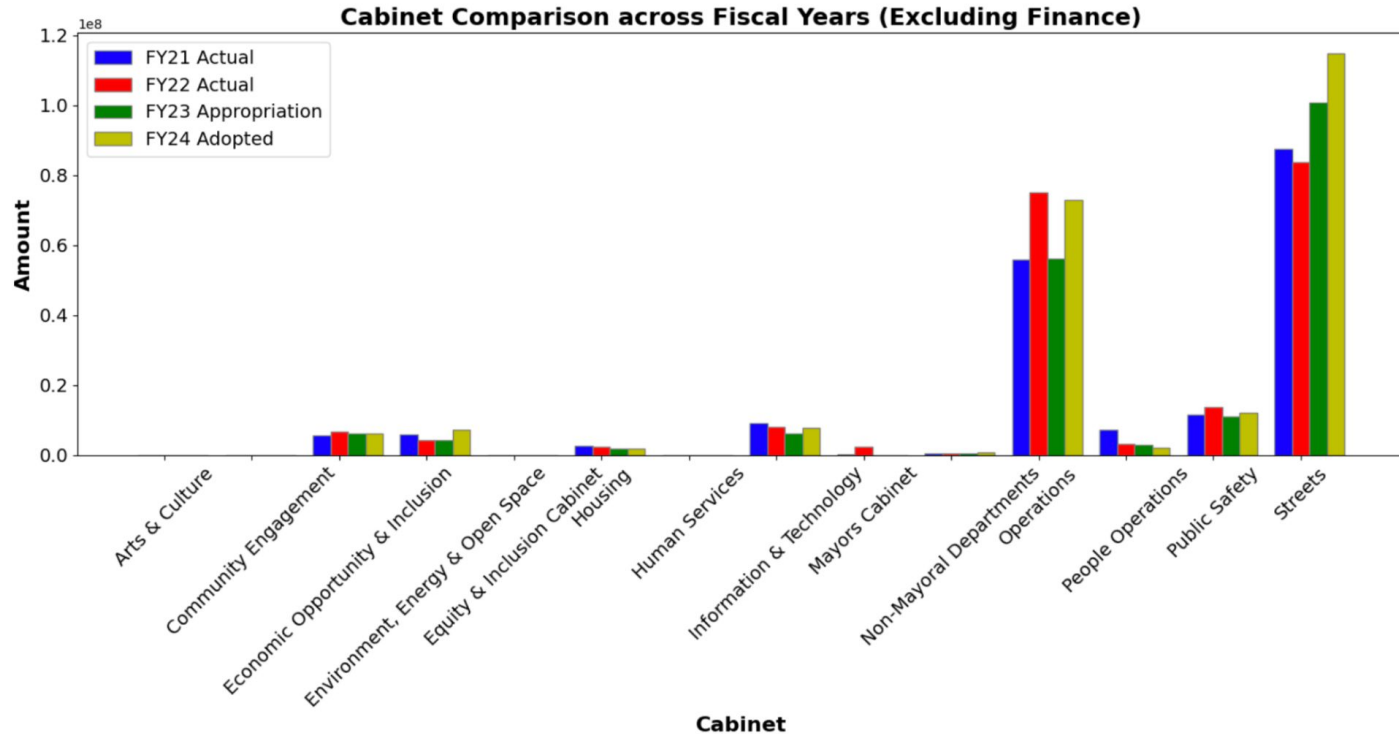
"Excises," which saw a substantial increase in the "FY24 Adopted". The majority of other revenue categories exhibit consistent trends across the years with slight fluctuations

# CABINET COMPARISON (ACROSS FISCAL YEARS)

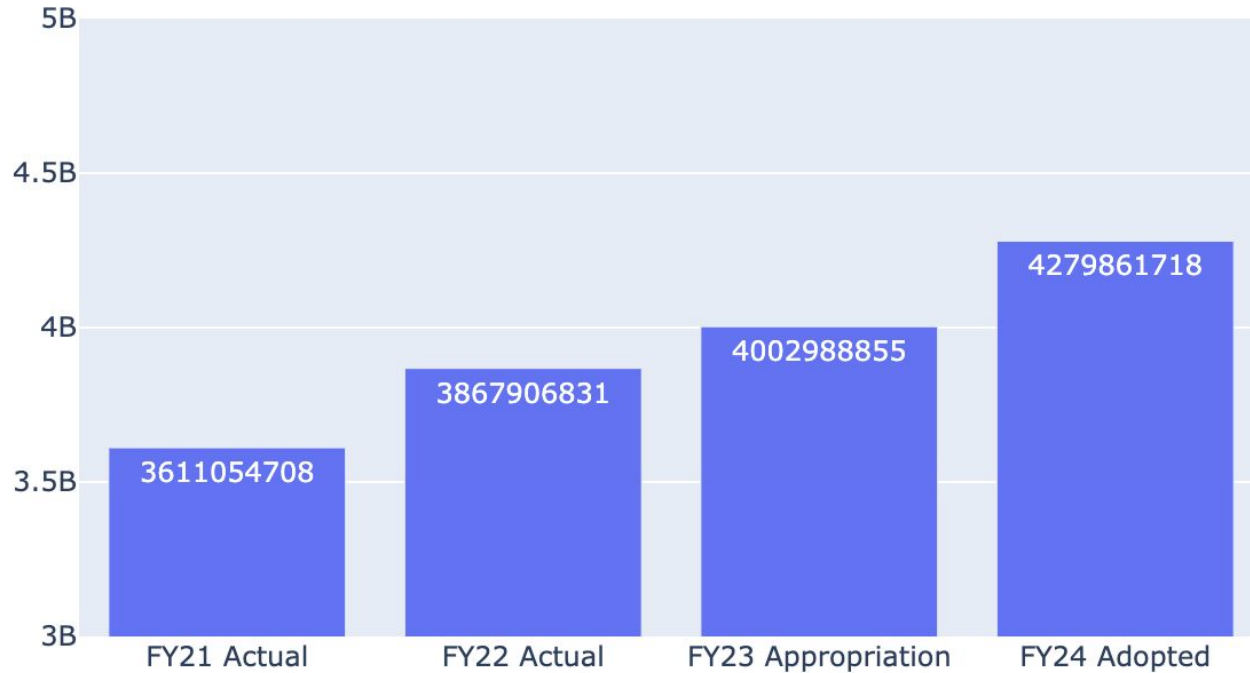


Similar trend seen as was in Property Tax. Also, its clear that Property Tax category comes under 'Finance' Cabinet

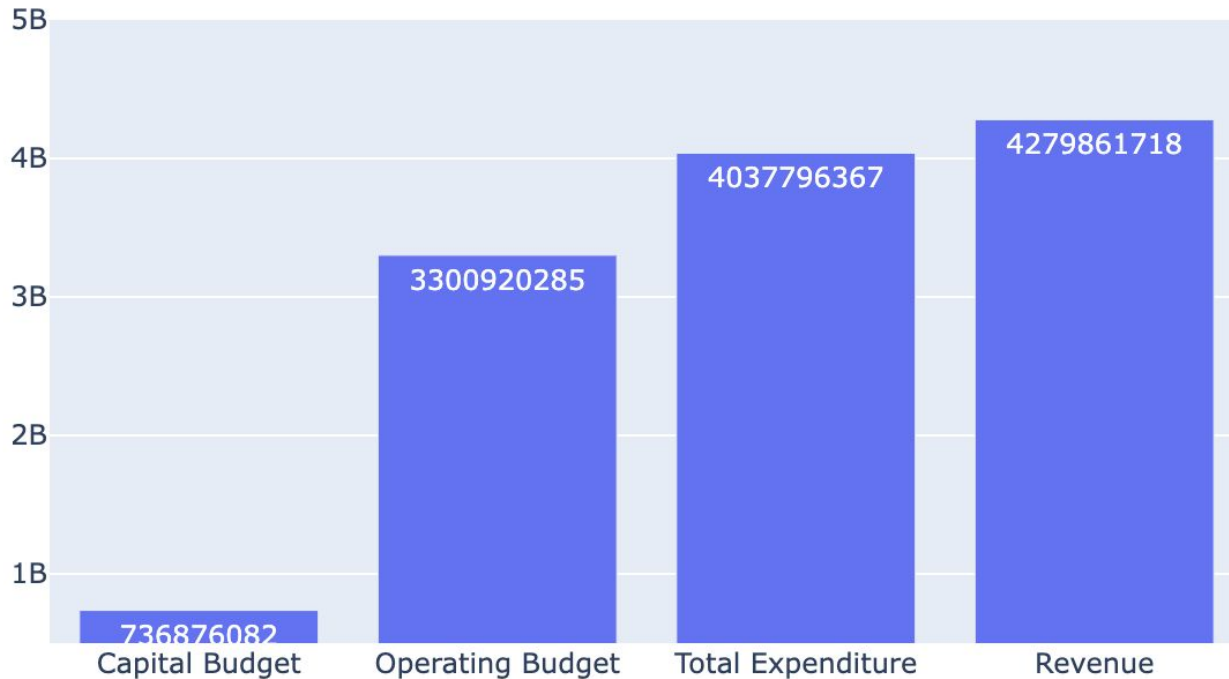
# EXCLUDING FINANCE



# REVENUE COMPARISON (OVER YEARS)



# 2024 PROJECTED - REVENUE VS EXPENDITURE



Therefore, Boston City can afford the planned Capital Budget and Operating Budget for 2024



# PLANNED NEXT STEPS

Show capital budget distribution per neighborhood on Boston City map

Explore bubble graphs for displaying budget distribution by Department/Program

Explore correlation between capital expenditure and revenue generation

Map departments that come under various cabinets

Explore socio-economic datasets for Extension project

THANK YOU!