

# Toronto Police Budget in 2023\*

Siyuan Lu

September 27, 2024

This dataset includes a line-by-line breakdown of the Toronto Police Service's approved budget at a Service-wide level in 2023. It details how funds are allocated across various commands within the TPS. The analysis reveals a significant investment in personnel costs and operating expenses, highlighting the financial priorities of the police department. The findings provide insights into the financial planning and resource allocation strategies of the TPS, which are important for ensuring effective community safety.

## 1 Introduction

In recent years, public scrutiny of police budgets has increased, driven by demands for greater transparency and accountability in the use of public funds. Effective financial management is essential for public safety unit to ensure that they achieve their operational goals and serve their communities efficiently. The Toronto Police Service (TPS), as one of the largest municipal police forces in Canada, plays a critical role in maintaining public safety and order. Its budget reflects the complexity and scope of its operations. However, the allocation of its large budget is often the subject of debate among policymakers, community leaders, and the public. This paper provides a comprehensive analysis of the 2023 approved budget for the TPS, with a detailed breakdown of expenditures by commands, categories, and cost elements.

An important gap in the current discussion is the lack of detailed, accessible information on police budget structures and expenditures. The analysis addresses the gap by breaking down the budget into various components to provide a transparent view of where and how resources are allocated. By examining these allocations, we aim to provide a clear picture of financial priorities and operational strategies of the TPS and how these translate into operational effectiveness and community safety outcomes. The findings reveal that a substantial portion of

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\*Code and data supporting this analysis is available at: <https://github.com/ButF1rst/TPS-Budget>.

the budget is dedicated to personnel costs, including regular salaries, premium pay, and benefits. Additionally, significant investments are made in operational expenses such as materials, equipments, and services required for daily operations.

The importance of this analysis lies in its ability to inform stakeholders, policymakers, and the public about the financial priorities of the TPS. It enhances public understanding and facilitated informed discussions on police funding and resource management. It provides a basis for assessing the efficiency and effectiveness of TPS in discharging its responsibilities. It helps to ensure that public funds are used responsibly and in ways that align with community needs and expectations.

In this analysis, we use R Core Team (2023) to analyze data and plot graphs. The data used is from Gelfand (2022). Alexander (2023) provides necessary process and techniques of analyzing and visualizing data. The structure of the analysis and documents use the starter folder of Wickham et al. (2019) as a reference.

In Section 2, we begin with an overview of the dataset and the methodology used for analysis. This is followed by a breakdown of the budget categories, highlighting key findings and trends.

## 2 Data

### 2.1 Overview

The fundamental dataset used for this paper is TPS Budget 2023 from Gelfand (2022). We selected year 2023 from all dataset among year 2020 to year 2024 because 2023 has the most recent and comprehensive data. We first clean the data and remove several unwanted variables. The data used for the analysis is `analysis_data`. This dataset represents the financial transactions of TPS in 2023, given the detailed breakdown of expenses across various commands and categories. The data includes salaries, benefits, materials, supplies, equipment, services, and revenues, providing a comprehensive view of the organization's financial activities.

### 2.2 Variables

`x_id`: A unique identifier for each observation. `command_name`: This variable categorizes expenses by different commands, such as “Corporate Communications”, “Disciplinary Hearing Office”, “Centralized Service Charges”, and etc. `feature_category`: This variable categorizes expenses into broader 7 types: “Salaries”, “Premium Pay”, “Benefits”, “Materials & Supplies”, “Equipment”, “Services”, and “Revenues”. `cost_element_long_name`: Provides a detailed description of the expense, such as “Regular salaries - Civilian A”, “Books & Magazines”, “Consulting - Creative communication”, and etc. `amount`: The monetary value of the expense, which is the most essential for the analysis. `date`: The date of the expense is set to be the last day of 2023.

### 2.3 Visualization

Table 1 (Table 1) is the summary statistics of the analysis data. It provides a summary of the total, mean, median, and standard deviation of amounts for each feature category.

Figure 1 (Figure 1) provides a clear visual representation of the total expenses allocated to various commands within TPS. This chart effectively highlights the differences in the allocation of financial resources between commands. The vertical axis, labeled “Total Amount”, indicating the total amount of money spent. The horizontal axis lists 9 different commands to help identify commands with the highest and lowest expenses, providing insights of spending patterns. The Community Safety Command is way ahead of the rest commands with the highest amount of budget. This suggests that the Community Safety Command requires much more financial resources compared to others. The Centralized Service Charges and Specialized Operation Command also have relatively higher expenses, while the remaining commands have similar and lower expense values.

Figure 2 (Figure 2) provides provides a clear visual representation of how expenses are distributed across 6 different categories except for the Revenues. The largest section, colored in

Table 1: Summary Statistics of Data

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# A tibble: 7 x 5
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	feature_category	total_amount	mean_amount	median_amount	sd_amount
	<chr>	<dbl>	<dbl>	<dbl>	<dbl>
1	1-Salaries	913100300	1732638.	96600	5856103.
2	2-Premium Pay	60988400	218596.	7000	1397392.
3	3-Benefits	265274300	575432.	64700	2245203.
4	4-Materials & Supplies	28848900	93665.	1700	787816.
5	5-Equipment	5919800	84569.	13200	200124.
6	6-Services	112385800	117805.	1700	1009333.
7	7-Revenues	-166473600	-3397420.	-640200	8491792.

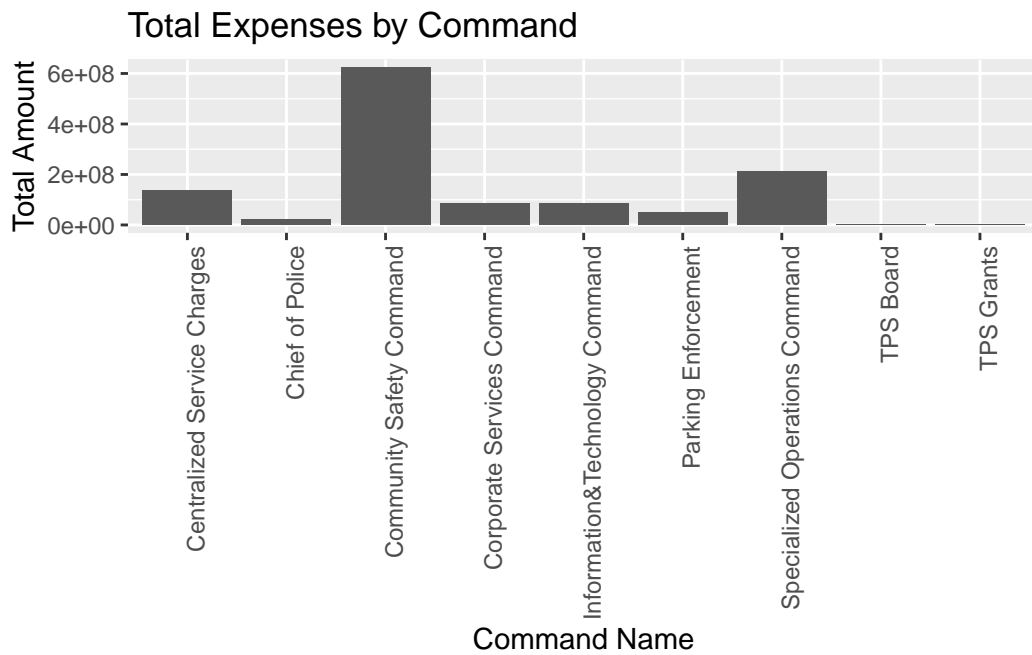


Figure 1: Total Expenses by Command

Expense Distribution by Category

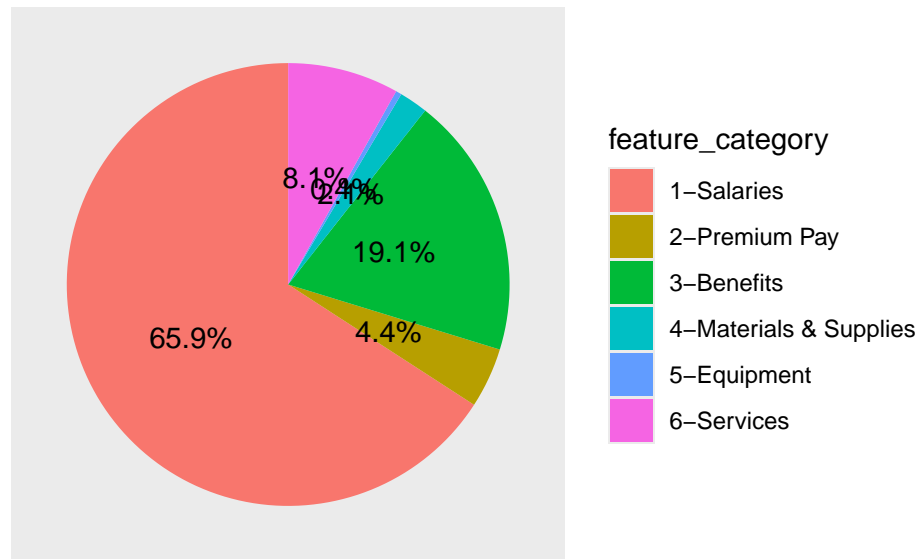


Figure 2: Total Expenses by Category

red, represents 65.9% of the total expenses, indicating that the Salaries consumes the majority of the budget. The next significant portion is the Benefits, accounting for 19.1% of the expenses. Smaller sections include the Services at 8.1%, the Premium Pay at 4.4%, and two very small sections that are less than 4.4% each. This plot helps visualize the proportion of expenses allocated to each category, highlighting the major areas of spending.

Combining Figure 1 (Figure 1) and 2 (Figure 2), a significant portion of the expenses within the Chief of Police command may be attributed to personnel-related costs.

## References

- Alexander, Rohan. 2023. *Telling Stories with Data: With Applications in r*. Chapman; Hall/CRC.
- Gelfand, Sharla. 2022. *Opendatatoronto: Access the City of Toronto Open Data Portal*. <https://CRAN.R-project.org/package=opendatatoronto>.
- R Core Team. 2023. *R: A Language and Environment for Statistical Computing*. Vienna, Austria: R Foundation for Statistical Computing. <https://www.R-project.org/>.
- Wickham, Hadley, Mara Averick, Jennifer Bryan, Winston Chang, Lucy D'Agostino McGowan, Romain François, Garrett Golemund, et al. 2019. "Welcome to the tidyverse." *Journal of Open Source Software* 4 (43): 1686. <https://doi.org/10.21105/joss.01686>.