



**Community
Safety
Knowledge
Alliance**

Research to Practice to Alignment

Police Budgeting Review

Edmonton Police Commission
and Peel Regional Police Board

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POLICE BUDGETING REVIEW

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EXECUTIVE SUMMARY

Determining appropriate levels of funding to enable police agencies to meet current needs and expectations, while shaping their approaches to meet future community safety and well-being expectations has never been more important. Rising costs of policing, the changing nature and understanding of crime and harm, together with broad-based calls for social change are among a number of key trends backstopping efforts by progressive police and other social system leaders to reshape how policing and community safety and well-being services are organized and delivered. How police are funded during such dynamic times of change matters.

It is against this backdrop that the Edmonton Police Commission (EPC) and the Peel Regional Police Commission (PRPC) engaged the Community Safety Knowledge Alliance (CSKA) to explore how to ensure a funding system that allows the police to remain flexible to adopting alternative service delivery models and approaches to meet emerging exigencies. Specifically, the EPC and PRPC sought:

- 1) Research-based and professional advice on the best methods for police funding, noting that while the City of Edmonton uses a funding formula, other cities use different mechanisms.
- 2) A comparative analysis in which the Edmonton Police Funding Formula and Peel Regional Police's budget is compared to a set of other Canadian municipalities. This

should show how the application of such a funding formula might impact the rate of budget growth while allowing the ability to lead progressive change.

About CSKA

CSKA is a non-profit that supports governments and others develop, implement, and assess new approaches to improving community safety and well-being outcomes. Through its work, CSKA works closely with its partners and clients to mobilize, facilitate, and integrate research and new knowledge to:

- inform how community safety-related work is organized, and delivered;
- inform and improve professional practices;
- inform alignment within the sector; and
- improve safety and well-being outcomes at the individual, community, and/or policy levels.

Our independence and objectivity are important values to CSKA. Our success is based on values and respect-based relationships with clients and other key stakeholders. The nature of these relations allows us to find the professional balance between independence and cooperation.

On this project, the CSKA team was augmented by highly specialized professional support at MNP LLP, one of Canada's largest accounting and business consulting firms, and by a senior

fellow with the Institute of Municipal Finance and Governance at the Munk School of Global Affairs & Public Policy, University of Toronto. The financial and data analysis followed established practices employed in chartered accountancy and advisory services.

A number of police agencies, including the Edmonton Police Service, Peel Regional Police Service, Regina Police Service and Ottawa Police Service are members of CSKA. Chief Dale McFee (Edmonton) and Chief Nishan Duraiappah (Peel) are both on the CSKA board of directors. While the chiefs and executive of these four agencies provided information and data related to budgeting processes, the project team took its direction and advice solely from the Executive Directors of the Edmonton Police Commission (EPC) and the Peel Regional Police Board (PRPB).

Methodology

This study involved a detailed financial analysis comparing the Edmonton Police Service and Peel Regional Police Service funding with five (5) other Canadian police services for the period 2010 – 2020. The comparator services, selected by the EPC and PRPB, were:

- Calgary Police Service
- Ottawa Police Service
- Regina Police Service
- Winnipeg Police Service
- York Regional Police Service

The Edmonton funding formula was a central component of this analysis. This funding formula calculates the Net Operating Requirement for the police service, or the amount of funding required by the police service, minus revenue, on an annual basis. Normally the formula is used in a forecasting capacity to determine the Net Operating Requirement for the Edmonton Police Service over a four-year period. In this analysis, the formula was applied on a historical basis over a 5-year period (2016-2020).

The five-year comparison was selected because applying the funding formula over the full ten-year period produced highly questionable results. Among the factors: annual budget increases were generally higher in the earlier years of the 10-year period, and; there were fluctuations in budgets that could not be explained within the scope of this study. In addition, since Edmonton's funding formula came into being in 2016, the 5-year analysis provided a more accurate depiction of the impact of applying the formula across the comparator agencies.

Applying the formula, the cumulative impacts would have seen Ottawa and Calgary police services receive more funding, while the other comparator agencies would receive less funding.

Police Service	Cumulative Variance between Formula-based Budget and Actual Annual Budget Amounts	Average Annual Difference between Formula-based Budget and Actual Annual Budget Amounts
Edmonton	-	-
Ottawa	\$15,901,456	\$3,180,291
Winnipeg	(\$6,748,827)	(\$1,349,765)
Peel	(\$14,789,873)	(\$2,957,975)
Regina	(\$8,474,559)	(\$1,694,912)
York	(\$34,709,888)	(\$6,941,978)
Calgary	\$24,189,628	\$4,837,926

Funding sources also vary significantly, with some provinces providing more significantly more funding to their municipal police services than others. Provincial contributions are highest in the prairie provinces, comprising between 5% and 8% of funding to Winnipeg, Regina, Calgary, and Edmonton. Ontario police services receive only about 3% of total annual funding from the Province. Police boards in both Ontario and Manitoba consist of both municipal and provincial appointees. Police legislation in Saskatchewan and Alberta have no such provisions for provincially-appointed commission members, notwithstanding the significant provincial government funding provided for local policing.

The Edmonton Police Service funding formula incorporates an Efficiency Factor determined by the City. The Efficiency Factor allows the City to take into consideration their financial state and the funding available as well as their expectations of the service. If the City needs the service to cut costs, this is a mechanism in place to reduce their funding in the approval stage.

City Council is limited in its control. Section 29 of *The Police Act* limits Council’s involvement with the police to providing it an appropriate budget. Council is not able to enumerate which services could be reduced to accommodate budget reductions. The provisions of the Act ensure appropriate independence of the police commission and the police service.

In 2017, the City Auditor concluded that the funding formula process improved alignment with *The Police Act*:

“The new funding method allows the Commission to retain full control over funding, which is in better alignment with The Police Act, and this allows them the flexibility to spend the money where it is needed based on their understanding of policing needs.”

The auditor also suggested that the funding formula could be improved by ensuring formal documentation describing the formula and the different variables considered in it. This was done in 2018 (City of Edmonton, 2018).

As depicted in the following table, applying Edmonton’s funding formula in the other jurisdictions (except Ottawa and Calgary), over the past five years of would have resulted in reductions to their overall budgets they would have received from their municipalities/regions.

Police Service	Cumulative Variance between Formula-based Budget and Actual Annual Budget Amounts	Average Annual Difference between Formula-based Budget and Actual Annual Budget Amounts
Edmonton	-	-
Ottawa	\$15,901,456	\$3,180,291
Winnipeg	(\$6,748,827)	(\$1,349,765)
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Key Findings

Edmonton’s funding formula and four-year budgeting cycle provide the flexibility for the EPC and the police service to adapt and respond to shifts in the operating environment, thus providing added value to the city.

Within the comparator group of police agencies, Edmonton had the highest average gross expenditure per capita and net operating requirement per capita (by almost \$40/capita). The next highest were Winnipeg (\$360) and Calgary and Regina at \$357 and \$354 respectively. York had the lowest budgeted gross expenditures and net operating requirement per capita at \$289 and \$235.

However, Edmonton had one of the **lowest costs per incident** (\$4,503). This is the average cost of the Edmonton Police Service attending a call for service. Regina (\$3,444) was the only police service with a lower rate. By contrast, York Regional Police Services averaged \$10,056 per incident. In other words, on average it costs York \$5,553 more to attend an incident than it does Edmonton.

On the whole, Edmonton’s costs were lower than the comparator police services for all indicators other than costs/capita.

The Academic Literature on Police Budgeting

There is a dearth of scholarly literature in Canada pertaining to police budgeting and financing.

In a US context, Zhao et al. (2010) focused on police budgeting in 188 US cities over a 10-year period. They noted that, “Only limited research was available on the important question of the likely determinants of changes in budgetary allocations to municipal police agencies over time.” Their review of the available literature identified 3 primary approaches to explain how budgets were allocated among different municipal agencies.

The first approach Zhao et al. identified focuses attention on local political culture, which argues that particular types of government structures correspond to specific types of budgetary decision-making processes at the municipal level. The second approach is sociologically based, suggesting that municipal budget allocations to the police are largely based on key socioeconomic factors, including local crime rates and demographics (particularly

minority populations). The third suggests incrementalism – that year over year budget allocations are incremental in nature.

Two research questions were central to the Zhao study: does the budgetary allocation made to police departments change overtime? And, which of these approaches provides the best explanation for the variation in the budgetary allocation made to police services over a long span of time?

Zhao et al. concluded that the municipal budgeting process is largely incremental in nature. Budget allocations are based primarily on the previous year's allocations. Lewis (1984) noted that "Last year's expenditures are good predictors of this year's expenditures for almost all government functions in periods of growth or decline." Lewis (1984) noted that even when municipalities hit difficult financial times, policing budgets are still based on the previous year's budget allocation.

Zhao et al. further noted that "the utility of the incremental approach is somewhat greater when applied to essential services than when applied to non-essential services. Police and fire departments both lie in the municipal essential service category. Their respective shares of city budget remain rather stable over time. In comparison, changes in the share of the municipal budget going to park/recreational services varied much more from year to year" (p. 273).

Of particular interest, Zhao also found that the percentage of minority populations were statistically significant as a predictor of police share of city budgets in this US-based study. Similarly, they

found a similar statistical relevance in the variable percentage of male population in cities.

The impact of collective bargaining to budgeting was also considered. According to Schwoehau et al. (1988), the collective bargaining process strengthens the association's ability to protect their members and their organization's budget. Police collective bargaining agreements not only protect members' interests, but generally result in continuously higher compensation and benefits over time [Katz (1979); Bartel and Lewin (1981)]. Since collective agreements are often multi-year, they reinforce the incrementalism explanation of increases.

In most Canadian jurisdictions including Ontario and Saskatchewan, the police boards are the employer of the police chief and police employees, a clear signal of police board and police service independence from municipal councils. In Manitoba, municipal councils are the employer and negotiate collective agreements with associations. In Alberta, section 4 of the Alberta Police Officers Collective Bargaining Act stipulates that the municipality may directly negotiate collective agreements, or may authorize the police commission to do so. In both Edmonton and Calgary, the practice has been for the City to undertake such bargaining.

A Budgeting Model for Consideration

In late 2020, the Government Financial Officers Association (GFOA) published a report authored by Kavanagh et al., entitled, *Time for Change: a Practical Approach to Rethinking Police Budgeting*. With many local governments looking for ways to rationalize police and community safety-related funding, the

report offers advice on how governments can reach better decisions on related budgeting, breaking away from traditional approaches, which tend to freeze existing programming and practices in place.

Their proposed approach recognizes that policing and community safety are highly complex and subject to many different perspectives. The framework they propose is founded on five (5) pillars:

a. Establish a Long-Term Vision

- A shared community safety vision brings people together and creates cohesion
- Encourages thinking long-term and broadly about community safety
- Defines goals and measures to support better budgeting for community safety

b. Build Trust and Open Communication

- Show concern by listening to the community
- Show that officials hold similar values to the community
- Allow the public to scrutinize government's community safety work
- Help the public understand the decision-making process

c. Use Collective Decision Making

- Bring together the community, police, and elected officials.
- Provide a forum for the public to voice concerns about policing.
- Establish a common set of facts as the basis for conversation.
- Have the conversation.

d. Create Clear Rules

- Historical precedent should not determine community safety spending, instead consider cost effective ways to achieve goals.
- Departments and divisions are not the best decision unit for budgeting, instead more details on services are needed.
- Think outside of department silos and look for multi-disciplinary solutions to community safety issues.
- Make sure services that prevent problems have a fair chance in the budget.
- Identify services that work and those that don't.
- Look for smart, strategic opportunities to save money.

e. Treat Everyone Fairly

- Ensure decisions are objective and transparent.

- People should be given a voice and treated with dignity.
- Recognize that different constituencies have different needs and experiences with the community safety system.
- Budgeting outcomes ought to reflect the community served. (Kavanagh et al., 2020)

Kavanagh et al. suggest that re-examining the police budgeting process using this framework also enables the parties to be able to consider and address broader community safety issues in new ways.

With the likelihood of a period of deep post-pandemic government austerity looming over the horizon, the framework offers “a proven way to address the potential for conflict that is inherent in public budgeting, including in high stakes situations that cities and counties face now (as they extend budget considerations to include the broader community safety and well-being context).”

Recognizing that final decisions on actual budgets and priorities must remain within the domain of police commissions and elected councils, the GFOA model provides for greater public and community engagement in the priority-setting and budgeting processes. Based on our analysis and observations, while the Edmonton Police Commission and EPS are already doing many of the things suggested in the GFOA report, further refining the budgeting process to be more inclusive of the community may be worth considering.

Conclusions

As the evidence in this study confirmed, and supported by the relevant literature, municipal police budgeting is largely incremental in nature, with budget allocations primarily based on the previous year’s budget. Even when municipalities experience periods of fiscal constraint, policing budgets tend to remain stable, reflecting the previous year’s allocation. The role of collective bargaining in steady budget growth is noteworthy. Police associations have a successful history of obtaining continuously higher compensation and benefits for their members, and since approximately 82% of police budgets are attributable to human resources, they also ensure budget stability and growth.

In our assessment, the Funding Formula appears to be serving the City of Edmonton, its police commission and police service well. It affords alignment with the legislation, and provides the flexibility required by the commission and police service to adapt and respond to the current and future dynamic policing and community safety environments. This is particularly important given the progressive policing and community safety strategies underway.

The analysis also showed that applying the formula in other municipalities would have resulted in lower policing costs for them. This is supported by the City of Edmonton Auditor, who noted the savings in the early application of the formula (2016 – 2018) in that city over what would have been expended using more traditional budgeting approaches.

The Edmonton Police Commission and police service are already doing many of the things suggested by Kavanagh et al. in *Time for Change: a Practical Approach to Rethinking Police Budgeting*. Notwithstanding, it would be useful for the City, the EPC, and the EPS to reflect on the framework and discuss how it might be further adapted to the Edmonton context.

1 INTRODUCTION

Determining appropriate levels of funding to enable police agencies to meet current needs and expectations, while shaping their approaches to meet future community safety and well-being expectations has never been more important. Rising costs of policing, the changing nature and understanding of harm, together with broad-based calls for social change that emphasize social inclusion and social justice, are among a number of key trends backstopping efforts by progressive police and other social system leaders to reshape how policing and community safety and well-being services are organized and delivered. It follows that how police are funded during such dynamic times of change is under the microscope in many jurisdictions.

It is against this backdrop that the Edmonton Police Commission (EPC) and the Peel Regional Police Board (PRPB) are exploring how to ensure a funding system that allows the police to remain flexible to adopting alternative service delivery models and approaches to meet emerging exigencies. They engaged the Community Safety Knowledge Alliance (CSKA) to support them in this review. Specifically, the following was requested:

- 1) Comprehensive analysis and advice on the best methods for funding a police service based on Canadian examples, academic studies/research, or concepts. (i.e., while the City of Edmonton uses a funding formula, other cities use different mechanisms). Advice should consider:
 - The legal situation in each province as set out in the respective Police Acts (e.g., Alberta and Ontario require municipalities to maintain an ‘adequate and effective’ police service).
 - Across Canada, how is funding connected to call volume/incidents and crime rates/severity in a municipality?
 - Do studies or concepts suggest how funding should connect call volume/incidents and crime rates/severity in a municipality?
 - Academic research on how budgeting could be used to initiate and sustain innovation in policing.
- 2) A comparative analysis (ideally 2010 – 2020) in which the current City of Edmonton Police Funding Formula and Peel Regional Police’s budget is compared to least four (4) other Canadian municipalities. This should show how a funding formula, or historic police budgets might impact the rate of budget growth while allowing the ability to lead progressive change.

2 METHODOLOGY

This project involved a detailed financial analysis comparing the Edmonton Police Service and Peel Regional Police Service with five (5) other police services across four (4) Canadian provinces for the period 2016 - 2020.

A review of relevant literature was also undertaken to better understand historical trends and factors affecting police budgeting.

Comparator services for the financial analysis were selected by the EPD and PRPC, and include:

- Calgary Police Service
- Ottawa Police Service
- Regina Police Service
- Winnipeg Police Service
- York Regional Police Service

Budgeting and financial resources from each police agency and the City of Edmonton were consulted to gather budget and expenditure data as well to gather context to better understand respective budgeting processes.

2.1 Financial and Resource Data Collection

Budgeting and expenditure data and collective agreements were gathered from each of the police services for the analysis period.

Population data for 2010-2018 was garnered from Statistics Canada's Police Personnel and Selected Crime Statistics table to

ensure a consistent data collection method for all the jurisdictions (<https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3510007701>). Populations were estimated for the final two years of the period of study by applying the 2019 and 2020 growth rates (from the below sources) to previous population estimates.

Calgary

<https://www.calgary.ca/cfod/finance/plans-budgets-and-financial-reports/plans-and-budget-2019-2022/financial-reports/Annual-reports.html>

Edmonton

<https://www.canadapopulation.net/edmonton-population/>

Ottawa

<https://www.macrotrends.net/cities/20387/ottawa-gatineau/population>

Peel

<https://www.peelregion.ca/planning/pdc/data/forecasts/population-2006-2031.htm>

Regina

<https://www.canadapopulation.net/regina-population/>

Winnipeg

<https://www.macrotrends.net/cities/20407/winnipeg/population>

York

https://www.york.ca/wps/wcm/connect/yorkpublic/26c7ede5-86d6-4798-a21a-015c683ee5d2/21029_gdr2020accessible.pdf?MOD=AJPERES&CVID=nAA4K3I

Utilizing each police service's calls for service or occurrences from annual reports presented increased risk because reporting methodologies may vary significantly across jurisdiction.

Incident totals gathered from Statistics Canada's incident-based crime statistics table were used to analyze police responsive activity in place of calls for service

(<https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3510018301>).

Calls for service are often reported by police services in their annual reports, although the reporting methodology for what is considered a call for service varies by police service. The Statistics Canada incident data provided a standardized data set with a consistent data collection methodology for more accurate comparison.

Incident counts are based on the most serious violation in the incident. Incident volumes may be affected by the methodology police services utilize to manage minor offences. In some instances, police or municipalities may handle some minor offences using municipal by-laws or provincial provisions rather than Criminal Code provisions. The Incident definition is provided in the Key Definitions section below.

Crime Severity Index (CSI) is used to measure changes in the level of severity of crime. Crimes are assigned a weight based on their seriousness. Seriousness is based on actual incident sentences. More serious crimes are assigned a higher weight, and therefore have a greater impact on the index. CSI data was taken from the Statistics Canada website (<https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3510019001>).

The number of police officers refers to the total of sworn officers, as represented in Statistics Canada. Each police service reports this number to Statistics Canada on an annual basis. For consistency, this data set was used instead of annual reporting from each individual police service (<https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3510007701>). The table reports the total as of May 15 annually.

The financial and data analysis followed established practices employed in the field of chartered accountancy.

2.2 Key Definitions

Gross Budgeted Operating Expenditures: refers to the total budgeted operating expenditures (excluding recoveries). Totals were calculated using data provided by the respective cities/regions.

Net Budgeted Operating Expenditures: (Net Operating Requirement): refers to the total budgeted operating expenditures less revenue the police service receives or generates. This is the amount municipalities contribute to meet the approved budgeted

expenditures of the police service. It is also referred to as 'Municipal Contributions' within the report.

Police Price Index: is a metric specific to the Edmonton Police Service Funding formula. It is the annual inflation relative to Edmonton policing operating expenditures. The index is calculated by the City of Edmonton's Chief Economist and considers a variety of inflation factors and their forecasted values.

Efficiency Factor: is an annual reduction factor (%) provided by City of Edmonton City Council meant to represent expected annual gains in operational efficiency.

Incident (or Offence): a criminal incident involves one or more related offences that are committed during a single criminal event and have been reported to police. Where there are multiple victims within a single criminal event, a separate aggregate incident is counted for each victim. For example, a single incident involving an assault on three victims at the same time and location is counted in the aggregate statistics as three incidents of assault. For an incident to be counted in the crime statistics it must be recorded as "founded" as opposed to "unfounded." Police services can report up to four violations for each incident, however, for both the traditional crime rate and the CSI are based on the most serious violation in the criminal incident (<https://www150.statcan.gc.ca/n1/pub/85-002-x/2021001/article/00013-eng.htm#a20>)¹.

¹ Police reported crime statistics in Canada, 2020. Key terms and definitions. Greg Moreau, Canadian Centre for Justice and Community Safety Statistics.

3 FINDINGS AND ANALYSIS

This section begins with the comparative financial analysis. It then moves to discussing how police funding is associated with calls for service and crime severity, followed by a more in-depth comparison of costs of policing across the seven jurisdictions. The closing sub-section discusses the contemporary context within which this study was undertaken, together with what was learned through a review of relevant literature.

3.1 Financial Analysis

This sub-section begins with an elaboration on the funding formula used by the City of Edmonton and then moves to a description of the various budgeting processes in the comparator cities.

This is followed by an analysis that compares the Edmonton Police Service and the Peel Regional Police Service with the five (5) other police services referred to above: Calgary, Ottawa, Regina, Winnipeg and York Region. The analysis period of study is 2010-2020. Budgeting and financial resources from each police agency and the City of Edmonton were consulted to gather budget and expenditure data as well to gather context to better understand respective budgeting processes.

3.1.1 Edmonton Police Service funding formula

In 2016, Edmonton City Council approved the use of a funding formula (“the Funding Formula”) for determining the net

operating budget for the Edmonton Police Service. City procedures for applying the funding formula state that,

“In order to reflect the changes in the economic forecasts, the Funding Formula will be recalculated using the same beginning Base Budget and where available, updated for the actual change in population and actual police price index as provided by the Chief Economist. Any difference between the resulting base budgets at the end of the cycle will be evenly allocated over each year of the next budget cycle.”

Prior to 2016, EPS budgets were determined in the same manner as other City departments through single-year budget requests.

Subject matter experts from the City of Edmonton (Edmonton) were consulted to gather the necessary data to apply the Edmonton Funding Formula across the comparator municipalities. The same Conference Board of Canada data sets were used for each jurisdiction. Salary increases were provided by respective collective agreements. However not all the inputs were replicable to the other regions.

The Edmonton Police Service funding formula incorporates an Efficiency Factor determined by the City. The Efficiency Factor allows the City to take into consideration their financial state, the funding available as well as their expectations of the police service. If they need the police service to cut costs, the Efficiency

Factor provides the mechanism to reduce funding in the approval stage.

In its 2017 audit, the City Auditor concluded that the funding formula process improved alignment with *The Police Act*.

"The new funding method allows the Commission to retain full control over funding, which is in better alignment with The Police Act, and this allows them the flexibility to spend the money where it is needed based on their understanding of policing needs."
(City of Edmonton, 2017, p.24)

The auditor went on to suggest that the application of the funding formula could be further improved by ensuring formal documentation that described the Funding Formula and the different variables considered in it. This was undertaken in 2018 (City of Edmonton, 2018).

In order to make as fair a comparison as possible, some adjustments were made in applying the formula in the analysis.

- First, the efficiency factor was removed from the calculation. As this is a number determined by the City of Edmonton based on a number of factors specific to Edmonton, it was not possible to historically determine what this would have been in each of the comparator cities/regions. Instead of applying the same efficiency factor to each service and adjusting all the numbers by the same factor the efficiency factor was removed from the formula.

- Secondly, the base budget in Edmonton includes a budgeted transfer from the Traffic Safety and Auto Enforcement Reserve. The reserve revenue has been excluded in Edmonton's base budget amount to compare only municipal contributions similar to the way it was provided for the comparator services.
- The final adjustment was to the population change applied. The City of Edmonton uses an internal population growth percentage. For consistency within this analysis, the Statistics Canada data and methodology described above was used. The adjustments required to make the service comparison more accurate has changed the budgeted amounts calculated for Edmonton and therefore they will not match what has historically been provided.
- Further information on the funding formula application can be found at the front of the section entitled, "Applying the Edmonton Funding Formula to the Comparator Agencies".

3.1.2 Comparator police service budgeting processes

Police service budgeting processes shared several elements across the comparator municipalities. Most of the cities/regions provide a budget change target to the police service early in the year that provides guidance to the budgeting process. Anecdotally, it was reported the targets are generally based on inflation or a politically determined acceptable rate of property tax increase, rather than a formula.

All cities/regions approve budgets on an annual basis except for Edmonton and Calgary, which provide budget totals for four years. Each police service however, prepares a multi-year forecast (generally 3 additional years) despite only getting approval for one year. In the case of York Region, in addition to creating the longer term forecast, the Region takes it a step further in that the Council approves the current year plus an outlook for the remaining years of the Council term (1, 2 or 3 years). York's approved outlook forms the basis for the next year's budget process. It therefore has considerably more weight than merely providing a multi-year forecast that is not approved by Council. All the cities/regions provide approved total budget spending and do not, and are not directed to, allocate spending to individual line items or program expenditures. The police board in every jurisdiction provides this oversight, as per their respective police legislation.

All the police agencies in this study utilize a bottom-up and top-down approach to their budgets. Cost centre managers determine budget needs for the following year and submit to the finance department. Generally, police services utilize historical budgeting and recent spending variances to determine the following year's requirements. In parallel, organizational leadership determine where investment is required based on their strategic plan and/or service level initiatives. Resource increase requests are reviewed and approved based on need and alignment to strategic priorities.

Finance departments calculate the impact(s) of collective agreement salary increases and centralized service budget requirements. The largest budget pressure across all police

services is human resources. Salaries and wages are the largest budget item without exception, and all police services in the study reported at least 80% of expenditures for personnel. Human resource costs are directly linked to annual increases laid out in the respective collective agreements. The limited means to reduce these costs include adjusting the type or rank of resources or the volume of resources. Many police services are limited by minimum operating requirements and are restricted in their ability to reduce personnel volume to manage spending.

The police services included in this study do not utilize performance metrics in their budgeting methodology or processes.

Several of the police services have a reserve policy either internally, or mandated by the city/jurisdiction, that requires money to be allocated and kept separately for specific purchases such as vehicles or radios as well as more general reserves that must be drawn on in a deficit scenario. Cities that do not utilize a reserve must go back to the city/region mid-year to request additional funds or manage any in-year deficit from within.

Although the cities/jurisdictions are using varying methods to determine their annual contribution, year over year budget changes for each were quite similar over the 10-year period of study. The resulting variances in annual budgets were between 3-5%.

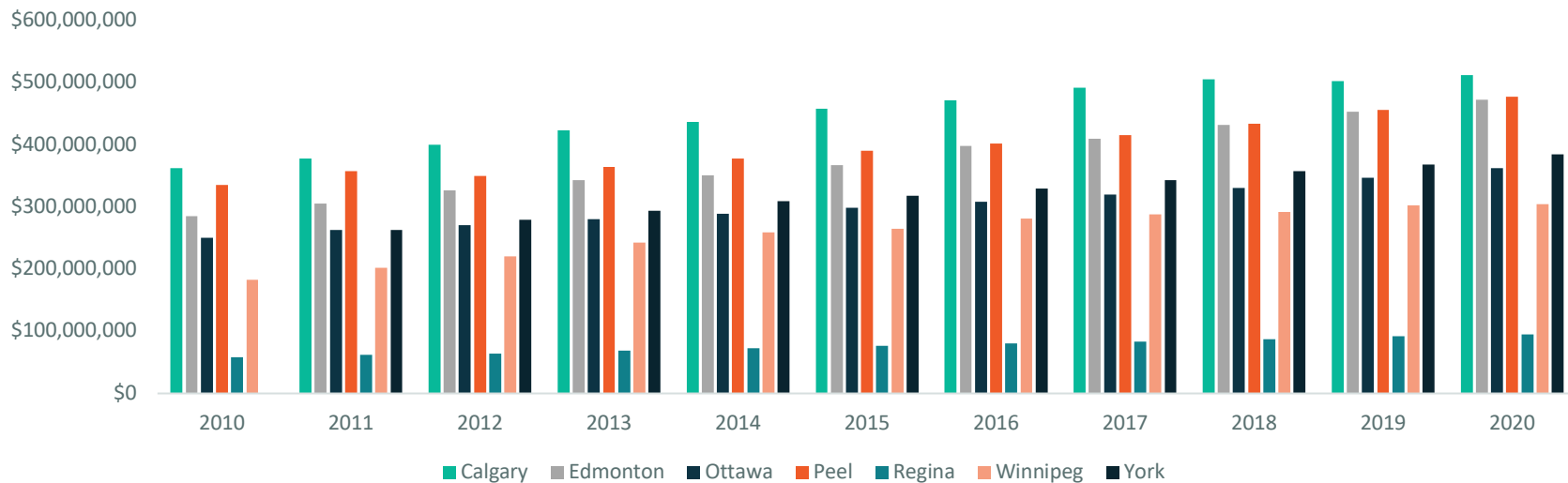
Table 1. Police Service Net Operating Requirement (i.e., Municipal contributions to overall operating budgets) Comparison (2010-2020)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average
Calgary	277,991,000	295,490,000	317,170,000	336,615,000	349,759,000	369,976,000	379,084,000	388,069,000	401,070,000	394,253,001	414,352,421	356,711,766
Annual % Change	-	6%	7%	6%	4%	6%	2%	2%	3%	-2%	5%	4%
Edmonton	228,831,567	244,569,418	264,589,450	277,234,450	285,310,482	280,025,266	307,314,041	319,508,276	337,377,273	357,626,889	377,006,780	298,126,717
Annual % Change	-	7%	8%	5%	3%	-2%	10%	4%	6%	6%	5%	5%
Ottawa	228,936,000	242,695,000	246,743,000	256,261,000	263,881,000	269,898,000	277,077,000	285,859,000	294,353,000	306,539,000	319,222,000	271,951,273
Annual % Change	-	6%	2%	4%	3%	2%	3%	3%	3%	4%	4%	3%
Peel	290,405,110	312,641,000	325,653,680	338,407,100	349,574,530	360,913,440	372,823,580	384,788,000	401,510,000	423,070,000	445,780,000	364,142,404
Annual % Change	-	8%	4%	4%	3%	3%	3%	3%	4%	5%	5%	4%
Regina	51,961,000	56,213,100	56,951,953	61,393,600	64,780,700	68,046,600	71,681,700	75,660,000	77,988,400	82,504,300	85,629,300	68,437,332
Annual % Change	-	8%	1%	8%	6%	5%	5%	6%	3%	6%	4%	5%
Winnipeg	156,911,564	163,062,786	176,620,836	197,595,665	215,304,661	219,107,690	232,620,845	240,896,709	246,650,875	255,281,719	257,568,094	214,692,859
Annual % Change	-	4%	8%	12%	9%	2%	6%	4%	2%	3%	1%	5%
York	N/A	243,639,500	259,671,600	271,936,900	282,749,600	289,334,200	296,558,977	310,790,929	323,511,230	333,876,944	347,950,512	296,002,039
Annual % Change	-	-	7%	5%	4%	2%	2%	5%	4%	3%	4%	4%

Figure 1 compares the total budgeted gross expenditures, which includes spending of all revenue and income sources in addition to municipal funding, across the 7 police services. Winnipeg, Edmonton and Regina had the largest overall growth in their budgets between 2010 and 2020 all growing over 60%. Calgary has the highest budget overall throughout the 10 years but increased at the lowest amount of 41%. Peel, Ottawa and York’s budget’s increased at just over 40% between 2010 and 2020.

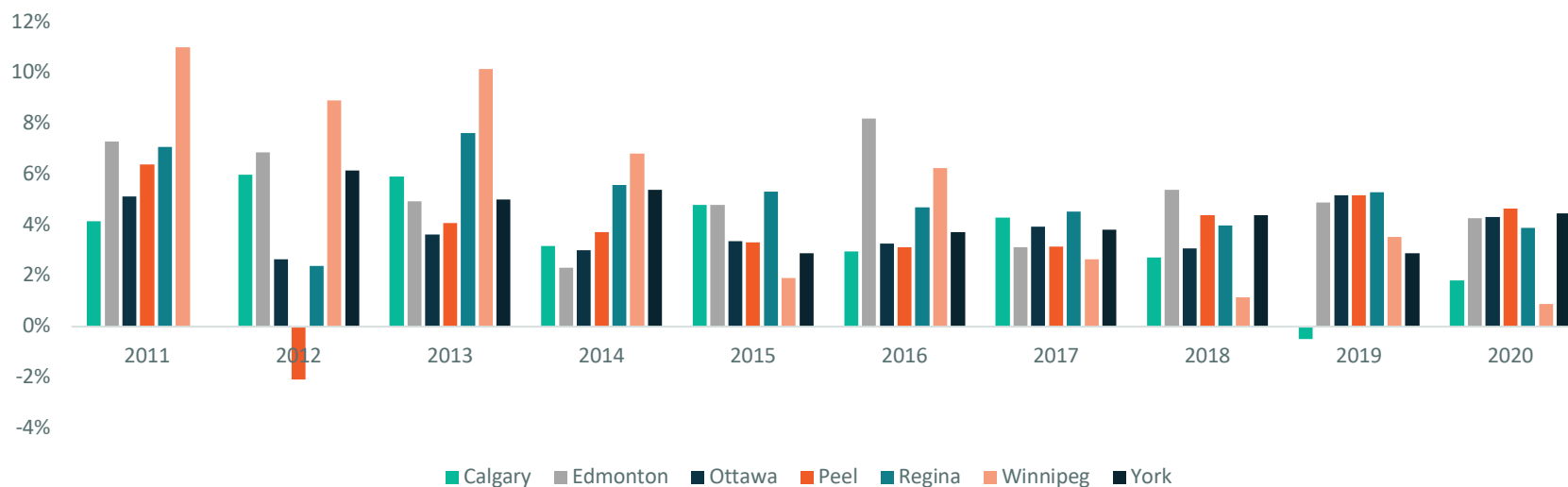
Gross expenditures are growing year-over-year at a rate of approximately 4-5% for each of the services. In general, growth rates are similar for gross budget and municipal budgeted contributions. Ottawa is the exception: Its gross budget grew by 4% while municipal contributions grew by only 3% within the period of study.

Figure 1. Police Service Budgeted Gross Expenditures Comparison (2010-2020)



Although gross expenditures are growing, the rate at which they are growing has been diminishing during the period of study. Figure 2 provides the year-over-year change (%) in gross expenditures. The overall trend in average annual change decreased by an annual average of approximately 4% across all 7 police services.

Figure 2. Police Service Year-over-Year Change in Budgeted Gross Expenditures Comparison (2010-2020)



Figures 3 and 4 provide the same analysis as Figures 1 and 2 using net spending - i.e., municipal funding alone. Edmonton, Ottawa, Winnipeg and York had lower overall growth in budgeted municipal funding between 2010 and 2020 when compared to budgeted gross expenditures. Edmonton was only slightly less (1% difference), York and Winnipeg showed a greater difference at 3% less and Ottawa was the largest difference with municipal funds growing at 5% less than gross budgeted expenditures. Calgary, Peel and Regina’s municipal funding budget grew by a greater amount than total budgeted

expenditures. Peel had the largest difference with municipal funding increasing by 11% more than gross budgeted expenditures, Calgary’s municipal funding grew by 8% more than total budgeted expenditures and Regina’s was about 1% more.

The average annual rate of increase, as per Table 1, is approximately 4%. The rate of annual average change for net expenditures is also decreasing during the period of study, but at a lower rate of rate of approximately 0.8% annually across all 7 police services.

Figure 3. Police Service Budgeted Net Operating Requirement Comparison (2010-2020)

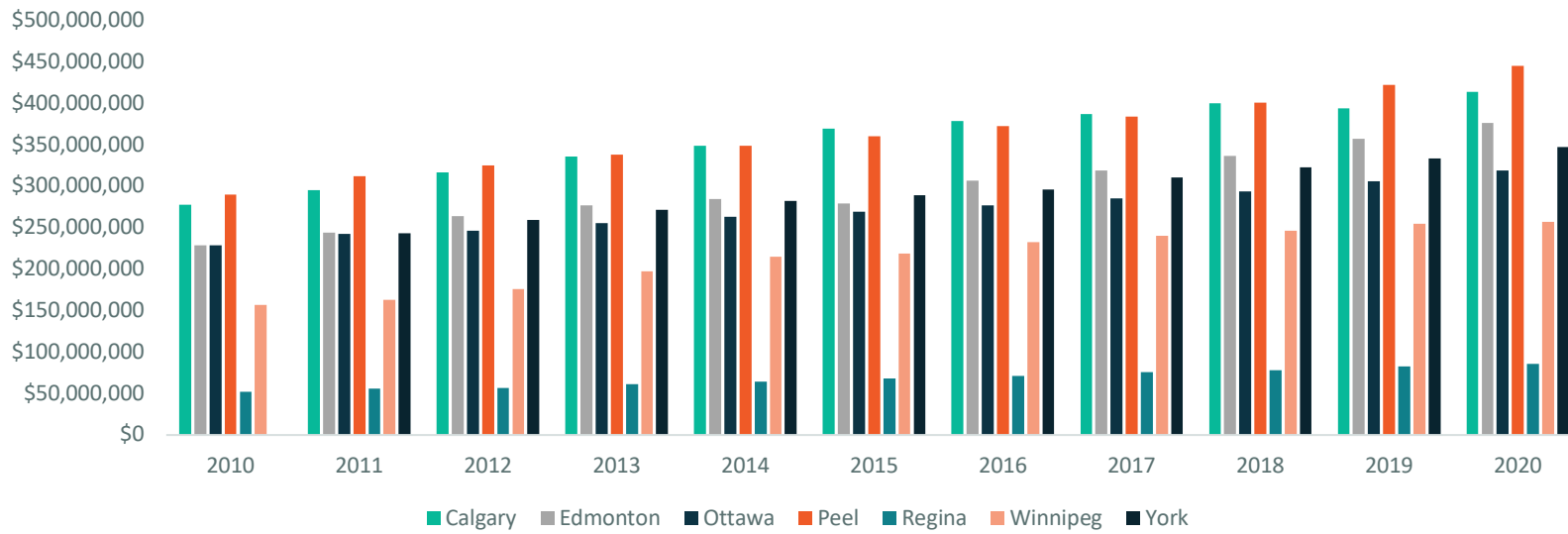


Figure 4. Police Service Year over Year Change in Budgeted Net Operating Requirement Comparison (2010-2020)

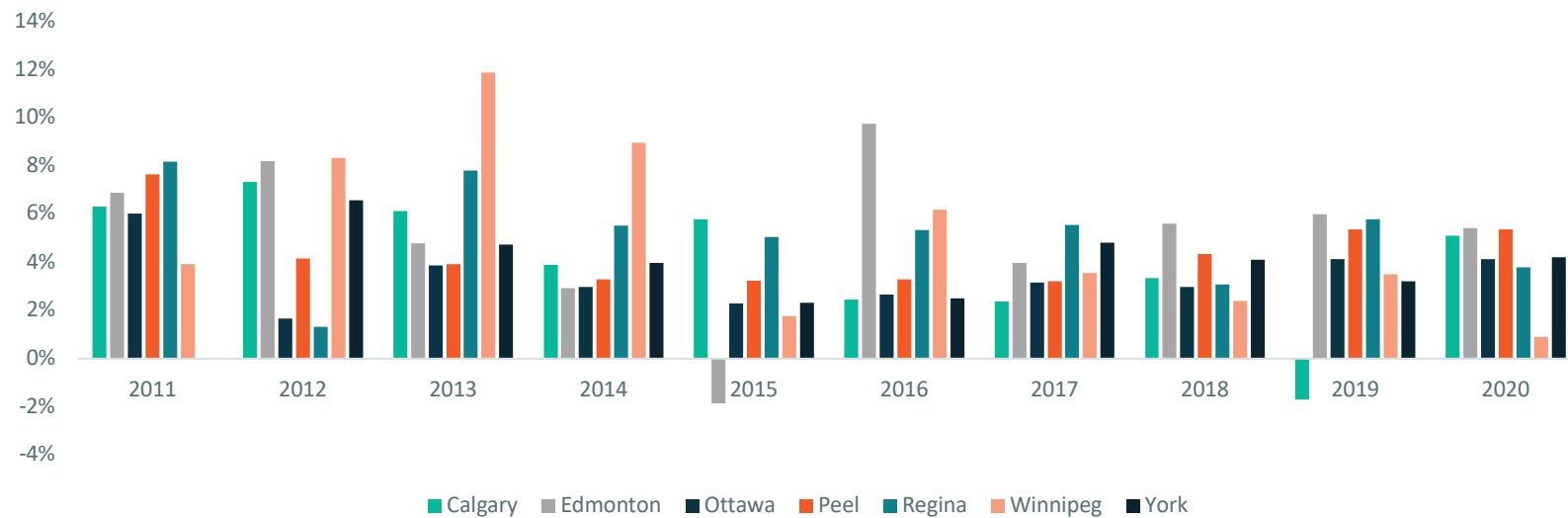


Figure 5 provides the average annual rate of change for all seven police services for both budgeted Net Operating Requirement and Gross expenditures to demonstrate the decreasing annual rate of change for both variables.

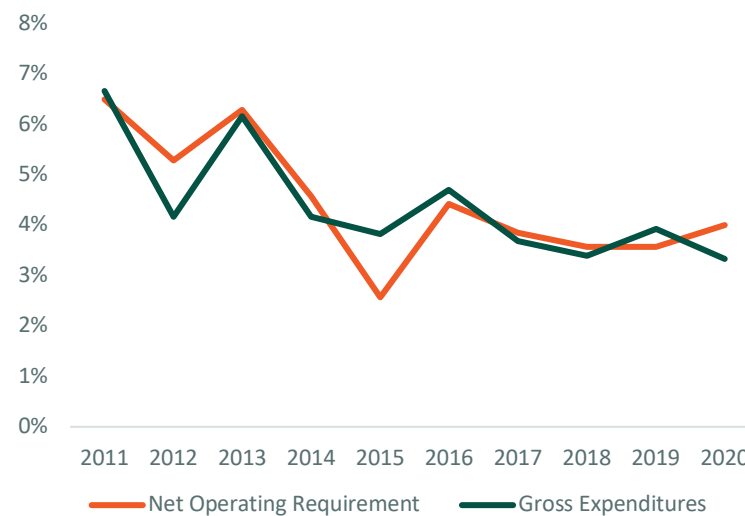
3.1.3 Service provision and revenue sources variation

The most significant spending/budget variations across the respective police services are service provision and revenue generation. All police services in the study reported providing contracted or 'paid duty' services to external organizations in which they 'charge back'. The type and volume of these services vary across police service. For example, Peel Regional Police provides policing services to the airport on a contract basis and has resources that are hired specifically for this purpose. Several other contracted services are delivered on overtime using current resources that would otherwise be off duty.

Table 2. Funding Source as a Proportion of Total Funding Comparison Across Police Services (Average 2010-2020)

Police Service	Municipal Contribution	Other Revenue	Provincial Grants	Fees/Fines/Charges	Federal & Other Grants
Edmonton	81%	8.4%*	7.1%	3.5%	0%
Ottawa	91%	4.4%	2.7%	1.6%	0.4%
Winnipeg	82.7%	0%	5.3%	10%	2%
Peel	94.6%	0.7%	3.2%	1.1%	0.3%
Regina	89.6%	0.8%	8.3%	0.9%	0.4%
York	90.1%	3.2%	3.4%	3.3%	0%
Calgary	77.8%	3.7%	7.2%	11.2%	0%

Figure 5. Average Annual Growth Rate for Budgeted Gross Expenditures and Net Operating Requirement



Most of the agencies in the study have their own Public Safety Answering Point (PSAP) and communications centre and some provide this service to other agencies on a charge-back basis. Calgary is an exception - the City of Calgary provides these services and does not charge back from user agencies, including the Calgary Police Service.

Each police service reported having officers seconded to other agencies, but that costs for those resources are recovered to varying degrees. Many of the services operate cadet programs. Winnipeg, for example, reported receiving specific program revenue from other agencies to offset their cadet program cost.

There is some variation in the specific services each police service provides their respective jurisdiction; however, the majority of all police service costs are derived from frontline, general patrol and call response resources. Service provision differences are most often driven by demand or wants of the public, the city or region, the province, or other related initiatives in the jurisdiction. These differences somewhat impede the direct comparison of expenditures and budgets across police services because it is not always an exact “apples-to-apples” comparison.

Funding sources also vary significantly across the police agencies. Some provinces provide more funding to their police

than others, and some agencies receive a larger proportion of their traffic ticket revenue back from their municipality than others. Provincial revenue appears to be the most significant in the prairie provinces, comprising between 5% and 8% of funding to Winnipeg, Regina, Calgary, and Edmonton. Provincial grant funding is a much lower proportion for Ontario police services at approximately 3% of total annual funding. In every case, the municipal contribution accounts for most of the overall funding, varying between 77.8% in Calgary to 94.6% in Peel. The overall average across all 7 services is 87%.

Table 3. Average Funding by Source Comparison Across Police Services (2010-2020)

Police Service	Municipal Contribution	Other Revenue	Provincial Grants	Fees/Fines/Charges	Federal & Other Grants	Avg Annual Total Funding
Edmonton	\$298,172,112	\$30,991,250	\$25,973,142	\$12,907,235	-	\$368,043,739
Ottawa	\$271,951,000	\$13,043,000	\$7,947,000	\$4,752,000	\$1,091,000	\$298,783,000
Winnipeg	\$213,879,532	-	\$13,816,044	\$25,793,348	\$5,159,727	\$258,648,652
Peel	\$397,770,649	\$ 3,091,350	\$13,650,884	\$ 4,698,317	\$1,069,100	\$420,280,300
Regina	\$68,437,332	\$581,945	\$6,340,564	\$667,200	\$317,855	\$76,344,896
York	\$293,242,939	\$10,337,856	\$11,071,448	\$10,664,533	-	\$325,316,776
Calgary	\$356,711,766	\$ 17,041,252	\$32,860,127	\$ 51,471,324	\$201,088	\$458,285,556

**Edmonton included police information (security clearance checks in this category) resulting in this line being overstated and Fees/Fines and Charges being understated*

See Appendix B: Police Service Fees, Fines and Charges and Other Revenue Detail for detailed breakdown of what is included in Other Revenue and Fees/Fines/Charges by police service.

3.2 How Funding is Connected to Call Volume and Crime Rates/Severity

Gross budgeted expenditures for each police service were compared to Statistics Canada incidents, CSI, population and number of police officers. As mentioned earlier in the report, incidents were used in place of calls for service to ensure the data sets were standardized across comparator services because they were collected using Statistics Canada's consistent data collection methodology.

Gross expenditures were utilized because officers and other services within the police agencies are included in the Statistics Canada data sets regardless of how they are funded. Using just net expenditures would remove spending that funds those elements and skew results. The correlation² was calculated between each set of variables using their annual rates of change.

The data generally did not show a correlation between changes in funding and CSI or number of incidents. Winnipeg and York both demonstrated a slight negative correlation between incidents and CSI and budgeted funding; however, the correlation is slight. For

the remainder of the police services, increased funding did not result in a reduction in CSI or the number of incidents, the variables appear to be unrelated. In addition, when CSI or incidents increased, there was not generally a change in funding in response via changes to budget.

CSI and incidents are consistently strongly correlated because the volume and type of criminal incidents determine the crime severity index. When incident volumes increase, CSI goes up. The two metrics do not move in "lock-step" however because violent incidents have greater effects on CSI, whereas an increase in non-violent or less serious incidents do not have as much impact.

Instinctually it could be assumed that an increase in police officers should reduce CSI and the number of incidents. This is often not the case because more police officers can result in more arrests and self-initiated activity which serves to increase crime statistics and CSI.

² A correlation is a statistical measure that expresses the extent to which two variables are linearly related, meaning that they change together at a constant rate. While correlation describes the measure of simple relationships, it does not infer cause or effect. Correlation coefficient formulas establish how strong a relationship is between data, with a value between -1 and 1, where:

- 1 indicates a strong positive relationship.
- -1 indicates a strong negative relationship.
- A result of zero indicates no relationship at all.

- A correlation coefficient of 1 means that for every positive increase in one variable, there is a positive increase of a fixed proportion in the other. For example, shoe sizes go up in (almost) perfect correlation with foot length.
- A correlation coefficient of -1 means that for every positive increase in one variable, there is a negative decrease of a fixed proportion in the other. For example, the amount of gas in a tank decreases in (almost) perfect correlation with speed.
- Zero means that for every increase, there isn't a positive or negative increase. The two just aren't related.

The number of police officers for the seven services was relatively consistent over the 10 years, with changes between approximately -1% and 2% on average over the 10-year period. Police services increased their officer complement by an average of 1% with the exceptions of Ottawa and Edmonton. Ottawa reduced its police complement by 1% and Edmonton increased by 2%.

This study did not explore whether civilianization of certain positions within these police agencies has accounted for any of these changes in sworn police officer counts. It reasons though, that police services with higher rates of civilianization will demonstrate a higher cost per officer while not providing a substantive indication to efficiency or effectiveness pertaining as measured in crime-related statistics.

The following sections provide further detail on the variable comparison results for each of the seven police services. Detailed data tables are provided in Appendix C.

3.2.1 Edmonton

Budgeted and actual expenditures increased at an annual average rate of 5%. Population and police officers increased annually at an average of approximately 2%. CSI and incidents fluctuated over the 10-year period. Figure 6 graphically represents the variables over the period of analysis.

Figure 6. Edmonton Year over Year Change in Budgeted Expenditures, Actual Expenditures, Crime Severity Index, Incidents and Population

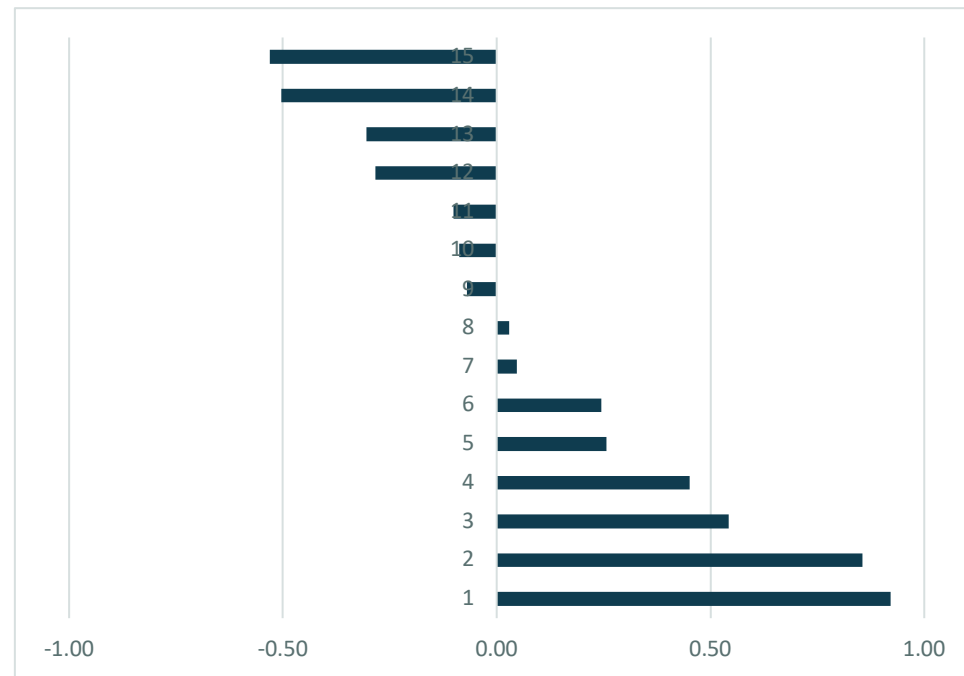


Annual rate of change of CSI and number of incidents and budgeted and actual expenditures were both strongly correlated as expected. The rate of change for police officers and incidents also showed a moderate positive correlation – when officer numbers increase, incidents increase and vice versa. Annual rates of change for both budgeted and actual expenditures demonstrated a moderate negative correlation with population - when one was increased the other was decreased. Results for all variable comparisons are displayed in the table and figure below.

Table 4. Correlation Between Each of the 6 Variable Comparisons - Edmonton

	Variable Comparison	Correlation
1	CSI-Incidents	0.92
2	Budget-Actual	0.86
3	Police Officers-Incidents	0.54
4	Police Officers-CSI	0.45
5	Population-Incidents	0.26
6	Population-CSI	0.24
7	Budget-Police Officers	0.05
8	Police Officers-Population	0.03
9	Actual-Incidents	-0.07
10	Actual-Police Officers	-0.09
11	Budget-Incidents	-0.10
12	Budget-CSI	-0.28
13	Actual-CSI	-0.30
14	Actual-Population	-0.50
15	Budget-Population	-0.53

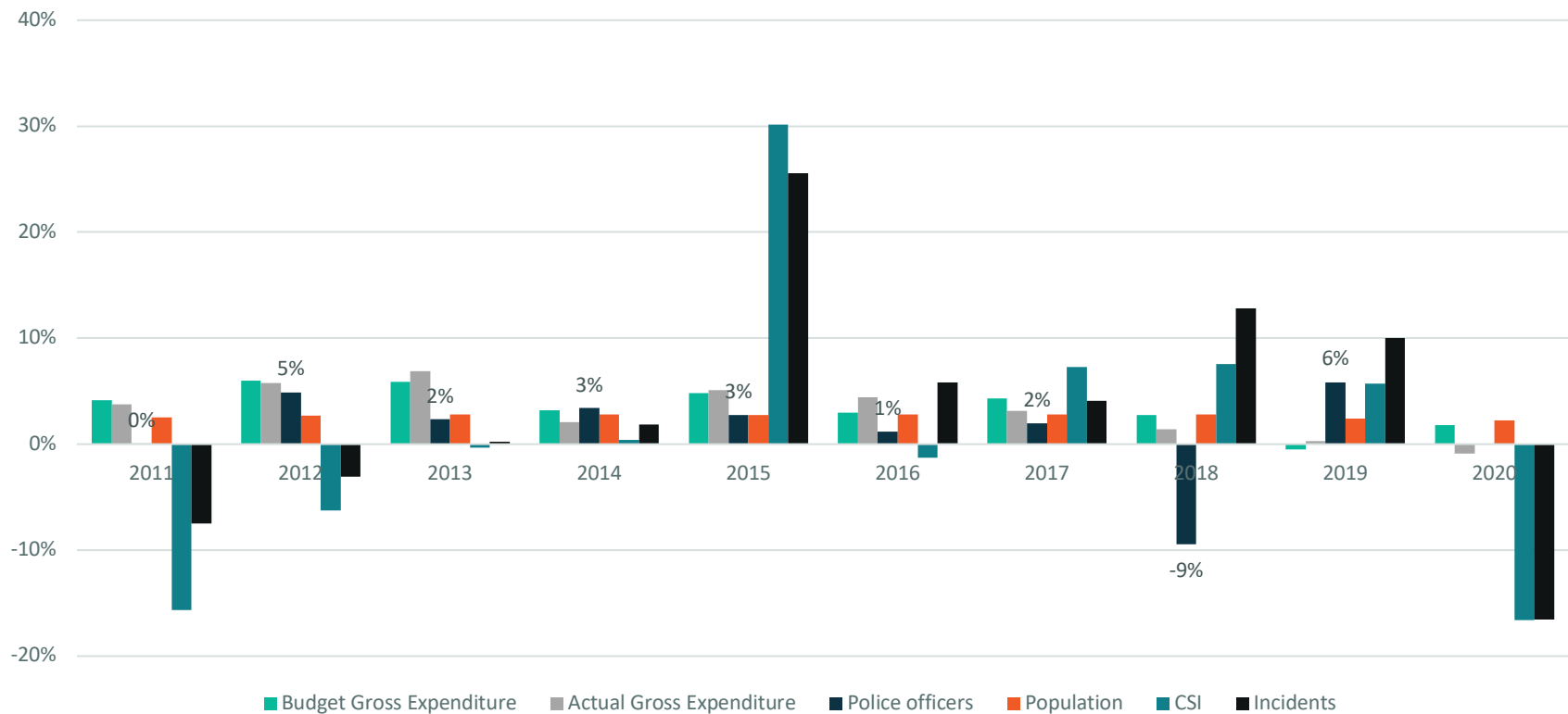
Figure 7. Correlation Between Each of the 6 Variable Comparisons



3.2.2 Calgary

Population, budget and expenditures steadily rise year over year with the exceptions of 2019 where they both remained stable and 2020 where expenditures decreased. The number of police officers was increased slightly over the period with small annual increases in most years and larger decrease in 2018. CSI and incidents were much more volatile with larger increases and decreases over some years. Figure 8 graphically represents the variables over the period of analysis.

Figure 8. Calgary Year over Year Change in Budgeted Expenditures, Actual Expenditures, Crime Severity Index, Incidents and Population

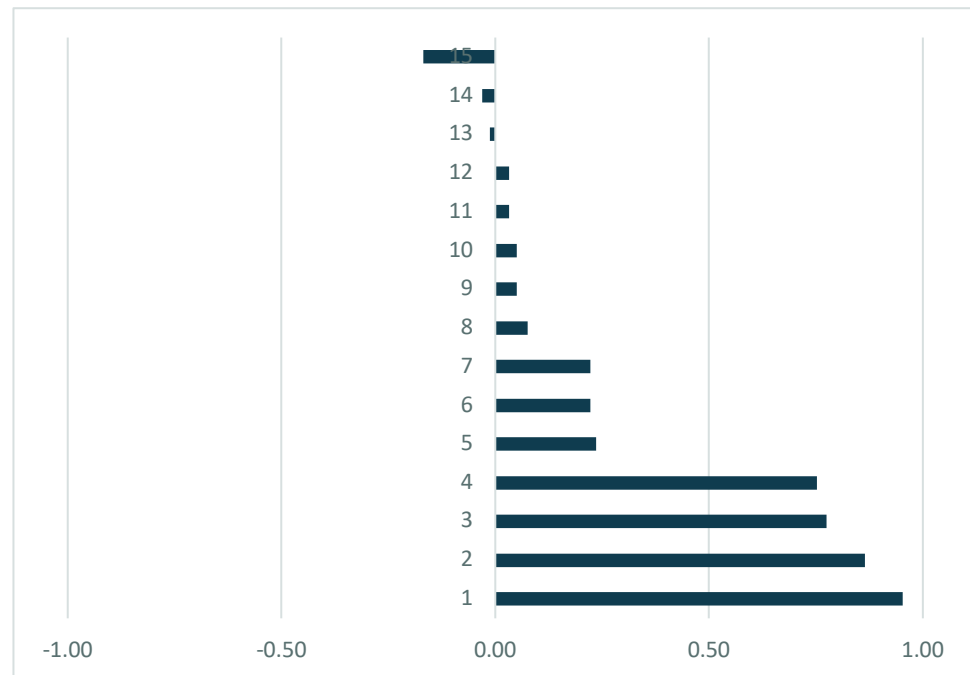


The annual rate of change for CSI and number of incidents and budgeted and actual expenditures were both strongly correlated as expected. The annual rate of change for population was also strongly correlated to the rate of change for budgeted and actual expenditures. Results for all variable comparisons are displayed in the table and figure below.

Table 5. Correlation Between Each of the 6 Variable Comparisons – Calgary

	Variable Comparison	Correlation
1	CSI-Incidents	0.95
2	Budget-Actual	0.86
3	Budget-Population	0.78
4	Actual-Population	0.75
5	Actual-Police Officers	0.24
6	Actual-Incidents	0.22
7	Actual-CSI	0.22
8	Budget-CSI	0.08
9	Population-Incidents	0.05
10	Population-CSI	0.05
11	Budget-Police Officers	0.03
12	Police Officers-Population	0.03
13	Budget-Incidents	-0.01
14	Police Officers-CSI	-0.03
15	Police Officers-Incidents	-0.17

Figure 9. Correlation Between Each of the 6 Variable Comparisons



3.2.3 Ottawa

Ottawa’s budgeted and actual expenditures demonstrated the highest annual average rate of increase during the period. However, Ottawa is the only police service where the number of police officers decreased or remained stable over the period. CSI and incidents fluctuate over the period of analysis.

Figure 10. Ottawa Year over Year Change in Budgeted Expenditures, Actual Expenditures, Crime Severity Index, Incidents and Population

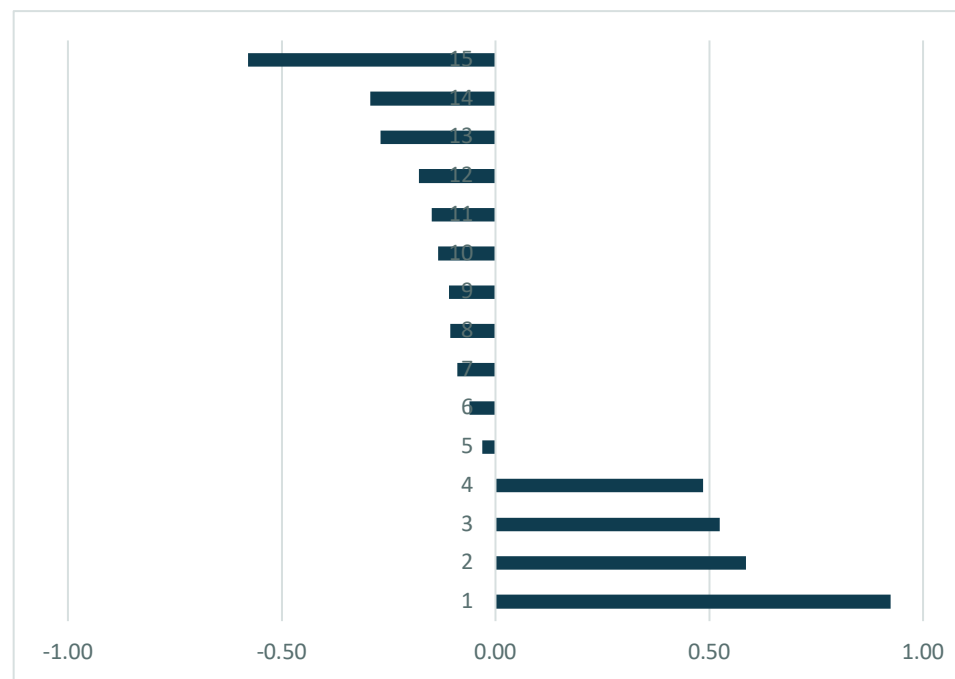


The annual rate of change for CSI and number of incidents were both strongly correlated as expected. Annual rate of change for budgeted and actual spending were only moderately correlated in Ottawa, something unique to that city. The annual rate of change for population and number of incidents also showed a moderate correlation. Ottawa was also unique in that the annual rate of change for number of officers was moderately negatively correlated with the rate of change for actual expenditures. Although counterintuitive, a possible reason for this negative correlation may include that new officers were hired at a lower cost than the senior officers that retired. Results for all variable comparisons are displayed in the table and figure below.

Table 6. Correlation Between Each of the 6 Variable Comparisons – Ottawa

	Variable Comparison	Correlation
1	CSI-Incidents	0.92
2	Population-Incidents	0.59
3	Budget-Actual	0.52
4	Population-CSI	0.49
5	Actual-CSI	-0.03
6	Budget-Incidents	-0.06
7	Budget-Population	-0.09
8	Actual-Population	-0.11
9	Police Officers-Incidents	-0.11
10	Police Officers-Population	-0.13
11	Budget-CSI	-0.15
12	Actual-Incidents	-0.18
13	Police Officers-CSI	-0.27
14	Budget-Police Officers	-0.29
15	Actual-Police Officers	-0.58

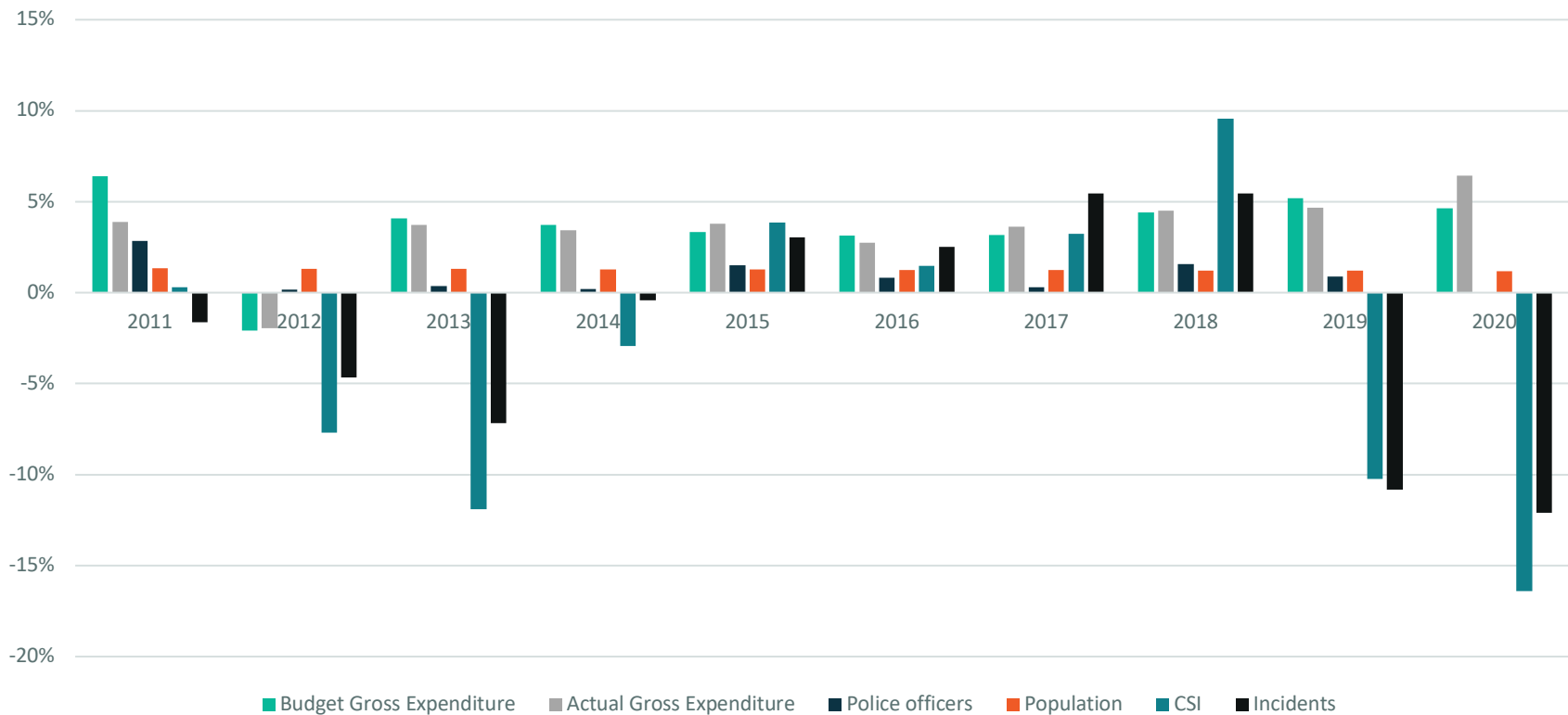
Figure 11. Correlation Between Each of the 6 Variable Comparisons



3.2.4 Peel Region

Budget and actual expenditures steadily rise year over year except for 2012 budgeted and actuals which both decreased. The number of police officers and population remain relatively consistent over the period. CSI and incidents are much more volatile, with larger increases and decreases over some years. CSI and incidents declined on average over the ten-year period but do not appear to be correlated with decreases following a large budget increase or investment in additional police officers.

Figure 12. Peel Year over Year Change in Budgeted Expenditures, Actual Expenditures, Crime Severity Index, Incidents and Population

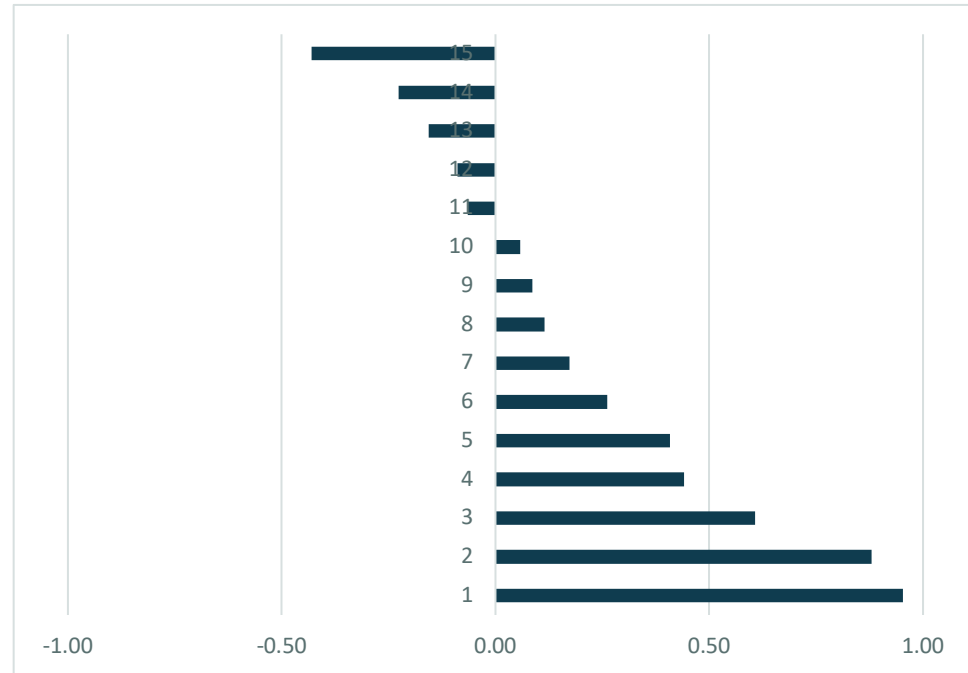


The annual rate of change for CSI and number of incidents and budgeted and actual expenditures were both strongly correlated as expected. Annual rate of change for budgeted expenditures and police officers also showed a positive correlation. Results for all variable comparisons are displayed in the table and figure below.

Table 7. Correlation Between Each of the 6 Variable Comparisons – Peel Region

	Variable Comparison	Correlation
1	CSI-Incidents	0.95
2	Budget-Actual	0.88
3	Budget-Police Officers	0.61
4	Police Officers-CSI	0.44
5	Actual-Police Officers	0.41
6	Budget-Population	0.26
7	Police Officers-Incidents	0.17
8	Actual-Population	0.11
9	Police Officers-Population	0.09
10	Budget-CSI	0.06
11	Actual-CSI	-0.06
12	Budget-Incidents	-0.09
13	Actual-Incidents	-0.16
14	Population-CSI	-0.23
15	Population-Incidents	-0.43

Figure 13. Correlation Between Each of the 6 Variable Comparisons



3.2.5 Regina

Similar trends were observed in the Regina data. Budget and actuals steadily increased while the number of officers remained relatively flat. Increases to budget were significantly more than the growth in population or number of officers. CSI and incidents were the most volatile.

Figure 14. Regina Year over Year Change in Budgeted Expenditures, Actual Expenditures, Crime Severity Index, Incidents and Population

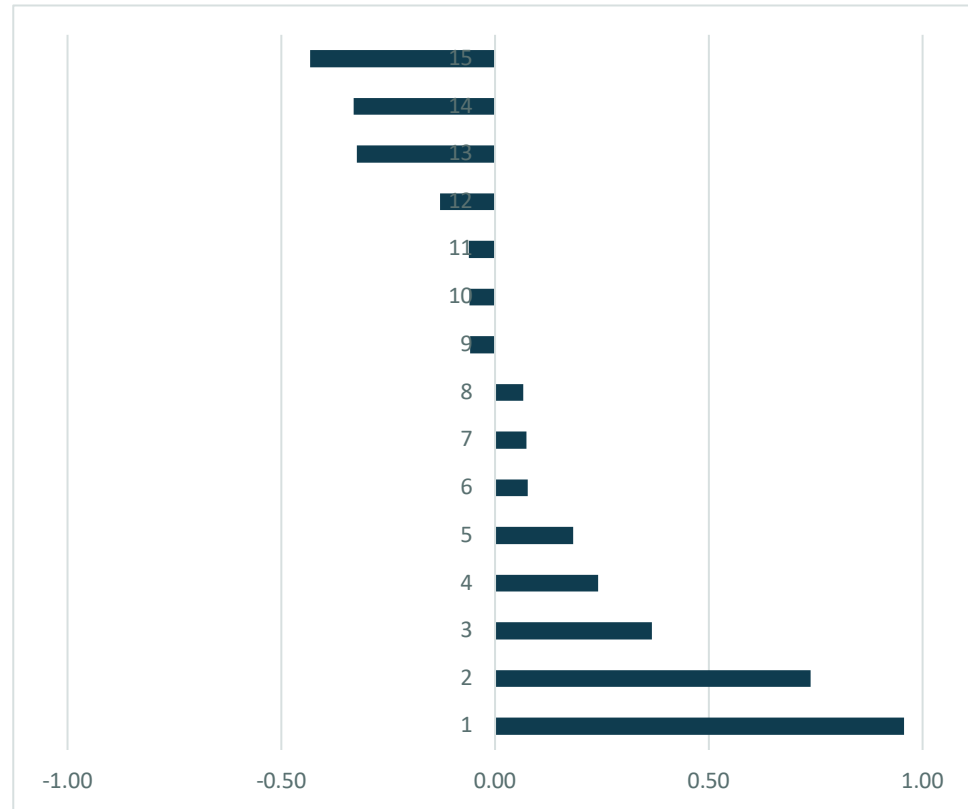


The annual rate of change for CSI and number of incidents and budgeted and actual expenditures were both strongly correlated as expected. Annual rate of change for police officers and population were moderately correlated negatively. No other variables showed a correlation for Regina. Results for all variable comparisons are displayed in the table and figure below.

Table 8. Correlation Between Each of the 6 Variable Comparisons – Regina

	Variable Comparison	Correlation
1	CSI-Incidents	0.96
2	Budget-Actual	0.74
3	Budget-Police Officers	0.37
4	Police Officers-Incidents	0.24
5	Population-Incidents	0.18
6	Police Officers-CSI	0.08
7	Population-CSI	0.07
8	Budget-Incidents	0.07
9	Actual-CSI	-0.06
10	Actual-Incidents	-0.06
11	Budget-CSI	-0.06
12	Actual-Police Officers	-0.13
13	Budget-Population	-0.32
14	Actual-Population	-0.33
15	Police Officers-Population	-0.43

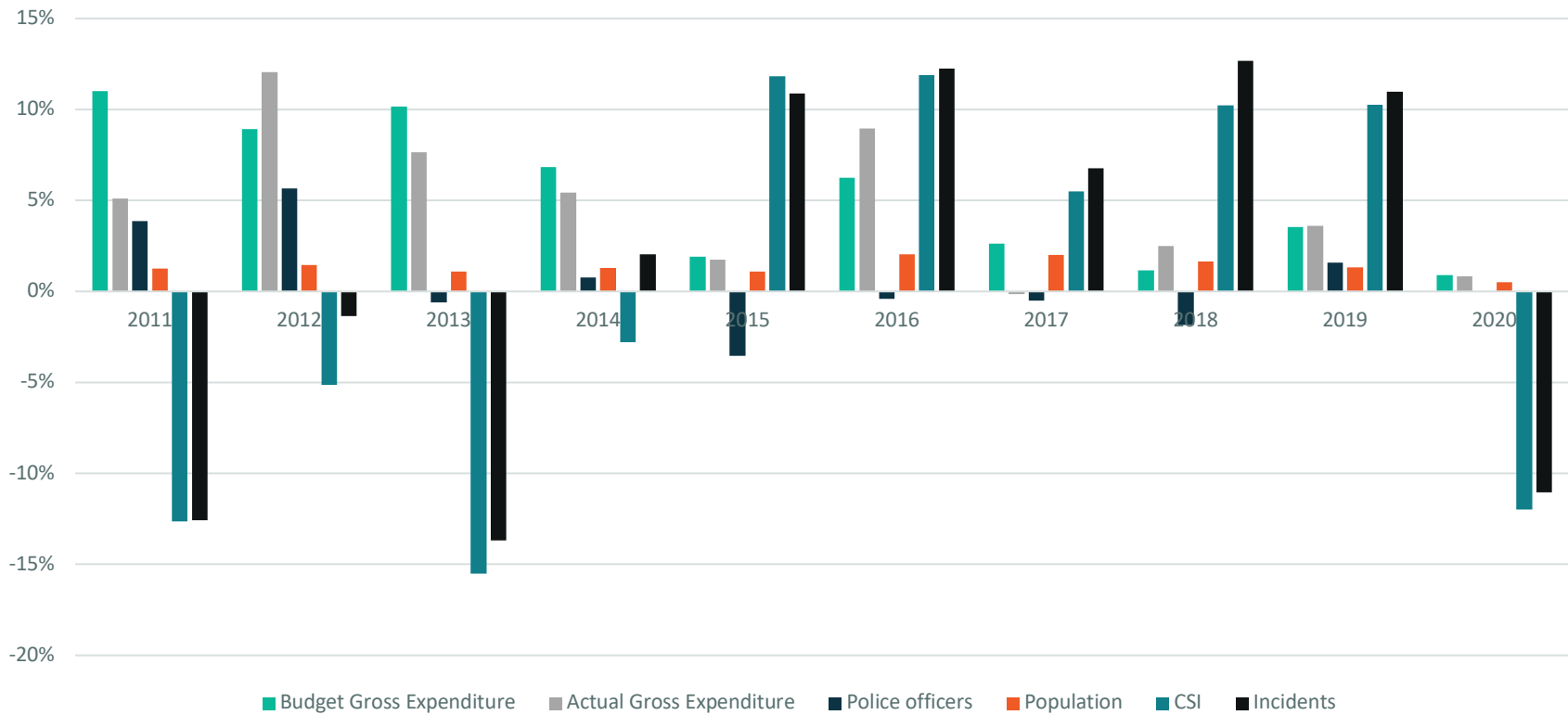
Figure 15. Correlation Between Each of the 6 Variable Comparisons



3.2.6 Winnipeg

Winnipeg showed similar results with the largest average change in its budget and actual expenditures and fairly stable population and police officer numbers over the 10-year period.

Figure 16. Winnipeg Year over Year Change in Budgeted Expenditures, Actual Expenditures, Crime Severity Index, Incidents and Population

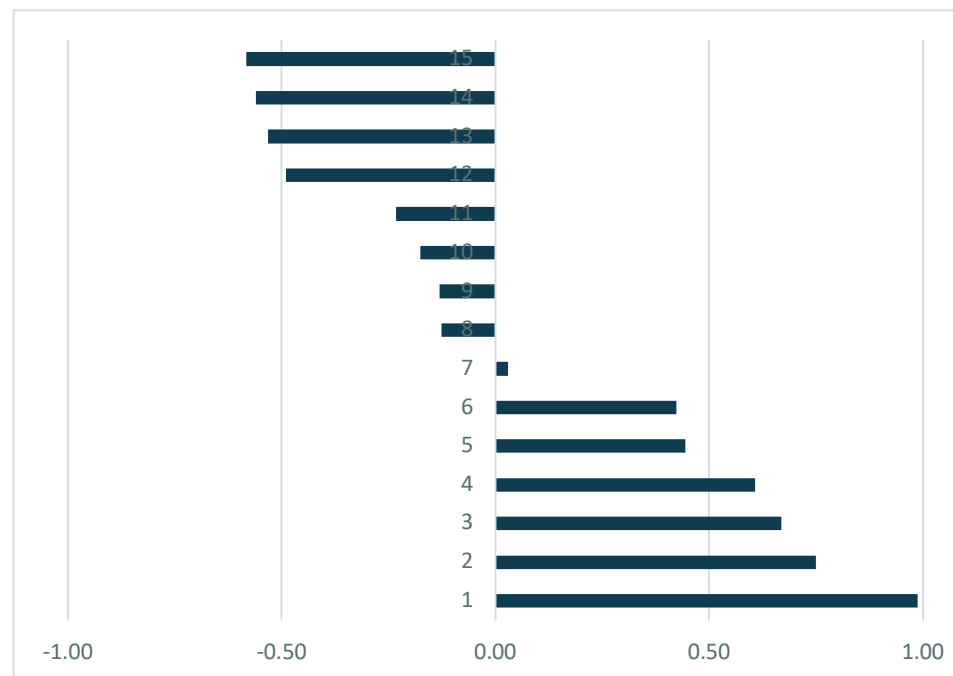


Annual rate of change for CSI, number of incidents and budgeted and actual expenditures were both strongly correlated as expected. Annual rate of change for budgeted and actual expenditures were both positively correlated to the number of police officers. Winnipeg and York were unique in that they had several negative correlations between variables. Annual rate of change for police officers and CSI, budget and incidents and budget and CSI all showed moderate negative correlations or an inverse relationship. Results for all variable comparisons are as below.

Table 9. Correlation Between Each of the 6 Variable Comparisons – Winnipeg

	Variable Comparison	Correlation
1	CSI-Incidents	0.99
2	Budget-Actual	0.75
3	Budget-Police Officers	0.67
4	Actual-Police Officers	0.61
5	Population-Incidents	0.44
6	Population-CSI	0.42
7	Actual-Population	0.03
8	Police Officers-Population	-0.13
9	Budget-Population	-0.13
10	Actual-Incidents	-0.18
11	Actual-CSI	-0.23
12	Police Officers-Incidents	-0.49
13	Police Officers-CSI	-0.53
14	Budget-Incidents	-0.56
15	Budget-CSI	-0.58

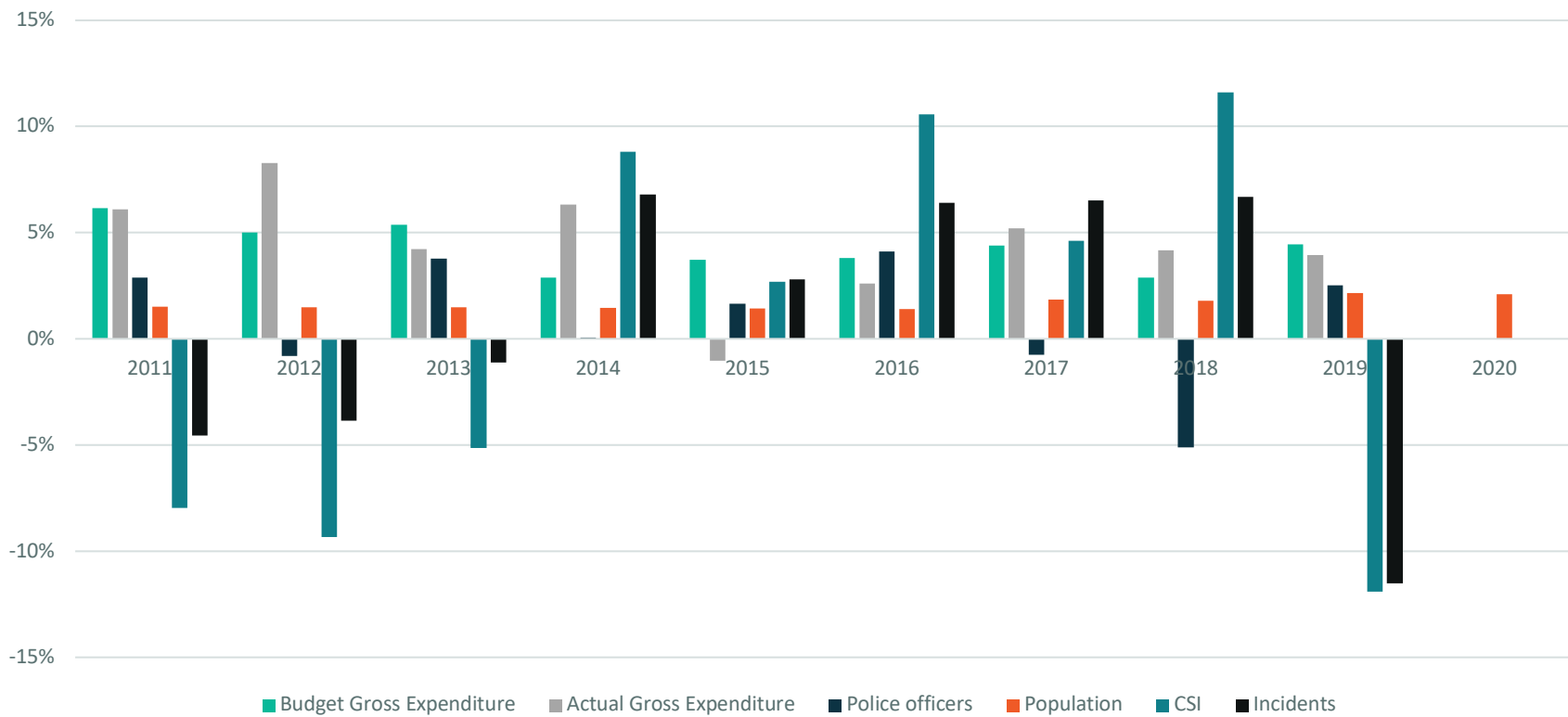
Figure 17. Correlation Between Each of the 6 Variable Comparisons



3.2.7 York

York was missing several data sets for the final year of analysis, so averages were used for the 9 years of available data. The York data shows similar results to the other police services.

Figure 18. York Year over Year Change in Budgeted Expenditures, Actual Expenditures, Crime Severity Index, Incidents and Population

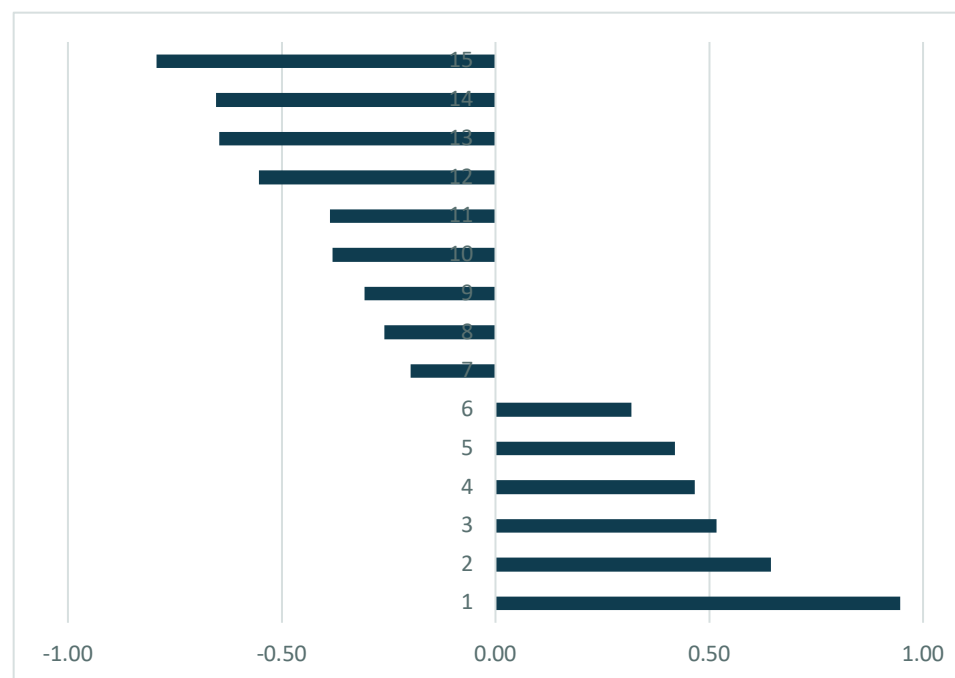


York results varied from the other police services. Similar to Winnipeg, York demonstrated a negative correlation between annual rate of change for budget and incidents and CSI. York also had a negative correlation between annual rate of change in population and CSI. Rate of change for budget and actual expenditures were not strongly correlated but annual rate of change for budget was moderately correlated with population and police officers. Results for all variable comparisons are displayed in the table and figure below.

Table 10. Correlation Between Each of the 6 Variable Comparisons – York Region

	Variable Comparison	Correlation
1	CSI-Incidents	0.95
2	Budget-Population	0.64
3	Budget-Police Officers	0.52
4	Actual-Population	0.47
5	Police Officers-Population	0.42
6	Budget-Actual	0.32
7	Actual-Incidents	-0.20
8	Actual-Police Officers	-0.26
9	Actual-CSI	-0.31
10	Police Officers-Incidents	-0.38
11	Police Officers-CSI	-0.39
12	Population-Incidents	-0.55
13	Budget-Incidents	-0.65
14	Population-CSI	-0.65
15	Budget-CSI	-0.79

Figure 19. Correlation Between Each of the 6 Variable Comparisons



3.2.8 Key Variables and Correlations

Table 11 summarizes the key variables and their correlations for each of the comparator municipalities.

It bears repeating that a correlation is a statistical measure that expresses the extent to which two variables are linearly related, meaning that they change together at a constant rate. While correlation describes the measure of simple relationships, it does not infer cause or effect. Correlation coefficient formulas establish how strong a relationship is between data, with a value between -1 and 1, where:

- 1 indicates a strong positive relationship.
- -1 indicates a strong negative relationship.
- A result of zero indicates no relationship at all.
- A correlation coefficient of 1 means that for every positive increase in one variable, there is a positive increase of a fixed proportion in the other. For example, shoe sizes go up in (almost) perfect correlation with foot length.
- A correlation coefficient of -1 means that for every positive increase in one variable, there is a negative decrease of a fixed proportion in the other. For example, the amount of gas in a tank decreases in (almost) perfect correlation with speed.
- Zero means that for every increase, there isn't a positive or negative increase. In other words, the two simply are not related.

Table 11. A Summary of Variables and Their Correlations Across Cities

	Variable Comparison	Edmonton	Calgary	Ottawa	Peel	Regina	Winnipeg	York
1	CSI-Incidents	0.92	0.95	0.92	0.95	0.96	0.99	0.95
2	Budget-Population	0.86	0.86	0.59	0.88	0.74	0.75	0.64
3	Budget-Police Officers	0.54	0.78	0.52	0.61	0.37	0.67	0.52
4	Actual-Population	0.45	0.75	0.49	0.44	0.24	0.61	0.47
5	Police Officers-Population	0.26	0.24	-0.03	0.41	0.18	0.44	0.42
6	Budget-Actual	0.24	0.22	-0.06	0.26	0.08	0.42	0.32
7	Actual-Incidents	0.05	0.22	-0.09	0.17	0.07	0.03	-0.20
8	Actual-Police Officers	0.03	0.08	-0.11	0.11	0.07	-0.13	-0.26
9	Actual-CSI	-0.07	0.05	-0.11	0.09	-0.06	-0.13	-0.31
10	Police Officers-Incidents	-0.09	0.05	-0.13	0.06	-0.06	-0.18	-0.38
11	Police Officers-CSI	-0.10	0.03	-0.15	-0.06	-0.06	-0.23	-0.39
12	Population-Incidents	-0.28	0.03	-0.18	-0.09	-0.13	-0.49	-0.55
13	Budget-Incidents	-0.30	-0.01	-0.27	-0.16	-0.32	-0.53	-0.65
14	Population-CSI	-0.50	-0.03	-0.29	-0.23	-0.33	-0.56	-0.65
15	Budget-CSI	-0.53	-0.17	-0.58	-0.43	-0.43	-0.58	-0.79

3.3 Costs of Policing Comparison

In addition to the trend analysis comparison of funding to population, crime severity and number of incidents the actual expenditures per capita, number of incidents and police officers were also calculated for comparison.

Edmonton had the highest average gross expenditure per capita and net operating requirement per capita compared to the other police services by almost \$40/capita. The next highest were Winnipeg (\$360) and Calgary (\$357) and Regina (\$354). York had the lowest budgeted gross expenditures (\$289) and net operating requirement (\$235) per capita.

However, Edmonton had one of the lower cost per incident it handles. In fact, Edmonton's costs were lower than the comparable police services for all indicators other than costs/capita.

Table 12. Gross Expenditures and Net Operating Requirement per Capita, Incident and Police Officer Average (2010-2020)

Police Service	Edmonton	Calgary	Ottawa	Peel	Regina	Winnipeg	York
Average Gross Expenditure/capita	\$397	\$357	\$317	\$292	\$354	\$360	\$289
Average Actual Net Requirement/capita	\$316	\$285	\$283	\$268	\$310	\$296	\$235
Average Gross Expenditure/incident	\$4,503	\$6,676	\$7,762	\$9,407	\$3,444	\$4,904	\$10,056
Average Actual Net Requirement/incident	\$3,582	\$5,330	\$6,929	\$8,643	\$3,017	\$4,036	\$8,192
Average Gross Expenditure/police officer	\$213,518	\$214,797	\$236,106	\$199,395	\$199,353	\$179,681	\$210,267
Average Actual Net Requirement/police officer	\$169,324	\$170,683	\$211,080	\$182,828	\$174,605	\$147,819	\$188,066

Full data sets used in this analysis are detailed in Appendix D: Budget Gross Expenditure, Actual Gross Expenditure, Police Officer, Population and Incident Data.

Although the preceding section has demonstrated that year over year changes in CSI and incidents do not seem to be strongly correlated with year-over-year changes in the resulting police budget, CSI and the number of incidents as an absolute measure have been commonly shown to have a strong positive correlation with police budgets. That is, the higher number of incidents a city has, the higher the budget or vice versa.

Figure 20 demonstrates that cities with higher CSI on average, have higher budgets. Therefore, although York has a relatively low cost per capita, it has a relatively high cost per incident, while cities like Edmonton and Winnipeg demonstrate the opposite. There is no evidence as to cause and effect – e.g., do cities with higher budgets generate more incidents statistically, or do cities with higher incidents require higher budgets. One possibility that would require additional analysis beyond the scope of this study to confirm, is that some cities such as Edmonton, Regina and Winnipeg, deal with a higher volume of lower resource-intensive incidents (e.g., mischief, common assault, disturb the peace). High volume of such incidents that require relatively low investigative resource draw could have a significant impact on this measure.

Figure 20. Police Service Comparison of Average Gross Expenditure and Average Actual Net Requirement per Capita (2010-2020)

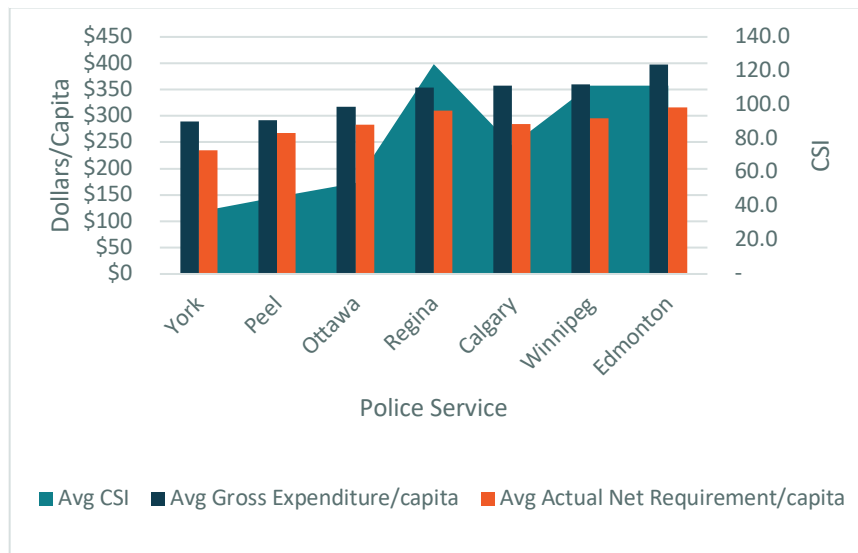
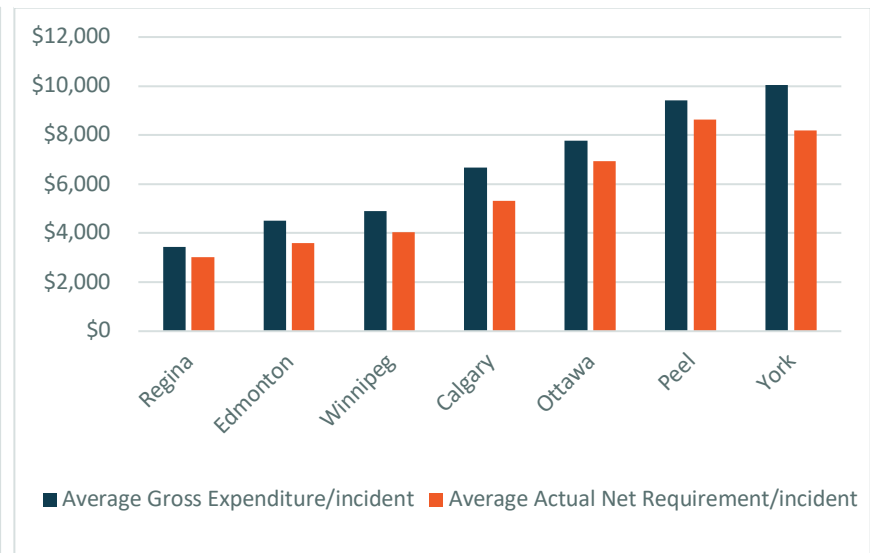
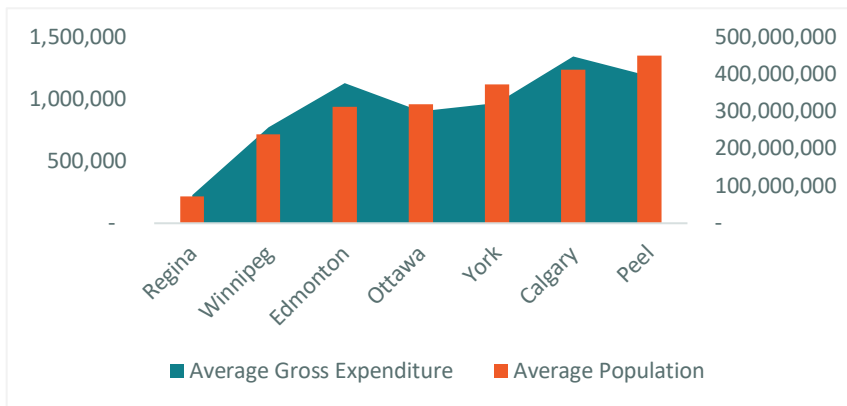


Figure 21. Police Service Comparison of Average Gross Expenditure and Average Actual Net Requirement per Incident (2010-2020)



The element that is also correlated at an absolute is population. There is a positive correlation between population and police expenditures. The higher a population, the larger the police budget. Figure 22 provides the average populations for the cities in the study as well as their respective average police budgets over the same period.

Figure 22. Police Service Comparison of Average City Population and Police Service Budget (2010-2020)



3.3.1 Average gross expenditure and average actual net requirement per police officer

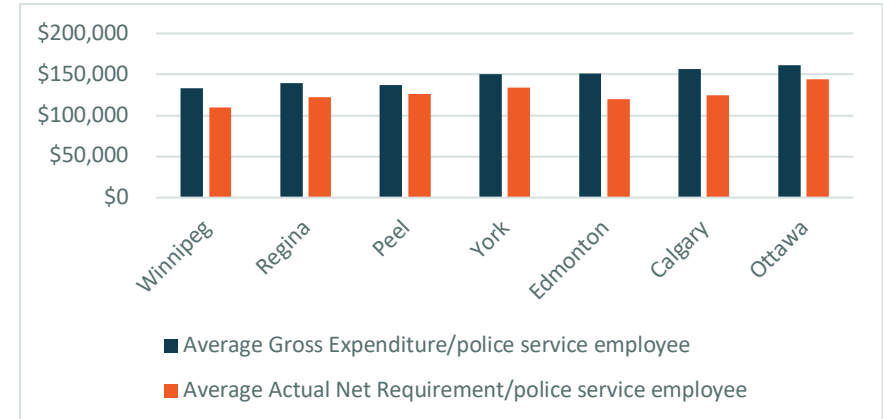
Figures 23 and 24, respectively, show the relative gross and net expenditures per sworn officer and per police service employee (police officer and civilians combined). This rate can be affected by relative differences in collective agreements, salaries and benefits, but it can also be affected by the degree to which officers are utilized in management and administrative positions. Additionally,

police services with higher rates of civilianization demonstrate a higher cost per officer while not providing a substantive indication to efficiency or effectiveness.

Figure 23. Police Service Comparison of Average Gross Expenditure and Average Actual Net Requirement per Police Officer (2010-2019)



Figure 24. Police Service Comparison of Average Gross Expenditure and Average Actual Net Requirement per Police Service Employee (2010-2019)



3.3.2 Applying the Edmonton funding formula to the comparator agencies

Edmonton's funding formula was applied to each comparator police agency using inflation factors that were specific to their jurisdiction.

The funding formula calculates the Net Operating Requirement for the police service, or the amount of funding required by the police service, minus revenue, on an annual basis. Normally the formula is used in a forecasting capacity to determine the Net Operating Requirement for a four-year period. In this analysis, the formula was applied on a historical basis over a 5-year period (2016-2020).

The five-year comparison was undertaken because we found that applying the formula over the full ten (10) year period produced highly questionable results. Among the factors: annual budget increases were generally higher in the earlier years of the 10-year analysis period, and; there were fluctuations in budgets that could not be explained within the scope of this study. In addition, since Edmonton's funding formula came into being in 2016, it was determined that an analysis of the last 5 years would provide a more accurate depiction of the impact of applying the funding formula across the comparator agencies.

The formula is intended to capture the annual increase in real per capita policing costs, and therefore uses a price index specific to policing. The formula begins with the base budget, or the net requirement of the previously approved budget cycle. The base budget is multiplied by $1 + \% \text{ change in population} + \text{Police Price}$

$\text{Index \%} - \text{Efficiency Factor \%}$. The Net Operating Requirement at the end of the year becomes the base budget in the second year and so on. For this analysis, the efficiency factor was not included because it is established by the City of Edmonton and dependent on several factors that were not repeatable for the other jurisdictions. Normally when the funding formula is applied, it is based on population and inflation forecasts, but this analysis was performed using actual historical data.

Population change was calculated based on Statistics Canada data, as reported in the Police Personnel and Selected Crime Statistics table. This table only produces population information until 2018, and growth rates were used to calculate the remaining two years.

The Police Price Index (PPI) provides for annual inflation relative to operating expenditures to provide police services, represented as a percentage. As depicted in Table 13, the PPI reflects a typical basket of goods that the police service is required to purchase on an annual basis. Each of these goods is assigned a weight and forecasted values are used to estimate the PPI in future years. It is important to note that some inflation factors have multiple sources. For example, Wages & Salary Settlements uses Collective Bargaining Agreements, when they're available. If there's no active agreement, the Conference Board's Wage Inflation Forecast is used as a substitute. Collective agreements were provided for all 7 police services and Conference Board of Canada data was used at the municipal level where available (CPI forecast) or the specific province for the remaining factors (Industry Product Price Index: Manufacturing, Raw Materials Price Index: Crude Oil Forecasting,

Industry Product Price Index: Manufacturing, Raw Materials Price Index: Natural Gas Forecast, Electricity Power Price Index).

Weighting was provided by the City of Edmonton based on their calculation of the PPI. This weighting was not created for each individual service. Edmonton's weighting was utilized for all seven police services across the 5-year period.

Table 13. Police Price Index Categories, Weight, Inflation Factor and Data Source

Category	Weight	Inflation Factor	Source
Wages & Salaries	73.01%	Wages & Salary Settlements Wage Inflation Forecast, Provincial: Industrial Composite	Collective Bargaining Agreements Conference Board of Canada
Employee Benefits	13.52%	Labour Settlements Wage Inflation Forecast, Provincial: Industrial Composite	Collective Bargaining Agreements Conference Board of Canada
Equipment (Vehicles & Computers)	3.02%	Industry Product Price Index: Manufacturing	Conference Board of Canada
Fuel	0.11%	Raw Materials Price Index: Crude Oil Forecasting	Conference Board of Canada
Materials	1.07%	Industry Product Price Index: Manufacturing	Conference Board of Canada
Natural Gas	0.08%	Raw Materials Price Index: Natural Gas Forecast	Conference Board of Canada
Utilities	1.44%	Electricity Power Price Index	Conference Board of Canada
External Space	0.06%	CPI Forecast	Conference Board of Canada
Other Expenses	2.30%	CPI Forecast	Conference Board of Canada
Travel & Training	0.79%	CPI Forecast	Conference Board of Canada
Contract Services	3.62%	Wage Inflation Forecast, Provincial: Industrial Composite	Conference Board of Canada
Professional Services	0.98%	Wage Inflation Forecast, Provincial: Industrial Composite	Conference Board of Canada
Total	100.00%		

The calculated net operating requirement was compared to the actual municipal contribution budgeted for that year by the respective police service. A variance was calculated to determine how much more or less budgets would have been based on the differing budgeting methodologies.

As depicted in Table 14, applying Edmonton's funding formula in the other jurisdictions (except Ottawa and Calgary), over the past five years would have resulted in reductions to their overall budgets they would have received from their municipalities/regions.

Table 14. Cumulative Variance Between Calculated Municipal Budget Contributions based on the Edmonton Formula Compared to Actual Budgeted Municipal Contributions (2016-2020)

Police Service	Cumulative Variance between Formula-based Budget and Actual Annual Budget Amounts	Average Annual Difference between Formula-based Budget and Actual Annual Budget Amounts
Edmonton	-	-
Ottawa	\$15,901,456	\$3,180,291
Winnipeg	(\$6,748,827)	(\$1,349,765)
Peel	(\$14,789,873)	(\$2,957,975)
Regina	(\$8,474,559)	(\$1,694,912)
York	(\$34,709,888)	(\$6,941,978)
Calgary	\$24,189,628	\$4,837,926

The following sections detail each of the police service budgeted municipal contributions and formula based municipal contributions and the resulting annual variance.

3.3.2.1 Calgary

Actual Budgeted Municipal Contributions 2015 of \$369,976,000 was used as the initial Net Operating Requirement to begin applying the formula. The application of the formula resulted in a modestly higher budget amounts in each successive year, for a cumulative budget increase of \$24.2 million over the five years.

Table 15. Calgary Police Service - Comparison of Actual Budgeted Municipal Contributions and Edmonton Formula-Calculated Municipal Contributions 5 Year Analysis (Numbers in 000's)

	2016	2017	2018	2019	2020	Average % Increase (Decrease)	Cumulative Total
Actual Budgeted Municipal Contributions	379,084	388,069	401,070	394,253	414,352		
Annual % Increase		2%	3%	-2%	5%	2%	
Population % Change	1.55%	1.38%	1.03%	1.52%	1.40%	1.49%	
PPI	1.56%	0.61%	2.40%	0.48%	0.32%	2.50%	
Edmonton Formula Estimated Municipal Contribution	381,504	389,070	402,416	410,477	417,551		
Annual % Increase		2%	3%	2%	2%	2%	
Variance (formula-actual)	2,420	1,001	1,346	16,224	3,199		24,190

3.3.2.2 Ottawa

Actual Budgeted Municipal Contributions for 2015 of \$269,898,000 was used as the initial Net Operating Requirement to begin applying the formula. The only year the formula resulted in a lower budget amount was in 2020. The actual budgeted increase for that year was 4% and the formula-based increase was 2%. The cumulative increase in funding using the formula budgeting methodology resulted in additional funding of almost \$16 million over the 5-year period.

Table 16. Ottawa Police Service - Comparison of Actual Budgeted Municipal Contributions and Edmonton Formula-Calculated Municipal Contributions 5 Year Analysis (Numbers in 000's)

	2016	2017	2018	2019	2020	Average % Increase (Decrease)	Cumulative Total
Actual Budgeted Municipal Contributions	277,077	285,859	294,353	306,539	319,222		
Annual % Increase		3%	3%	4%	4%	3%	
Population % Change	1.38%	1.38%	1.38%	1.38%	1.38%		
PPI	2.93%	1.60%	2.18%	1.87%	1.01%		
Edm Formula Estimated Municipal Contribution	281,520	289,890	300,216	309,956	317,368		
Annual % Increase		3%	4%	3%	2%	3%	
Variance (formula-actual)	4,443	4,031	5,863	3,417	(1,854)		15,901

3.3.2.3 Peel

Actual Budgeted Municipal Contributions for 2015 of \$360,913,440 was used as the initial Net Operating Requirement to begin applying the formula. The formula applied in Peel resulted in lower budgeted increases in the last three years included in the analysis. The cumulative reduction in budget was \$14.79 million over the 5-year period.

Table 17. Peel Regional Police - Comparison of Actual Budgeted Municipal Contributions and Edmonton Formula-Calculated Municipal Contributions 5 Year Analysis (Numbers in 000's)

	2016	2017	2018	2019	2020	Average % Increase (Decrease)	Cumulative Total
Actual Budgeted Municipal Contributions	372,824	384,788	401,510	423,070	445,780		
Annual % Increase		3%	4%	5%	5%	5%	
Population % Change	0.82%	1.33%	1.29%	1.84%	3.59%		
PPI	2.961%	1.554%	2.207%	2.416%	1.896%		
Edmonton Formula Estimated Municipal Contribution	374,544	385,365	398,835	415,821	438,616		
Annual % Increase		3%	3%	4%	5%	4%	
Variance (formula-actual)	1,721	577	(2,675)	(7,249)	(7,164)		(14,790)

3.3.2.4 Regina

Actual Budgeted Municipal Contributions for 2015 of \$68,046,600 was used as the initial Net Operating Requirement to begin applying the formula. Applying the formula for the last five years resulted in a cumulative reduction of \$8.47 million over the period.

Table 18. Regina Police Service - Comparison of Actual Budgeted Municipal Contributions and Edmonton Formula-Calculated Municipal Contributions 5 Year Analysis (Numbers in 000's)

	2016	2017	2018	2019	2020	Average % Increase (Decrease)	Cumulative Total
Actual Budgeted Municipal Contributions	71,682	75,660	77,988	82,504	85,629		
Annual % Increase		6%	3%	6%	4%	5%	
Population % Change	1.38%	2.54%	2.34%	2.08%	1.85%		
PPI	2.60%	1.53%	2.56%	2.06%	1.17%		
Edmonton Formula Estimated Municipal Contribution	70,760	73,642	77,250	80,454	82,884		
Annual % Increase		4%	5%	4%	3%	5%	
Variance (formula-actual)	(922)	(2,018)	(738)	(2,051)	(2,746)		(8,475)

3.3.2.5 Winnipeg

Actual Budgeted Municipal Contributions for 2015 of \$219,107,690 was used as the initial Net Operating Requirement. Applying the formula for the five years beginning with the 2015 net operating requirement budget resulted in much smaller variances between the two budgeting methods for Winnipeg and actually resulted in Winnipeg receiving more money using the formula in the final year of analysis.

Table 19. Winnipeg Police Service - Comparison of Actual Budgeted Municipal Contributions and Edmonton Formula-Calculated Municipal Contributions 5 Year Analysis (Numbers in 000's)

	2016	2017	2018	2019	2020	Average % Increase (Decrease)	Cumulative Total
Actual Budgeted Municipal Contributions	232,621	240,897	246,651	255,282	257,568		
Annual % Increase		4%	2%	3%	1%	3%	
Population % Change	1.10%	2.06%	2.14%	1.62%	1.00%	0.98%	
PPI	2.63%	2.44%	0.79%	2.51%	2.12%	2.94%	
Edmonton Formula Estimated Municipal Contribution	227,277	237,505	244,453	254,550	262,484		
Annual % Increase		4%	3%	4%	3%	4%	
Variance (formula-actual)	(5,343)	(3,392)	(2,198)	(731)	4,916		(6,749)

3.3.2.6 York

Actual Budgeted Municipal Contributions for 2015 of \$289,334,200 was used as the initial Net Operating Requirement to begin applying the formula. The formula applied to York resulted in a cumulative reduction of \$34.7 million over the five year period.

Table 20. York Regional Police - Comparison of Actual Budgeted Municipal Contributions and Edmonton Formula-Calculated Municipal Contributions 5 Year Analysis (Numbers in 000's)

	2016	2017	2018	2019	2020	Average % Increase (Decrease)	Cumulative Total
Actual Budgeted Municipal Contributions	296,559	310,791	323,511	333,877	347,951		
Annual % Increase		5%	4%	3%	4%	4%	
Population % Change	0.92%	0.87%	0.18%	0.41%	1.10%		
PPI	2.66%	1.64%	2.21%	2.42%	1.90%		
Edmonton Formula Estimated Municipal Contribution	299,689	307,193	314,542	323,432	333,123		
Annual % Increase		3%	2%	3%	3%	3%	
Variance (formula-actual)	(3,130)	(3,598)	(8,969)	(10,445)	(14,828)		(34,710)

3.4 Contemporary Context

Putting this study into a contemporary community safety and well-being context is important. The police services in both Peel and Edmonton have been among the most progressive in Canada in terms of moving toward more multi-partnership approaches to improving community safety and well-being outcomes.

They and their boards recognize that the traditional (law enforcement) approaches to policing have been insufficient, and that the way ahead lies in balancing enforcement/investigative work with the practice of integrated community safety and well-being. In this emerging era of community safety, the police remain a crucial player, but are no longer at the centre of the community safety model as they had been in earlier eras of policing (Kelling, 1988). Rather, police today are increasingly one part of networks of public, private, non-profit organizations operating and collaborating in various ways to produce enhanced community safety and security (Council of Canadian Academies, p. 33).

Edmonton's funding formula and four-year budgeting cycle provide the flexibility for the EPS and the EPC to adapt and respond to shifts in the operating landscape, thus providing added value to the City. And as is discussed elsewhere in this report, the Efficiency Factor built into the Edmonton Funding Formula provides the City with a release valve.

Edmonton had the highest average gross expenditure per capita and net operating requirement per capita compared to the

other police services by almost \$40/capita. The next highest were Winnipeg (\$360) and Calgary and Regina at \$357 and \$354 respectively. York had the lowest budgeted gross expenditures and net operating requirement per capita at \$289 and \$235.

However, it is notable that Edmonton had one of the **lowest costs per incident** (\$4,503). This is the average cost of its overall response (including investigation) to calls for service. Regina (\$3,444) was the only police service with a lower rate. By contrast, York Regional Police Services averaged \$10,056 per incident. In fact, Edmonton's costs were lower than the comparator police services for all indicators other than costs/capita. Hence, one might argue that if the cost/incident was selected as the key indicator, then funding would need to be increased to bring them in line with their comparable cities.

Police services are not commodities. Police agencies and the services they provide are customized to reflect unique local contexts and circumstances. Edmonton has its own unique mix of economic, social, health, political, crime and environmental factors that together, serve to shape a community's policing requirements and the very nature of the calls for service it receives. By way of example, Edmonton is a key transit centre linked to many northern communities. As such, it has a large transient population. Many are disadvantaged persons, which can increase pressures on the public health and social systems, including the police, who can be frequently called upon to provide various low complexity interventions.

3.5 The Academic Literature on Police Budgeting

A scan of the academic literature was undertaken to better understand the traditional steady growth in police budgets. There is a dearth of scholarly literature in Canada pertaining to police budgeting and financing.

In a US context, Zhao et al. (2010) noted that, "Only limited research was available on the important question of the likely determinants of changes in budgetary allocations to municipal police agencies over time."

Zhao et al. identified 3 primary approaches to explain how budgets were allocated among different municipal agencies:

- 1) The first approach focuses attention on local political culture, which argues that particular types of government structures correspond to specific types of budgetary decision-making processes at the municipal level.
- 2) The second approach is sociologically based, suggesting that municipal budget allocations to the police are largely based on key socioeconomic factors, including local crime rates and demographics (particularly minority populations).
- 3) The third approach suggests incrementalism – that year over year budget allocations are incremental in nature. Two research questions were central to the study: does the budgetary allocation made to police departments change overtime? And, which of the above approaches

provides the best explanation for the variation in the budgetary allocation made to police services over a long span of time? The study focused on 188 US cities over a 10-year period.

Zhao et al. concluded that the municipal budgeting process is largely incremental in nature. Budget allocations are based primarily on the previous year's allocations. Lewis (1984) noted that "Last year's expenditures are good predictors of this year's expenditures for almost all government functions in periods of growth or decline." Lewis (1984) noted that even when municipalities hit difficult financial times, policing budgets are still based on the previous year's budget allocation.

Zhao et al. further noted that "the utility of the incremental approach is somewhat greater when applied to essential services than when applied to non-essential services. Police and fire departments both lie in the municipal essential service category. Their respective shares of city budget remain rather stable over time. In comparison, changes in the share of the municipal budget going to park/recreational services varied much more from year to year" (p. 273).

Of particular interest, Zhao also found that the percentage of minority populations were statistically significant as a predictor of police share of city budgets in this US-based study. Similarly, they found a similar statistical relevance in the variable percentage of male population in cities (pp. 273-4).

The impact of collective bargaining to budgeting has also been the subject of some scholarly work. According to Schwoehau et

al. (1988), the collective bargaining process strengthens the association's ability to protect their members and their organization's budget. Police collective bargaining agreements not only protect members' interests, but generally result in continuously higher compensation and benefits over time [Katz (1979); Bartel and Lewin (1981)]. Since collective agreements are often multi-year, they reinforce the incrementalism explanation of increases.

In most Canadian jurisdictions including Ontario and Saskatchewan, the police boards are the employer of the police chief and police employees, a clear signal of police board and police service independence from municipal councils. In Manitoba, municipal councils are the employer and negotiate collective agreements with associations. In Alberta, section 4 of the Alberta *Police Officers Collective Bargaining Act* stipulates that the municipality may directly negotiate collective agreements, or may authorize the police commission to do so. In both Edmonton and Calgary, the practice has been for the City to undertake such bargaining.

3.5.1 A Budgeting Model for Consideration

In late 2020, the Government Financial Officers Association (GFOA) published a report authored by Kavanagh et al., entitled, *Time for Change: a Practical Approach to Rethinking Police Budgeting*. With many local governments looking for ways to rationalize police and community safety-related funding, the report offers advice on how governments can reach better decisions on related budgeting, breaking away from traditional

approaches, which tend to freeze existing programming and practices in place.

Their proposed approach, based on a Nobel Prize-winning body of work, recognizes that policing and community safety is highly complex and subject to many different perspectives.

The framework they propose is founded on five (5) pillars:

a. Establish a Long-Term Vision

A long-term vision defines desire for a better future

- A shared community safety vision brings people together and creates cohesion
- Encourages thinking long-term and broadly about community safety
- Defines goals and measures to support better budgeting for community safety

b. Build Trust and Open Communication

The key for people to work together on a vision and budget

- Show concern by listening to the community
- Show that officials hold similar values to the community
- Allow the public to scrutinize government's community safety work
- Help the public understand the decision-making process

c. Use Collective Decision Making

Making hard choices requires bringing people together

- Bring together the community, police, and elected officials.
- Provide a forum for the public to voice concerns about policing.
- Establish a common set of facts as the basis for conversation.
- Have the conversation.

d. Create Clear Rules

The new rules for budgeting

- Historical precedent should not determine community safety spending, but rather on cost-effective way to achieve goals.
- Departments and divisions are not the best decision unit for budgeting, instead more details on services are needed.
- Think outside of department silos and look for multi-disciplinary solutions to community safety issues.
- Make sure services that prevent problems have a fair chance in the budget.
- Identify services that work and those that don't.
- Look for smart, strategic opportunities to save money.

e. Treat Everyone Fairly

Fair process, fair results

- Ensure decisions are objective and transparent.
- People should be given a voice and treated with dignity.
- Recognize that different constituencies have different needs and experience with the community safety system.
- Budgeting outcomes ought to reflect the community served. (Kavanagh et al., 2020)

Kavanagh et al. (p. 34) suggest that re-examining the police budgeting process using this framework also enables the parties to be able to consider and address broader community safety issues in new ways (p. 2). With the likelihood of a period of deep post-pandemic government austerity looming over the horizon, the framework offers “a proven way to address the potential for conflict that is inherent in public budgeting, including in high stakes situations that cities and counties face now (as they extend budget considerations to include the broader community safety and well-being context).”

While hard decisions on actual budgets and priorities must remain within the domain of police commissions and elected councils, this model provides for greater public and community engagement and input in the priority-setting and budgeting processes. Based on our analysis and observations, the Edmonton Police Commission and police service are already doing many of the things suggested in the GFOA framework.

Notwithstanding, there may be further opportunities for citizen and community inputs through further refining the budgeting process to be more inclusive of the community as proposed in the above report.

4 CONCLUSIONS

As this study confirmed, and supported by the relevant literature, municipal police budgeting is largely incremental in nature, with budget locations primarily based on the previous year's budget. As Lewis (1984) noted, even when municipalities experience periods of fiscal constraint, policing budgets tend to remain stable, reflecting the previous year's allocation.

The role of collective bargaining in steady budget growth is also noteworthy. Police associations have a successful history of obtaining continuously higher compensation and benefits for their members, and since approximately 82% of police budgets are attributable to human resources, they also ensure budget stability and growth.

The funding formula appears to be serving the City of Edmonton, its police commission and police service well. It affords alignment with the legislation, and provides the Commission and EPS the flexibility required to adapt and respond to the current and future dynamic policing and community safety environments. This is particularly important given the progressive strategies underway.

Applying the formula in other municipalities would have resulted in lower policing costs for them. This is supported by the City of Edmonton Auditor, who noted the savings in the early application of the formula (2016 – 2018).

As the Edmonton Police Commission and the Peel Regional Police Board, together with their police executive teams, continue to shape new multi-agency strategies and responses to address

today's highly complex human and social issues, they will benefit from contemporary approaches to budgeting, and understanding some of the key factors that have historically impacted on police funding.

Recent observations made by Micki Ruth, former president of the Canadian Association of Police Governance and former chair of the Edmonton Police Commission, resonate. She acknowledged that police services do indeed receive large portions of municipal budgets, noting that,

"Yes, they take the bulk of the money, because they're the only players in the field [responding to these calls]," she said. "Until we get other people – health, social services, education, a bunch of the standalone non-profits and charities who are all sort of all playing in their own ballpark – until there are those people coordinated and at the table, then when you call somebody at 3 o'clock in the morning, the only number you have are the police. (Globe and Mail, 2020).

The Edmonton Police Commission and police service are already engaging communities in ways suggested by Kavanagh et al. in *Time for Change: A Practical Approach to Rethinking Police Budgeting*. Notwithstanding, it would be useful for the City, the EPC and EPS to reflect on the framework and discuss how it might be further adapted to the Edmonton context.

5 APPENDICES

Appendix A: Police Service Budgeting and Service Detail

Calgary Police Service

- City can only approve the total budget amount
- Reserve fund for vehicles
- Red light camera reserve
- Automatic fingerprint information reserve
- Court fine reserve - \$2.4 million, max of \$4 million – can use it to cover a shortfall but any other purpose has to go to city council for approval
- All new positions must be approved by the Senior and Executive Leadership Team
- Each cost centre does their budget ask with the outlined detail to support and then it's prioritized by the leadership
- 86% of expenditures are salaries
- Council approves a four-year budget similar to Edmonton but there is an adjustment period every November if needed
- Capital and operating are treated completely separately from a management approval process
- Budgeting is based on historical information "What has been spent?"
- CPS handles all their own fuel costs and vehicle maintenance internally
- There is a reserve for vehicles. Contribute to the reserve as a budgeted amount (no limit)
- Red light camera reserve, automatic fingerprint reserve, court fine reserve, capital reserve (extra money can be contributed into here at the end of the year up to 2.5m)

Services

- No cadet program
- Youthlink
- Police Foundation
- City of Calgary provides Police Communications and Dispatch Service and do not charge back to the police service for it
- City provides seized vehicle lot service
- City owns the buildings, but from an expenditure perspective CPS manages all their own buildings for maintenance and leases
- Don't pay for IT systems such as PeopleSoft as they are shared with the City of Calgary, and they do not charge back for the service
- City manages the corporate stores but charge CPS back for the service

Ottawa Police Service

- City sets a tax increase target prior to the budgeting process beginning and provides it to the board
- Police Board provides direction and generally follows the city recommendations
- This last year they started with a 0% increase target and build up from there
- Any request greater than the 0% requires a business case to justify an increase in funds
- Budgeting is done at the cost centre level by the responsible management and is submitted to finance and executive leadership for review and approval
- Leadership also does planning at an organizational level to set priorities and organization initiatives
- Public survey info and council feedback feeds into this process
- Budget centre asks are evaluated because on alignment to priorities and organizational initiatives
- Adequacy standards set some minimum staffing levels as does the collective agreement
- Council approves a one-year budget but service creates a three-year forecast
- Capital and operating are treated separately
- No reserve fund all deficit funding goes to the City for approval for additional funds
- Anything the city provides that doesn't hit your books? Mail services
Fleet maintenance, fuel, comm centre is charged back. Comm also handles fire/paramedic, so they get a small discount there
- Provide service to airport and get costs recovered, background checks, false alarm fees. Get some revenue from red light cameras
- Do not get traffic fine revenue

Peel Regional Police Service

- Regional council approves budget amount but does not have say over individual items within the budget
- Region sets a budget target early in the year for the police service (generally only looking at inflation when setting target)
- Begin by looking at previous year's budget and variance to actuals to then determine what the next year will require
- Salaries are about 85% of the total budget
- Population growth is incorporated into the calculation to determine the number of officers needed as if a target of frontline officers spending 40% of the available time responding to calls for service
- Budget is done at the cost centre level on a line-by-line basis
- Peel does not receive any traffic fine revenue
- Handle vehicle maintenance internally

- All IT systems are internal
- Region of Peel handles procurement and charges the police service
- One year budget approvals from council but also prepare a three-year forecast
- Peel Regional Police Service strategic initiatives group is looking at developing a funding formula

Services

- Peel Regional Police Service police the airport on a contract basis (over \$18 million in operational funding) and also provides voice communication network service to other service providers (fire, police, public works, etc.) Airport is 100% externally funded, voice communications is 35% externally funded
- Do not have a cadet program
- Have a "safety village program" for kids to come learn about public safety e.g., internet safety, road safety, railroads, etc.
- No longer have school resource officers

Regina Police Service

- City manager provides Chief of police with a budget target early in the year
- 88% of budget is salary
- Each section develops their budget line by line and then it rolls up to the divisions to be approved by management
- Finance does all the calculations to determine the impact of salary increases for the service
- Budget requests are compiled and brought together with salary increases which are then reviewed by the executive and prioritized
- City Council simply approves the total amount of spending
- RPS developed a growth plan for staffing that is used for any increases to staffing for the service. This analysis was based on workload assessment, community consultation, employee surveys and efficiency reviews.
- Capital and operating budgets are treated and approved separately
- Minimal funding from red-light cameras and speed cameras
- Police Reserve Bylaw – minimum of \$4 million in police reserve and a \$1 million for radio reserve
- RPS has never been in a deficit position but would need to go to the reserve first
- City charges the service back for any services it provides. Facilities recently changed from being paid for by the city to now being the responsibility of the RPS including rent/leases.
- RPS have their own PSAP and communications centre
- PACT teams

- Program 11 and Under Initiative – officers are assigned and work in conjunction with other agencies to work with Youth as a preventative program – Ministry of Social Services for a civilian positions – consultant and an officer
- SGI tends to fund traffic equipment

Winnipeg Police Service

- City provides a call letter in spring with a target for expenditures (one target for operating and one for capital)
- Police services attempts to budget within the call letter target
- Budgeting is typically incremental budgeting
- Finance works with the Divisional commanders and discuss previous year expenditures as well as expectations for the following year
- Board approves the budget and presents it to the City Budget working group who may make changes and can either make the changes or not prior to the board submitting the final budget recommendations to City Council
- A large portion of capital is funded by debt which adds a debt servicing cost that other police services don't necessarily have to include in their budgets
- Fleet, insurance and fuel –obliged to use the special operating agency through the city and get a charge back for it
- Property, Planning and Development is provided by the City, and they charge a 2% admin fee for capital project management
- Externally funded school resource officers
- Receive base fine revenue from provincial fines
- Get portion of municipal fine revenue including photo enforcement
- Cadet program that receives some funding from Winnipeg Transit and the Downtown Biz
- Manitoba doesn't re-capture any of the costs for operating the PSAP
- Expenditure management line is similar to the efficiency factor in Edmonton (defines the amount expenditures need to be reduced by)
- WPS does not have a reserve fund so if a deficit or overspending situation occurs the service must go back to the City for additional funding
- City has a reserve policy - WPS has on a few occasions been able to access
- When we have a surplus, money goes back to the city
- Budget approvals are only one year at a time
- HQ is owned by the city, and WPS pays rent to occupy
- Fine/ticket revenue and photo enforcement - WPS gets a proportion on some of the fines.

York Regional Police Service

- Direction from council comes in May as an outlook for the upcoming budget year – Preliminary Planning Allocation for each of the commissioners for the region
- York Regional Police (YRP) prepare a 4-year forecast
- Management approves which budget increase proposals will go forward to the board and normally go through 3-4 option with the board
- Council cannot approve or decline any individual line items
- Operating and Capital are approved separately. Capital spend authority prepares a 10-year budget
- Council approves one year at a time although they do approve an outlook, but they are not locked into its number for future years.
- Use statistical dashboard reporting to determine what the trends are and what type of workload is up versus down and try and match supply with demand as well as meet the objectives and goals set out in the strategic plan
- Management tries not to limit what cost centre managers put forward but then debate where additional resources are going to go
- Packages are prepared for the board when additional resources are being requested
- Do not look at population growth as an input
- Police services in Ontario are responsible for prisoner transportation and courtroom security
- Contracted service revenue varies by police services and therefore so will the required expenditures to provide that service. Will either be adding resources necessary or incurring overtime costs to provide the service when staff would normally be off duty
- YRP does not receive any fine revenue as region wants independence between enforcement and fine collection
- York Region charges back for all services it provides to the YRP, anecdotally it was suggested that the services could be found cheaper in the market than what the region is charging
- All IT is internal
- Some buildings are partnerships with municipalities, but most are YRP buildings, all building costs are charged back to YRP even in partnership set-ups

Appendix B: Police Service Fees, Fines and Charges and Other Revenue Detail

Edmonton

Fees, Fines, Charges

- Traffic Safety Act fines

Other Revenue

- Other revenue (Tow Lot, Police Information Checks, etc.)
- Transfer from Reserve (Office of Traffic Safety)

Calgary

Fees, Fines, Charges

- Fines - Court
- Fines & Penalties
- G&S Rev - Scrap Sales
- G&S Rev - Sec Clearance Fees
- G&S Rev-Refund/Cancellation
- Misc. Rev -Proceeds Sale Assets
- Rental Rev – Other
- Other Revenue
- Goods & Services Rev - Airport
- Goods & Services Rev - ENMAX
- Goods & Services Rev - Prov Govt
- Goods & Services Rev - Security Serv
- Invest Income Reallocation to Business Unit
- Invest Income-Money Market
- Misc. Rev - AP Discounts
- Misc. Rev - Contribution
- Misc. Rev - Donations

Ottawa

Fees, Fines, Charges

- False Alarm Fees
- Fingerprints
- Occurrence/Accident Reports
- Records Clearance Checks

Other Revenue

- Airport Contract and Other
- Backfill Revenue
- Cameras
- Canada's 150th
- Development Charge Revenue
- General Other Revenue
- Off-Duty Policing
- One Time Funding
- Reserves
- Other Revenue
- Secondment Revenue

Peel

Fees, Fines, Charges

- Alarm Attendance
- Audio CD Fees
- Audio Fees
- Collision Info
- Comp Assist Diagrams
- Criminal Record Search & Cert
- Event Data Recorder
- F.O.I. Fees
- Fingerprint Fee
- Fire Services Rec
- I.D. Fee
- Insurance Information Report
- Letter -Occurrence Enquiry
- Lost/Stolen Passport Report
- M.V.C. Search/Report
- Mechanical Inspections
- Misc. Revenue
- MVA Witness Statement Rev
- Pardon Applications
- PRP Sale of Assets
- PRP Veh Fee
- Records Suspensions
- Sale Of Equipment
- Sales Tax Reco
- Technical Collision Reports
- User Fees - Other
- Video Recordings
- Video Tape Fee
- Witness Fee

Other Revenue

- Contr -Empl Benefit Res
- Contr WF -PRP General R123

- Contr WF Safe Restart Pr R125
- Contr WF-ProvCannbisFund R1
- Contr WSIB Res Pensions R08
- Ct fr PRP Post Retir Ben R1200
- One Time Revenue
- Personal Long Distance Rec
- Property Rental Income
- PRP External Wage Reco
- Pris Escort-Ag
- Pris Escort-Corr
- PRP Paid Duty - Health Tax
- PRP Paid Duty - WSIB Fee
- PRP Paid Duty Adm Rec

Regina

Fees, Fines, Charges

- Civilian Fingerprint Services - Cost Recovery
- Criminal Record Checks

Other Revenue

- File Hills First Nations Police Service
- Grey Cup
- Legal Counsel
- Miscellaneous Revenue
- Police College Training Officer
- Range Rental Revenue
- School Resource Officer Program
- Special Duty/Public Events
- Traffic Initiatives
- Treaty Four Citizen's Police Academy
- University Liaison Officer

Winnipeg

Fees, Fines, Charges

- Alarm Permit Renewals
- Alarm Permits
- False Alarm Fines
- Fire Protection Services
- Incident Confirmations
- Late Payment Charges-Receive
- Police Fines
- Record Searches
- Record Searches-Transcript
- Returned Payment Items
- Sale of Surplus Equipment
- Sundry Fees and Services

Other Revenue

- Prior Years Surplus Adjustment
- Traffic Enforcement Initiative
- Tsf from General Capital Fund
- Police Services
- Short Term Investment Interest

York

Fees, Fines, Charges

- Accident Reports
- Administrative Fees
- Alarm Monitoring Fees
- Clearance Letter Revenues
- Fees & Charges
- Sale Of Equipment
- Vehicle Auction Proceeds
- Volunteer Applicant Screening Rev

Other Revenue

- Contr From DC Police
- Contr From Fuel Cost Stabilization
- Contr From Seized Money
- Contr From Sick Leave
- Contri From Seized Money
- Contrib Frm Fue Cost Stabilizatn
- Contrib From Police Building Reserve
- Contrib From Sick Leave Reserve
- Contributions From Reserves
- Donations
- FOI Revenue
- Freedom of Information Revenue
- Lease Rental Revenue
- Police Escorts
- Prisoner Escorts
- Restitution
- Sundry Revenue
- Third Party Funding

Appendix C: Rates of Change: Key Comparators

Rates of Change for Budgeted Gross Expenditures, Actual Gross Expenditures, Police Officers, Population, CSI and Incidents for 7 Comparator Police Services (2011-2020)

Edmonton

Police Service	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average
Change in Budgeted Gross Expenditure	7%	7%	5%	2%	5%	8%	3%	5%	5%	4%	5%
Change in Actual Gross Expenditure	8%	6%	5%	3%	4%	9%	5%	4%	5%	4%	5%
Police Officers	-1%	0%	2%	1%	1%	4%	2%	6%	0%	N/A	2%
Change in Population	2%	2%	3%	3%	2%	2%	2%	2%	2%	2%	2%
Change in CSI	-14%	-4%	2%	4%	15%	4%	5%	5%	-1%	-11%	1%
Change in Number of Incidents	-10%	0%	7%	7%	13%	11%	8%	6%	4%	-17%	3%

Calgary

Police Service	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average
Change in Budgeted Gross Expenditure	4%	6%	6%	3%	5%	3%	4%	3%	0%	2%	4%
Change in Actual Gross Expenditure	4%	6%	7%	2%*	5%	4%	3%	1%	0%	-1%	4%
Police Officers	3%	0%	0%	0%	2%	1%	0%	2%	1%	N/A	1%
Change in Population	3%	3%	3%	3%	3%	3%	3%	3%	2%	2%	3%
Change in CSI	-16%	-6%	0%	0%	30%	-1%	7%	8%	6%	-17%	1%
Change in Number of Incidents	-7%	-3%	0%	2%	26%	6%	4%	13%	10%	-17%	3%

**A large increase in actual expenditures of \$106,500,000 for debt principal that was removed to normalize the data set because this line item was not included in any of the other years of data*

Ottawa

Police Service	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average
Change in Budgeted Gross Expenditure	5%	3%	4%	3%	3%	3%	4%	3%	5%	4%	4%
Change in Actual Gross Expenditure	6%	3%	4%	2%	4%	5%	3%	3%	4%	4%	4%
Police Officers	-2%	3%	0%	-1%	-2%	-3%	0%	-1%	-1%	N/A	-1%
Change in Population	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Change in CSI	-4%	0%	-16%	-8%	4%	10%	0%	7%	5%	-16%	-2%
Change in Number of Incidents	-2%	0%	-11%	-7%	-1%	6%	4%	11%	9%	-20%	-1%

Peel

Police Service	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average
Change in Budgeted Gross Expenditure	6%	-2%	4%	4%	3%	3%	3%	4%	5%	5%	4%
Change in Actual Gross Expenditure	4%	-2%	4%	3%	4%	3%	4%	5%	5%	6%	3%
Police officers	3%	0%	0%	0%	2%	1%	0%	2%	1%	N/A	1%
Change in Population	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Change in CSI	0%	-8%	-12%	-3%	4%	1%	3%	10%	-10%	-16%	-3%
Change in Number of Incidents	-2%	-5%	-7%	0%	3%	3%	5%	5%	-11%	-12%	-2%

Regina

Police Service	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average
Change in Budgeted Gross Expenditure	7%	2%	8%	6%	5%	5%	5%	4%	5%	4%	5%
Change in Actual Gross Expenditure	N/A	4%	6%	5%	5%	5%	5%	4%	7%	N/A	5%
Police officers	4%	-1%	0%	-1%	2%	2%	1%	1%	-1%	N/A	1%
Change in Population	1%	7%	1%	1%	1%	1%	6%	2%	1%	1%	2%
Change in CSI	-7%	-6%	-9%	-2%	7%	14%	-9%	11%	3%	-20%	-2%
Change in Number of Incidents	-2%	-5%	-6%	-2%	6%	14%	-4%	10%	3%	-26%	-1%

Winnipeg

Police Service	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average
Change in Budgeted Gross Expenditure	11%	9%	10%	7%	2%	6%	3%	1%	4%	1%	5%
Change in Actual Gross Expenditure	5%	12%	8%	5%	2%	9%	0%	3%	4%	1%	5%
Police officers	4%	6%	-1%	1%	-4%	0%	0%	-2%	2%	N/A	1%
Change in Population	1%	1%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Change in CSI	-13%	-5%	-16%	-3%	12%	12%	5%	10%	10%	-12%	0%
Change in Number of Incidents	-13%	-1%	-14%	2%	11%	12%	7%	13%	11%	-11%	2%

York

Police Service	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average
Change in Budgeted Gross Expenditure	6%	5%	5%	3%	4%	4%	4%	3%	4%	N/A	4%
Change in Actual Gross Expenditure	6%	8%	4%	6%	-1%	3%	5%	4%	4%	N/A	4%
Police officers	3%	-1%	4%	0%	2%	4%	-1%	-5%	3%	N/A	1%
Change in Population	2%	1%	1%	1%	1%	1%	2%	2%	2%	2%	2%
Change in CSI	-8%	-9%	-5%	9%	3%	11%	5%	12%	-12%	N/A	0%
Change in Number of Incidents	-5%	-4%	-1%	7%	3%	6%	7%	7%	-12%	N/A	1%

Appendix D: Budget Gross Expenditure, Actual Gross Expenditure, Police Officer, Population and Incident Data

Budget Gross Expenditures

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average
Calgary	\$362,320,045	\$377,352,039	\$399,939,016	\$423,555,710	\$436,971,277	\$457,909,580	\$471,506,292	\$491,708,163	\$505,083,163	\$502,566,162	\$511,665,584	\$449,143,366
Edmonton	\$284,851,748	\$305,643,019	\$326,602,502	\$342,721,214	\$350,660,685	\$367,467,520	\$397,598,382	\$410,084,806	\$432,195,228	\$453,334,116	\$472,703,122	\$376,714,758
Ottawa	\$250,508,000	\$263,346,000	\$270,340,000	\$280,182,000	\$288,597,000	\$298,320,000	\$308,061,000	\$320,164,000	\$330,041,000	\$347,138,000	\$362,135,000	\$301,712,000
Peel	\$335,669,928	\$357,128,213	\$349,724,215	\$363,984,991	\$377,543,742	\$390,092,173	\$402,297,310	\$415,004,950	\$433,275,630	\$455,726,320	\$476,894,300	\$396,121,979
Regina	\$58,285,200	\$62,411,700	\$63,910,353	\$68,785,400	\$72,624,300	\$76,479,500	\$80,067,600	\$83,700,000	\$87,034,900	\$91,642,200	\$95,216,400	\$76,377,959
Winnipeg	\$182,391,871	\$202,449,976	\$220,484,649	\$242,853,152	\$259,426,067	\$264,383,704	\$280,917,733	\$288,340,203	\$291,703,250	\$302,038,334	\$304,704,828	\$258,153,979
York	\$263,215,000	\$279,384,100	\$293,403,500	\$309,184,400	\$318,101,500	\$329,933,082	\$342,538,260	\$357,585,320	\$367,922,930	\$384,299,848	N/A	\$324,556,794

Actual Gross Expenditures

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average
Calgary	\$362,320,045	\$375,971,102	\$397,735,573	\$425,103,132	\$433,832,846	\$455,955,053	\$476,033,583	\$490,978,923	\$497,810,234	\$499,177,436	\$494,683,082	\$446,327,364
Edmonton	\$283,409,941	\$305,132,187	\$322,871,037	\$340,356,915	\$350,579,253	\$365,604,779	\$397,116,059	\$415,939,713	\$430,661,545	\$450,897,450	\$469,497,262	\$375,642,376
Ottawa	\$250,695,000	\$265,352,000	\$272,362,000	\$283,985,000	\$289,293,000	\$302,076,000	\$317,285,000	\$326,179,000	\$335,234,000	\$347,173,000	\$362,134,000	\$304,706,182
Peel	\$343,511,170	\$356,852,104	\$349,851,205	\$362,861,807	\$375,340,066	\$389,601,682	\$400,293,475	\$414,811,615	\$433,560,604	\$453,754,101	\$482,870,804	\$396,664,421
Regina	N/A	\$63,680,070	\$66,022,689	\$69,946,135	\$73,751,284	\$77,280,845	\$81,426,371	\$85,336,069	\$88,646,145	\$94,579,914	N/A	\$70,066,952
Winnipeg	\$192,366,031	\$202,179,818	\$226,541,210	\$243,903,998	\$257,122,999	\$261,610,096	\$285,010,206	\$284,557,454	\$291,679,044	\$302,155,740	\$304,704,828	\$259,257,402
York	\$262,037,260	\$278,040,210	\$301,085,316	\$313,792,140	\$333,663,340	\$330,182,231	\$338,813,947	\$356,451,529	\$371,295,982	\$385,905,396	N/A	\$327,126,735

Police Officers

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average
Calgary	1,882	1,883	1,975	2,021	2,090	2,147	2,172	2,215	2,006	2,123	N/A	2,051
Edmonton	1,628	1,607	1,603	1,639	1,655	1,665	1,739	1,775	1,882	1,885	N/A	1,708
Ottawa	1,296	1,273	1,312	1,311	1,301	1,272	1,239	1,242	1,230	1,223	N/A	1,270
Peel	1,855	1,908	1,911	1,918	1,922	1,951	1,967	1,973	2,004	2,022	N/A	1,943
Regina	373	389	385	384	379	387	393	397	399	397	N/A	388
Winnipeg	1,341	1,393	1,472	1,463	1,474	1,422	1,416	1,409	1,383	1,405	N/A	1,418
York	1,425	1,466	1,454	1,509	1,510	1,535	1,598	1,586	1,505	1,543	N/A	1,513

Population

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average
Calgary	1,123,699	1,140,680	1,171,370	1,208,518	1,242,290	1,261,596	1,278,982	1,292,133	1,311,833	1,311,833	1,311,833	1,241,342
Edmonton	831,158	844,998	864,772	892,802	923,552	944,554	964,258	982,886	1,004,947	1,029,970	1,053,865	939,797
Ottawa	899,016	911,636	921,441	930,748	939,708	948,063	964,448	984,279	1,007,501	1,018,584	1,029,686	959,555
Peel	1,257,011	1,278,449	1,297,929	1,317,783	1,332,861	1,343,738	1,361,674	1,379,214	1,404,628	1,455,000	1,472,000	1,354,572
Regina	196,176	199,660	205,637	210,600	214,680	217,652	223,190	228,412	233,170	237,484	241,165	218,893
Winnipeg	669,440	677,532	687,318	694,834	703,733	711,469	726,123	741,663	753,674	761,211	769,660	717,878
York	1,043,284	1,065,436	1,087,653	1,107,564	1,123,693	1,134,063	1,143,901	1,145,976	1,150,672	1,163,329	1,176,126	1,121,972

Incidents

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average
Calgary	59,636	55,168	53,461	53,591	54,572	68,521	72,505	75,473	85,152	93,690	78,163	68,176
Edmonton	71,699	64,613	64,772	69,190	73,758	83,592	92,438	99,571	105,681	109,425	91,097	84,167
Ottawa	43,368	42,353	42,530	37,664	35,110	34,760	36,747	38,172	42,280	46,105	36,873	39,633
Peel	46,040	45,287	43,171	40,071	39,902	41,109	42,143	44,437	46,858	41,781	36,728	42,502
Regina	22,972	22,611	21,571	20,252	19,870	20,996	23,854	22,889	25,270	26,125	19,441	22,350
Winnipeg	55,865	48,841	48,174	41,589	42,440	47,054	52,825	56,408	63,548	70,523	62,735	53,637
York	31,908	30,453	29,280	28,953	30,918	31,788	33,823	36,025	38,434	34,011	N/A	32,559

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