



Audit Committee - Agenda

Date: Friday, September 18, 2020
Time: 9:30 a.m. - 12 p.m.
Location: Council Chamber, 2nd floor, City Hall

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1. Call to Order and Related Business

- 1.1 Call to Order
- 1.2 Roll Call
- 1.3 Adoption of Agenda
- 1.4 Adoption of Minutes

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- June 25, 2020, Audit Committee

- 1.5 Protocol Items

2. Items for Discussion and Related Business

- 2.1 Select Items for Debate
- 2.2 Vote on Reports not Selected for Debate
- 2.3 Requests to Speak
Refer to Summary of Agenda Changes
- 2.4 Requests for Specific Time on Agenda
Refer to Summary of Agenda Changes

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8.	Private Reports	
8.1	Major Capital Project Review Sections 25 (disclosure harmful to economic and other interests of a public body) and 27 (privileged information) of the <i>Freedom of Information and Protection of Privacy Act</i>	
8.2	Administration Response - Major Capital Project Review Audit Sections 25 (disclosure harmful to economic and other interests of a public body) and 27 (privileged information) of the <i>Freedom of Information and Protection of Privacy Act</i>	
8.3	External Auditor - Non-audit Services Request Addendum Sections 16 (disclosure harmful to business interests of a third party) and 24 (advice from officials) of the <i>Freedom of Information and Protection of Privacy Act</i>	
9.	Notices of Motion and Motions without Customary Notice	
10.	Adjournment	



AUDIT COMMITTEE

MINUTES

June 25, 2020 – River Valley Room

PRESENT

D. Iveson, A. Knack*, T. Cartmell*, B. Esslinger*, M. Nickel*, C. Burrows*, O. Edmondson*

**Participated electronically*

B. Esslinger was absent for a portion of the meeting with notice.

ABSENT

None

ALSO IN ATTENDANCE

J. Dziadyk, A. Paquette
 A. Laughlin, Interim City Manager
 A. Giesbrecht, City Clerk
 D. Siebold, Office of the City Clerk
 T. Orbell, Office of the City Clerk

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6.2	Administrative Update on Auditor Dashboard	5	Carried
6.3	City Auditor Self-Assessment	5	Carried

6.4	Evaluated Receipt Settlement Audit	5	Carried
6.5	Evaluated Receipt Settlement Audit - Administration Response	6	Carried
6.6	KPMG LLP - 2019 External Audit Management Letter	6	Carried
7.	RESPONSES TO COUNCILLOR INQUIRIES	6	None
8.	PRIVATE REPORTS	6	
8.1	2020 - 2024 External Audit Services - Presentations and Evaluations	6	Carried
8.2	Investigation	8	Referred
8.3	Administration Response - 8363	8	Referred
8.4	Major Capital Project Review	8	Referred
8.5	Administration Response - 8364	8	Referred
9.	NOTICES OF MOTION AND MOTIONS WITHOUT CUSTOMARY NOTICE	8	None
10.	ADJOURNMENT	8	

DECISION SUMMARY

ITEM	DECISION
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1. CALL TO ORDER AND RELATED BUSINESS

1.1 Call to Order

Mayor D. Iveson called the meeting to order at 1:33 p.m., and acknowledged that Committee meets on the traditional land of Treaty 6 Territory. He also acknowledged the diverse Indigenous peoples whose ancestors' footsteps have marked this territory for centuries such as: Cree, Dene, Saulteaux, Blackfoot, Nakota Sioux, as well as Metis and Inuit, and now settlers from around the world.

1.2 Roll Call

Mayor D. Iveson conducted Roll Call and confirmed the attendance of Members of Committee.

1.3 Adoption of Agenda

Moved B. Esslinger:

That the June 25, 2020, Audit Committee meeting agenda be adopted.

Moved T. Cartmell:

That Audit Committee meet in private pursuant to sections 20 (disclosure harmful to law enforcement), 24 (advice from officials), 25 (disclosure harmful to economic and other interests of a public body) and 27 (legal and other privileged information of a public body) of the *Freedom of*

Information and Protection of Privacy Act to discuss including items 8.2, 8.3, 8.4 and 8.5 on the agenda.

In Favour:

Carried

D. Iveson, A. Knack, T. Cartmell, B. Esslinger, M. Nickel, C. Burrows, O. Edmondson

The Committee met in private at 1:42 p.m.

In Attendance

- D. Iveson
- A. Knack
- T. Cartmell
- B. Esslinger
- M. Nickel
- C. Burrows
- O. Edmondson
- J. Dziadyk
- A. Paquette
- A. Giesbrecht, City Clerk
- D. Beaudry, Deputy City Clerk
- D. Siebold, Office of the City Clerk (Meeting Clerk)
- T. Orbell, Office of the City Clerk (Meeting Clerk)
- A. Laughlin, Interim City Manager
- B. Andriachuk, City Solicitor
- D. Wiun, City Auditor
- M. Persson, Chief Financial and Officer and Deputy City Manager, Financial and Corporate Services
- C. Owen, Deputy City Manager, Communications and Engagement
- G. Cebryk, Deputy City Manager, City Operations
- J. Meliestfe, Acting Deputy City Manager, Integrated Infrastructure Services
- S. McCabe, Deputy City Manager, Urban Form and Corporate Strategic Development
- N. Jacobsen (Legal Services)
- A. Delgado (Legal Services)
- A. Turcza-Karhut (Legal Services)
- D. Nielsen, Office of the Mayor (Political Staff)
- M. Laban, Office of the City Manager (Subject matter expert)
- J. Mrygold, Office of the City Auditor (Subject matter expert)
- L. Glasbeek, Office of the City Auditor (Subject matter expert)

With unanimous consent of Committee, the Committee meet in public at 2:37 p.m.

Moved M. Nickel:

That item 8.2 – Investigation, item 8.3 – Administration Response – 8363, item 8.4 – Major Capital Project Review and item - 8.5 – Administration Response – 8364, be referred to the July 6, 2020, City Council meeting for rescheduling.

Office of the
City Manager

Due Date:
Jul. 6, 2020

City Council

In Favour:

Carried

D. Iveson, A. Knack, T. Cartmell, B. Esslinger, M. Nickel,
C. Burrows, O. Edmondson

Motion, put:

That the June 25, 2020, Audit Committee meeting agenda
be adopted, as amended.

In Favour:

Carried

D. Iveson, A. Knack, T. Cartmell, B. Esslinger, M. Nickel,
C. Burrows, O. Edmondson

1.4 Adoption of Minutes

With unanimous consent of Committee, the May 26, 2020,
Audit Committee meeting minutes were adopted.

1.5 Protocol Items

There were no Protocol Items.

2. ITEMS FOR DISCUSSION AND RELATED BUSINESS

2.1 Select Items for Debate

The following items were selected for debate: 6.1, 6.2, 6.4,
6.5 and 8.1.

2.2 Requests for Specific Time on Agenda

There were no requests for any items to be dealt with at a
specific time.

3. COUNCILLOR INQUIRIES

There were no Councillor Inquiries.

4. UPDATE ON SCHEDULED REPORTS - NONE

5. STATUS REPORT AND REQUESTS TO RE-ROUTE - NONE

6. REPORTS

6.1 Office of the City Auditor Recommendation Follow-up Dashboard Report - As at June 16, 2020

Items 6.1 and 6.2 were dealt with together.

D. Wiun, City Auditor, answered the Committee's questions.

Moved A. Knack:

That the June 25, 2020, Office of the City Auditor report CR_8361, be received for information.	Office of the City Auditor
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In Favour:

Carried

D. Iveson, A. Knack, T. Cartmell, B. Esslinger, M. Nickel, C. Burrows, O. Edmondson

6.2 Administrative Update on Auditor Dashboard

Items 6.1 and 6.2 were dealt with together.

Moved A. Knack:

That the June 25, 2020, Office of the City Manager report CR_8327, be received for information.	Office of the City Manager
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In Favour:

Carried

D. Iveson, A. Knack, T. Cartmell, B. Esslinger, M. Nickel, C. Burrows, O. Edmondson

6.3 City Auditor Self-Assessment

Moved M. Nickel:

That the June 25, 2020, Office of the City Auditor report CR_7774, be received for information.	Office of the City Auditor
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In Favour:

Carried

D. Iveson, A. Knack, T. Cartmell, B. Esslinger, M. Nickel, C. Burrows, O. Edmondson

6.4 Evaluated Receipt Settlement Audit

Items 6.4 and 6.5 were dealt with together.

D. Wiun, City Auditor; and M. Persson, Chief Financial Officer and Deputy City Manager, Financial and Corporate Services, made presentations and answered the Committee's questions. A. Laughlin, Interim City Manager; and S. Padbury, Financial and Corporate Services, answered the Committee's questions.

Moved B. Esslinger:

That the June 25, 2020, Office of the City Auditor report CR_8362, be received for information.	Office of the City Auditor
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In Favour:

Carried

D. Iveson, A. Knack, T. Cartmell, B. Esslinger, M. Nickel, C. Burrows, O. Edmondson

6.5 Evaluated Receipt Settlement Audit - Administration Response

Items 6.4 and 6.5 were dealt with together.

Moved B. Esslinger:

That the June 25, 2020, Financial and Corporate Services report CR_8376, be received for information.	Financial and Corporate Svcs.
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In Favour:

Carried

D. Iveson, A. Knack, T. Cartmell, B. Esslinger, M. Nickel, C. Burrows, O. Edmondson

6.6 KPMG LLP - 2019 External Audit Management Letter

Moved M. Nickel:

That the June 25, 2020, KPMG LLP report CR_8369, be received for information.	KPMG
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In Favour:

Carried

D. Iveson, A. Knack, T. Cartmell, B. Esslinger, M. Nickel, C. Burrows, O. Edmondson

7. RESPONSES TO COUNCILLOR INQUIRIES - NONE

8. PRIVATE REPORTS

8.1 2020 - 2024 External Audit Services - Presentations and Evaluations

Moved T. Cartmell:

That Audit Committee meet in private pursuant to sections 16 (disclosure harmful to business interests of a third party), 24 (advice from officials) and 25 (disclosure harmful to economic and other interests of a public body) of the *Freedom of Information and Protection of Privacy Act*.

In Favour:

Carried

D. Iveson, A. Knack, T. Cartmell, M. Nickel, C. Burrows, O. Edmondson

Absent:

B. Esslinger

The Committee met in private at 2:43 p.m.

In Attendance

- D. Iveson
- A. Knack
- T. Cartmell
- B. Esslinger
- M. Nickel
- C. Burrows
- O. Edmondson
- J> Dziadyk
- A. Giesbrecht, City Clerk
- D. Siebold, Office of the City Clerk (Meeting Clerk)
- T. Orbell, Office of the City Clerk (Meeting Clerk)
- A. Laughlin, Interim City Manager
- D. Wiun, City Auditor
- M. Persson, Chief Financial and Officer and Deputy City Manager, Financial and Corporate Services
- S. Padbury, Financial and Corporate Services (Subject matter expert)
- C. Tomanek, Financial and Corporate Services (Subject matter expert)
- E. Babin, Financial and Corporate Services (Subject matter expert)
- K. Hans, Financial and Corporate Services (Subject matter expert)
- D. Nielsen, Office of the Mayor (Political Staff)

- M. Laban, Office of the City Manager (Subject matter expert)
- N. Jacobsen (Legal Services)

Moved M. Nickel:

That Audit Committee meet in public.

In Favour:

Carried

D. Iveson, A. Knack, T. Cartmell, B. Esslinger, M. Nickel,
C. Burrows, O. Edmondson

The Committee met in public at 2:49 p.m.

Moved A. Knack:

That Audit Committee recommend to City Council:

1. That the recommendation, as set out in Attachment 1 to the June 25, 2020, Financial and Corporate Services report CR_8352, be approved.
2. That the June 25, 2020, Financial and Corporate Services report CR_8352 remain private pursuant to sections 16 (disclosure harmful to business interests of a third party), 24 (advice from officials) and 25 (disclosure harmful to economic and other interests of a public body) of the *Freedom of Information and Protection of Privacy Act*.

In Favour:

Carried

D. Iveson, A. Knack, T. Cartmell, B. Esslinger, M. Nickel,
C. Burrows, O. Edmondson

8.2 Investigation

Item referred to the July 6, 2020, City Council meeting for a scheduling discussion. See item 1.3.

8.3 Administration Response - 8363

Item referred to the July 6, 2020, City Council meeting for a scheduling discussion. See item 1.3.

8.4 Major Capital Project Review

Item referred to the July 6, 2020, City Council meeting for a scheduling discussion. See item 1.3.

8.5 Administration Response - 8364

Item referred to the July 6, 2020, City Council meeting for a scheduling discussion. See item 1.3.

9. NOTICES OF MOTION AND MOTIONS WITHOUT CUSTOMARY NOTICE

Mayor D. Iveson asked if there were any Notices of Motion.
There were none.

10. ADJOURNMENT

The meeting adjourned at 3:12 p.m.

Chair

City Clerk

Investigation

Recommendation

That the September 18, 2020, Office of the City Auditor report CR_8363, be received for information.

Previous Council/Committee Action

At the July 6/8, 2020, City Council meeting, the following motion was passed:

That the June 25, 2020, Office of the City Auditor report CR_8363 and the June 25, 2020, Integrated Infrastructure Services report CR_8342 be made public subject to section 29 (information that is available for purchase or will be available to the public within 60 days) of the *Freedom of Information and Protection of Privacy Act* and pending notification from the City Solicitor and that the reports be scheduled at the September 18, 2020, Audit Committee meeting.

Executive Summary

This report presents the results of the Neighbourhood Renewal projects investigation conducted by the Office of the City Auditor.

Report

On September 18, 2019, the City Manager's Office received an email alleging that a City employee had a side business in traffic sign rentals and had inappropriately directed work to this private company for personal gain. On October 11, 2019, the allegation was forwarded to the Office of the City Auditor for investigation.

Based on our investigation we concluded that approximately \$1.6 million (excluding GST) was allegedly stolen from the City of Edmonton between 2015 and 2019. This was achieved through a false invoicing scheme that took advantage of control weakness in the City's procurement and payment processes.

To reduce the risk of a similar false invoice scheme being successful, financial oversight and controls need to be strengthened in the Building Great Neighbourhoods and Open Spaces Branch in the Integrated Infrastructure Services Department (IIS).

Although this particular false invoice scheme impacted Neighbourhood Renewal projects, any area in the organization that uses the cheque requisition process without having strong controls and oversight is vulnerable.

The Office of the City Auditor has made two recommendations to address these issues.

The Office of the City Auditor reported this theft to the Edmonton Police Service. On March 12, 2020, Edmonton Police Services informed us that they have opened a file and are investigating.

The Office of the City Auditor also reported this theft to Legal Services. Legal Services has reported the theft to the City's Insurer under its Commercial Crime Insurance Policy. The City is currently working with its Insurer to explore options for fund recovery. The Office of the City Auditor continues to work with Legal Services and the Insurer to support the civil legal process.

Policy

Bylaw 16097, Audit Committee Bylaw, Section 14(d) states that, "Committee will review all reports from the City Auditor dealing with completed audit projects."

Public Engagement

Public engagement was not required for this report.

Attachment

1. Investigation Report



City of Edmonton Office of the City Auditor

Investigation

March 25, 2020



1200, Scotia Place, Tower 1
10060 Jasper Avenue
Edmonton, AB T5J 3R8
Phone: 780-496-8300
edmonton.ca/auditor

Report Highlights

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Allegation of Fraud

On September 18, 2019, the City Manager's Office received an email alleging that a City employee had a side business in traffic sign rentals and had inappropriately directed work to this private company for personal gain. On October 11, 2019, the allegation was forwarded to the Office of the City Auditor for investigation.

Conclusion

Approximately \$1.6 million¹ was allegedly stolen from the City of Edmonton between 2015 and 2019. This was achieved through a false invoicing scheme that took advantage of control weakness in the City's procurement and payment processes.

To reduce the risk of a similar false invoice scheme being successful, financial oversight and controls need to be strengthened in the Building Great Neighbourhoods and Open Spaces Branch in the Integrated Infrastructure Services Department (IIS).

Although this particular false invoice scheme impacted Neighbourhood Renewal projects, any area in the organization that uses the cheque requisition process without having strong controls and oversight is vulnerable.

¹ All amounts in this report are excluding GST.



Who was involved?

Employee A

The original email alleged that Employee A in IIS had directed City business to a private sign rental company for personal gain.

Employee A is related to the owner of Sign Company A identified in this investigation, and may have some involvement in Sign Company A.

Sign Company A

This company is owned by a relative of Employee A.

Sign Company A submitted invoices to the City of Edmonton for temporary traffic control devices – such as signs, barricades, and traffic cones for Neighbourhood Renewal projects. Between 2015 and 2019 this company received \$1.6 million from the City based on invoices for which there is no evidence that these devices were received. All invoices were approved for payment by Employee X.

Employee X

Employee X, also in IIS, was not identified in the original email allegations. Their involvement was discovered during the investigation.

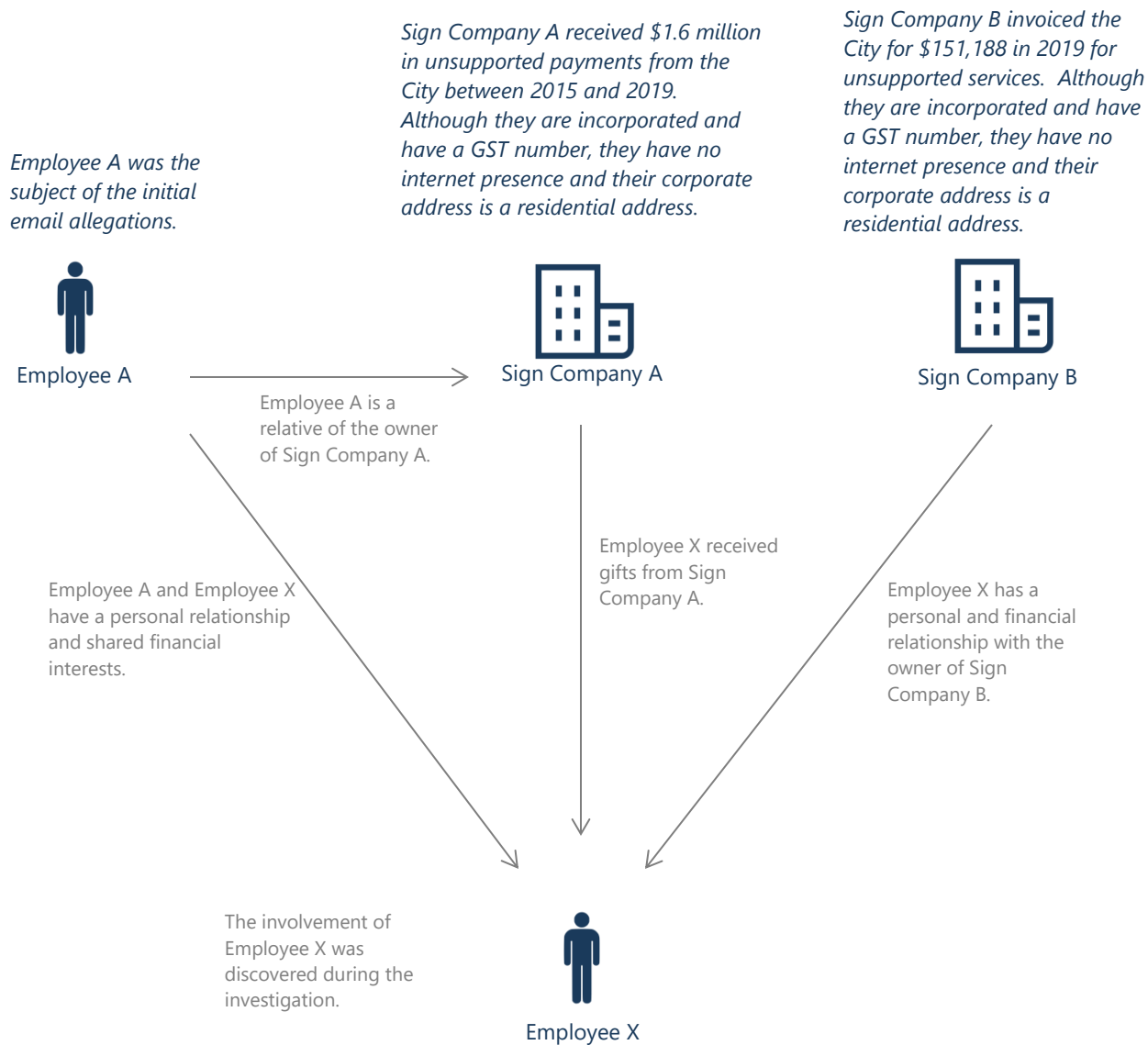
Employee X signed and approved all the false and unsupported invoices and cheque requisitions pertaining to the temporary traffic control devices for five Neighbourhood Renewal projects.

Sign Company B

This company is owned by an individual with a personal and financial relationship with Employee X.

In 2019 this company submitted invoices to the City for \$151,188 for temporary traffic control devices for Neighbourhood Renewal projects. There was no evidence that the City received these devices. Employee X approved all these invoices for payment. The City issued payment for these invoices, but was able to recall the payments during this investigation, resulting in no additional financial loss for the City.

Relationships





Loss Amounts

Sign Company A

We conducted a detailed analysis of the amounts invoiced by Sign Company A and approved for payment by Employee X.

These invoices were related to Neighbourhood Renewal projects managed by Employee X serving in the role of a project manager.

Our investigation did not find support for invoices totaling \$1,653,899 from three Neighbourhood Renewal projects.

Total amount of invoices investigated	\$1,909,641
Charges that were supported or information not available	\$255,742
Charges with evidence indicating devices were not provided	\$1,653,899
Amounts invoiced but payment was recalled	\$44,066
Total Loss to the City	\$1,609,833

Sign Company B

Employee X also submitted 16 invoices from Sign Company B for payment when they were the program manager for two additional Neighbourhood Renewal projects. As program manager, Employee X supervised the work of the project managers for these projects.

The project managers on these two projects had no knowledge of the invoices and stated that the temporary traffic control devices identified on the invoices were not used on their projects.

The City has no relationship or business with this company other than through Employee X.

These invoices totaled \$151,188. The City issued payment for these invoices, but was able to recall the payments during this investigation, resulting in no additional financial loss for the City.

Total loss

Through our investigation, it appears that the total amount fraudulently charged to the City by Sign Companies A and B was \$1.8 million.

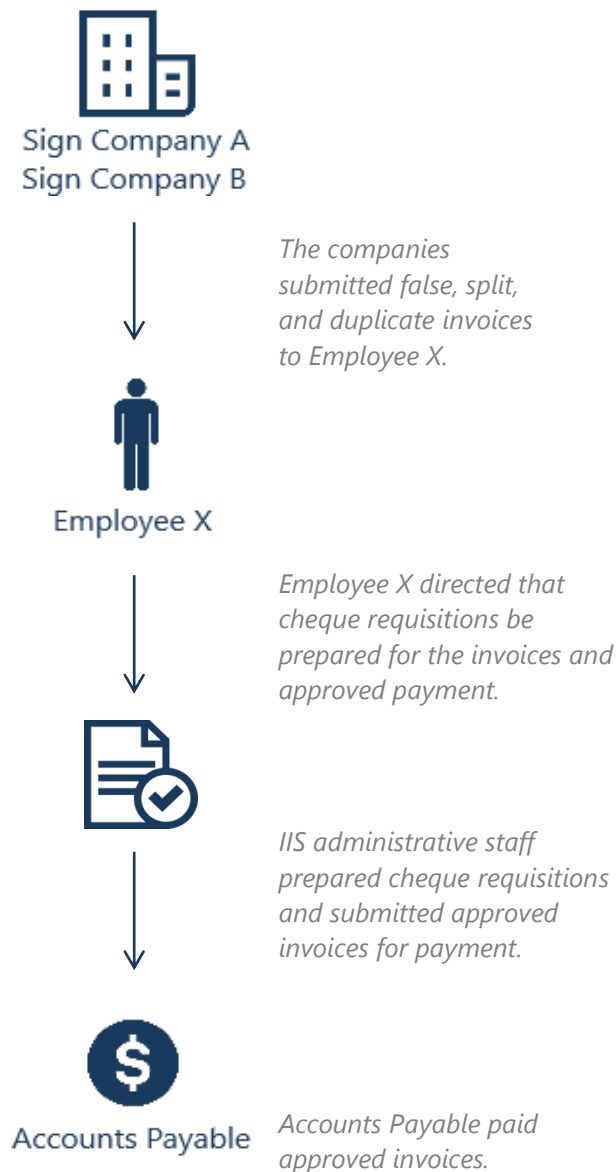
As a result of recalling payments made in December 2019, we estimate the total financial loss to the City is \$1.6 million.



What was the scheme?

False invoices

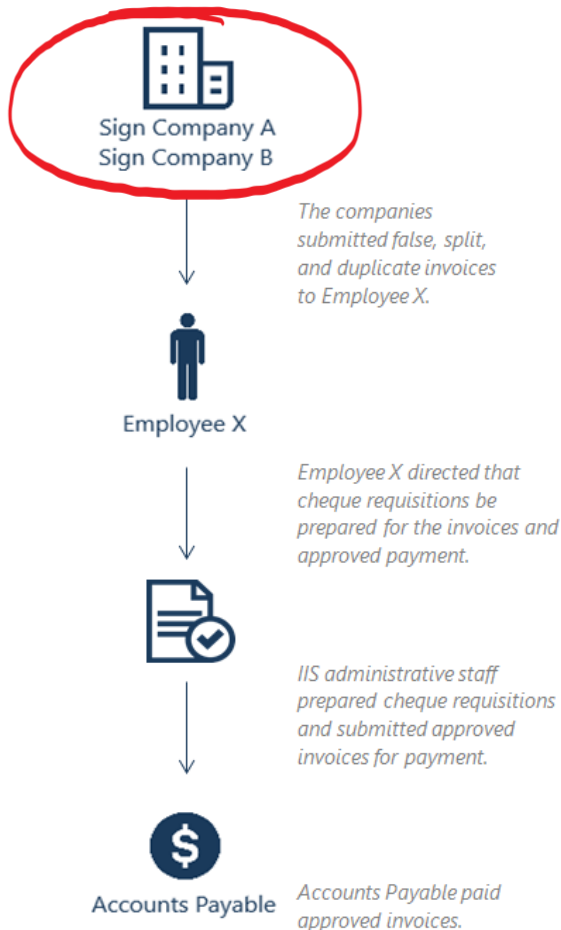
Sign Company A and Sign Company B submitted false, split, and duplicate invoices to the City of Edmonton for the rental of temporary traffic control devices for Neighbourhood Renewal projects. Employee X approved these invoices for payment.





Why did it work?

Control weaknesses



This scheme was successful because it took advantage of control weaknesses in the City's procurement and payment processes.

Weakness 1: Able to circumvent proper procurement method

The City's Procurement Directive (A1465B) lays out the City rules indicating what type of procurement method is to be used for various procurement types and amounts. The Corporate Procurement and Supply Services Branch (CPSS) monitors and governs these rules. Employee X did not follow proper procurement processes to procure temporary traffic control devices.

Any of the following methods of procurement would have been acceptable:

- Source City-owned devices internally through Traffic Operations in the Parks and Roads Services Branch, City Operations Department;
- Source external devices using the City's existing outline agreement with an approved supplier managed by Traffic Operations;
- Source external devices using a low-value purchase order after requesting three written quotes (if value of contract was between \$5,000 and \$25,000); or
- Source external devices using a competitive procurement process.

Instead of using any of these acceptable methods, Employee X inappropriately used the cheque requisition process to directly pay for the temporary traffic control devices first to Sign Company A then later to Sign Company B.

By circumventing the City's procurement process, CPSS had no involvement with this procurement. As a result, Employee X was able to bypass all procurement controls, oversight and approval requirements imbedded in the various procurement processes.

Furthermore, there is no contract between the City and either company that provides a record of the business relationship or identifies the expected costs of any devices provided.



Weakness 2: Able to use an inappropriate payment method

Cheque requisitions are supposed to be used as a means of invoice payment in those cases where a purchase order is not required or available. These include legal claims, land sales, petty cash, one-time suppliers, incidental and urgent payments, employee expenses, or grants. Contrary to what the term cheque requisition implies, actual payments can be made by cheque or electronic funds transfer.

Cheque requisition forms can be submitted for invoice payment after being signed by an employee with appropriate expenditure authority. However, according to the City's Financial Administration and Control Directive (A1206), expenditure officers must not, in any circumstance, approve payments where the expenditure officer is also responsible for receiving the goods or services.

If the temporary traffic devices had been sourced through an appropriate procurement method, invoices would have been paid after undergoing a three-way match process. When this happens, a purchase order (to confirm goods ordered, quantity and price) is matched to an order receipt or packing slip (to ensure goods are delivered) and the invoice (to ensure the amount charged matches the price quoted).

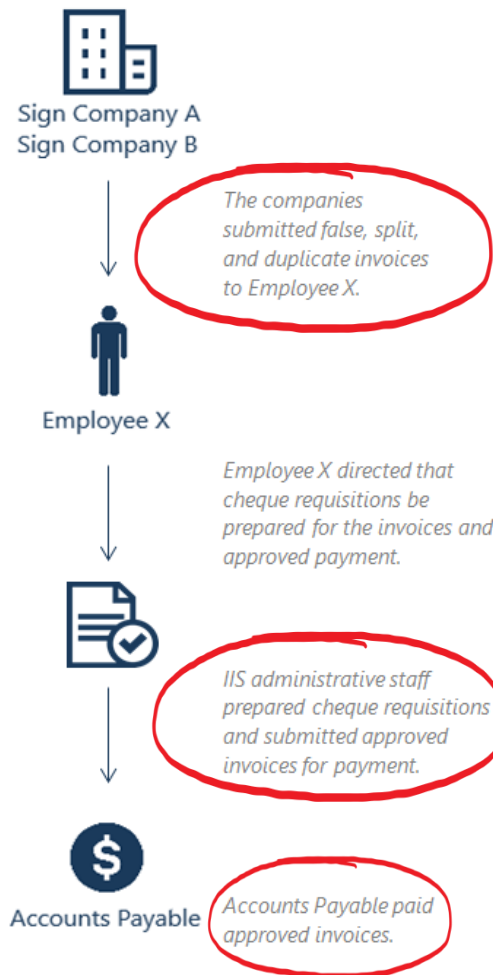
In this case, Employee X signed the invoices for goods receipt and signed the cheque requisition to facilitate payment. Employee X had an expenditure authority of up to \$500,000 per transaction.

The oversight role for approving cheque requisitions lies with the business area. Business areas are responsible for managing the controls over the initiation and approval of cheque requisitions, prior to sending their cheque requisitions to Accounts Payable for payment issuance.

Although IIS administrative staff prepared the cheque requisition forms, no one identified any issues using this method of payment for these regular purchases. In addition, there are currently no processes in place to monitor the segregation of duties between the expenditure authority and the person responsible for receiving the goods or services for payment made using cheque requisitions.

Both sign companies had vendor numbers in the City's accounting systems. This is an indicator that the City may do regular business with a company. The existence of this number should have been an indicator that the cheque requisition method may not have been appropriate.

Accounts Payable paid the approved invoices through electronic funds transfer payments.



Weakness 3: False, duplicate, and split invoices were not detected

Submitting duplicate invoices² or invoices with amounts split onto multiple invoices is a common way to hide false charges.

The sign companies submitted invoices for payment that were:

- Virtual duplicates except for the invoice number.
- Split with charges appearing on multiple invoices.
- For products that were not used on the projects to which they were charged.

Employee X submitted the false, duplicate, and split invoices to IIS administration staff to prepare the cheque requisition forms.

During the period under review there was no expectation for IIS administrative staff to review invoices and cheque requisition forms for appropriate use, segregation of duties, duplicate invoices, split invoices, etc. As a result, none of the staff identified issues with the invoices and cheque requisition forms. Once signed by Employee X, invoices and cheque requisition forms were then sent to Accounts Payable.

At the time of our 2019 *Audit of Accounts Payable*, Accounts Payable staff only checked if a cheque requisition form had a signature and was properly coded. Since the audit, Accounts Payable has implemented a process to verify that the approver on a cheque requisition form for payment over \$5,000 has the proper expenditure authority.

Accounts Payable is not able to determine if services or goods are actually delivered; that responsibility rests in the business area. Accounts Payable relies on the approval of the expenditure authority to ensure that transactions are valid, accurate, properly coded, supported etc.

In this case, Employee X had the proper expenditure authority to approve payment. Therefore, Accounts Payable paid the properly authorized and coded cheque requisitions.

² Duplicate invoices refer to invoices with the same characteristics (for example, same amount, same product or service, same vendor, same billing period, same invoice number or any combination thereof). The key is whether or not the City is being invoiced and paying again for services or products the City has already paid for.

During the period under review there was also no expectation for Accounts Payable staff to review invoices and cheque requisitions for appropriate use, segregation of duties, duplicate invoices, split invoices, etc. Therefore, Accounts Payable staff processing the cheque requisitions also did not detect the duplicate or split invoices.

False, Duplicated, and Split Invoices Examples

INVOICE No. 0629

Sign Company A
[Redacted] Street
Edmonton, Alberta [Redacted]

INVOICE DATE September 3, 2019
OUR REFERENCE NO. [Redacted]
YOUR REFERENCE NO. [Redacted]

SOLD TO:
City of Edmonton
Building Great Neighbourhoods
14th Floor, 10111-104 Avenue NW
Edmonton, Alberta T5J 0J4

Attn: Employee X

DESCRIPTION
Invoice for material rentals for Project M (August 2019)

QUANTITY	DESCRIPTION	DURATION (DAYS)	UNIT PRICE / DAY	AMOUNT
75	Road Closed, Keep Left / Right Barricades	31	3.00	\$6,975.00
150	Grabber Cones (Large)	31	0.50	\$2,325.00

INVOICE No. 0632

Sign Company A
[Redacted] Street
Edmonton, Alberta [Redacted]

INVOICE DATE September 3, 2019
OUR REFERENCE NO. [Redacted]
YOUR REFERENCE NO. [Redacted]

SOLD TO:
City of Edmonton
Building Great Neighbourhoods
14th Floor, 10111-104 Avenue NW
Edmonton, Alberta T5J 0J4

Attn: Employee X

DESCRIPTION
Invoice for material rentals for Project M (August 2019)

QUANTITY	DESCRIPTION	DURATION (DAYS)	UNIT PRICE / DAY	AMOUNT
75	Road Closed, Keep Left / Right Barricades	31	3.00	\$6,975.00
150	Grabber Cones (Large)	31	0.50	\$2,325.00

INVOICE No. 0631

Sign Company A
[Redacted] Street
Edmonton, Alberta [Redacted]

INVOICE DATE September 3, 2019
OUR REFERENCE NO. [Redacted]
YOUR REFERENCE NO. [Redacted]

SOLD TO:
City of Edmonton
Building Great Neighbourhoods
14th Floor, 10111-104 Avenue NW
Edmonton, Alberta T5J 0J4

Attn: Employee X

DESCRIPTION
Invoice for material rentals for Project M (August 2019)

QUANTITY	DESCRIPTION	DURATION (DAYS)	UNIT PRICE / DAY	AMOUNT
2	Electronic Message Board Rentals (Size: Small)	31	153.00	\$9,486.00

These invoices are duplicates. They are identical except for the invoice number.

These invoices are split. They are for the same project, issued the same day, same billing period but for different devices. One invoice could have listed all three line items.

All three of these invoices were submitted for payment together.

All three of these invoices are false. None of the temporary traffic control devices identified on these invoices were provided to the City.



Collusion

Based on the investigation evidence, there is a high likelihood there was collusion with the intent to deceive the City through the submission and payment of false invoices. Collusion is a secret agreement between entities or individuals working together in order to deceive others for their own advantage.

This is specifically based on:

- The personal relationships between the parties.
- The financial relationships between the parties.
- The volume and characteristics of the unsupported invoices which significantly reduce the likelihood that this situation was unintentional.
- The lack of any business dealings between the City and the Sign Companies other than through Employee X – including a lack of follow up from either company inquiring about invoice payments that were recalled by the City.

Personal relationships

The owner of Sign Company A is a relative of Employee A. Employee A had business information related to Sign Company A on their City-issued mobile phone suggesting some level of involvement in this business.

Employee A and Employee X worked in the same branch of the City from 2014 to 2017.

Employee A and Employee X communicated frequently during the work day through email, phone, and text messaging. Their jobs are unrelated and would not merit this degree of contact.

Employee X assisted the owner of Sign Company B to find an apartment upon returning to Canada from abroad. They had frequent communications by text messaging.

The owner of Sign Company B had sent Employee X their resume looking for work. This resume had no mention of Sign Company B.

Employee X provided investigators with contradicting information on their relationship with the owner of Sign Company B.

Financial relationships and exchange of gifts

Employee A and Employee X jointly owned property in downtown Edmonton.

Employee A transferred \$1,999 to Employee X in September 2019.

In two instances, Employee X received gifts from Sign Company A with a combined value of over \$2,000.

The owner of Sign Company B sent one money transfer to Employee X of \$1,000 in June 2019. Employee X sent two money transfers to the owner of Sign Company B totaling \$1,500 in August and October of 2019.

Invoice characteristics and business dealings

Between 2016 and 2019, Sign Company A submitted over 50 duplicate invoices for payment. In just the six months between May and October 2019, Sign Company A submitted 35 invoices, of which 17 were exact duplicates of another invoice except for the invoice number. All invoices were approved for payment by Employee X. The volume of these duplicate invoices strongly suggests this was not an unintentional error by both parties.

Sign Company A submitted invoices for devices provided outside of neighbourhood renewal construction season.

With the exception of invoices, there are no emails or phone records that would indicate business dealings with Sign Company A or B. There are no records indicating how these companies were identified by Employee X as suppliers, neither was there any record of product orders or requests. No one else in the City had any business dealings with Sign Company A or B.

We found shipping documents on Employee X's email relating to shipment of devices from the manufacturer to Company A. The address and phone number listed for Company A on the documents, were actually Employee X's home address and work cell phone number. This is inconsistent with the address listed for Company A on the incorporation records, the invoices and in the City's Vendor Master File.

Payments for invoices to both companies were recalled by the City on December 5, 2019; however, neither company has contacted the City for payment owed.

Neither company has a storefront or website. The addresses for both companies are residential addresses. We were unable to contact either company by phone. The owner of Company A contacted the investigation team after a site visit to the residential address.

Upon request, the owner of Sign Company A was unable to show that they owned some of the signage products for which they invoiced the City.



Improving Project Controls

Project oversight

Project managers in the Building Great Neighborhoods and Open Spaces Branch manage Neighbourhood Renewal projects. They ensure these projects are delivered on-time, are on-budget, and result in high-quality work. Project managers are monitored by program managers and supervisors.

Process weaknesses

There are a number of process weaknesses and opportunities for improvement related to oversight of Neighbourhood Renewal projects.

High-level budget variance analysis

The five Neighbourhood Renewal projects impacted by this invoicing scheme had budgets ranging from \$4.9 million to \$37 million. The total amounts invoiced to these projects by Sign Companies A and B ranged from \$75,000 to \$750,000. Although these are large amounts, they comprise a small percentage of the individual project budgets (0.36% to 6.33% of total project budget).

Additionally, invoices were coded to multiple account line items within a project. This makes detection more difficult.

Current budget variance analysis for Neighbourhood Renewal projects occur at too high of a level to have detected these relatively small, individual project charges.

High-level project monitoring

In addition to budget, project monitoring primarily focuses on timely project progression and quality of work. This false invoicing scheme had no impact on the project length or the quality of work.

Current project oversight by program managers or supervisors is not designed to be effective at detecting this type of scheme.

No independent verification

In 2016, the *Neighbourhood Renewal Program Audit* determined that there were good controls around contractor payments for construction work completed. The role of the City's on-site inspector included the task of monitoring and measuring the work completed by the contractor. The project manager reviews the documentation created by the inspector and then initiates payment to the contractor. This process means that there is little risk that the City will pay a contractor for work that was not completed.

However, this process only focuses on the work of the primary contractor. The inspector does not monitor and measure work completed by others (e.g., Traffic Operations, external street lighting contractors, etc.). As a result, an independent source did not verify delivery of temporary traffic control devices by either Sign Company A or B.



Improving Payment Controls

Cheque requisitions

Cheque requisitions are supposed to be used as a means of invoice payment in those cases where a purchase order is not required or available. These include legal claims, land sales, petty cash, one time suppliers, incidental and urgent payments, employee expenses, or grants. As there is no purchase order, invoices being paid by this method do not undergo a three-way match process to ensure that goods and services are delivered. When this payment method is used incorrectly, it exposes the City to financial risk, error, and fraud.

Process weaknesses

There are a number of process weaknesses and opportunities for improvement related to the use of cheque requisitions.

Branch-specific approval processes

Individual business areas are responsible for ensuring they are using cheque requisitions appropriately. However, IIS administrative staff for the Neighbourhood Renewal projects prepared cheque requisitions and forwarded them for payment once approved by Employee X. None of the staff identified issues with the invoices.

Error detection

Accounts Payable staff processing the cheque requisitions also did not detect the duplicate or split invoices.

Accounts Payable currently has no processes in place that monitor cheque requisitions for proper use, duplicates beyond same invoice number, invoice splitting, etc.

Segregation of Duties between expenditure authority and goods receipt

Cheque requisitions are subject to the same expenditure authorizations as the payment methods that have better controls and oversight.

Currently, project managers have the authority to initiate and approve cheque requisitions for up to \$500,000 without additional controls.

This expenditure authority was put in place with the procurement processes in mind. Payments within the purchase order stream have additional controls within the system (e.g. three-way match whereby the invoice is matched to the purchase order and to the receiving report) that the cheque requisition process does not.

Enhanced monitoring, authorization, and training

According to the City's Financial Administration and Control Directive (A1206), expenditure officers must not, in any circumstance, approve payments, where the expenditure officer is also responsible for receiving the goods or services.

There are currently no processes in place to monitor the segregation of duties between the expenditure authority and the person responsible for receiving the goods or services for payment made using cheque requisitions.

The management of the Building Great Neighbourhoods and Open Spaces Branch indicated that since the discovery of this invoicing scheme, they have been improving the controls over project oversight and the cheque requisition process.

Examples of some of the changes include:

- Ensuring all staff are using proper procurement processes and are aware of their accountabilities that fall under the City's Financial Administration & Control Directive.
- Mandating that all cheque requisitions are approved by section management to ensure segregation of duties and proper Expenditure Authority approvals.
- Additional oversight and approval of detailed project budget allocation and subsequent variance analysis of project expenditures to the allocated budget.

In addition, Accounts Payable management has also started implementing some changes including:

- Training expenditure officers throughout the organization on the proper use of cheque requisitions.
- Implementing better information systems for processes (such as the Procure-to-Pay process).
- Working to enhance data analytics to identify patterns in transactions.
- Establishing clear guidelines on appropriate use of cheque requisitions.



Resolution

Resignations

Employee A resigned from their employment at the City in January 2020.

Employee X resigned from their employment at the City in December 2019.

Police investigation

The Office of the City Auditor reported this theft to the Edmonton Police Service (EPS). EPS advised the Office of the City Auditor to first complete the City of Edmonton process to address employee misconduct, and then forward the investigation findings to EPS. We have kept EPS informed of the investigation progress.

On March 12, 2020, EPS informed us that they have opened a file and are investigating. We have provided our file to support the EPS investigation. We continue to work with the Detectives assigned to this case to support the criminal legal process.

Loss recovery

On December 5, 2019, the Office of the City Auditor requested an immediate stop payment on any outstanding invoices to Sign Company A. Accounts Payable was able to recall a payment of \$44,066.

On December 5, 2019, the Office of the City Auditor requested an immediate stop payment on all invoices from Sign Company B. In January 2020, we received confirmation that \$151,188 was returned to the City.

At this time, no other funds have been recovered.

Between 2015 and 2019, we estimate a total financial loss to the City of \$1.6 million.

The Office of the City Auditor also reported this theft to the Law Branch. The Law Branch has reported the theft to the City's Insurer under its Commercial Crime Insurance Policy. The City is currently working with its Insurer to explore options for fund recovery. The Office of the City Auditor continues to work with the Law Branch and the Insurer to support the civil legal process.



Recommendations

Recommendations

Approximately \$1.6 million was allegedly stolen from the City of Edmonton between 2015 and 2019. This was achieved through a false invoicing scheme that took advantage of control weakness in the City’s procurement and payment processes.

To reduce the risk of a similar false invoice scheme being successful, financial oversight and controls need to be strengthened in the Building Great Neighbourhoods and Open Spaces Branch in the Integrated Infrastructure Services Department (IIS).

Although this particular false invoice scheme impacted Neighbourhood Renewal projects, any area in the organization that uses the cheque requisition process without having strong controls and oversight is vulnerable.

The Office of the City Auditor is making two recommendations to address these issues.

Recommendation 1
Strengthen project oversight

Recommendation

Strengthen project oversight processes by:

- a. Increasing the controls related to the authorization of cheque requisitions.
- b. Verifying the delivery of all goods and services from external parties.
- c. Improving variance analysis between budget and actual costs.

Responsible party:
Branch Manager, Building Great Neighbourhoods and Open Spaces

Accepted by Management

Management Response

Administration accepts and agrees with all the suggested project oversight processes to strengthen as identified in Recommendation 1. Building Great Neighbourhoods and Open Spaces Branch has also moved forward with the following:

- Detailed review of all projects undertaken by the Building Great Neighbourhoods Delivery Business Unit over the past 5 years to scan for further discrepancies beyond those identified through the audit process and verified no more were found.
- The Business Unit Project Managers have been reminded to follow appropriate procurement standards and payment practices on projects.
- The Business Unit has implemented a requirement that all payments made via cheque requisition be approved by the Supervisor level (oversight for both Project Managers and Program Manager levels).
- The Integrated Infrastructure Services Department's Project Setup and Payment Support team (PS2) who process the cheque requisition forms to send to Accounts Payable has also ensured that their staff are also aware of these requirements. They will also be reviewing and flagging any cheque requisitions that appear to be an inappropriate method of payment (flags will include vendors that are currently in SAP or where multiple progress payments are made by the same vendor).

The Building Great Neighbourhoods and Open Spaces Branch is also actively progressing on integrating more project oversight as identified in the auditor findings.

In addition to the Neighbourhood Renewal area currently using independent verification to validate deliverables for the majority of the work completed through the prime contracts, this area is committed to ensuring the necessary due diligence is performed to validate third party external goods and services are received. Also, ongoing monitoring by Neighbourhood Renewal Business unit management (Supervisors and Program managers) to regularly review variances on projects at a more detailed level compared to the ongoing monthly overall project level reporting currently being monitored.

Recommendation 2

Review cheque requisitions



Implementation:

December 15, 2020

Recommendation

Review the corporate cheque requisition process:

- a. Determine if additional controls are required related to expenditure authority. Implement necessary controls.
- b. Clearly define the responsibilities of Accounts Payable and business areas for cheque requisitions including, but not limited to, the controls around receipt of goods and services.
- c. Implement regular monitoring of cheque requisitions for proper use and to identify issues with repeat expenditures, invoice splitting, and duplicate invoices.



Responsible party:

Deputy City Treasurer and Branch Manager Financial Services



Accepted by Management

Management Response

- a. The Branch Manager Financial Services will review the corporate cheque requisition process to determine if additional controls are required. The Branch will review the controls surrounding expenditure authority as well as any other required controls.

The Branch has implemented the following to address compliance with controls:

- Recently distributed a corporate wide communication reminding employees of the intended use of payment requisitions (non-purchase order).
- Payment requisitions that are not in accordance with the intended use of the payment stream will be returned to business areas.

- b. Branch will work to clearly define roles and responsibilities of Accounts Payable and the business areas for cheque requisitions and controls around receipt of goods and services.

The Branch has implemented and continues to monitor the following controls:

- All Senior Expenditure Officers, Expenditure Officers and Proxies including all Credit card statement approvers have been trained in accordance with the City's Expenditure Authority Framework guidance.
- To ensure segregation of duties, Expenditure Officers (EO) who are responsible for receiving the goods and/or services must not in any circumstances approve payments or in the commitment of funds.

The Branch is looking at enhancing detective and protective controls including the following:

- For non-purchase order transactions, proof of receipt of goods and/or services may be required.
- The number of individuals permitted to authorize non-purchase order transactions may be reduced.

- c. The Branch has identified the risks associated with non purchase order stream:

- Large volume of transactions
- Manual payment process by multiple staff
- Invoice splitting for transactions over a period of time
- Invoice is set up with purchase requisition reference number instead of invoice number

The Branch will implement the following to enhance identifying instances of non-compliance:

- Design reporting to monitor cheque requisitions for proper use and to identify issues with repeat expenditures, invoice

splitting, and duplicate invoices.

- Adopt a continuous-monitoring tool that reviews non purchase order transition trends, percentage of invoices paid to terms, nature and types of transactions being processed by payment requisition.
- Accounts Payable will review the analytics with the business areas on a regular basis.



Implementation:

September 30, 2020



Methodology & Guidance

Investigation objectives

Determine if a City employee had a financial interest in a sign rental company and therefore benefited personally from the rental of temporary traffic control devices to the City of Edmonton.

In relation to the reported allegation, assess if proper procurement and payment processes were followed when renting temporary traffic control devices.

Determine if the City of Edmonton received goods and services as per the invoices of two sign rental companies.

Investigation actions

The Office of the City Auditor led this investigation and retained responsibility for the reporting and disclosure of process and findings.

We partnered with Labour Relations and Corporate Security to complete the investigation objectives.

The following actions were taken in this investigation:

- Obtained, reviewed, and analyzed financial documents dating back to 2014, including cheque requisitions and invoices.
- Obtained, reviewed, and analyzed documentation related to Neighbourhood Renewal Program obtained from City systems, City staff, contractors and utility companies.
- Obtained, reviewed, and analyzed communication records of two employees, including e-mail, phone, and text messages.
- Conducted information gathering interviews with Employee A, Employee X, Owner of Company A and other City staff.
- Conducted site visits of vendor locations and Neighbourhood Renewal projects.
- Consulted with the Law Branch regarding any legal implications and procedures.
- Consulted with Insurance and Claims Management regarding any insurance implications and procedures.
- Consulted with Edmonton Police Service.

Procedural & professional guidance

This investigation was conducted in accordance with Administrative Procedure, Fraud Reporting & Investigation (A1464).

Administration Response - Project Audits

Recommendation

That the September 18, 2020, Integrated Infrastructure Services report CR_8342, be received for information.

Previous Council/Committee Action

At the July 6/8, 2020, City Council meeting, the following motion was passed:

That the June 25, 2020, Office of the City Auditor report CR_8363 and the June 25, 2020, Integrated Infrastructure Services report CR_8342 be made public subject to section 29 (information that is available for purchase or will be available to the public within 60 days) of the *Freedom of Information and Protection of Privacy Act* and pending notification from the City Solicitor and that the reports be scheduled at the September 18, 2020, Audit Committee meeting.

Executive Summary

Administration has worked with the Office of the City Auditor during this audit and accepts all of the auditor's recommendations. Work began to implement recommendations as soon as the auditor had completed the internal review in 2019. Further mitigations will continue in order to meet the recommended timelines on all items.

It is recommended this report remain private pursuant to section 20 (disclosure harmful to law enforcement) and section 25 (disclosure harmful to economic and other interests of a public body) of the *Freedom of Information and Protection of Privacy Act*. The disclosure of the reported information prior to civil legal steps being concluded could harm the City's economic interests and compromise legal proceedings.

Report

Administration accepts and agrees with Recommendations 1 and 2 of the Auditor's report.

Audit Recommendation 1 - Strengthen Project Oversight

Strengthen project oversight processes by:

- a. Increasing the controls related to the authorization of cheque requisitions.
- b. Verifying the delivery of all goods and services from external parties.
- c. Improving variance analysis between budget and actual costs

Administration Response: Recommendation 1a.

Administration accepts this recommendation and has revised the cheque requisition process for the Building Great Neighbourhoods and Open Spaces Branch as well as more broadly within the Integrated Infrastructure Services Department.

To ensure the process for approving cheque requisitions has proper controls in place, the Department implemented the following changes as of March 11, 2020:

Segregation of Duty - Ensure all cheque requisitions are approved with a minimum of two Expenditure Authority delegates: the requester and their supervisor, in accordance with the transaction limit they are authorized to approve under the City's Expenditure Accountability Framework.

Single Submission Stream - All cheque requisitions are submitted to Accounts Payable via a single approved channel within Administration. This ensures that all submissions are tracked, and mitigates the ability of business areas to use the cheque requisition process where it may not be appropriate.

Since implementing these changes, Administration has had approximately 30 payments authorized using the cheque requisition process. This accounts for less than 1 percent of all associated payments on a monthly basis with the majority being completed through purchase order payment processes.

For all non-cheque requisition payments, the process has been enhanced for financial transactions in 2019. Controls through this process include the following:

- Segregation of Duty - all purchase orders are approved with a minimum of two Expenditure Authority delegates: the requester and their supervisor, in accordance with the transaction value they are authorized to approve under the City's Expenditure Accountability Framework.
- Standardized Tracking of Payments - detailed tracking sheets were created for each project to improve oversight of financial transactions made against purchase orders to identify anomalies that would require additional review.

This process was documented and published within the Project Management Reference Guide site which is a centralized repository detailing processes and procedures that staff must follow. In-person training was also provided for approximately 150 employees.

In addition to the recommendations and controls outlined, a review of project transactions beyond the audit scope was conducted for all Building Great Neighbourhoods Infrastructure Delivery projects undertaken within the past five years. This review was intended to identify any potential transactions similar to those found as part of the audit findings. There were no such transactions found as part of this review.

Implementation Date: Completed

Administration Response: Recommendation 1b.

Administration accepts this recommendation of verifying the delivery of all goods and services from external parties. The majority of services provided within a project are performed by prime contractors and consultants where dual party verification is used to validate receipt and delivery of goods and services. Administration is committed to ensuring that the necessary due diligence is performed to validate the goods and services received from all providers, including other third party providers beyond prime contractors and consultants.

Where third parties are used to provide services to a project, more robust and standard goods receipt verification processes will be implemented to align with those mentioned above. This verification process will also be used to verify any goods or services provided internally by Administration.

Administration will also explore the opportunity of including more additional services as part of the prime contractor's responsibilities to allow for better oversight of deliverables and streamlined verification of goods and services on the projects.

Implementation Date: December 15, 2020

Administration Response: Recommendation 1c.

Administration accepts the recommendation to improve variance analysis and oversight between budget and actual costs. Administration is committed to reviewing current practices to ensure the oversight of the overall project budget variance monitoring is improved allowing for project budget issues to be identified and escalated appropriately.

Through the implementation of the Project Management Information System, Administration now has a more robust budget allocation process. The greater detail of information allows for more detailed variance analysis of costs within a project and supports project cost variances at a more granular level to flag any notable discrepancies between budgeted amounts and actual costs. Through this process, significant variances of budgeted amounts within a project will be more transparent,

allowing management to be made aware of these variances and more effectively allow for ongoing monitoring for these.

Implementation Date: December 15, 2020

Audit Recommendation 2 - Review Cheque Requisitions

Review the corporate cheque requisition process:

- a. Determine if the additional controls are required related to expenditure authority. Implement necessary controls.
- b. Clearly define the responsibilities of Accounts Payable and business areas for cheque requisitions including, but not limited to, the controls around receipt of goods and services.
- c. Implement regular monitoring of cheque requisitions for the proper use and to identify issues with repeat expenditures, invoice splitting, and duplicate invoices.

Administration Response: Recommendation 2a.

Administration accepts this recommendation and will review the corporate cheque requisition process to determine if additional controls are required. The controls surrounding expenditure authority as well as any other required controls will also be reviewed.

Administration has implemented the following to address compliance with controls:

- On March 11, 2020, distributed a corporate-wide communication reminding employees of the intended use of payment requisitions (non-purchase order).
- Payment requisitions that are not in accordance with the intended use of the payment stream will be returned to business areas.

Administration Response: Recommendation 2b.

Administration accepts this recommendation and will define the roles and responsibilities of the Accounts Payable process for cheque requisitions and controls around receipt of goods and services.

Administration has implemented and continues to monitor the following controls:

- All Senior Expenditure Officers, Expenditure Officers, and Proxies including all credit card statement approvers have been trained in accordance with the City's Expenditure Authority Framework guidance.
- To ensure segregation of duties, Expenditure Officers who are responsible for receiving the goods and/or services must not in any circumstances approve payments or in the commitment of funds.

Administration is looking at enhancing detective and protective controls, including the following:

- For non-purchase order transactions, proof of receipt of goods and/or services may be required.
- The number of individuals permitted to authorize non-purchase order transactions may be reduced.

Administration Response: Recommendation 2c.

Administration accepts this recommendation. Risks associated with the non-purchase order stream have been identified as follows:

- The large volume of transactions
- Manual payment processes involving multiple staff
- Potential invoice splitting for transactions over a period of time
- Invoices established with a purchase requisition reference number instead of an invoice number

The following will be implemented to enhance the identification of non-compliance instances:

- Reporting to monitor cheque requisitions for the proper use and to identify issues with repeat expenditures, invoice splitting, and duplicate invoices.
- Adoption of continuous-monitoring tools that reviews non-purchase order transaction trends, percentage of invoices paid to terms, nature, and types of transactions being processed by payment requisition.
- Review of analytics for compliance on a regular basis.

Implementation Date: September 30, 2020

Corporate Outcomes and Performance Management

Corporate Outcome(s): The City of Edmonton has a resilient financial position			
Outcome(s)	Measure(s)	Result(s)	Target(s)
The City of Edmonton has a Resilient Financial Position	City Asset Sustainability (actual expenditure on capital infrastructure divided by required expenditure)	0.94 (2017)	1.00 (2018)

Others Reviewing this Report

- B. Andriachuk, City Solicitor

Part 1 City Productivity and Performance Audit: Management Staffing Analysis

Recommendation

That the September 18, 2020, Office of the City Auditor report OCA00035, be received for information.

Executive Summary

This report presents the results of Part 1 of the City Productivity and Performance Audit: Management Staffing Analysis.

Report

In November 2019, the Audit Committee approved the *City Productivity and Performance Audit* as part of the Office of the City Auditor 2020 Annual Work Plan. The Audit Committee specifically requested that this audit include a review of management and staffing at the City.

The Office of the City Auditor has addressed this request in this stand-alone report.

Key findings discussed in this report include:

- The City of Edmonton workforce has increased by 232 FTE since 2017. Budgeted personnel costs have increased by approximately \$63 million due to wage increases and new FTE.
- Branch Manager, Director, Manager, Professional, and Union classification categories all increased in FTE.
- There are more supervisors per employee in 2020 than there were in 2017.
- There has been a shift in the organization to supervising smaller groups of employees. This is the result of adding more supervisors.
- The cost of supervisors per organization FTE has increased by approximately \$3,400 since 2017. This is primarily the result of adding more supervisors and increases in compensation for union supervisors and non-union supervisors not at the top of their salary range.
- The increased number of supervisors is reflected in both 'middle management' and front-line supervisor positions. Middle management increased by 22% and

front-line supervisor positions increased by 19%.

This report includes one recommendation to review supervisor responsibilities in the organization in order to reduce costs and layers of supervision. This recommendation was accepted by management.

Policy

Bylaw 16097, Audit Committee Bylaw, Section 14(d) states that, "Committee will review all reports from the City Auditor dealing with completed audit projects."

Public Engagement

Public engagement was not required for this report.

Attachment

1. Part 1 City Productivity and Performance Audit: Management Staffing Analysis Audit Report



City of Edmonton
Office of the City Auditor

Part 1
City Productivity and
Performance Audit:
Management Staffing Analysis

September 1, 2020



1200 Scotia Place, Tower 1
10060 Jasper Ave
Edmonton, AB T5J 3R8
780-496-8300
edmonton.ca/auditor

Report Purpose

This Management Staffing Analysis is intended to provide information and analysis about the City of Edmonton workforce, organizational structure, supervision and management.

This analysis fulfills one of the objectives of the City Productivity and Performance Audit. This report does not include the benchmarking and productivity components of the audit.

Methodology & Definitions

Personnel Counts

All personnel counts in this report are based on full-time equivalent positions (FTE) not headcount.

An FTE is based on the hours and associated costs that one full-time employee would work in a year, or a combination of positions that provide the same number of hours.

Active headcount reflects an individual employed by the City of Edmonton, regardless of their employment status (e.g. permanent, temporary, provisional, casual) that is not on an approved leave, at a specific point in time.

Example:



The average City of Edmonton FTE between 2017 and 2020 is 11,271, while the average headcount during that time is 11,902 - approximately 6% higher.

Budgeted Costs

All FTE and cost amounts identified are budgeted amounts, not actuals.

Vacant Positions

Positions that were budgeted, but were vacant are included in this report.

Data Point-In-Time

All analysis and information for the 2020 year reflects the workforce at the end of January. It does not reflect any temporary lay-offs or any other changes that may have occurred since that time.

Seasonal Workforce

The data reflects the workforce at a point-in-time at the end of January for each year. As a result the seasonal workforce is not included in the data.

Middle Management

The numbers we provide in this report related to 'middle management' will not match information previously provided to Council.

This report uses a different definition of 'middle management' than has been used in previous reporting by Administration. With the exception of senior management, we include any employee who supervises another supervisor as 'middle management'.

Data Reliability

There are multiple systems and applications within Employee Services and Financial and Corporate Services that capture FTE and position information. There is no regular automated or manual process to reconcile FTE information between the systems. As a result, position or FTE changes to Departments and Branches may not be properly reflected in all systems. This issue is expected to be addressed with the implementation of the Enterprise Commons Program.

In this report, we are relying on the FTE and position data provided by Employee Services and the budgeted cost information from Financial and Corporate Services. The budgeted cost information provided for specific positions and groups - such as supervisors - may be low due to approximately 5% of the organization's personnel budget each year that is not allocated to individual positions in the data.

Statement of Professional Practice

This project was conducted in accordance with the International Standards for the Professional Practice of Internal Auditing

Report Highlights

Conclusion

The increase in supervisory positions since 2017 has increased costs and increased the hierarchy in the organization.

1. Workforce Growth

Since 2017, the workforce has increased by 232 FTE. Budgeted personnel costs have increased by approximately \$63 million due to wage increases and new FTE.

2. Changes to Classification Categories

Branch Manager, Director, Manager, Professional, and Union classification categories increased in FTE.

3. Staff to Supervision Ratios

In this analysis, a supervisor is any position that has at least one employee reporting to it- regardless of classification, job title, or position in the organization hierarchy. Using this definition, there are more supervisors per employee in 2020 than there were in 2017.

4. Supervision Span of Control

There has been a shift in the organization to supervising smaller groups of employees. This is the result of adding more supervisors.

5. Cost of Supervisors

The cost of supervisors per organization FTE has increased by approximately \$3,400 since 2017. This is primarily the result of adding more supervisors and increases in compensation for union supervisors and non-union supervisors not at the top of their salary range.

6. Middle Management & Front-Line Supervisors

The increased number of supervisors is reflected in both 'middle management' and front-line supervisor positions. Middle management¹ increased by 22% and front-line supervisor positions increased by 19%.

Recommendation & Potential Cost Savings

We recommend Administration review supervisor responsibilities in the organization in order to reduce costs and layers of supervision.

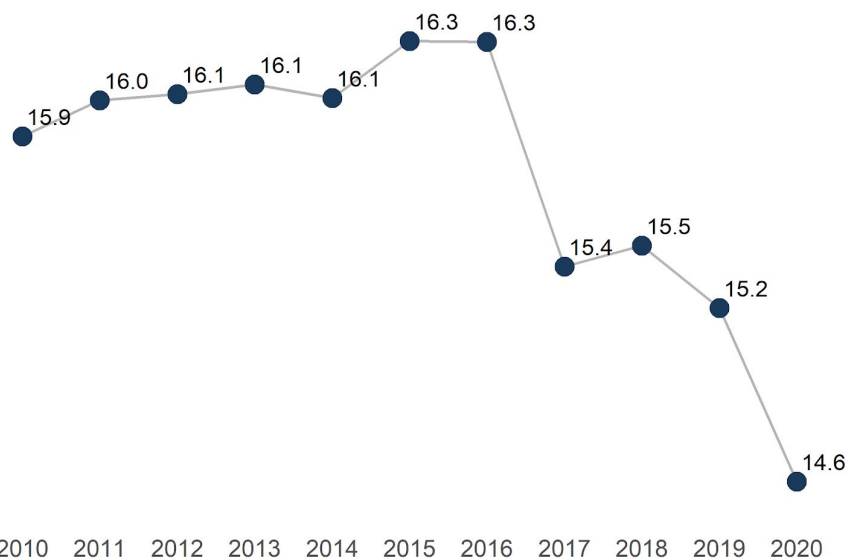
¹ Middle Management includes all managers and supervisors in the organization except the City Manager, Deputy City Managers and Branch Managers that supervise; and Front-line supervisors

Population and City Organization Growth

Comparing the growth of the population of the City of Edmonton to the growth in City workforce*.

Since 2010, the population of the City of Edmonton has grown at a faster rate than the City of Edmonton workforce.

City of Edmonton FTE per Thousand City of Edmonton Residents



*Includes Boards & Commissions, Offices of the Mayor and Councillors, Edmonton Police Service, Edmonton Public Library, and Office of the City Auditor

Analysis:

From 2010 to 2014, the City of Edmonton workforce grew consistently with the population of the City of Edmonton.

In 2015 and 2016, the number of workforce FTE peaked, then sharply declined between 2016 and 2017 as a result of organizational restructuring.

Since 2016, the growth of the City of Edmonton population has outpaced the growth of organization FTE and the number of FTE per 1000 City of Edmonton residents has declined.

Additional Information:

The primary way that new FTE are added is through Council approval of Service Packages during the budget process.

Service packages add FTE and cost for new priorities - such as enhanced security on Transit - as well as to address operating impacts of capital - such as when new fire stations or recreation centres open.

Council approved 88 Service Packages between 2017 and 2020 through the budget process including:

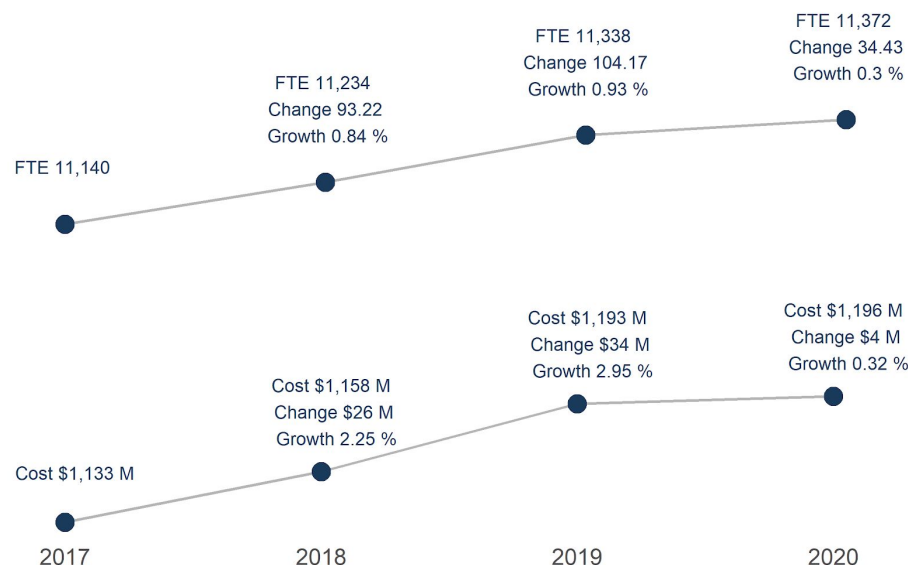
- Fleet & Facility Services Operating Impacts of Capital
- Transit Security
- Development Services Customer Services
- Community & Recreation Facilities Operating Impacts of Capital
- Fire Rescue Services Operating Impacts of Capital
- Edmonton Transit Heritage Valley Park & Ride
- Parks & Roads Services Operating Impacts of Capital

1. Workforce Growth

Workforce growth refers to the increase in full-time equivalent positions in Departments² and the associated personnel budget at the City of Edmonton over a given period of time.

Between 2017 and 2020, 232 full-time equivalent positions (FTE) were added to the City's workforce in Departments. Budgeted personnel costs have increased by approximately \$63 million - \$19 million of which was due to this new growth.

Year over Year FTE and Personnel Cost Change for City of Edmonton



Analysis:

Between 2017 and 2020, 232 FTE were added to the workforce. Approximately \$19 million of the \$63 million increase to budgeted personnel costs is the result of adding new FTE. The primary way these were added was through the approval of service packages in the budget approval process.

Overall, the workforce has grown by 2% and the cost of the workforce has grown by 5.6%. The higher rate of cost growth is primarily due to three factors:

1. A shift to higher-cost positions,
2. Negotiated wage increases for unionized employees who comprise 86% to 88% of the workforce, and
3. Increases for employees who were not at the top of their salary range.

Management, out-of-scope, and professional positions have not had increases to salary ranges since 2016.

Additional Information:

Four year budget cycles outline the operating and capital priorities and projects, service level adjustments and approximate corresponding tax levy changes for each of the four years. Twice per year (spring and fall) the administration presents Supplementary Operating and Capital Budget Adjustments to council. FTE changes that have a corresponding tax levy increase are outlined in service packages and an overall tax change is approved by council. They do not approve individual FTE increases; only a corresponding tax levy increase. FTE can be added to the organization upon approval of the City Manager if funding is available.

Of the total increase of \$63 million, \$19 million is due to the increase of 232 FTE. The remaining \$44 million in personnel cost increases were the result of implementing the salary and benefit increases negotiated through the bargaining process and ratified by City Council.

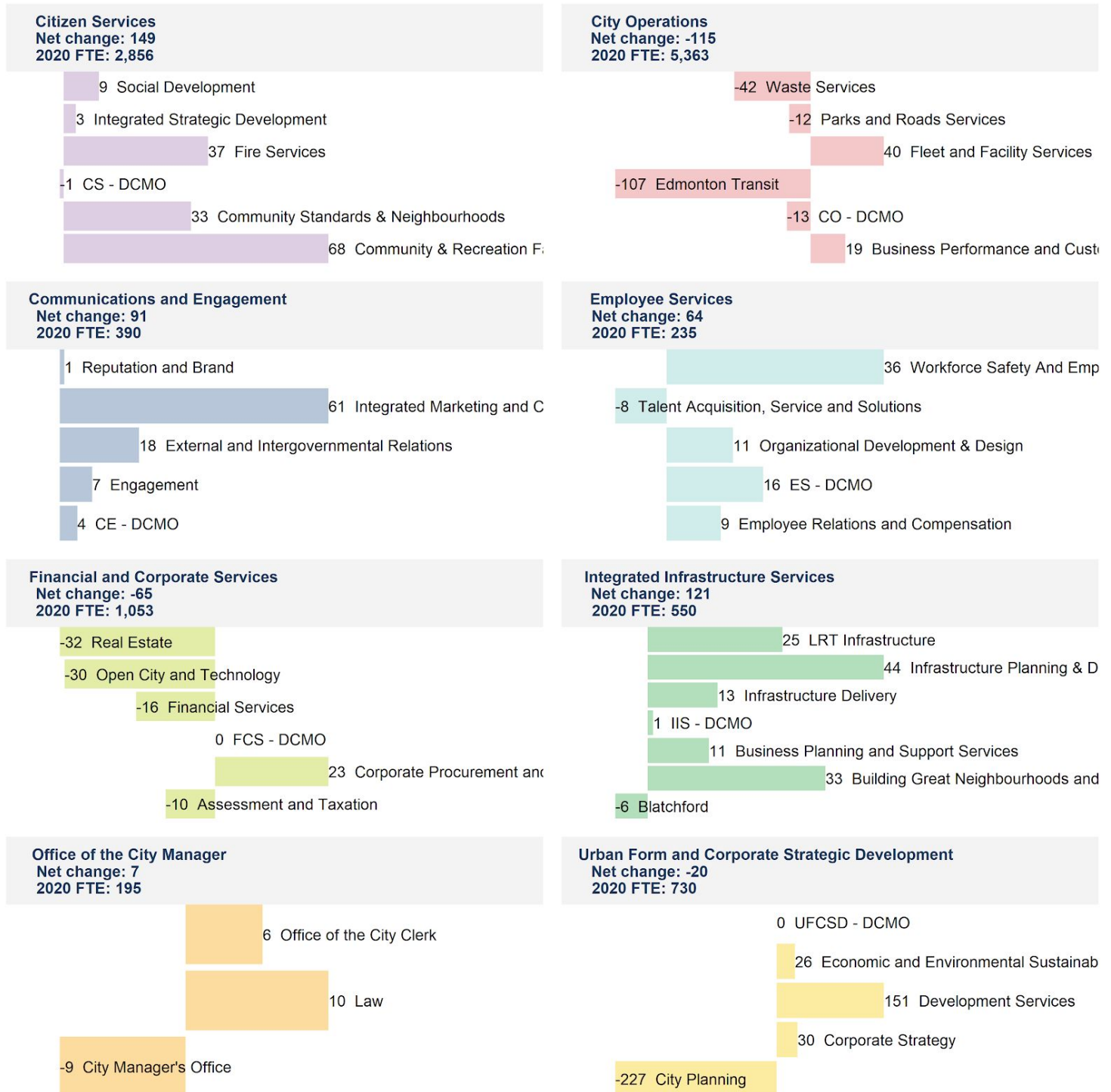
Vacancies:

In 2017, 9%, or 850 budgeted FTE were vacant. In 2020, this increased to 11% or 1,006 vacant budgeted FTE. Because vacant FTE were budgeted, they have been included in the report analyses. This FTE includes both permanent and temporary positions.

² Excludes Boards & Commissions, Offices of the Mayor and Councillors, Edmonton Police Service, Edmonton Public Library, and Office of the City Auditor

1a. FTE Change by Department

Between 2017 and 2020, additions and reductions to the workforce occurred throughout the City. The majority of branches added FTE, while some reduced or transferred FTE.



2. Changes to Classification Categories

There are eight classification categories in the City. These classification categories correspond to authority, compensation, responsibility and other aspects of each position.

**FTE were added for most classification categories.
The largest percentage increase was to FTE classified as Managers.**

FTE Changes to Classification Categories

Classification Category	2017	2020	Change	% Change
City Manager	1	1	0	0%
Deputy City Manager	7	7	0	0%
Branch Manager	35	39	↑ 4	11%
Director	130	131	↑ 1	1%
Manager	303	373	↑ 70	23%
Professional	744	847	↑ 103	14%
Out of Scope*	165	106	↓ -59	-36%
Union	9,755	9,868	↑ 114	1%

*Out of Scope positions hold a union classification but meet one of the exclusionary criteria to make them out of scope of the union.

Analysis:

The job expectations for each classification category is different and so is the expected cost. As a result, an FTE in one classification category does not cost the same as an FTE in another classification category. For example, it is more expensive to add a Branch Manager than a Director.

Because of the cost differences between the classification categories, between 2017 and 2020, the increase of FTE in Branch Managers, Directors, Managers, and Professionals had a greater impact on overall organization personnel costs than the addition of Union FTE and any reductions resulting from the decrease in Out of Scope FTE.

In 2019, the Administration approved and began implementation of the Organizational Design Framework. This framework provides guidance to support consistency of classification categories within the organization hierarchy and structure.

Additional Information:

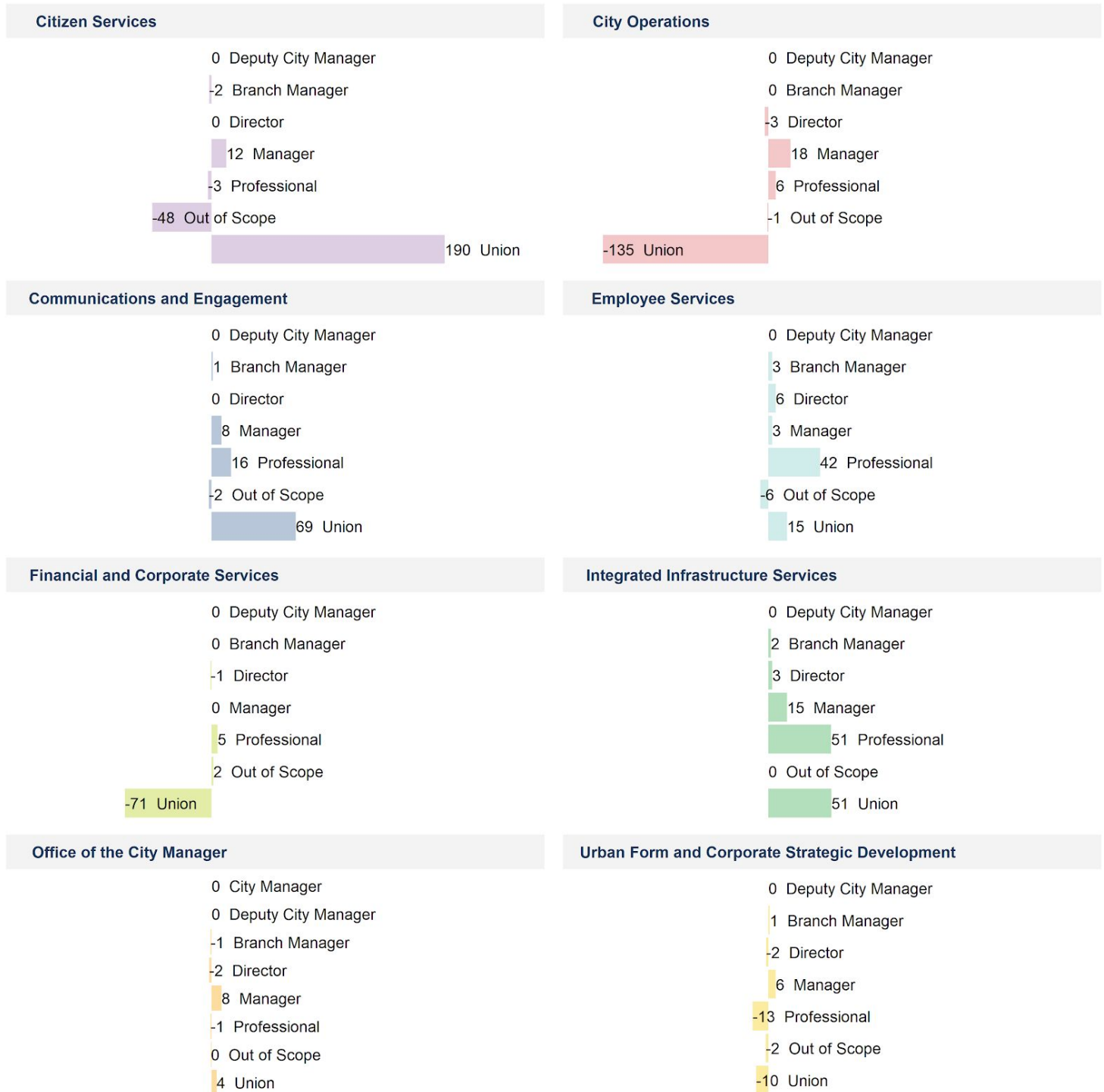
In 2020, there was:

- 1 Branch Manager,
 - 6 Directors, and
 - 29 Managers
- that did not supervise any staff.

Of the 36 FTE, 18 were vacant.

2a. Changes to Classification Categories by Department

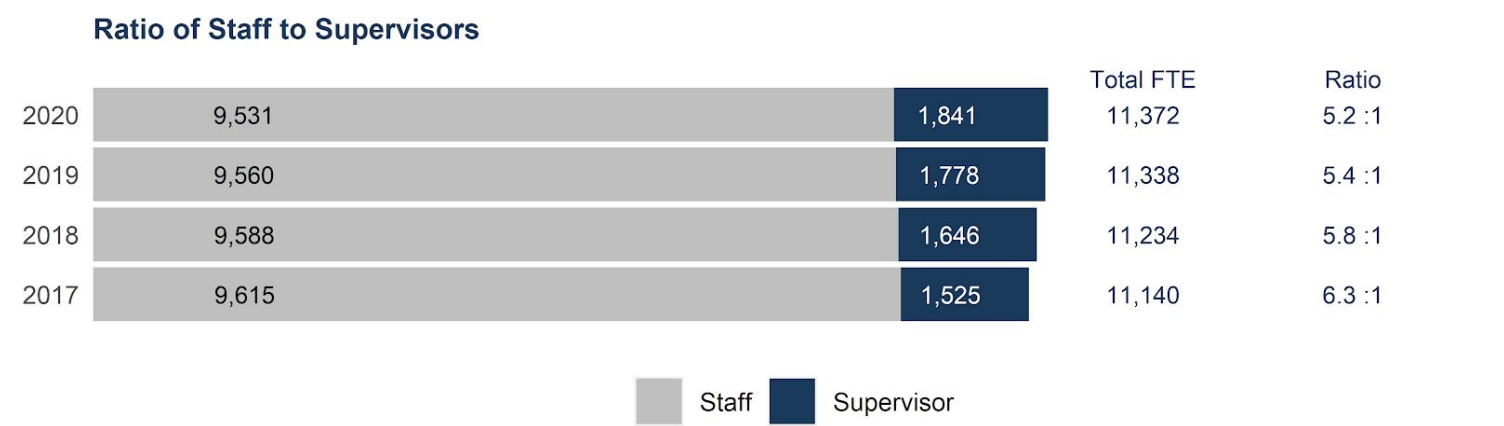
Between 2017 and 2020, departments have increased and decreased FTE in various classification categories.



3. Staff to Supervisor Ratios

In this report ‘supervisor’ is defined as any position that has at least one employee reporting to it and includes all classifications if they meet this criterion.

The ratio of staff to supervisors has declined since 2017.



Analysis:

It is important for the organization to have the right amount of supervisors. When there are too few supervisors, it can be difficult to properly manage staff and workload. This can negatively impact the quality of work. When there are too many supervisors, this can unnecessarily raise overall personnel costs and create bureaucracy for decision-making.

The City has added supervisors at a higher rate than staff. While non-supervisory staff declined by 1% between 2017 and 2020, supervisors increased by 21%.

In 2017, there were six non-supervising staff for every supervisor in the organization. By 2020, this had decreased to five non-supervising staff per supervisor.

The City’s workforce fluctuates with the seasons. This can impact the seasonal staff to supervisor ratio.

Additional Information:

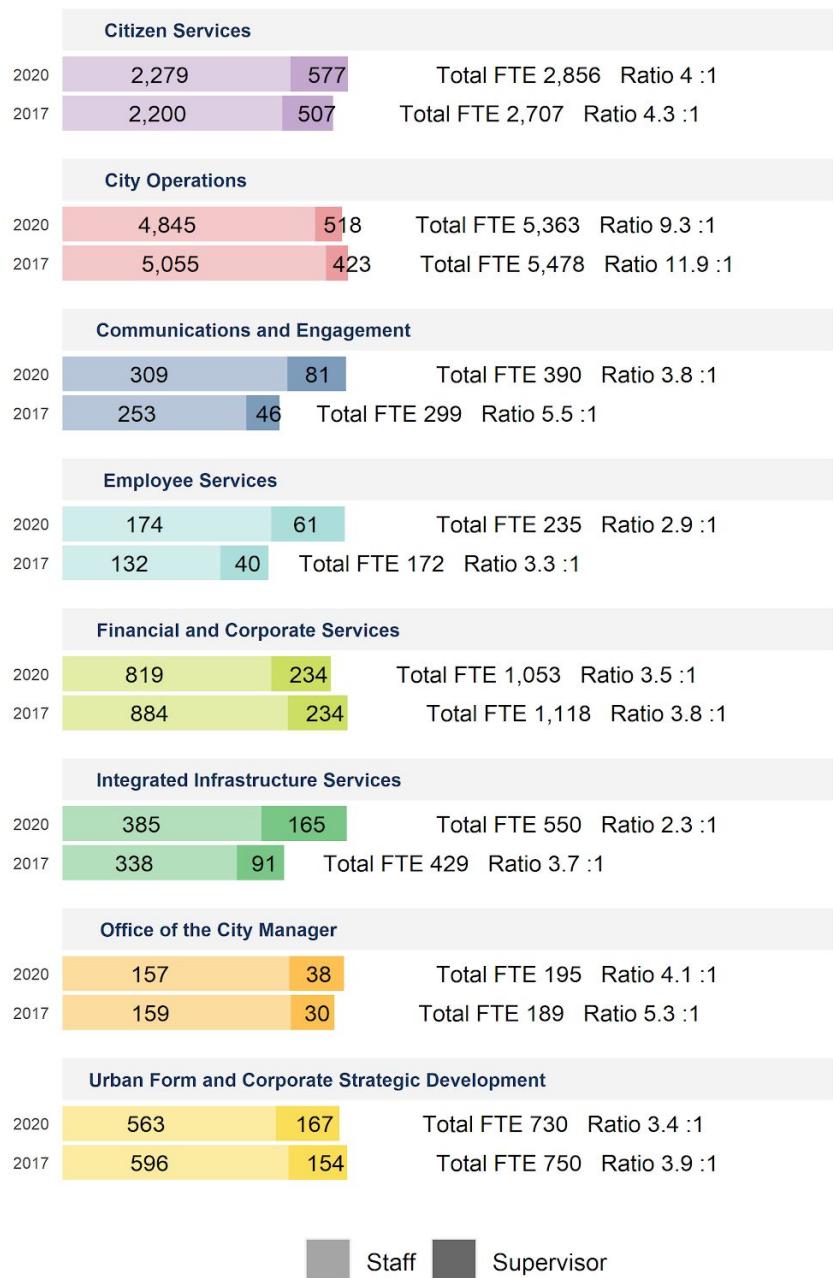
In this report, we consider a supervisor to be any employee who has at least one employee reporting to them within the organization structure. This allows us to provide a baseline analysis of organization hierarchy and reporting relationships.

However, there is considerable variation in supervisor responsibilities based on the type of work being done and the number of employees being supervised that is not reflected in our definition of a ‘supervisor’.

Administration defines a ‘supervisor’ differently in their reporting to address supervisor responsibilities as opposed to structure and reporting relationships.

3a. Department Staff to Supervisor Ratios

Departments are responsible for different types and complexity of work and have different supervisory requirements. These factors influence the different staff to supervisor ratios in each Department.



Key Changes:

Citizen Services has added 70 supervisors and 79 staff.

City Operations has added 95 supervisors and reduced by 210 staff.

Communications and Engagement has added 35 supervisors and 56 staff.

Employee Services has added 21 supervisors and 42 staff.

Financial and Corporate Services has added no supervisors and reduced by 65 staff.

Integrated Infrastructure Services has added 74 supervisors and 47 staff.

The Office of the City Manager has added 8 supervisors and reduced 2 staff.

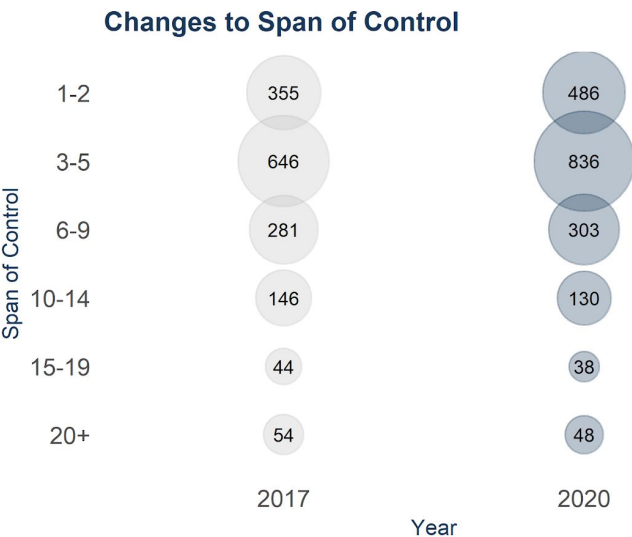
Urban Form and Corporate Strategic Services has added 13 supervisors and reduced 33 staff.

Note: Some departments have large seasonal workforces. In these instances a small FTE may actually represent a large number of employees who work for the City for a few months.

4. Supervision Span of Control

The span of control refers to the number of employees reporting to a supervisor. At the City this is also referred to as the “span of care”.

Between 2017 and 2020, there was a shift in the organization from supervising larger groups of employees to smaller ones.



Analysis:

The span of control depends on many factors including the type and complexity of the work being done as well as the size of the business unit. There is no universal ‘ideal’ span of control.

A natural result of increasing the number of supervisors per staff, is a decrease in the number of employees reporting to each supervisor.

Between 2017 and 2020, there was a shift towards supervising smaller groups of employees. There were fewer supervisors in charge of groups of 10 employees or more, and more supervisors in charge of groups of less than 10 employees.

There was particular growth in the number of supervisors who were in charge of five or fewer employees. Depending upon factors such as those identified in the City’s Span of Care calculator tool and the size of the business unit, there is an opportunity to optimize the supervision structure.

This analysis uses FTE - not headcount and does not include the seasonal workforce or the supervision of contractors. For areas with larger part-time or seasonal workforces or a large number of contractors, this may skew results to show smaller spans of control.

Additional Information:

Between 2017 and 2020, the number of supervisors in charge of 10 or more employees decreased by 11%.

In contrast, supervisors in charge of 3-5 employees increased 29% and supervisors in charge of 1 or 2 employees increased by 37%.

Because supervisors typically cost more than staff, this shift to more supervisors in charge of smaller groups of employees has budget implications.

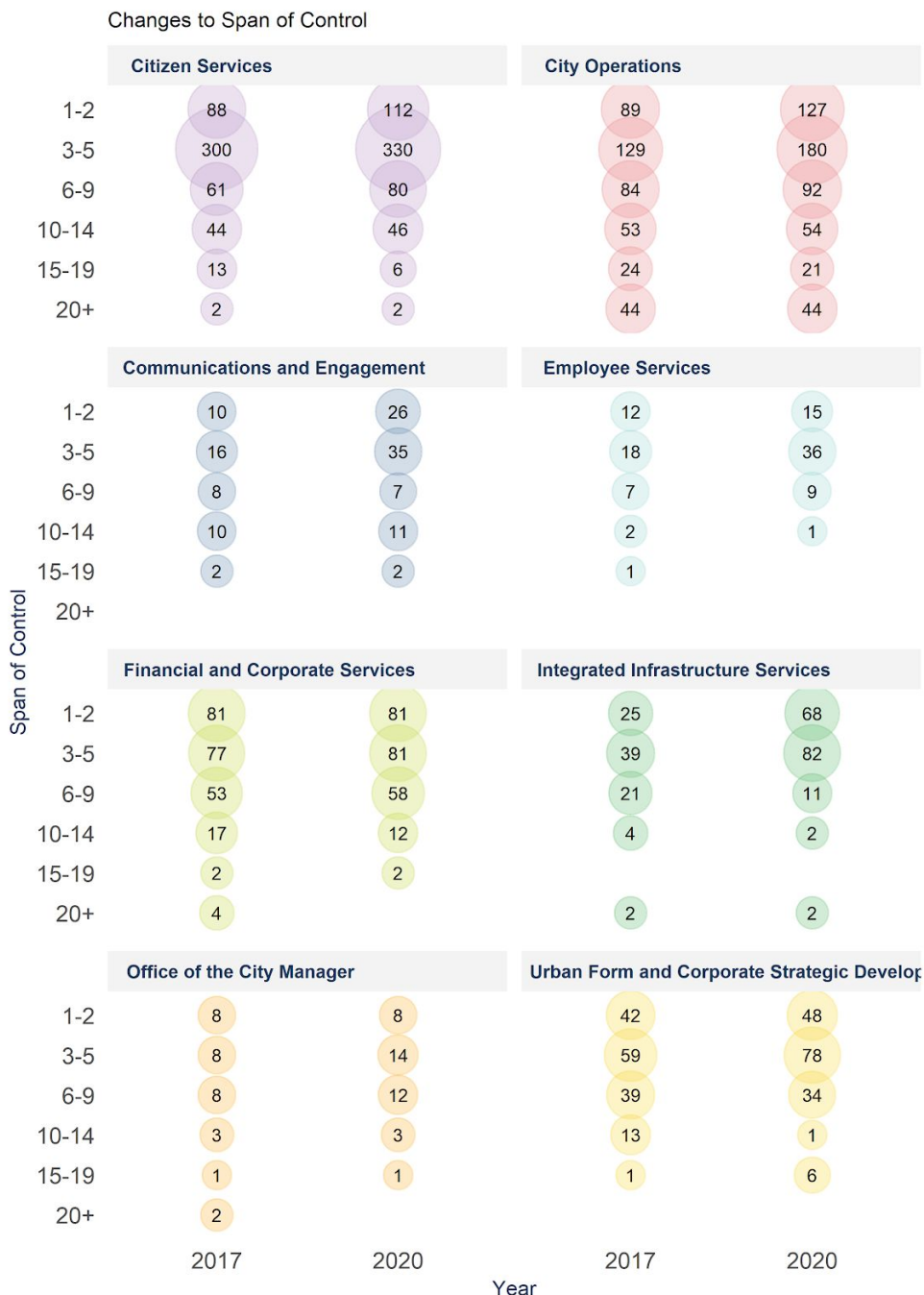
The Organizational Design Framework includes a Span of Care calculator tool. This tool provides guidance on determining an appropriate number of employees for a supervisor. It considers:

- The diversity of functions overseen
- The knowledge and specialization required
- Geographic location of employees overseen
- If there are structured guidelines or policies to guide the work
- The percentage of the positions dedicated to supervision
- If there are internal and external relationships to manage

Total team size is also a factor when determining an appropriate span of control.

4a. Department Span of Control

Most departments have seen a shift towards supervising smaller groups of employees.



Key Changes:

Citizen Services has shifted slightly towards supervising smaller groups.

City Operations has increased smaller supervised group sizes, but not consistently reduced large groups.

Communications and Engagement has increased small group supervision, but has not significantly changed larger groups.

Employee Services has shifted towards supervising smaller groups.

Financial and Corporate Services has shifted from larger groups to mid-sized groups. They have not added any additional groups of 1-2.

Integrated Infrastructure Services has shifted from mid-sized groups to smaller groups with a large increase in supervision groups of 1-2 employees.

The Office of the City Manager has removed supervised groups of over 20 FTE, and added more mid-sized groups.

Urban Form and Strategic Development has shifted to supervising smaller groups.

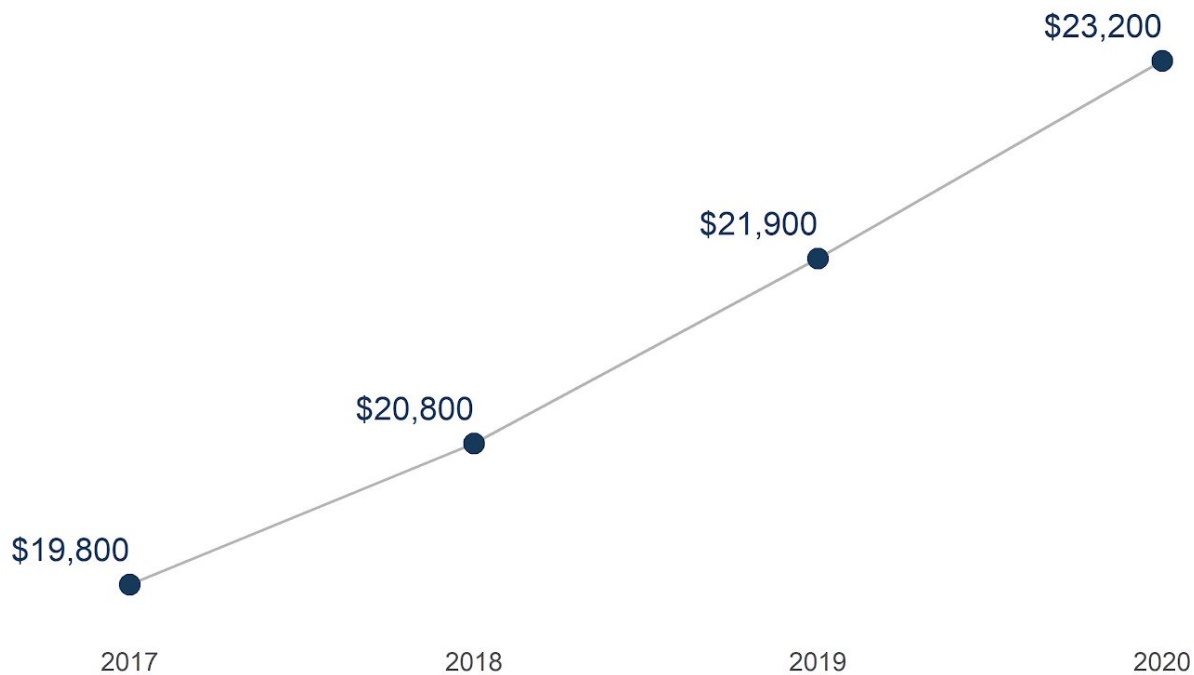
Note: Spans of control may be higher or lower depending on the time of year for departments with a large seasonal workforce.

5. Cost of Supervisors

The total budgeted cost of supervisors per organization FTE provides a cost perspective on changes to the number of organization supervisors and changes to supervisor compensation. Both of these factors influence this measure.

In 2017, the approximate cost of supervisors per organization FTE was \$19,800. By 2020, this had increased to \$23,200.

Cost of Supervisors per FTE



*Cost of supervisors = Budgeted cost of all employees who supervise / Organization FTE

Analysis:

This measure provides a valuable cost perspective by demonstrating the combined impact of adding more supervisor FTE and compensation increases for supervisors.

The increase to the cost of supervisors at the City between 2017 and 2020 is primarily due to an increase in the number of supervisors in higher compensated roles, and increases in compensation for union supervisors and non-union supervisors not at the top of their salary range.

The organization's shift to smaller spans of control is also reflected in the cost of supervisors per FTE. When the cost of a supervisor is not spread out over a large group of employees, the cost of supervisors per FTE increases.

5a. Department Cost of Supervisors per FTE

Identifying differences in the cost of supervisors per FTE between departments and organizational structures may help identify opportunities for efficiencies.



Key Changes:

Citizen Services cost of supervisors per FTE has increased 9%.

City Operations cost of supervisors per FTE has increased 18%.

Communications and Engagement cost of supervisors per FTE has increased 32%.

Employee Services cost of supervisors per FTE has increased 17%.

Financial and Corporate Services cost of supervisors per FTE has increased 6%.

Integrated Infrastructure Services cost of supervisors per FTE has increased 40%.

The Office of the City Manager cost of supervisors per FTE has increased 21%.

Urban Form and Corporate Strategic Services cost of supervisors per FTE has increased 11%.

6. Middle Management and Front-Line Supervision

In this report we have included all employees that supervise at least one other supervisor as “Middle Management” - with the exception of senior managers.

The overall increase in supervisors in the organization is reflected in an increase of 106 middle management positions and 197 front-line supervisor positions.

Change to Middle Management

	2017	2020	Change	% Change
Middle Management	483.8	589.4	↑ 105.6	21.8%

Change to Front-Line Supervisors

	2017	2020	Change	% Change
Front-Line Supervisors	1,044.7	1,241.7	↑ 197.0	18.9%

Analysis:

The term ‘middle management’ tends to be used by the public to negatively describe positions in an organization that do not provide front-line services. However, all large hierarchical organizations have these roles in order to distribute work and have a functional chain-of-command.

It is important to have a right-sized middle management. Inadequate or excessive middle management roles can limit the effectiveness and efficiency of the organization by delaying decisions or providing insufficient supervision of employees.

Because all organizations are structured differently, have different lines of business, and are different sizes, there is no consistent benchmark for the size of middle management.

From 2017 to 2020, middle management positions increased from 4% of the workforce to 5% of the workforce. Front-line supervisor positions increased from 9% of the workforce to 11%.

In 2020, 69% of front-line supervisors and 20% of middle managers were union employees.

Additional Information:

Middle Management includes all employees that supervise another supervisor except senior management including the City Manager, Deputy City Managers and Branch Managers that supervise.³

Front-Line Supervisors consist of employees who only supervise front-line staff.

If employees supervise both front-line staff and other supervisors, they are included as middle management.

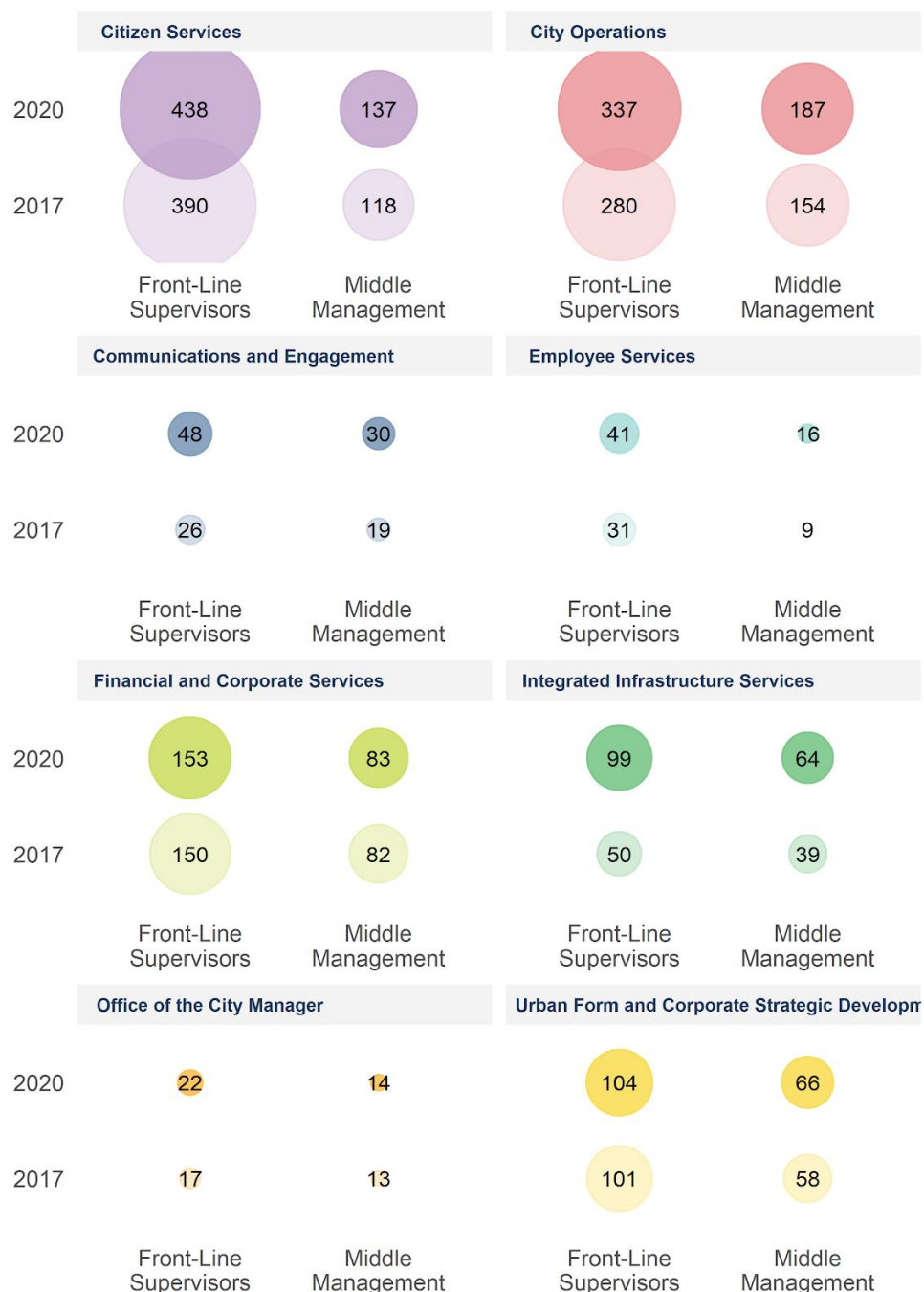
In this report we have defined ‘middle management’ to reflect a position within the organization structure. This allows us to provide a baseline analysis of organization hierarchy and reporting relationships. Our definition does not incorporate any job responsibilities.

Administration uses a different definition of ‘middle management’ to reflect management responsibilities rather than position within the organization structure.

³ In 2020, there were 36 employees classified as Branch Managers, Directors, and Managers that did not supervise any employees. They have been included in ‘middle management’.

6a. Department Middle Management and Front-Line Supervisors

Middle management and front-line supervisors increased in all departments.



Additional Information:

In 2020, **Citizen Services** middle management comprises 5% of their workforce. Front-line supervisors comprise 15% of their workforce.

In 2020, **City Operations** middle management comprises 3% of their workforce. Front-line supervisors comprise 6% of their workforce.

In 2020, **Communications and Engagement** middle management comprises 7% of their workforce. Front-line supervisors comprise 12% of their workforce.

In 2020, **Employee Services** middle management comprises 6% of their workforce. Front-line supervisors comprise 17% of their workforce.

In 2020, **Financial and Corporate Services** middle management comprises 8% of their workforce. Front-line supervisors comprise 15% of their workforce.

In 2020, **Integrated Infrastructure Services** middle management comprises 11% of their workforce. Front-line supervisors comprise 18% of their workforce.

In 2020, **The Office of the City Manager** middle management comprises 7% of their workforce. Front-line supervisors comprise 11% of their workforce.

In 2020, **Urban Form and Strategic Development** middle management comprise 9% of their workforce. Front-line supervisors comprise 14% of their workforce.

Conclusion

Conclusion

The City must reduce its costs in order to remain sustainable in the current economic environment.

Since 2017, the workforce has grown each year and supervisory FTE have grown disproportionately high compared to non-supervisory FTE. Reversing this growth by reducing supervisory FTE is an effective way to reduce costs for the organization.

Administration has developed the Organizational Design Framework including the Span of Care calculator tool that can inform and support decisions related to reductions of supervisory FTE. Work done by the Program and Service Review as well as various other projects related to organizational design that are underway can also inform decisions related to optimization of staffing.

We would like to thank the staff in Employee Services and Financial and Corporate Services for their assistance in this audit. Their knowledge of the data and the organization was very much appreciated.

Cost Saving Scenarios

Potential Cost Savings

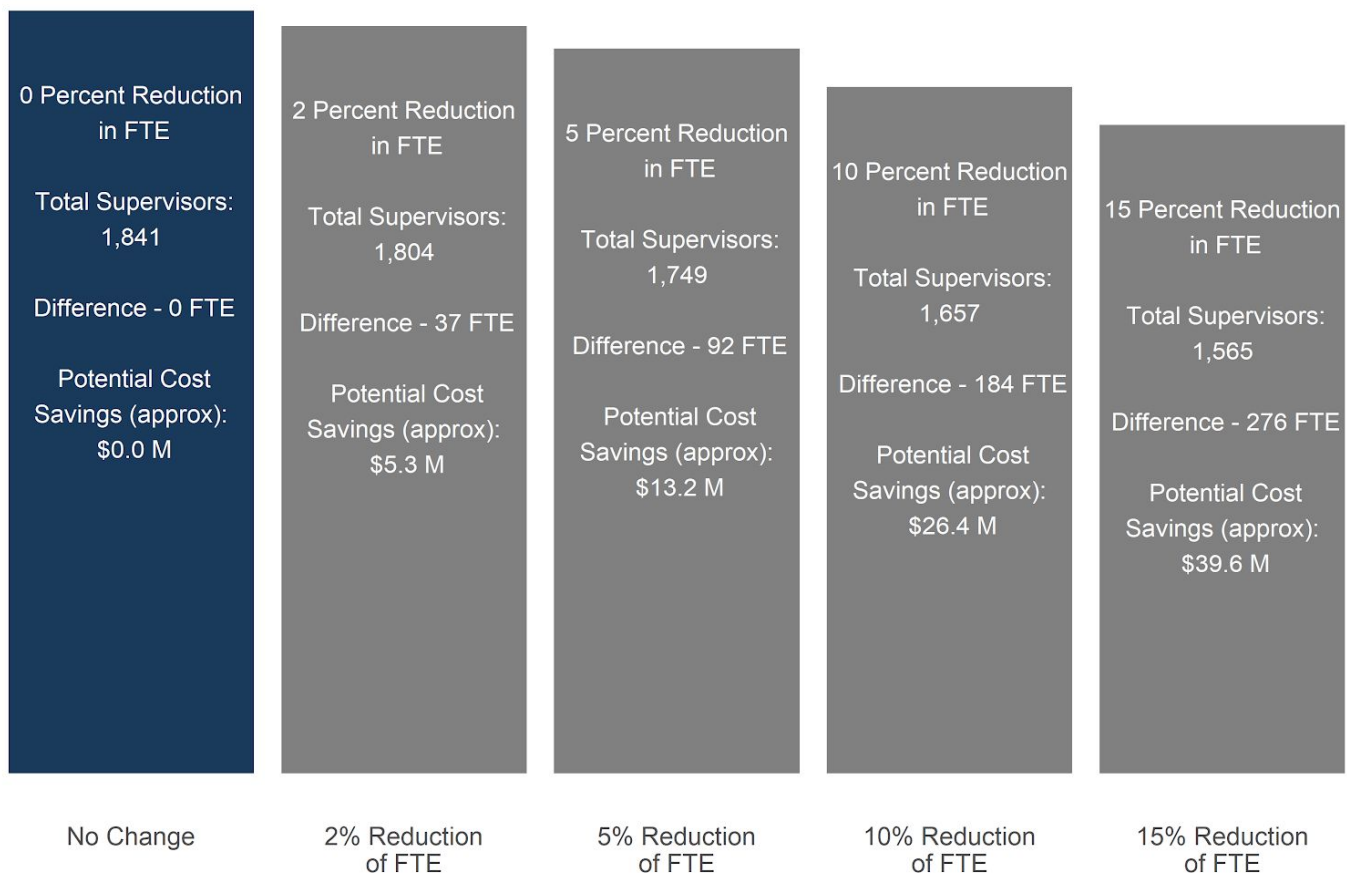
Reducing costs will be critical to ensuring the sustainability of the City of Edmonton organization.

The elimination of supervisor FTE would result in cost savings for the organization. By applying the tools and frameworks the City has already developed, the Administration can identify specific supervisory FTE with duties that can be reassigned or eliminated.

To estimate the potential scope of cost savings associated with supervisory FTE reductions, we have modeled reductions in supervisory FTE from 0% no change, up to to 15% reductions.

Reduction of Supervisor FTE

In 2020, there were 1,841 supervisor FTE in the organization with an approximate average budget of \$143,400 per supervisor FTE.



Recommendation

Recommendation

Review supervisor responsibilities

Recommendation

We recommend Administration review supervisor responsibilities in the organization in order to reduce costs and layers of supervision.



Responsible Party

Deputy City Manager, Employee Services



Accepted by Management

Management Response

The Organizational Design Framework outlines the number of layers allowed in the organization as a maximum of seven, from City Manager to front-line employee. Of those seven layers, a maximum of five should be management. Any variations from this must be approved by the City Manager. This will help to increase agility, better manage costs, improve the employee experience and clarify responsibilities.

Administration is exploring more effective and efficient solutions and technologies that will modernize the City's job classification system within the Modernizing the Workforce initiative. The desired outcome is to implement a comprehensive classification structure/hierarchy for all jobs within the City which will attract talent, provide flexibility and fluidity to respond and adapt to an ever changing workforce, and more clearly identify the appropriate salary and benefits of jobs.

As the City recovers from COVID-19, the City of Edmonton has also launched Reimagine the Future, which will require thoughtful consideration related to the programs and services Administration will be able to provide and the supportive workforce resources required.



Implementation Date

March 31, 2022

Implementation of the Organizational Design Framework was approved in November 2019 and has been utilized for any reorganizations that began since then. The Reimagine the Future work is underway and will continue into 2021. Administration is exploring a modern job classification system and, pending further approval, it is projected to be fully implemented in 2023.



Audit Committee

Edmonton

**Administrative Response to
Office of the City Auditor - City
Productivity and Performance
Audit**

Management and Staffing Analysis

September 18, 2020

A Modern Municipal Corporation

- Responsive to citizen needs
- Anchored in Edmonton's vision and strategic plan
- Fiscally responsible
- Structured for success

City's Response to Performance and Productivity Audit Report Findings

- Ensuring our workforce is the right size and composition to effectively serve Edmontonians
- Enhanced services and service delivery
- Responding to growth and complexities of a large City

Thorough Review of our Workforce

- Reviewing and managing position vacancies
- Developing and implementing an Organizational Framework
- Identifying cost reductions and service delivery improvements

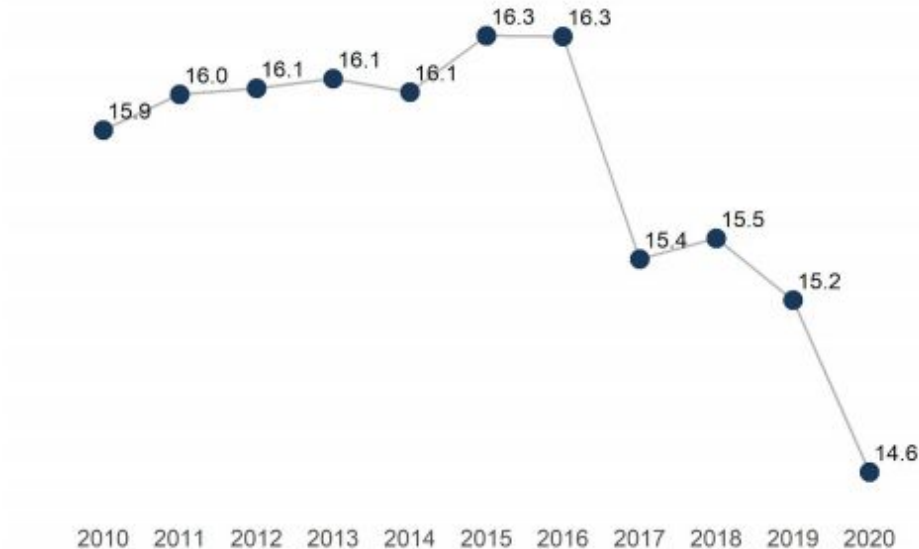
Current Imperative

**Need for agility in
a rapidly changing
world**

- Reassessing our workforce, structure, planning processes, budgets and programs
- Prepared to recommend bold solutions and actions

A complex organization and a growing City

City of Edmonton FTE per Thousand City of Edmonton Residents

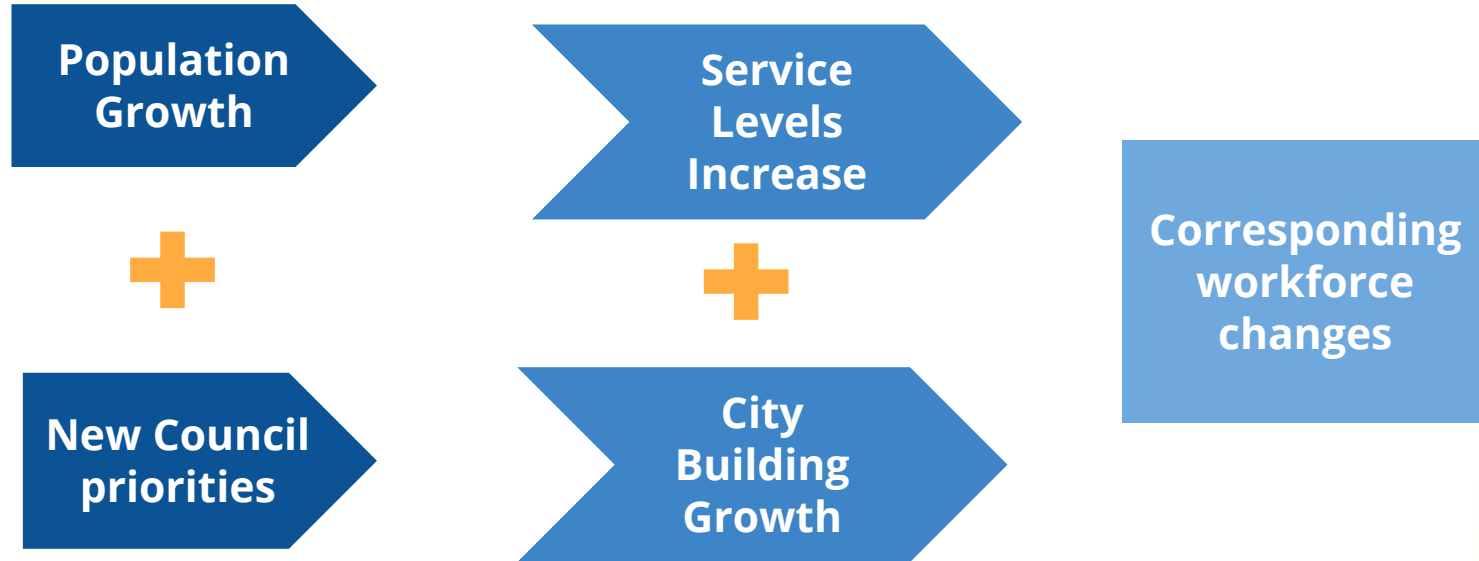


*Includes Boards & Commissions, Offices of the Mayor and Councillors, Edmonton Police Service, Edmonton Public Library, and Office of the City Auditor

73 distinct services,
comprising
approximately 180
sub-services

From Page 4 of the Office of the City Auditor City Productivity and Performance Audit:
Management Staffing Analysis

Growth to support Council priorities



Defining Supervisors

	Office of the City Auditor	City of Edmonton
Front Line Supervisor	Employees who only supervise front-line employees. This includes out of scope and in scope employees.	Employees who spend more than half of their time leading and supervising employees that report directly to them. This includes out of scope and in scope employees.
Middle Manager	All employees in the organization who supervise another supervisor, except the City Manager, Deputy City Manager and Branch Managers that supervise. This includes out of scope and in scope employees. It also includes employees who supervise front-line staff and other supervisors.	This term is not used. It does not align with the current classification structure nor the leadership framework.

Our Focus on Leadership Competencies

		Unionized	Non Unionized	Total
9,531	Leaders of Service Employees	8,843	688	9,531
1,664	Leaders of People Supervisors	981	682	1,663
131	Leaders of Leaders Directors	0	131	131
39	Leaders of Ideas and Strategy Branch Managers	0	39	39
7	Leaders of Strategic Priorities Executive Leadership Team	0	7	7

*All data and definitions taken from the Office of the City Auditor reporting and rounded to the nearest whole number
Data provided is as of January 31, 2020*

Edmonton

Factors in Determining Employee to Supervisor Ratio

- Diversity of functions overseen
- Knowledge and specialization required for the position
- Geographic location of employees overseen
- Structured guidelines / policies that guide the work
- Percentage of the position dedicated to supervision
- Internal and external relationships
- Extent of organizational assistance available

Citizen Services Supervisor Growth

From 2017 -2019:

67 supervisor positions:

- 56 unionized
- 11 non-unionized

Reasons for Growth:

- New Fire Hall
- Additional Transit security
- Rec Facility openings

City Operations Supervisor Growth

From 2017 -2019:

90 supervisor positions:

- 74 unionized
- 16 non-unionized

Reasons for Growth:

- Span of control analysis
- Employee feedback
- Workplace health and safety
- Consolidation of complex work units

Integrated Infrastructure Services Supervisor Growth

From 2017 -2019:

74 supervisor positions:

- 63 professional/technical (non-unionized) positions

Reasons for growth:

1. Increase funding Capital Budget
 - a. LRT, Yellowhead, etc
2. Increased staff responsibilities and project oversight

Enhancing our Organizational Capacity

Over the last 18 months, we developed and have started to implement several initiatives to enhance our organizational capacity.

**Ensuring robust workforce planning processes:
we have the right resources to support the right level of service at
the right time**

Work underway

Transitioning to a focus on enhancing a positive employee experience

Developing and implementing a new Organizational Design Framework

Launching the development of a new modernized Job Classification System

Conclusion

We will continue to apply the City Auditor's recommendations through:

- REIMAGINE
- Organizational Design Framework
- New Job Classification System
- Enterprise Commons
- Evidence-based assessments of where we need to shift and adapt

Thank you

Administrative Response to Office of the City Auditor - City Productivity and Performance Audit

Management Staffing Analysis

Recommendation

That the September 18, 2020, Employee Services report CR_8428, be received for information.

Executive Summary

This report provides Administration's response to the final findings in the Office of the City Auditor's (OCA) 2020 Report on City Productivity and Performance Audit: Management Staffing Analysis.

This Auditor's report fulfills one of three objectives of the Productivity and Performance Audit. In addition to management staffing analysis, the City Productivity and Performance Audit is also reviewing:

- municipal benchmarking through the productivity or performance of City program areas in comparison with other municipalities or industries when this information is available;
- internal services productivity for program and service areas between 2015 and 2019.

Council-approved service packages to address Council priorities were the primary driver of new FTEs added following budget decisions between 2017 and 2020.

The City's Organizational Design Framework provides leadership with protocols, processes, templates and tools to enable a consistent approach to organizational design. The protocols within the Framework are based on organizational design best practices, including the appropriate number of layers and spans of care.

The City of Edmonton's Executive Leadership Team's (ELT) 2020-2021 work plan is about examining the actions needed and allocation of resources to recover and achieve the City's goals outlined in its plans. This will require thoughtful consideration related to the services Administration will be able to provide and the supportive workforce resources required. As part of this work and budget processes, Council will

set direction on how the City will prioritize services and programs, which may also impact the City's workforce.

Report

The Office of the City Auditor (OCA) concludes that there has been an increase in supervisory positions since 2017. Management's response to the OCA Report's findings are outlined below.

Audit Report Highlights

1. **Workforce Growth:** *Since 2017, the workforce has increased by 232 FTE. Budgeted personnel costs have increased by approximately \$63 million due to wage increases and new FTEs.*

Management Response

Of the \$63 million attributed to workforce growth, \$19 million resulted from workforce growth. The remaining \$44 million is related to negotiated and in-range wage increases.

Overall, the City of Edmonton's workforce has grown at a slower rate than its population. Between January 2017 and 2019, the City of Edmonton population grew by 4.94 percent. In this same period, FTE growth was 1.77 percent, which represents an increase of 197 FTEs. The City of Edmonton's FTEs would have increased by approximately 550 FTEs between 2017-2019, if it had kept pace with the City's population growth (all other factors being equal). The City's population growth is one of many factors contributing to overall workforce growth. Edmonton's population growth per year has slowed between 2019 and 2020 to 1.7 percent, resulting in 34.43 FTEs, or a 0.3 percent increase in FTEs.

2. **Changes to classification categories:** *Branch Manager, Director, Manager, Professional and Union classification categories increased in FTE.*

Management Response

In addition to changes in FTEs noted above, City responsibilities have evolved in response to growing service requests from City Council and residents, and higher service standards. In response to Audits in 2015 and to Council's expectations, Administration adjusted its structure to consolidate project management of capital projects within a newly created Integrated Infrastructure Services department in Fall 2015 and continued with additional reorganizations which took effect up until March 2016.

- 3. Staff to Supervision Ratios:** *In the report's analysis, a supervisor is any position that has at least one employee reporting to it - regardless of classification, job title, or position in the organization hierarchy. Using this definition, there are more supervisors per employee in 2020 than there were in 2017.*

Management Response

The City defines leaders of people as supervisors who spend more than half of their time leading and supervising employees who report directly to them. This includes in scope and out of scope employees, but not Deputy City Managers, Branch Managers or Directors. The changes in the ratio of staff to supervisors reflect enhanced leadership oversight, as outlined in the City's Organizational Development Framework.

Not all positions with a supervisory function are considered leadership roles. Professional positions that perform technical, specialized or strategic functions beyond supervision are responsible for 87% of growth in out of scope positions (103 of 119 FTEs). The City is responsible for delivering a number of significant infrastructure projects that align with Council's strategic direction and priorities for capital spending. To complete this work, Administration must be able to hire and retain highly specialized professional and technical experts who can ensure appropriate oversight of these important projects. For people with technical expertise, supervision is a secondary or tertiary responsibility of their role and could constitute as little as five percent of their time invested in direct supervision of other staff (e.g., engineers, land use planners) in the course of their other oversight functions. Salaries for these employees are comparable to other similar roles in Edmonton, and they are not compensated for this additional responsibility.

- 4. Supervisor span of control:** *There has been a shift in the organization to supervising smaller groups of employees. This is the result of adding more supervisors.*

Management Response

In November 2019, the Employee Services Department developed and implemented a new Organizational Design Framework. This Framework provides leadership with protocols, processes, templates and tools that enable a consistent approach to organizational design. The protocols within the Framework are based on organizational design best practices, including the appropriate number of layers within the organization and appropriate spans of care. It also provides Administration with insight into structure and helps with building teams that are the right size and have the right accountabilities at the right level. The Framework sets the standard for spans of care and layers in the organization.

While current organizational reviews are addressing these spans and layers, change can take time due to complexities such as collective bargaining agreements, legislative requirements, impacts on organizational culture, and service delivery.

Through the Framework and other corporate workforce initiatives, Administration is taking a holistic approach to transform the City of Edmonton into a more integrated and effective organization. Changes to supervisory oversight and spans will ensure the City continues to deliver on services through well-managed teams at all levels of the organization in alignment with the City's strategic goals.

- 5. Cost of Supervisors:** *The cost of supervisors per organization FTE has increased by approximately \$3,400 since 2017. This is primarily the result of adding more supervisors and increases in compensation for union supervisors and non-union supervisors not at the top of their salary range.*

Management Response

For many leaders, supervision is not a full focus of their role. For people with technical expertise (non-management), supervision is a secondary or tertiary responsibility of their role and could constitute as little as five percent of their time invested in direct supervision of others (e.g. engineers, land use planners).

The increases in compensation amount includes both economic increases and merit increases. Negotiated economic increases for unionized and out of scope confidential supervisors totalled approximately 5.5 percent from 2017 to 2020. Since 2017, management staff economic increases have been frozen.

- 6. Middle Management and front-line supervisors:** *The increased number of supervisors is reflected in both "middle management"¹ and front-line supervisor positions. Middle management increased by 22% and front-line supervisor positions increased by 19%.*

Management Response

The definitions used in the Auditor's report do not align with HR leading practice, nor with the City of Edmonton's compensation and classification approach. For example, the OCA defines supervisors as any employee with a direct report, whereas the City of Edmonton leadership model includes five levels, with each level having specific leadership expectations and complexities. Further, the current job classification approach considers jobs to be in a supervisory/management level if they spend more

¹ OCA defines "middle management" as all managers and supervisors in the organization except the City Manager, Deputy City Manager and Branch Managers, who supervise another supervisor. This includes out of scope and in scope employees.

than half of their time leading and supervising employees that report directly to them. Within the City's management structure, these individuals are referred to as Leaders of People, and include both in and out of scope employees, but not Deputy City Managers, Branch Managers, or Directors. A singular direct report would not meet this definition.

The City defines Leaders of Leaders as those who supervise Leaders of People. As of January 31, 2020, there were 131 FTEs in this category compared to 130 FTEs in 2017, resulting in 0.77 percent growth.

The increase in the number of supervisors is also aligned with a shift in ensuring greater oversight of teams delivering front-line services. In 2016, several organizational restructuring changes took place at the City to address some of these issues.

Potential Cost Saving Scenarios: *The OCA report states that the elimination of supervisor FTEs would result in cost savings for the organization which will be critical to ensuring the sustainability of the City of Edmonton organization.*

Management Response

Recommendations about potential cost saving scenarios should take into account that the current size and scope of the workforce reflects the variety of services delivered to Edmontonians. The size of the City's future workforce (FTE numbers) will be informed by Council's direction on priorities-based budget and ELT's workplan. Potential changes to the scope, service level or delivery approach for City's 73 various diverse lines of service would also impact FTE numbers. As well, the current increase in supervisor FTEs reflect an increased need for leaders to support teams in delivering on complex capital projects, ensuring compliance on more robust provincial workplace health and safety guidelines, meeting increased public expectations on community engagement and consultation, and supporting demands for service delivery.

The cost savings projections in the OCA Report are based on the assumption that all other costs will remain constant in light of cuts of supervisory roles. Costs may increase as a reduction in management workforce could have direct impacts and costs on employee health and safety and appropriate leadership supervision. Continued reductions in supervisory FTEs may achieve cost-savings while also leading to inefficient teams and potential negative impacts to service levels and citizens' experiences of the City's services.

Additional Considerations

Seasonal Workforce

The City of Edmonton's workforce includes seasonal and temporary employees. As a result, depending on the time of year, the size of the workforce can vary due to employees who work in golf courses, waste, roadway maintenance, and our green shack program. As these employees are not part of the City's permanent workforce, they are typically not included in the City's calculations of span of care or supervisor ratio.

ELT Workplan: Modernizing the workforce and Reviewing Services

As the City recovers from COVID-19 it will require thoughtful consideration related to the programs and services Administration will be able to provide and the supportive workforce resources required. Specifically, Administration will focus on creating a high-performing and agile workforce, align compensation with market rates, and develop flexible work practices and spaces. While the City continues to be aligned with the City's strategic plan, the work will review how services will be delivered, resources will be allocated to recover, and how the goals outlined in these plans will be achieved.

Data Reliability

The report states that five percent of the City's personnel budget each year is not allocated to individual positions in the data. The personnel costs not attributable to individual positions are mainly overtime, employee allowances, Workers' Compensation Board premiums, unique benefit plan contributions (mainly the Fire Fighter Supplementary Pension Plan), statutory pay, and some other items, all offset by the City's salary discount factor. These types of personnel costs are not typically allocated to individual FTEs.

Audit Recommendation: Review Supervisor Responsibilities

We recommend Administration review supervisor responsibilities in the organization in order to reduce costs and layers of supervision.

Response Party: City Manager

Accepted by Management

Management Response:

The Organizational Design Framework outlines the number of layers allowed in the organization as a maximum of seven, from City Manager to front-line employee. Of those seven layers, a maximum of five should be management. Any variations from this must be approved by the City Manager, and this approach will also apply to all reorganizations going forward. This will help to increase agility, better manage costs, improve the employee experience and clarify responsibilities.

Administration is exploring more effective and efficient solutions and technologies that will modernize the City's job classification system within the Modernizing the

Workforce initiative. The desired outcome is to implement a comprehensive classification structure/hierarchy for all jobs within the City that will attract talent, provide flexibility and fluidity to respond and adapt to an ever changing workforce and more clearly identify the appropriate salary and benefits of jobs.

As the City recovers from COVID-19 it will require thoughtful consideration related to the programs and services the City will be able to provide and the supportive workforce resources required.

Implementation Date: In November 2019, Council approved the implementation of the Organizational Design Framework, which has been used for subsequent reorganizations. Administration is exploring a modern job classification system with the expectation that it could be fully implemented in 2023.

Administration is implementing several initiatives that were developed over the last 18 months. Collectively, these initiatives will ensure that the City has robust workforce planning processes in place to ensure that the right people are doing the right work, with the right working conditions to be successful.

ELT's work plan may result in changes to the City's workforce and the policies that support efficient, effective and relevant service delivery. Administration will leverage existing governance capacity to increase speed of service, decrease overhead and administrative costs, and remove unnecessary regulatory red tape while still ensuring that employees have a safe and respectful workplace.

Administration is also leading the Enterprise Commons project, which will transform finance, human resources and supply chain processes. The modernization of technology and processes is expected to enhance job and position architecture functionality and processes to better support the organization, increase visibility of organizational and workforce data. This will enable leadership to adhere to the Organizational Design Framework and other ongoing organizational development projects, as well as integrate budget and workforce data allowing for increased data transparency and real-time visibility for decision makers.

Others Reviewing this Report

- M. Persson, Chief Financial Officer and Deputy City Manager, Financial and Corporate Services
- C. Owen, Deputy City Manager, Communications and Engagement
- G. Cebryk, Deputy City Manager, City Operations
- J. Meliefste, Acting Deputy City Manager, Integrated Infrastructure Services
- R. Smyth, Deputy City Manager, Citizen Services

- S. McCabe, Deputy City Manager, Urban Form and Corporate Strategic Development
- B. Andriachuk, City Solicitor



Audit Committee

Edmonton

**Administrative Response to
Office of the City Auditor - City
Productivity and Performance
Audit**

Management and Staffing Analysis

September 18, 2020

A Modern Municipal Corporation

- Responsive to citizen needs
- Anchored in Edmonton's vision and strategic plan
- Fiscally responsible
- Structured for success

City's Response to Performance and Productivity Audit Report Findings

- Ensuring our workforce is the right size and composition to effectively serve Edmontonians
- Enhanced services and service delivery
- Responding to growth and complexities of a large City

Thorough Review of our Workforce

- Reviewing and managing position vacancies
- Developing and implementing an Organizational Framework
- Identifying cost reductions and service delivery improvements

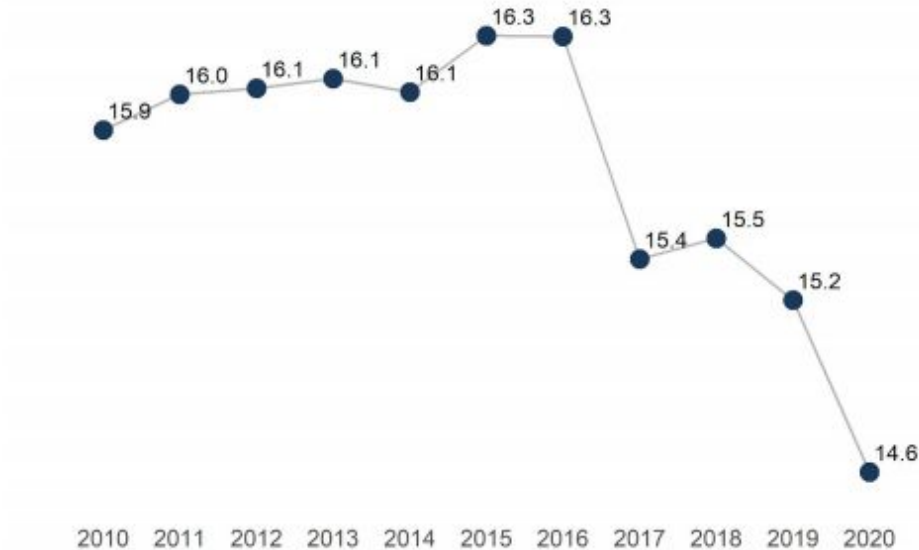
Current Imperative

**Need for agility in
a rapidly changing
world**

- Reassessing our workforce, structure, planning processes, budgets and programs
- Prepared to recommend bold solutions and actions

A complex organization and a growing City

City of Edmonton FTE per Thousand City of Edmonton Residents



*Includes Boards & Commissions, Offices of the Mayor and Councillors, Edmonton Police Service, Edmonton Public Library, and Office of the City Auditor

73 distinct services,
comprising
approximately 180
sub-services

From Page 4 of the Office of the City Auditor City Productivity and Performance Audit:
Management Staffing Analysis

Growth to support Council priorities



Defining Supervisors

	Office of the City Auditor	City of Edmonton
Front Line Supervisor	Employees who only supervise front-line employees. This includes out of scope and in scope employees.	Employees who spend more than half of their time leading and supervising employees that report directly to them. This includes out of scope and in scope employees.
Middle Manager	All employees in the organization who supervise another supervisor, except the City Manager, Deputy City Manager and Branch Managers that supervise. This includes out of scope and in scope employees. It also includes employees who supervise front-line staff and other supervisors.	This term is not used. It does not align with the current classification structure nor the leadership framework.

Our Focus on Leadership Competencies

		Unionized	Non Unionized	Total
9,531	Leaders of Service Employees	8,843	688	9,531
1,664	Leaders of People Supervisors	981	682	1,663
131	Leaders of Leaders Directors	0	131	131
39	Leaders of Ideas and Strategy Branch Managers	0	39	39
7	Leaders of Strategic Priorities Executive Leadership Team	0	7	7

*All data and definitions taken from the Office of the City Auditor reporting and rounded to the nearest whole number
Data provided is as of January 31, 2020*

Factors in Determining Employee to Supervisor Ratio

- Diversity of functions overseen
- Knowledge and specialization required for the position
- Geographic location of employees overseen
- Structured guidelines / policies that guide the work
- Percentage of the position dedicated to supervision
- Internal and external relationships
- Extent of organizational assistance available

Citizen Services Supervisor Growth

From 2017 -2019:

67 supervisor positions:

- 56 unionized
- 11 non-unionized

Reasons for Growth:

- New Fire Hall
- Additional Transit security
- Rec Facility openings

City Operations Supervisor Growth

From 2017 -2019:

90 supervisor positions:

- 74 unionized
- 16 non-unionized

Reasons for Growth:

- Span of control analysis
- Employee feedback
- Workplace health and safety
- Consolidation of complex work units

Integrated Infrastructure Services Supervisor Growth

From 2017 -2019:

74 supervisor positions:

- 63 professional/technical (non-unionized) positions

Reasons for growth:

1. Increase funding Capital Budget
 - a. LRT, Yellowhead, etc
2. Increased staff responsibilities and project oversight

Enhancing our Organizational Capacity

Over the last 18 months, we developed and have started to implement several initiatives to enhance our organizational capacity.

**Ensuring robust workforce planning processes:
we have the right resources to support the right level of service at
the right time**

Work underway

Transitioning to a focus on enhancing a positive employee experience

Developing and implementing a new Organizational Design Framework

Launching the development of a new modernized Job Classification System

Conclusion

We will continue to apply the City Auditor's recommendations through:

- REIMAGINE
- Organizational Design Framework
- New Job Classification System
- Enterprise Commons
- Evidence-based assessments of where we need to shift and adapt

Thank you

Forestry Services Audit

Recommendation

That the September 18, 2020, Office of the City Auditor report OCA00036, be received for information.

Executive Summary

This report presents the results of the Forestry Services Audit.

Report

The City of Edmonton is responsible for the maintenance of over 385,000 trees in its inventory. This work includes pruning, tree removal, tree planting, and tree watering. The value of these trees are approximately \$1.8 Billion.

The purpose of this audit was to determine whether the City is: effective in maintaining and monitoring their tree inventory, efficient in using resources to support a healthy and growing urban forest, and whether guiding documents provide clear direction in managing the urban forest.

We made two recommendations to improve on effectiveness. The annual workload for pruning as well as the 4-year and 7-year cycle for pruning trees should be reviewed in order to ensure pruning targets can be met. Additionally, documenting and verifying invoices can be improved upon in order to ensure work has been completed and paid appropriately. Forestry is effective in ensuring staff are completing their mandatory training as well as having plans in place to deal with potential pest outbreaks.

In general, Forestry is efficient in using its resources to support a healthy and growing urban forest. This includes trialling the use of tablets to record tree information and being cost efficient in planting and watering trees. In order to improve on efficiency, we recommended a review of their tree inventory data to ensure the data is complete and accurate. Additionally, Forestry should review their equipment utilization in order to optimize the use of equipment.

The guiding documents have a focus on growth, sustainability, acquisition, maintenance, protection and preservation of the City's urban forest. However, we found opportunities to improve on the clarity, accuracy, and consistency in these documents. Additionally, reported performance measures should be described with a clear methodology, are understandable, accurate, and comparable.

Policy

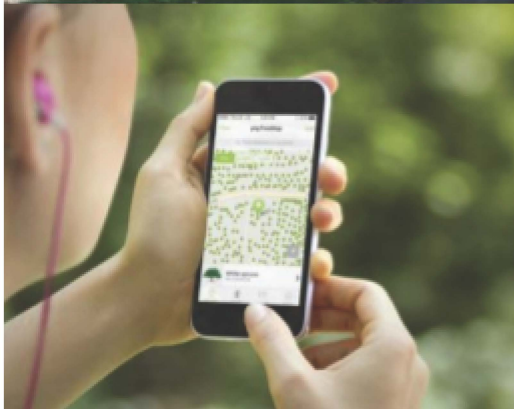
Bylaw 16097, Audit Committee Bylaw, Section 14(d) states that, "Committee will review all reports from the City Auditor dealing with completed audit projects."

Public Engagement

Public engagement was not required for this report.

Attachment

1. Forestry Services Audit Report



City of Edmonton
Office of the City Auditor

Forestry Services Audit

September 1, 2020



1200 Scotia Place, Tower 1
10060 Jasper Ave
Edmonton, AB T5J 3R8
780-496-8300
edmonton.ca/auditor



Report Highlights	Audit Summary	2
	Background	3
	Effectiveness	8
	Efficiency	17
	Guiding Documents	24
	Conclusion	28

Audit Objectives	The objectives of this audit were to:
	<ol style="list-style-type: none">1. Determine whether the City is effective in maintaining and monitoring their tree inventory.2. Determine whether the City is efficient in using resources to support a healthy and growing urban forest.3. Determine whether guiding documents provide clear direction in managing the City's urban forest.

Scope and Methodology	The scope of this review included the documentation, controls, processes, and procedures related to the City's Corporate Tree Management Policy and Procedure.
	We used the following methods to gather evidence to conclude on the above objectives:
	<ul style="list-style-type: none">• Reviewing related policies, procedures, bylaws, management plans and guidelines;• Discussions with management and staff;• Analysis of data; and• Testing samples for confirmation of work completed and inspections.

Statement of Professional Practice	This project was conducted in accordance with the International Standards for the Professional Practice of Internal Auditing.
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Audit Summary

Effectiveness

In order to determine whether the City is effective in maintaining and monitoring their tree inventory, we reviewed processes to confirm whether:

- City staff and contractors are completing the planned tree maintenance work;
- The inspection process is adequate and consistent;
- Forestry and Natural Areas staff completed mandatory training; and
- The City has plans in place to deal with pest outbreaks and natural disasters.

Recommendation 1 Review pruning targets	Review pruning service level and budgeted workload to ensure performance targets can be met within their current budget.
Recommendation 2 Inspections and invoices	Ensure inspections are properly documented and invoices are verified for tree maintenance.

Efficiency

In order to determine whether the City is efficient in using resources to support a healthy and growing urban forest, we reviewed:

- The tree inventory data to determine if it is accurate and complete;
- The technology used to track and conduct tree maintenance work;
- Equipment usage and utilization; and
- City and contractor costs for pruning, planting and watering.

Recommendation 3 Review tree inventory data	Conduct a periodic review of the tree inventory to ensure data is complete and accurate.
Recommendation 4 Review equipment utilization	Review the equipment utilization to identify opportunities to optimize the use of forestry equipment.

Guiding Documents

In order to determine whether guiding documents provide clear direction in managing the City’s urban forest, we reviewed them for:

- Clarity, accuracy, and consistency.
- Methodology, accuracy, targets, and comparability of the measures in place to assess performance.

Recommendation 5 Update guiding documents	Review and update the guiding documents relating to Forestry Services to improve their clarity, accuracy, and consistency.
Recommendation 6 Review performance measures	Review Forestry's publicly reported performance measures to ensure they are understandable, accurate, reasonable, and comparable.



Background

Forestry Services at the City of Edmonton

The Corporate Tree Management Policy outlines the roles and responsibilities in managing the City of Edmonton's (City) urban forest. The policy's purpose is to ensure the growth, sustainability, acquisition, tree maintenance, protection and preservation of trees in the City's urban forest (urban forest).

The urban forest includes all City owned ornamental trees (trees on boulevards and in open spaces such as parks) and trees in the natural areas on City owned land.

The two main groups that manage the urban forest are:

- Forestry Operations; and
- Natural Areas (formed in 2018).

Forestry Operations is responsible for the City's ornamental trees and consists of the following functions:

- Planting - Planting, watering, and assessing the tree inventory.
- Pruning - Pruning City trees.
- Community Forestry - Supporting other City Departments and the public, answering inquiries relating to the urban forest and taking care of Neighbourhood Renewal.
- Project Forestry - Managing forestry projects including cost recovery work such as IIS projects and Light Rail Transit projects.

Natural Areas is responsible for the trees in the City's natural areas and consists of the following functions,:

- Natural Areas Coordination - Strategic planning, including risk management and stakeholder relations.
- Natural Areas Hazard Mitigation - Identifying hazards and taking corrective actions.
- Invasive Weeds Coordination - Identifying invasive species and taking corrective actions.
- Natural Areas Operations - Managing operations such as trail crews, homeless camp cleanup and mechanical weed removal.



Ornamental Trees

Ornamental trees provide many benefits to the City and its citizens including:

- Improving air and water quality, moderating temperature and reducing exposure to ultraviolet rays.
- Reducing energy costs during winter and summer as trees provide shade and windbreak, potentially increasing land and property value for those situated near trees and green spaces.
- Providing aesthetic value and improved quality of life.

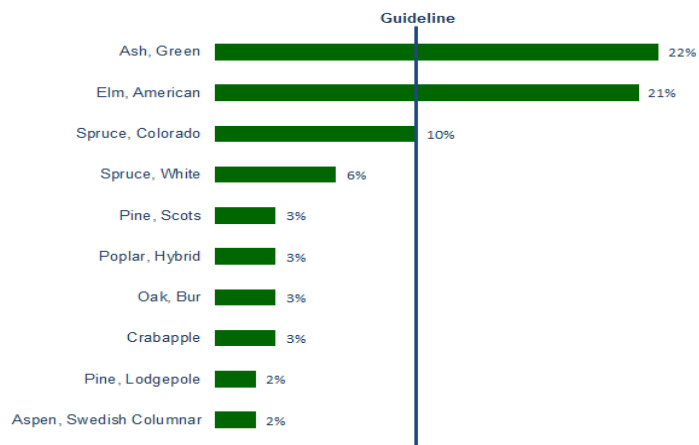
The City keeps an inventory of its ornamental trees. Using this inventory they can determine the diversity of tree types, the value of the trees, and the age of the trees. As of January 2020, there are over 385,000 ornamental trees in the City's inventory listing. This has grown by approximately 14% from the 337,000 trees in 2015. Understanding these aspects of the inventory will help the City complete tree maintenance work effectively and efficiently.

Types of Trees

The City has many varieties of trees in its inventory. The general industry guideline is to have no more than 10% of any one tree species. A diverse urban forest provides habitat for a wider range of organisms and increases resilience to pests and diseases such as dutch elm disease.

The following graph shows the top ten individual tree species owned by the City.

Elm and ash trees make up 43% of the City's tree inventory.





The City has 3 tree species over the 10% industry guideline. Forestry is aware of the importance of tree diversity and is concerned about the high percentage of elm and ash trees. Some of the action taken to address diversity include:

- Reducing the planting of ash trees over the last 4 years.
- Removing ash and elm trees from the list of recommended species for the *Commemorative Tree and Request to Plant* program.
- Purchasing and trialing new tree varieties that can grow and survive in Edmonton to increase tree diversity.

Tree Value

Tree value is commonly calculated using the trunk formula¹.

City trees are worth approximately \$1.8 billion. The majority of this is elm and ash trees.



Elm trees

- \$749 million
- 42% of total value of all trees
- \$4,700 per tree



Ash trees

- \$421 million
- 23% of total value of all trees
- \$8,800 per tree



Other trees

- \$630 million
- 35% of total value of all trees
- \$3,000 per tree

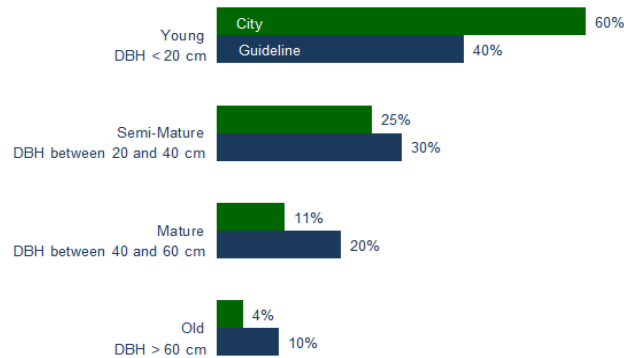
¹ Trunk Formula - Cross Sectional Area [(Diameter Breast Height/2)² * 3.14] * Tree Species Rating * Basic Unit Value of \$11.01 * Tree Condition %.



Age of Trees

The age of a tree is estimated using the Diameter Breast Height (DBH)² as a proxy for the age. There are industry guidelines for the diversity of ages within a tree population.

60% of the City's trees are considered young.



Age diversity is important in maintaining a healthy and stable urban forest.

Natural Areas

There are over 2,500 hectares of natural areas owned by the City with an estimated value of over \$5 billion.

Natural areas are defined as an area of land or water that is naturally occurring and contains native vegetation. This includes grasslands or forests, but not sports fields or schoolyards.

The City has identified 434 natural area sites in the City. They are currently in the process of completing a risk assessment for each site by evaluating each of them for weeds, vandalism, homeless camps, garbage, tree damage, disease, and fallen trees. Once the risk assessment is complete, this will allow for better prioritization of work. Currently, Natural Areas attend to work on a reactive basis. (e.g., when a citizen reports a hazard).

In 2019, they had evaluated 24 of the 434 sites (5.5%). The goal is to evaluate all 434 sites by December 2028.

² DBH - measured in centimetres and at a height of 1.2 metres above ground.



Financial Information

Over the past 5 years, Forestry's average annual expenditures are \$11.1 million .

Natural Areas spent \$2.7 million in 2019 (its first full year of operations).

The balance in the Tree Reserve Fund at the end of 2019 was \$8.2 million.

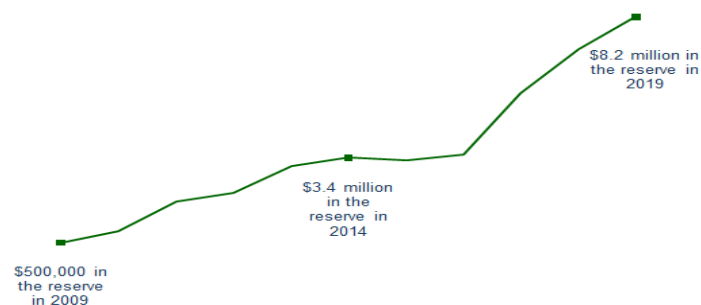
The balance of the Tree Reserve has been increasing each year since 2009.

Forestry's average expenditure budget for each of the past 5 years is \$9.7 million. The average amount it actually spent was \$11.1 million each year. The over expenditures were due to recoverable work, such as neighbourhood renewal, special projects, and accident claims. These resulted in additional revenues of \$1.3 million per year. Overall, the result is a nearly balanced budget.

The Natural Areas group was formed in the summer of 2018. The budgeted expenditures for 2019 was \$2.9 million and actual expenditure was \$2.7 million. This also results in a nearly balanced budget.

Tree Reserve Fund

Forestry maintains a Tree Reserve account to collect and distribute funds for the growth of the City's urban forest. The majority of collection into the Tree Reserve is received from insurance claims or construction projects for tree damage. Withdrawals from the reserve are mainly used to fund the planting of new trees.



Forestry did not withdraw from the reserve in the past 2 years as they were updating the *Tree Reserve Policy*. Now that the Policy is in place, Forestry has put in a plan to use the reserve to increase the City's tree canopy³ coverage. They plan to allocate 65% of the reserve for new tree growth and 35% for tree replacement.

The City's goal is to increase the canopy coverage across the City to 20%. In 2019, the canopy coverage was 13.8%.

³ The uppermost layer in a forest, formed by the crowns of the trees.



Effectiveness

Summary of Findings

We reviewed four areas of Forestry Services and/or Natural Areas to determine their effectiveness and found:

1. Forestry has not been effectively completing tree maintenance work:
 - They have not achieved the yearly targeted tree prunings for the past three years.
 - They are not completing tree pruning within the targeted four and seven year cycles.
 - They are not planting the majority of trees within the three year target after being removed.

We did find that the number of waterings of newly planted trees appear reasonable.

2. Forestry can improve its inspection process by documenting the tree maintenance inspections and verifying the work completed by reconciling invoices with the paper maps used to track work location.
3. Mandatory training for staff is substantially complete.
4. Plans are in place to identify, detect, and deal with pest infestation.

Tree Maintenance

Tree maintenance is defined as work conducted on City trees by trained urban forestry personnel. This includes pruning, tree removal & replanting, and tree watering.

Pruning

The City prunes trees to maintain the tree's health and structure, for public safety, beautification, and utility clearance. Each year the City sets a target for the number of trees they will prune; this is based on the service target to prune elm trees every 4 years and all other trees every 7 years. The 4 year service target for elm trees is particularly important in order to prevent/limit Dutch Elm disease. Pruning all other trees every 7 years would also limit the spread of pests such as Emerald Ash

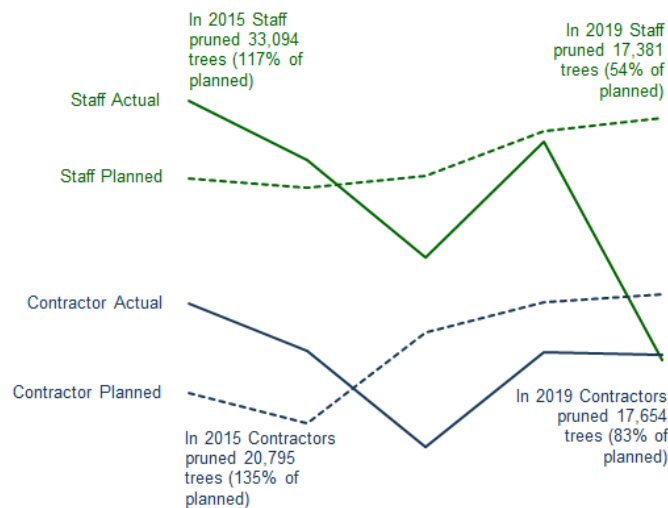


Borer. The plan in 2019 was for City staff to complete about 60% of the pruning and contractors complete the remainder.

Planned Pruning vs Completed Pruning

The amount of trees Forestry staff and contractors have pruned compared to the amount of trees Forestry planned to be pruned has been decreasing since 2015.

In 2015, Forestry staff and contractors pruned 53,889 trees (123% of planned). In 2019, they only pruned 35,035 (66% of planned).



Management noted a variety of reasons for why the number of trees pruned has decreased, including:

- In the past they pruned smaller trees which resulted in more trees being pruned.
- Recently they have been pruning trees in complex locations with high traffic such as Whyte Avenue and Jasper Avenue, which results in fewer trees being pruned.
- In recent years, there were delays in recalling seasonal staff to complete the work plan.
- In recent years, staff were focused on other tasks such as storm response instead of the pruning program.

Forestry indicated that starting in November 2019, an inspector will manage and focus on the pruning program.



Pruning cycle targets have not been met.

Pruning Cycle

The City's service target is to prune elm trees every 4 years and all other trees every 7 years. We found that the City has met this target for 47% of elm trees and 52% of all other trees requiring pruning (deciduous trees only).

We discussed with management the reasonability of the four and seven year pruning cycle. Research provided by management indicates that frequent pruning will maintain the health of the tree and reduce the risk of pest infestation. Additionally, tree condition is one of the inputs to calculate tree value. Therefore, any change in condition would change the value of the tree. If pruning cycles were extended beyond five to seven years; the reduction in tree value would be greater than any realized cost savings.

\$7 million to prune the remaining elm and deciduous trees.

We obtained pruning contract rates from existing contracts for the pruning of elm trees and non-elm trees. These rates are based on the size of the tree. We used these rates to estimate the amount required to prune the shortfall for both elm and deciduous trees that currently do not meet the pruning cycle target. Based on these rates, the estimated cost is approximately \$3 million for elm trees and \$4 million for deciduous trees.

Recommendation 1 Review pruning targets

Review pruning service levels and budgeted workload to ensure performance targets can be met within their current budget.



Responsible Party

Branch Manager, Parks and Roads Services



Accepted

Management Response

Administration is currently developing an Urban Forest Asset Management Plan (UFAMP) that will clearly define goals, timelines, budgetary and staffing requirements, and measurement and monitoring techniques. The UFAMP will enable City Operations to



set pruning service levels and meet performance targets.



Implementation Date

November 30, 2021

Tree removal and replanting

In 2009, the City's Urban Forest Management Plan committed to growing the urban forest canopy from 10% to 20% coverage. In addition to planting new trees and ensuring the growth of planted trees, the City also aims to ensure that all trees removed⁵ are replanted. The target is to replant trees within 3 years of removal.

The process to remove and replant a tree had previously required 8 visits under normal circumstances. In 2018/2019 with the help of the Business Performance and Customer Experience (BPCE) Branch, the process was streamlined through the identification and elimination of non-value added activities. The number of visits has been reduced to six visits⁶ by a crew.

Prior to December 2019, Forestry kept track of the tree status (e.g., date removed, date replaced) on spreadsheets. There is a spreadsheet for each quadrant of the City with tree removal dating back to 1997. We reviewed the Southwest quadrant to get a sense of time required to replant a tree after removal.

4,500⁴ trees removed were not replanted within the target of 3 years (60%) (SW region).

Replacement trees
planted within 3 years

Target Met 40%

Replacement trees not replanted or
replanted after 3 years

Target Not Met 60%

Management noted the reason for the backlog is due to droughts in the early 2000's which led to a large number of trees that were removed. The current capital profile indicates

⁴ Approximately 1,500 trees had a replant date that was more than 3 years and 3,000 trees are currently vacant with a removal date of more than 3 years.

⁵ Removal of trees can occur for a variety of reasons including construction and new developments.

⁶ Visits include assessment, tree removal, planning & routing, first-call, stump grind, and planting.



approximately 3,000 trees will be planted each year. From 2015 to 2019, Forestry achieved this target.

Tree watering

27,000 less waterings than planned in 2019 resulted in savings of \$227,000.

Newly planted trees require more water than established trees in order to adapt to their new environment and help their roots to grow. The City contracts out water trucks to water new trees. The City's guideline is to water new trees for an estimated 21 waterings in the first 3 years. Using this guideline, we estimated there to be approximately 131,000 waterings in 2019. They completed 104,000 (79%).

Management indicated that a higher than average amount of rain that summer resulted in less watering required. This explanation is valid⁷ as there was a higher than average amount of precipitation in 2019. When there is sufficient precipitation for trees, Forestry limits the use of water truck usage to conserve financial resources.

Inspections

A mix of City staff and contractors complete maintenance work for over 385,000 City trees. Monitoring this work is complex. Therefore, having a formal inspection process for pruning and watering helps ensure that work is completed in accordance to the required standards.

Pruning inspections

The City's *Task Standards Manual* establishes the pruning standards. When a tree is pruned, the pruning crew will mark it on a paper map. The inspector notes any deficiencies on the same paper map and follows up with the applicable pruning crew.

In Fall 2019, with the support of the BPCE Branch, a Tree Pruning/Inventory Management review was conducted. An inspection opportunity was identified resulting in the hiring of a dedicated inspector to perform inspections of both City staff and contractors in November 2019. Prior to this, there was no formal process or timeline in place to inspect pruning work. Instead, inspections were completed on an informal basis and when time was available. Management noted that inspections were sometimes done months after the pruning crew completed the work.

⁷ Based on Edmonton Historical Total Precipitation - 2019 had 5th highest annual precipitation in the last 20 years.



The new inspector is tasked with formalizing the inspection process through the creation of a Standard Operating Procedure (SOP) document in 2020. The SOP will be used to guide the coordination and management of tree pruning.

No standardized checklist for the inspector to document compliance.

Currently, inspections are completed based on experience and visual checks. The inspection results are not documented on a standardized checklist. As part of the development of the SOP, a standardized checklist will be developed.

Pruning invoice reconciliation

We attempted to verify whether the number of trees pruned and invoiced by the contractor reconciles to the paper maps submitted.

We obtained an invoice and the corresponding paper map from each of the 3 different pruning contractors from 2019. Based on the handwritten notes on the maps, we were not able to determine which trees were pruned. We reviewed the invoice and maps with management and concluded that this is difficult to determine.

Without a reconciliation process, there is a risk that payments are made without the ability to confirm which trees on the maps were pruned. Management noted that starting in January 2020, the inspector will reconcile the number of trees pruned through an inspection dashboard that tracks all pruning inspections to the monthly invoices submitted by contractors. Additionally, the inspector will be following up on all deficiencies noted in the pruning inspections prior to signing off on the invoice for payment. These process improvements will help ensure that all pruning work meets the pruning standards prior to payment.

Watering inspections

Forestry employs a watering inspector to ensure trees have been appropriately watered. The inspector's target is to be onsite at least once every two weeks for each of the contracted watering trucks.



Contracted water truck drivers complete a daily log which records the total trees watered, total water used, and total hours worked. We tested a total of 8 daily logs from 2018 and 2019 and verified that they were completed.

We reviewed the inspection forms associated with the above eight daily logs and noted that the inspection checklists were completed. Items reviewed included administrative components such as weather conditions, access to site, Personal Protective Equipment usage, etc. The inspection form contains an area to document whether the trees had the appropriate amount of water, but this is a checkbox only. This does not allow the inspector to record the details of which tree(s) were tested. Having a small checklist would allow the inspector to record what sites were checked and document any deficiencies for follow up.

Recommendation 2

Inspections and invoices

Ensure inspections are properly documented and invoices are verified for tree maintenance.



Responsible Party

Branch Manager, Parks and Roads Services



Accepted

Management Response

Administration will take the following actions to refine and formalize the inspection process in order to ensure consistency:

- Create a transparent inspection process with a checklist for tracking contractor and staff achievements including invoice approvals.
- Ensure capacity is available for inspections.
- Digitize inspection process using mapping technology.



Implementation Date

November 30, 2021



Mandatory Training

The Corporate Tree Management and Tree Reserve Procedure states that tree maintenance work is to be conducted by trained forestry personnel. Ensuring that training is completed for mandatory courses helps ensure effectiveness in that all staff are qualified to perform their duties.

We reviewed the following three types of training:

1. Mandatory for all City of Edmonton Employees (City Courses) – e.g. Drug and Alcohol, Code of Conduct, Indigenous Awareness.
2. Mandatory for Forestry and/or Natural Areas Staff (Staff Specific) – e.g. Driver Manual, First Aid, Workplace Violence, Critical Exotic Pests, Fuel Sense.
3. Mandatory for Forestry and/or Natural Areas staff (Certification Course) – International Society of Arboriculture (ISA). This course requires recertification every 3 years.

Forestry has developed and implemented a training matrix to track mandatory training for staff. Using the training matrix, mandatory training including City of Edmonton training, equipment training, and job specific training will be targeted and completed on an annual basis.

For Forestry and Natural Areas staff we reviewed 99 staff training records as of May 2020 and found:

- City courses were substantially completed.
- Staff specific courses were substantially completed.
- ISA certification course was substantially completed.

The completion of this training will be audited once per year for completion. Parks and Roads Services will ensure an adequate budget will be available to fund mandatory training.

Pest Management

The management of a pest infestation has been identified by management as one of the biggest risks facing the urban forest. We reviewed the documented plans the City has in



The City has plans in place to detect and monitor pest infestations in the urban forest.

place to deal with Dutch Elm Disease and Emerald Ash Borer and the damage this could cause to the City’s tree inventory.

In our discussion with the Pest Management Section, we gained an understanding of the impact and threat these diseases can have on the urban forest. The City has a process in place to detect and monitor these pests as well as other pests that may enter the City. This is done through traps to capture and a laboratory to identify the type of pest.

Pest Management also has *Management Plans* in place which address the steps to take within each phase of pre-infestation, initial detection, and confirmed infestation. However, these plans are not yet finalized and have been in draft since 2018.

The Pest Management Section also provides training sessions to Forestry staff as well as the public and institutional students to help in identifying pests and how to deal with reporting of trees that are at risk.



Efficiency

Summary of Findings

We reviewed three areas of Forestry Services to determine their efficiency and found:

1. Improvements can be made to increase accuracy and completeness of the tree data.
2. Equipment is not being efficiently utilized.
3. City tree pruning unit costs are increasing while contractor unit costs are decreasing.

We also found the staff are efficiently planting and watering trees and they have taken positive steps to address the tree data issues, including the use of tablets to record information electronically.

Tree Information and Data

Forestry should have complete and accurate tree inventory information such as the number of City trees, the tree's condition, the date it was last pruned, etc. in order to plan and report on tree maintenance.

Forestry uses a database to record the tree's information on both City owned trees as well as privately owned trees. From this, we performed data analytics to determine the completeness and accuracy of the data.

Data is mostly complete.

We found that the data was mostly complete, but improvements can be made in a few areas including:

- Developing a methodology to ensure consistency in filtering out the number of City owned trees.
- Ensuring all mandatory fields such as "last pruned date" are completed.
- Ensuring data is entered in a timely manner.
- Accuracy of the data relating to how it is captured and the condition of the trees.

Data capture

Forestry Services is highly dependent on recording tree data on paper maps for work completed by both contracted crews and City crews. Tree information such as the diameter of the tree at breast height, pruning date, etc. on paper maps are submitted to the Inventory and Assessment group to update into the City's



tree database. The City uses this information to plan and budget work and also for reporting on their performance.

This process is not efficient for a number of reasons including:

- Paper maps can get lost resulting in information not being entered into the database.
- Maps may not be returned on a timely basis or information may not be entered on a timely basis resulting in outdated information.
- Writing on the maps may not be legible resulting in inaccurate data being entered.

In 2019, Forestry Services began to rectify this by participating in a “LEAN Process”. The project is in the pilot stage. Staff are using borrowed tablets to record tree maintenance work and tree information. So far management indicated that the crews using tablets are favoring this initiative as a means of efficiently entering information. Also, management is getting timely information and using reports generated to plan work, such as prioritizing neighbourhoods that require pruning.

The result of the pilot program is expected to be completed in 2021. Based on the preliminary results Forestry is preparing a business case to support a request to purchase approximately 70 tablets.

Condition rating

Forestry uses the condition of a tree to prioritize tree maintenance work as well as an input to calculate a tree's value. They classify tree conditions into eleven different condition ratings ranging from 0% (a dead tree) to 100% (a perfect tree).

The Corporate Tree Management and Tree Reserve Procedure indicates that the City inspect and evaluate City trees for condition. However, the City does not currently assess the condition for all of its trees. Condition is primarily assessed when they inspect a tree due to a citizen inquiry or a damage complaint. Therefore, a default value of 70% (above average tree) is given to all trees as a starting point. The current method of evaluating trees has resulted in 379,820 (98.51%) trees with a condition rating of 70% in the database.



Management indicated that assessing the condition of all City trees may not be practical. Management also indicated they will consider other methodologies to assess trees such as selecting samples of trees and extrapolating to the population.

Using a default value increases the risk of not having accurate tree condition to plan tree maintenance work. Additionally, this impacts the valuation of trees and performance reporting.

- The current asset value of the City's trees is \$1.8 billion. However, if we replaced the 70% default value with 60% and 80%, the resulting asset value is \$1.6 billion and \$2.0 billion respectively.
- The City's current reported results for tree condition is 70% and is not based on accurate data. The City has set a target of 80% for this measure.

Recommendation 3

Review tree inventory data

Conduct a periodic review of the tree inventory to ensure data is complete and accurate.



Responsible Party

Branch Manager, Parks and Roads Services



Accepted

Management Response

Administration is currently developing The Urban Forest Asset Management Plan (UFAMP) which will identify gaps in inventory and the resources required to improve inventory data.

This includes:

- A methodology to calculate the number of city owned trees.
- A process to ensure that mandatory fields are streamlined and completed.

Administration will also create a plan to migrate from paper inputting to digital inputting of inventory data in order to improve on timeliness of data entry.



Implementation Date
November 30, 2021

Equipment

The City uses equipment such as aeriels, chippers, trucks, and cranes for tree maintenance work. It tracks each piece of equipment on a daily basis to record the availability, as well as the usage. When equipment is not utilized efficiently and sitting idle, there is a risk that tree maintenance work is not being performed resulting in pruning targets not being met. (e.g. pruning 54% of planned pruning work in 2019.)

Forestry indicated the equipment is required for year-round operations. We reviewed Forestry's equipment for availability and usage to determine whether it is being used efficiently. We analysed the South region equipment data as the North region did not have complete records for 2019.

Equipment availability

Equipment was available for use for 76% of the work days in 2019.

Forestry equipment is available for use for approximately 76% of the year due to maintenance. Management indicated that some City equipment is stored outdoors during the winter which increases maintenance requirements.

In our discussion with the Fleet Services Branch, the majority of the maintenance performed is for planned work such as repairs required to deal with regular wear and tear on the equipment. These repairs may result in additional repair time due to the extra time required to obtain parts. Other factors influencing maintenance requirements include:

- The equipment is generally older and near the end of their useful life.
- The equipment is specialized so it is difficult to stock up on an inventory of special parts.
- The equipment is manufactured by different companies.

Equipment usage

In the time Forestry has equipment available (76%), they track the usage based on whether the equipment is being used (in-use) versus not being used (no operator and not in-use).



When available, equipment is used 60% of the work days.



Reasons for equipment to be classified as “not in-use” or “no operator” (40% total) include:

- The outside temperature is too cold (lower than -25 degree celsius) to work.
- The type of work being done may not require certain equipment.
- Staff who would normally use the equipment are on vacation or sick.

There is an opportunity to review equipment usage within Forestry to ensure the equipment usage is optimized. In 2020, the Parks and Roads Services Branch started a fleet utilization project to examine the utilization of all equipment.

Recommendation 4

Review equipment utilization

Review the equipment utilization to identify opportunities to optimize the use of forestry equipment.



Responsible Party

Branch Manager, Parks and Roads Services



Accepted

Management Response

Administration will complete a review of their equipment utilization. The review of equipment utilization will address the following:

- Examine lifecycle management of Forestry equipment.
- Establishment of efficiency targets and review of opportunities to improve utilization.
- Creation of a methodology to report equipment utilization.



Implementation Date

November 30, 2021



Cost of Tree Maintenance

We compared the cost of tree maintenance services (pruning, planting, and watering) provided by City staff to those provided by contractors to determine which is more efficient.

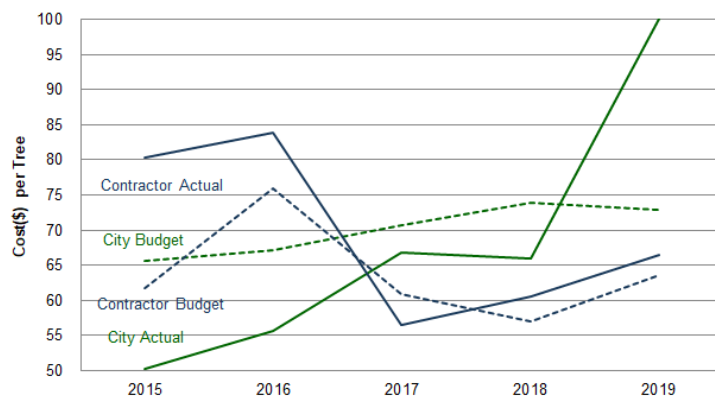
We found contractors are more cost efficient at pruning trees while the City is more cost efficient at planting them. The City contracts out all the waterings and we found this to be cost efficient as well.

Tree pruning

The City splits pruning work between City staff and contractors.

Contractor actual pruning costs per tree has decreased from \$80 per tree in 2015 to \$66 per tree in 2019. Management indicated that contractors were pruning the larger trees in the past which led to this trend.

City staff pruning costs doubled from \$50/tree in 2015 to \$100/tree in 2019.



City actual pruning costs increased from \$50 in 2015 to \$100 in 2019. Management indicated that in recent years City crews began to focus on some of the larger and older trees, which took more time to complete and led to additional costs. These trees are usually in more complex or difficult areas to work in. (e.g., high traffic locations) resulting in higher unit costs.

The City should review the budget process to account for the size and cost of trees being pruned. Additionally the budget should consider the size of trees assigned to the City or contractor staff.



See Recommendation 1

Tree planting (2019)

The City plants all new boulevard and open space trees as part of the *Street and Park Tree Replacement Program*. Contractors plant commemorative trees or trees that originate from citizen requests.

	<u>City</u>	<u>Contractor</u>
# of trees planted in 2019	3,000	50
Cost per tree planted in 2019	\$801	\$976

The City is efficient in tree planting from a cost perspective. The cost of the tree, and coordination⁸ costs were comparable. The difference is due to staff and equipment cost with the City averaging \$163 less per tree than the contractor. This is likely due to efficiencies achieved due to the City planting the majority of trees.

Tree watering (2019)

Contractors perform 100% of the tree watering. Based on the City's summary spreadsheet, the total cost was approximately \$1 million in 2019 for 104,000⁹ instances of tree watering. This resulted in an average of \$9.90 per watering. The budget was \$9.60 per watering. The City is efficient in coordinating the tree watering from a cost perspective.

⁸ Coordination costs include On-Street Construction & Maintenance Permit, OneCall, routing, hydrovac, etc.

⁹ Depending on planting date, trees are watered multiple times in a year.



Guiding Documents

Summary of Findings

Forestry should update their guiding documents to improve on clarity, accuracy and consistency. Additionally, reported measures should be reviewed to ensure they are described with a clear methodology, understandable, accurate, and comparable for readers to understand.

Policy, Bylaw, & Management Plans

We reviewed the following five guiding documents:

- Corporate Tree Management Policy
- Natural Area Systems Policy
- Community Standards Bylaw
- Urban Forest Management Plan
- Guideline for Evaluation of Trees

The guiding documents focus on growth, sustainability, acquisition, maintenance, protection and preservation of the City's urban forest. However, since these documents are on the City's website, improvements to the clarity, accuracy, and consistency in these documents is required so that a citizen can easily understand.

Issues relating to clarity:

- In order to manage workload, the definition of "other city trees" or "non-elm trees" needs to be defined in relation to pruning work in the *Urban Forest Management Plan*.
- Flowcharts in the *Guidelines for Evaluation of Trees* are difficult for a reader to understand.

Issues relating to accuracy:

- In the *Natural Area Systems Policy*, references are made to department names and roles and responsibilities of various job titles that no longer exist.
- Examples used to calculate equitable compensation in the *Guideline for Evaluation of Trees* is not accurate.

Clarity - easy to perceive, understand, or interpret.

Accuracy - being true, correct, or exact.



Consistency - agreeing, compatible, and not self-contradicting.

Issues relating to consistency:

- Definitions for certain terms are not consistent between the *Corporate Tree Management Policy* and the *Urban Forest Management Plan*.
- Roles and responsibilities were not consistent in terms of who had authority for authorizing and permitting certain tasks in the *Community Standards Bylaw*.

Recommendation 5

Update guiding documents

Review and update the guiding documents relating to Forestry Services to improve their clarity, accuracy, and consistency.



Responsible Party

Branch Manager, Parks and Roads Services



Accepted

Management Response

Administration will review the guiding documents in place to improve their clarity, accuracy, and consistency.

Work is underway to update the Corporate Tree Management Policy and the Guideline for Evaluation of Trees. Parks and Roads Services anticipates presenting to Urban Planning Committee in the Fall of 2020. The remaining guiding documents are anticipated to be reviewed and updated by the implementation date.



Implementation Date

November 30, 2022

Performance Measures

We reviewed measures published in the Urban Forest Management Plan, Council Reports, and City dashboard. The measures reported by Forestry to assess performance should contain understandable methodology, be accurate, have reasonable targets, and have comparable results.

Forestry reports various measures that assess their performance in growing, sustaining, maintaining, protecting and preserving the City's urban forest. The measures are relevant,



however, improvements in the following areas should be considered.

Methodology - explains how and what is being measured.

Accuracy - calculation should be true and correct.

Target - should be achievable

Comparable - results should be comparable over different years.

- Define how the measure is calculated and then update their methodology documentation:
 - Tree condition measure currently uses a combination of assessed value and default value of 70%.
 - Mortality rate measure currently uses trees removed and does not include trees that are marked as “dead” and awaiting removal.
- Improvement to accuracy:
 - Pruning accomplishment indicated that the target was achieved, however, the target was incorrectly calculated. The target would not have been achieved if the target was correctly calculated.
- Consider whether the target is reasonable or achievable:
 - Current mortality rate is less than 1% and the target is less than 10%.
 - Current average lifespan of trees is 20 years and the target is 50 years.
- Consider whether results are comparable:
 - Not clear whether the same methodology or formula was used to calculate the value of trees in the various years.
 - Not clear whether the same methodology and technology was used to measure the canopy coverage.

The Parks and Roads Services Branch is in the process of reviewing and developing measures as part of the City’s Enterprise Performance Management system. This work started in 2019 at the service level and will transition to the sub service level (e.g. Forestry) in 2020.



Recommendation 6
Review performance measures

Review Forestry's publicly reported performance measures to ensure they are understandable, accurate, reasonable, and comparable.


 **Responsible Party**
Branch Manager, Parks and Roads Services

 **Accepted**

Management Response

The Urban Forest Asset Management Plan (UFAMP) currently being developed by Administration will define methodology and set measurable targets.

Administration will ensure publically reported performance measures are understandable, accurate, reasonable, comparable, and aligned with Corporate Strategy.

 **Implementation Date**
May 30, 2022



Conclusion

In this audit, we reviewed the effectiveness and efficiency of Forestry in managing the City's urban forest. There are multiple areas that require improvements. We made two recommendations to improve on effectiveness, two recommendations to improve on efficiency, and two recommendations to improve the guiding documents.

Effectiveness

Tree maintenance is not being completed effectively. For pruning, Forestry should review their plans to ensure workload for annual pruning and pruning cycles can be met. Documenting inspections and verification of invoices can be improved in order to verify that work has been completed and paid appropriately.

Forestry has been effective in completing mandatory training for staff, budgeting and tracking tree watering, and ensuring plans are in place to identify, detect, and deal with pest infestation.

Efficiency

In order to improve efficiency, the tree data should be accurate and complete in order to plan and report on tree maintenance work. There is also an opportunity to optimize the use of Forestry equipment. The City is currently not as cost efficient as contractors for tree pruning and the City should review the tree pruning budget to account for the size of trees being pruned in order to increase efficiency.

The cost to plant and water trees is being completed efficiently. Positive steps are being taken to address the tree data including piloting the use of tablets to record tree information electronically.

Guiding Documents

Forestry should update their guiding documents to improve on clarity, accuracy and consistency. Reported measures should be reviewed to ensure they are described with a clear methodology, are understandable, accurate, and comparable.



We thank the staff in Forestry and Natural Areas for their cooperation and openness in this audit.

Administration Response - Forestry Audit

Recommendation

That the September 18, 2020, City Operations report CR_8097, be received for information.

Executive Summary

Administration worked with the City Auditor during its audit of Forestry Services. The scope of the audit included the documentation, controls, processes, and procedures related to the City's Corporate Tree Management Policy and procedure. The audit contained three objectives:

1. Determine whether the City is effective in maintaining and monitoring their tree inventory.
2. Determine whether the City is efficient in using resources to support a healthy and growing urban forest.
3. Determine whether guiding documents provide clear direction in managing the City's urban forest.

The City Auditor identified areas for improvement across all three objectives and provided Administration with six recommendations to improve the effectiveness, efficiency and guiding documents for maintaining the City's urban forest. Administration accepts and is addressing all recommendations. Work is already underway to complete the Urban Forest Asset Management Plan, update the Corporate Tree Management Policy and update the Guidelines for Evaluation of Trees.

Four of the six actions will be implemented by November 2021, and the remaining actions will conclude by November 2022. The following is a summary of Administration's current and planned activities.

Report

In 2020, the Office of the City Auditor carried out an audit of forestry services focused on the effectiveness and efficiency of forestry operations and provided recommendations to improve these operations. The recommendations align with areas of improvement already identified by Administration, and work already underway.

The Office of the City Auditor made six recommendations to improve the effectiveness and efficiency of maintaining the City's urban forest as well as improvements to the guiding documents:

1. Review pruning service levels and budgeted workload to ensure performance targets can be met within the current budget.
2. Ensure inspections are properly documented and invoices are verified for tree maintenance.
3. Conduct a periodic review of the tree inventory to ensure data is complete and accurate.
4. Review the equipment utilization and identify and implement opportunities to use the forestry equipment more efficiently.
5. Review and update the guiding documents relating to forestry services to improve their clarity, accuracy and consistency.
6. Review Forestry's publicly reported performance measures to ensure they are understandable, accurate, reasonable and comparable.

Response From Administration

Administration is addressing each recommendation as outlined below.

Recommendation 1: Review pruning service levels and budgeted workload to ensure performance targets can be met within the current budget.

Administration accepts this recommendation and has started developing the Urban Forest Asset Management Plan (UFAMP) that will clearly define goals, timelines, budgetary and staffing requirements and measurement and monitoring techniques. The UFAMP will enable Administration to set pruning service levels and meet performance targets. This work will be completed by November 2021.

Recommendation 2: Ensure inspections are properly documented and invoices are verified for tree maintenance.

Administration accepts this recommendation. Building on recent improvements to existing processes and the hiring of dedicated inspectors, the following actions will be taken to refine and formalize the inspection process in order to ensure consistency:

- Create a transparent inspection process with documentation for tracking contractors and internal achievements, including payment approvals.
- Ensure capacity is available for inspections.
- Digitize inspection processes using mapping technology.

Administration will complete the implementation of these actions by November 2021.

Recommendation 3: Conduct a periodic review of the tree inventory to ensure data is complete and accurate.

Administration accepts this recommendation. This work is currently ongoing through the UFAMP, which is under development and will identify gaps in the existing inventory and the resources required to improve inventory data. This includes:

- A refined methodology to more accurately calculate the number of City-owned trees.
- A process to ensure that mandatory fields are streamlined and completed.

Administration will finalize a plan to migrate from paper inputting to digital inputting of inventory data to improve sustainability and timeliness of data entry. This work will be completed by November 2021.

Recommendation 4: Review the equipment utilization and identify and implement opportunities to use the forestry equipment more efficiently.

Administration accepts this recommendation. Building on the fleet utilization work currently underway, Administration will complete a review of forestry equipment utilization by November 2021. The review of equipment utilization will focus on the following:

- Examine lifecycle management of Forestry equipment.
- Establishment of efficiency targets and review of opportunities to improve utilization.
- Creation of a methodology to report equipment utilization.

Recommendation 5: Review and update the guiding documents relating to forestry services to improve their clarity, accuracy and consistency.

Administration accepts this recommendation and will review the guiding documents in place to improve clarity, accuracy and consistency. Work is underway to update the Corporate Tree Management Policy and the Guidelines for Evaluation of Trees. Administration anticipates presenting the updated policy to Urban Planning Committee in the fall of 2020. The remaining guiding documents are anticipated to be reviewed and updated by November 2022.

Recommendation 6: Review Forestry's publicly reported performance measures to ensure they are understandable, accurate, reasonable and comparable.

Administration accepts this recommendation. The UFAMP will define the methodology and set measurable targets. Administration will ensure publically reported performance measures are understandable, accurate, reasonable, comparable and aligned with the UFMP and the City Plan. These actions will be completed by May 30, 2022.

Additional Information

The City's urban forest includes trees on all City-owned boulevards, in open spaces such as parks, and in natural areas on City owned land, such as in the river valley. Edmonton's urban canopy provides environmental, ecological, economic and social benefits to the city and surrounding communities. Effective management of the City's urban forest contributes to the City of Edmonton's strategic objectives of climate resilience by protecting Edmonton's natural environment, minimizing environmental impact and lowering its carbon footprint.

The Corporate Tree Management Policy C456B delineates the roles and responsibilities for managing the City's urban forest. The policy's purpose is to ensure the growth, sustainability, acquisition, maintenance, protection and preservation of trees in the City's urban forest. Administration is currently developing an Urban Forest Asset Management Plan (UFAMP) that will be presented to City Council in 2021. The UFAMP will be Administration's tactical plan to achieve the short and long term objectives set out in the Urban Forest Management Plan, which was approved by Council in 2012.

Since 2018, Administration has improved the stewardship of City's urban forest in the following areas:

1. Process Improvements

Between 2018 and 2020, lean assessments were conducted on three key areas within Forestry Services: tree replacement, pruning, and inventory and assessment. These reviews resulted in the following improvements:

- Streamlined tree replacement program workflow through the identification and elimination of non-value added activities resulting in efficiencies in number of site visits, time and resources;
- Updated processes and standard operating procedures for equipment and vehicle routing and stump grinding;
- Improved processes for the collection and accurate recording of tree pruning data;
- Reallocated resources to ensure completion of pruning assessments and annual work plan; and
- Established standard operating procedures and increased regular pruning inspections.

These improvements are still in effect. Administration continues to look for efficiencies and improvements within the operations.

2. Technology Improvements

Administration intends to continue leveraging technology to improve the inspection and mapping of the tree inventory. In 2019, Administration completed a city-wide canopy cover analysis using fly-over Lidar Technology. The assessment was performed to align with the UFAMP's directive to measure and expand the urban canopy. Edmonton's urban canopy is currently estimated to cover 13.8 percent of land within the city limits.

Since 2019, Administration has been trialing digital handheld devices to improve real-time tracking of forestry data collection in the field. This improvement has resulted in better and more accurate data collection of completed work plans, and reduced the number of visits to the field.

3. Policy and Guideline Updates

Administration presented an updated Corporate Tree Management Policy (C456B) to Urban Planning Committee through April 23, 2019, City Operations report CR_6694, along with an updated Tree Reserve Procedure. These two updates better clarify roles and responsibilities of the City.

In the fall of 2019 and winter of 2020, Administration conducted engagement with stakeholders and citizens about the Corporate Tree Management Policy, the proposed tree bylaw and the UFAMP. The focus of the engagement was on understanding public perception of how Edmonton's urban forest is managed, preserved, and protected, and asked citizens how they would like to see it managed.

Next Steps

Administration will continue to implement the action plans indicated in the responses to the City Auditor's recommendations and ensure they are completed within the specified time frame.

Corporate Outcomes and Performance Management

Corporate Outcome(s): Condition of Success			
Outcome(s)	Measure(s)	Result(s)	Target
Effective and efficient service delivery.	Completed action plans as per audit recommendations.	TBD	Recommendations will be implemented by Q4 2022 (ongoing).

Others Reviewing This Report

- M. Persson, Chief Financial Officer and Deputy City Manager, Financial and Corporate Services
- C. Owen, Deputy City Manager, Communications and Engagement
- J. Meliefste, Acting Deputy City Manager, Integrated Infrastructure Services
- K. Armstrong, Deputy City Manager, Employee Services
- R. Smyth, Deputy City Manager, Citizen Services
- S. McCabe, Deputy City Manager, Urban Form and Corporate Strategic Development
- B. Andriachuk, City Solicitor

Office of the City Auditor Recommendation Follow-up Dashboard Report

As at September 8, 2020

Recommendation

That the September 18, 2020, Office of the City Auditor report OCA00037, be received for information.

Executive Summary

This report presents a status update of the Office of the City Auditor's recommendations as at September 8, 2020.

Report

As at September 8, 2020, Administration has 35 recommendations from the Office of the City Auditor that are outstanding. Based on the implementation dates provided by Administration, 21 of these recommendations are not yet due and 14 are overdue. In the period since our last report (June 16, 2020) Administration closed 2 recommendations.

Policy

Bylaw 16097, Audit Committee Bylaw, Section 14 (c) states that, "Committee will review all reports from the City Auditor dealing with implementation of audit recommendations."

Public Engagement

Public engagement was not required for this report.

Attachment

1. Office of the City Auditor - Recommendation Follow-up Dashboard Report As At September 8, 2020



City of Edmonton Office of the City Auditor

Recommendation Follow-up Dashboard Report

As At September 8, 2020

There are 35 outstanding recommendations: 21 are not yet due and 14 are overdue.



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Closed Recommendations

In the period since our last report (June 16, 2020) the administration **closed 2 recommendations**

Project Name	Department	Recommendation
1. Edmonton Transit Service Revenue Management Audit	City Operations	Rec 6 - Mitigate Fare Evasion
2. Parks and Roads Service Yard Operations Audit	City Operations	Rec 3 - Develop a Standard and Prioritize Improvements

Overdue Recommendations


There are 14 overdue recommendations.

More than one year overdue:

Project Name	Department	Recommendation	Months Overdue	Revised Due Date
1. Africa Centre Governance and Management Review	Africa Centre Board of Directors	Rec 2 - Update Governing Documents	14	11/30/2020

Less than one year overdue:

Project Name	Department	Recommendation	Months Overdue	Revised Due Date
2. Edmonton Transit Service Revenue Management Audit	City Operations	Rec 5 - Document Performance Measures Methodology	9	12/15/2019
3. Accounts Payable Audit	Financial and Corporate Services	Rec 2 - Improve Controls over Accounts Payable System	8	12/31/2019
4. Edmonton Economic Development Corporation (EEDC) Audit	Edmonton Economic Development Corporation	Rec 3 - Review and Update Objectives of EEDC's Innovation System	8	12/31/2019
5. Edmonton Economic Development Corporation (EEDC) Audit	Edmonton Economic Development Corporation	Rec 5 - Ensure Performance Measures are Sufficient, Reliable, Understandable and Comparable	7	2/1/2020
6. Residential Infill Audit	Urban Form and Corporate Strategic Development	Rec 2 - Development Permit Review	5	10/30/2020
7. Ukrainian Canadian Archives and Museum of Alberta Investigation	Urban Form and Corporate Strategic Development	Rec 1 - Clear Funding Agreement Terms and Conditions	5	3/31/2020



	Project Name	Department	Recommendation	Months Overdue	Revised Due Date
8.	Edmonton Transit Service Revenue Management Audit	City Operations	Rec 8 - Improve Safeguards for Fare Media	5	3/31/2020
9.	Conflict of Interest Management Audit	Employee Services	Rec 3 - Ensure All Employees have Completed the Code of Conduct Training	5	3/31/2020
10.	Conflict of Interest Management Audit	Office of the City Manager	Rec 4 - Provide Ongoing Conflict of Interest Communication and Easily Accessible Information and Tools	5	3/31/2020
11.	Edmonton Economic Development Corporation (EEDC) Audit	Edmonton Economic Development Corporation	Rec 1 - Update EEDC's Governing Documents	4	12/31/2020
12.	Edmonton Transit Service Revenue Management Audit	City Operations	Rec 2 - Improve Program Reporting	2	6/30/2020
13.	Edmonton Transit Service Revenue Management Audit	City Operations	Rec 3 - Document Support for Inputs and Assumptions	2	6/30/2020
14.	Edmonton Transit Service Revenue Management Audit	City Operations	Rec 4 - Enhance Non-Fare Revenue Strategies	2	6/30/2020

Recommendations Not Yet Due

There are 21 recommendations that are **not yet due**.

Project Name	Department	Recommendation	Months Until Due	Due Date
1. Communications and Engagement Department Audit	Communications and Engagement	Rec 2 - Standardize Processes	1	9/30/2020
2. Communications and Engagement Department Audit	Communications and Engagement	Rec 4 - Finalize Performance Measures	1	9/30/2020
3. Parks and Roads Service Yard Operations Audit	City Operations	Rec 4 - Review and Optimize Existing Yard Space	2	10/30/2020
4. Access to Digital Assets	Office of the City Manager	Rec 2 - Correct Identified Weaknesses with Access Control Processes	2	10/31/2020
5. Emergency Management Governance and Risk Assessment Audit	Citizen Services	Rec 1 - Strategic Plan and Performance Management Framework	4	12/20/2020
6. Emergency Management Governance and Risk Assessment Audit	Citizen Services	Rec 2 - Update Governing Documents	4	12/20/2020
7. Emergency Management Governance and Risk Assessment Audit	Citizen Services	Rec 3 - Hazard Identification and Risk Assessment	4	12/20/2020
8. Edmonton Economic Development Corporation (EEDC) Audit	Edmonton Economic Development Corporation	Rec 2 - Align Risk Management Process with Best Practice	4	12/31/2020
9. 2017 Municipal Election	Office of the City Clerk	Rec 1 - Information Technology Support	4	12/31/2020

Project Name	Department	Recommendation	Months Until Due	Due Date
10. Residential Infill Audit	Urban Form and Corporate Strategic Development	Rec 3 - Zoning Bylaw Updates	4	12/31/2020
11. Residential Infill Audit	Urban Form and Corporate Strategic Development	Rec 4 - Use of Term "Infill"	4	12/31/2020
12. Conflict of Interest Management Audit	Office of the City Manager	Rec 2 - Develop Clear Guiding Documents Tailored to Needs and Risks	5	1/31/2021
13. Conflict of Interest Management Audit	Office of the City Manager	Rec 1 - Update the Conflict of Interest Program Governance Framework	6	2/28/2021
14. Evaluated Receipt Settlement Audit	Financial and Corporate Services	Rec 1 – Design and Implement an ERS Administrative Directive	7	3/31/2021
15. Evaluated Receipt Settlement Audit	Financial and Corporate Services	Rec 2 – Perform Regularly Scheduled Operational Processes in Support of Monitoring Controls	7	3/31/2021
16. Parks and Roads Service Yard Operations Audit	City Operations	Rec 1 - Develop a Plan for Yards	10	6/30/2021
17. Communications and Engagement Department Audit	Communications and Engagement	Rec 1 - Document Position Work Tasks and Responsibilities	10	6/30/2021
18. Communications and Engagement Department Audit	Communications and Engagement	Rec 3 - Review and Communicate Services	10	6/30/2021
19. Communications and Engagement Department Audit	Communications and Engagement	Rec 5 - Increase Communication with Business Areas	10	6/30/2021
20. Information Technology – Disaster Recovery Planning	Financial and Corporate Services	Rec 1 - Fully Implement the Disaster Recovery Program	16	12/31/2021

Project Name	Department	Recommendation	Months Until Due	Due Date
21. Communications and Engagement Department Audit	Communications and Engagement	Rec 6 - Identify and Resolve Service Model Exceptions	16	12/31/2021

This project was conducted in accordance with the
*International Standards for the Professional Practice of
Internal Auditing*

Administrative Update to the Auditor's Dashboard

Recommendation

That the September 18, 2020, Office of the City Manager report OCM00009 be received for information

Executive Summary

The Administrative Update on Auditor Dashboard provides the status on audit recommendations that are more than six months overdue. For this reporting period, there are four recommendations that are more than six months overdue, as outlined below.

Report

18448 - Edmonton Transit Service Revenue Management Audit

Rec 5 - Document Performance Measures Methodology

Administration began a review of the ETS Performance Management Framework in the first quarter of 2020. The new EPM measures have been reviewed and documentation for the EPM Performance Measure Inventory is being finalized. This work was delayed due to COVID-19. However, the updated inventory will be completed for review at the end of September 2020.

Administration expects that final actions to fully implement the recommendation will be complete for review and closure by the City Auditor by October 31, 2020.

18439 - Accounts Payable Audit

Rec 2 - Improve Controls over Accounts Payable Systems

Administration has implemented the following components of this recommendation:

- Periodically review user listings to restrict access to appropriate personnel
- Reconcile transactions between the invoicing application and the accounting system on a periodic basis
- Implement mitigating controls over identified incompatible roles

The following component of recommendation 2 remains outstanding:

- Implement a detective control to identify duplicate payments across multiple platforms

The delay in completing the above recommendation is due in part to the complexity of designing this control between multiple payment streams. A project plan has been developed that meets industry standards for fraud detection.

The project is on schedule and is expected to be implemented in December 2020

Expected implementation timelines for the following action items are:

- September 2020: Data mining of high risk data for purchase order and non-purchase order stream; create sample dashboard
- October 2020: launch reports for purchase order and non-purchase order stream; data mining of high risk data for credit card stream
- November 2020: launch reports for credit card stream
- December 2020: launch reports for cross streams

Administration expects that final actions to fully implement the recommendation will be complete for review and closure by the City Auditor by December 31, 2020.

19454 - Edmonton Economic Development Corporation (EEDC) Audit Rec 3 - Review and Update Objectives of EEDC's Innovation System

The responsibility for the innovation system has been transferred from Edmonton Economic Development Corporation to Innovate Edmonton, a new entity. Administration is preparing governing documents as the new entity is legally established, and the objectives for the innovation system will be updated by the CEO and the board.

In August 2020, a new board for Innovate Edmonton was recruited, with Council as sole shareholder of the new entity.

Recruitment for the Chief Executive Officer of Innovate Edmonton is underway.

Administration expects that final actions to fully implement the recommendation will be complete for review and closure by the City Auditor by December 31, 2020.

19454 - Edmonton Economic Development Corporation (EEDC) Audit Rec 5 - Ensure Performance Measures are Sufficient, Reliable, Understandable and Comparable

EEDC is operating under their new name, Explore Edmonton. Administration has developed new funding agreements for Explore Edmonton and Innovate Edmonton that include specific performance reporting requirements. The reporting requirements will help Council assess how well these entities' are successful in implementing strategic and business plans, and reflect their mission and values.

Administration expects that final actions to fully implement the recommendation will be complete for review and closure by the City Auditor by December 31, 2020.

Corporate Outcomes and Performance Management

Corporate Outcome(s): Conditions of Success			
Outcome(s)	Measure(s)	Result(s)	Target(s)
Timely closure of audit recommendations.	Number of audit recommendations more than six months overdue	Four recommendations are more than six months overdue:	Anticipated completion date:
		18448 - Edmonton Transit Service Revenue Management Audit Rec 5 - Document Performance Measures Methodology	October 2020
		18439 - Accounts Payable Audit Rec 2 - Improve Controls over Accounts Payable Systems	December 2020
		19454 - Edmonton Economic Development Corporation (EEDC) Audit Rec 3 - Review and Update Objectives of EEDC's Innovation System	December 2020
		19454 - Edmonton Economic Development Corporation (EEDC) Audit Rec 5 - Ensure Performance Measures are Sufficient, Reliable, Understandable and Comparable	December 2020

Others Reviewing

- M. Persson, Deputy City Manager and Chief Financial Officer, Financial and Corporate Services
- C. Owen, Deputy City Manager, Communications and Engagement
- G. Cebryk, Deputy City Manager, City Operations

- S. McCabe, Deputy City Manager, Urban Form and Corporate Strategic Development
- B. Andriachuk, City Solicitor