



AGENDA

SPC ON UTILITIES AND CORPORATE SERVICES

December 18, 2019, 9:30 AM

IN THE COUNCIL CHAMBER

Members

Councillor W. Sutherland, Chair

Councillor P. Demong, Vice-Chair

Councillor G. Chahal

Councillor D. Colley-Urquhart

Councillor D. Farrell

Councillor R. Jones

Councillor S. Keating

Mayor N. Nenshi, Ex-Officio

1. CALL TO ORDER
2. OPENING REMARKS
3. CONFIRMATION OF AGENDA
4. CONFIRMATION OF MINUTES
 - 4.1 Minutes of the Regular Meeting of the Standing Policy Committee on Utilities and Corporate Services, 2019 October 16
 - 4.2 Minutes of the Regular Meeting of the Standing Policy Committee on Utilities and Corporate Services, 2019 October 28
5. CONSENT AGENDA
 - 5.1 DEFERRALS AND PROCEDURAL REQUESTS
 - 5.1.1 Deferral Request – Proposed Encroachment Bylaw, UCS2019-1555
Deferral to Q1 2020.
 - 5.1.2 Amendment to Purchase and Sale, Option to Repurchase and Housing Agreements (Roscarrock) 3500 17 AV SW, UCS2019-1587
Deferral to no later than 2020 February 19.

5.2 BRIEFINGS

5.2.1 Status of Outstanding Motions and Directions – Q4 2019, UCS2019-1586

6. POSTPONED REPORTS

(including related/supplemental reports)

None

7. ITEMS FROM OFFICERS, ADMINISTRATION AND COMMITTEES

7.1 City of Calgary Water Security, UCS2019-1539

7.2 Plan for Piloting Variable Set-Out for the Black Cart Program, UCS2019-1142

7.3 Waste Management Storage Site Operational Practices - UCS2019-1502

7.4 Corporate Land Strategy – Guiding Document, UCS2019-1579

8. ITEMS DIRECTLY TO COMMITTEE

8.1 REFERRED REPORTS

None

8.2 NOTICE(S) OF MOTION

None

9. URGENT BUSINESS

10. CONFIDENTIAL ITEMS

10.1 ITEMS FROM OFFICERS, ADMINISTRATION AND COMMITTEES

- 10.1.1 Summary of Green Line Real Property Transactions for the Third Quarter 2019, UCS2019-1580
Recommendations, Report and Attachments held confidential pursuant to Sections 23 (Local public body confidences), 24 (Advice from officials) and 25 (Disclosure harmful to economic and other interests of a public body) of *FOIP*, unless The City is required to disclose pursuant to the Expropriation Act (Alberta).

Review Date: 2029 February 12

10.2 URGENT BUSINESS

11. ADJOURNMENT

Members of Council may participate remotely, if required.



MINUTES

SPC ON UTILITIES AND CORPORATE SERVICES

**October 16, 2019, 9:30 AM
IN THE COUNCIL CHAMBER**

PRESENT: Councillor W. Sutherland, Chair
Councillor P. Demong, Vice-Chair
Councillor G. Chahal
Councillor D. Colley-Urquhart (Remote Participation)
Councillor J. Farkas
Councillor D. Farrell
Councillor S. Keating

ALSO PRESENT: Deputy City Manager B. Stevens
Acting City Clerk L. Gibb
Legislative Advisor D. Williams

1. **CALL TO ORDER**

Councillor Sutherland called the Meeting to order at 9:33 a.m.

2. **OPENING REMARKS**

Councillor Sutherland provided opening remarks.

3. **CONFIRMATION OF AGENDA**

Moved by Councillor Keating

That the Agenda for today's Meeting be amended by bringing forward and referring Report UCS2019-1318 to Administration and report back to the Regular Meeting of the Standing Policy Committee on Utilities and Corporate Services on 2019 November 20.

MOTION CARRIED

Moved by Councillor Keating

That the Agenda for the 2019 October 16 Regular Meeting of the Standing Policy Committee on Utilities and Corporate Services be confirmed, **as amended**.

MOTION CARRIED

4. **CONFIRMATION OF MINUTES**

4.1 Minutes of the Regular Meeting of the Standing Policy Committee on Utilities and Corporate Services, 2019 September 18

Moved by Councillor Chahal

That the Minutes of the 2019 September 18 Regular Meeting of the Standing Policy Committee on Utilities and Corporate Services be confirmed.

MOTION CARRIED

5. CONSENT AGENDA

Moved by Councillor Keating

That the following Deferral Request be approved:

5.1 DEFERRALS AND PROCEDURAL REQUESTS

5.1.1 Deferral Request - Report on Notice of Motion C2019-0129 (Extended Producer Responsibility) due to the SPC on UCS by 2019 October to be moved to 2020 January, UCS2019-1303

MOTION CARRIED

5.2 BRIEFINGS

None

6. POSTPONED REPORTS

None

7. ITEMS FROM OFFICERS, ADMINISTRATION AND COMMITTEES

None

8. ITEMS DIRECTLY TO COMMITTEE

8.1 REFERRED REPORTS

None

8.2 NOTICE(S) OF MOTION

None

9. URGENT BUSINESS

None

10. CONFIDENTIAL ITEMS

Moved by Councillor Keating

That pursuant to Sections 23 (Local public body confidences), 24 (Advice from officials), and 25 (Disclosure harmful to economic and other interests of the public body) of the *Freedom of Information and Protection of Privacy Act*, the Standing Policy Committee on Utilities and Corporate Services now recess at 9:33 a.m. to reconvene in Closed Meeting, in the Council Lounge to discuss the following confidential item:

- 10.1.2. Option to Repurchase and Option to Purchase 200 Barclay PR SW, UCS2019-1319

MOTION CARRIED

Committee moved into Public Meeting at 9:55 a.m. with Councillor Southerland in the Chair.

Moved by Councillor Farkas

That Committee rise and report.

MOTION CARRIED

10.1 ITEMS FROM OFFICERS, ADMINISTRATION AND COMMITTEES

- 10.1.1 Amendment to Purchase and Sale, Option to Repurchase and Housing Agreements (Rosscarrock) 3500 17 AV SW, UCS2019-1318

Note: This item was referred at Confirmation of the Agenda.

- 10.1.2 Option to Repurchase and Option to Purchase 200 Barclay PR SW, UCS2019-1319

People in attendance during the Closed Meeting discussions with respect to Report UCS2019-1319:

Clerks: L. Gibb and D. Williams Law: B Graham Advice: B. Stevens and S. McClurg. Observers: T. Benson and A. DeCaria.

A confidential presentation was distributed with respect to Report UCS2019-1319.

Moved by Councillor Farkas

That with respect to Report UCS2019-1319, the following be approved:

That Council:

1. Approve the Recommendations contained in Attachment 2;
2. Direct that Report UCS2019-1319 be forwarded as an item of Urgent Business to the 2019 October 21 Combined Meeting of Council; and
3. Direct the Report, Recommendations, Attachments and Confidential Presentation remain confidential pursuant to Sections 23 (Local public body confidences), 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.

Against: Councillor Farrell

MOTION CARRIED

10.2 URGENT BUSINESS

None

11. ADJOURNMENT

Moved by Councillor Keating

That this meeting adjourn at 9:55 a.m.

MOTION CARRIED

The following item has been forwarded to the 2019 October 21 Combined Meeting of Council:

CONFIDENTIAL URGENT BUSINESS:

- Options to Repurchase and Option to Purchase 200 Barclay PR SW, UCS2019-1319

The next Regular Meeting of the Standing Policy Committee on Utilities and Corporate Services is scheduled to be held 2019 November 20, at 9:30 a.m.

CHAIR

ACTING CITY CLERK



MINUTES

SPC ON UTILITIES AND CORPORATE SERVICES

**October 28, 2019, Immediately upon the adjournment of the SPC on Transportation and Transit
IN THE COUNCIL CHAMBER**

PRESENT: Councillor W. Sutherland, Chair
Councillor P. Demong, Vice-Chair
Councillor G. Chahal
Councillor D. Colley-Urquhart
Councillor D. Farrell
Councillor R. Jones
Councillor S. Keating

ALSO PRESENT: City Clerk L. Kennedy
Deputy City Clerk T. Mowrey
Legislative Coordinator S. Muscoby
Acting Coordinator J. Dubetz
Recorder G. Chaudhary

1. **CALL TO ORDER**

The City Clerk called the meeting of the Standing Policy Committee on Utilities and Corporate Services to order at 10:04 a.m.

2. **ELECTION OF CHAIR**

Following nomination procedures, Councillor Sutherland was elected Chair of the Standing Policy Committee on Utilities and Corporate Services, by acclamation.

3. **ELECTION OF VICE-CHAIR**

Following nomination procedures, Councillor Demong was elected Vice-Chair of the Standing Policy Committee on Utilities and Corporate Services, by acclamation.

4. **ELECTION OF COMMITTEE DESIGNATE TO GREEN LINE COMMITTEE**

Following nomination procedures, Councillor Sutherland was elected Designate to Green Line Committee, by acclamation.

5. **ADJOURNMENT**

Moved by Councillor Demong

That this meeting adjourn at 10:05 a.m.

MOTION CARRIED

The next Regular Meeting of the Standing Policy Committee on Utilities and Corporate Services has been scheduled to be held on 2019 November 20 at 9:30 a.m.

CONFIRMED BY COMMITTEE ON

CHAIR

CITY CLERK

UNCONFIRMED

BRIEFING

**Utilities & Environmental Protection Briefing to
SPC on Utilities and Corporate Services
2019 December 18**

**ISC: UNRESTRICTED
UCS2019-1586**

Status of Outstanding Motions and Directions – Q4 2019

PURPOSE OF BRIEFING

This briefing note summarises the status of Utilities and Environmental Protections's outstanding motions and directions for Standing Policy Committee (SPC) on Utilities and Corporate Services (UCS) as of 2019 December 18.

SUPPORTING INFORMATION

On 2007 February 06, the Personnel and Accountability Committee approved PAC2007-05 Status of Outstanding Motions and Directions, directing Administration to bring forward as an item of business to each Standing Policy Committee, a list of tabled and referred motions and reports for each committee; such lists to be reviewed by each Standing Policy Committee on a quarterly basis.

There are no current or future capital or operating budget implications associated with this status report.

ATTACHMENT(S)

1. Attachment 1 – Status of Outstanding Motions and Directions – Q4 2019

Status of Outstanding Motions and Directions – Q4 2019

ITEM	DATE OF REQUEST	APPROVAL	SUBJECT	MEETING DATE
Scoping Report and Recommendations – Private Waste Management Storage Sites	2018 Nov 19	C2018-1356	Administration to report back to Council through the SPC on Utilities and Corporate Services no later than Q4 2019 with a scoping report on The City's authority to use existing controls to limit the safety hazard, risk and liability of The City of Calgary from the operation of waste management storage sites and to make recommendations for potential policy and potential regulatory requirements to standardize practices that reflect best practices.	2019 December
RFID Technology for Pay-as-you-throw: pilot study	2019 March 20	UCS2019-0364	Direct Administration to develop a plan for piloting FRID technology for PAYT and report back to SOC on UCS no later than Q4 2019	2019 December
Water Security Strategy	2019 May 13	C2019-0648	Direct Administration to provide an update on The City of Calgary's Water Security Strategy no later than Q4 2019.	2019 December
Extended Producer Responsibility	2019 February 4	C2019-0129	Administration to cooperate with other Alberta municipalities, AUMA, producers and recyclers of packaging and paper products, and the Province of Alberta to develop a baseline that can inform the design of a provincial EPR program by researching: <ul style="list-style-type: none"> The benefits, challenges, and risks of an EPR program in Alberta for these groups and their constituents; The current recycling systems and supply chains across the province, and potential impacts of an EPR program in Alberta; and report back through the SPC on Utilities and Corporate Services no later than 2019 October. Deferred to January 2020.	2020 January



Status of Outstanding Motions and Directions – Q4 2019 Continued

ISC: Unrestricted

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ITEM	DATE OF REQUEST	APPROVAL	SUBJECT	MEETING DATE
Lead Water Pipe Removal Options	2019 December 3		Direct Administration to prepare a report on accelerated removal of lead water pipes, from both public and private sector properties, returning to council through SPC on UCS no later than Q1 2020, considering: <ul style="list-style-type: none"> Estimated costs and funding options Opportunities for collaboration and cost sharing with private property owners and the Government of Alberta Timelines 	2020 Q1
Scoping Report for Privatization of up to 25% of Residential Black Cart Collection Services	2019 November 18	C2019-1467	Direct Administration to: <ul style="list-style-type: none"> Report back to the SPC on UCS no later than April 2020 on the scoping and development of a RFP to contract out up to 25% of residential black cart collection services/ and Report back to the SPC on UCS no later than Q4 2020 on the results of the RFP and a timeline for an implementation goal of Q1 2022 	2020 April 2020 Q4
Industry Feedback – 2018 Collection Services Review	2019 January 23	UCS2019-0113	Direct Administration to solicit feedback from the waste and recycling collection services industry regarding the 2018 Collection Services Review report and to assess and pursue service efficiency opportunities identified in that same report and return to Utilities and Corporate Services Committee by Q2 2020 with findings.	2020 Q2
Cost Analysis for the Potential Reintroduction of Fluoride into the Water System	2019 October 29	CPS2019-0965	Direct Administration to undertake a full cost analysis for the potential reintroduction of fluoride into the water system including ongoing projected operational costs, City's authority and jurisdiction with regard to fluoridation, capital cost and possible utility rate impacts; and report	2020 Q2



UCS2019-1586
Attachment 1

Status of Outstanding Motions and Directions – Q4 2019 Continued

ISC: Unrestricted

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ITEM	DATE OF REQUEST	APPROVAL	SUBJECT	MEETING DATE
			back directly through the Priorities and Finance Committee no later Q2 2020	
Annual Water Efficiency Plan update	2005 December 12	UE2005-55	Administration to report back to the SPC on Utilities and Corporate Services annually with updates on progress towards "30 in 30" goal.	2020 May
Flood Resiliency and Mitigation annual report	2014 December 02	PFC2015-0777	Administration to report back to the SPC on Utilities and Corporate Services annually on progress related to the recommendations from the Expert Management Panel on River Flood Mitigation. (Expert panel recommendation 6f).	2020 May
Annual Corporate Environmental Management Performance	2019 May 15	UCS2019-0460	Direct Administration to change environmental and safety performance reporting frequency from biannual to annual and provide separate corporate performance reports on the following service lines going forward as part of One Calgary: <ul style="list-style-type: none"> • Environmental management. • Organizational health, safety and wellness. 	2020 May
Annual Organizational Health, Safety and Wellness Performance	2019 May 15	UCS2019-0460	Direct Administration to change environmental and safety performance reporting frequency from biannual to annual and provide separate corporate performance reports on the following service lines going forward as part of One Calgary: <ul style="list-style-type: none"> • Environmental management. • Organizational health, safety and wellness. 	2020 May



UCS2019-1586
Attachment 1

Status of Outstanding Motions and Directions – Q4 2019 Continued

ITEM	DATE OF REQUEST	APPROVAL	SUBJECT	MEETING DATE
Single Use Items Reduction Strategy and Implementation Plan	2019 May 15	UCS2019-0370	Administration to develop a single-use items reduction strategy and implementation plan to return to Committee with a strategy no later than Q3 2020.	2020 Q3
Variable Stormwater Rate Structure	2018 July 30	UCS2018-0884	Administration to develop an implementation plan for a variable stormwater rate structure and report back to Council by Q4 2020 for potential implementation for the 2023 to 2026 business cycle.	2020 Q4
Extra Strength Surcharge Parameters for Wastewater	2018 July 30	UCS2018-0884	Administration to report back on rates and limits for wastewater extra strength surcharge parameters no later than 2020 November.	2020 November
Water, Wastewater and stormwater rates for 2023-2026	2018 July 30	UCS2018-0884	Administration to develop water, wastewater and stormwater rates for 2023-2026 that recover 100% of the cost of service for each customer class.	2022



**Utilities & Environmental Protection Report to
SPC on Utilities and Corporate Services
2019 December 18**

**ISC: UNRESTRICTED
UCS2019-1539**

City of Calgary Water Security

EXECUTIVE SUMMARY

The purpose of this report is to provide Council with an update on water security for The City of Calgary (The City). Water security is having enough safe water for human well-being, ecosystem resilience and economic activities now and in the future. Water security also ensures a suitable supply of water exceeds demand.

Today, The City has a secure water supply serving 1.3 million people daily. The security of this service is achieved by managing Calgary's source water supply, managing demand through water conservation and investing in operational efficiencies in our water treatment and distribution systems. Our future water security outlook will deteriorate if we do not respond to three key risks: a changing climate, regulatory and water licence limits, as well as population and economic growth pressures.

This report outlines six priority actions to address these risks to ensure water security is maintained into the future:

- Develop future water supply scenarios
- Address water licence limits on high demand days
- Ensure collaboration on a regional solution for water security
- Advocate for new upstream reservoir on the Bow River
- Finalize the Drought Management Plan
- Finalize the Source Water Protection Plan and Policy

Council's awareness and support of these actions and advocacy with other orders of government and watershed stakeholders will advance water security for Calgarians and The City's water customers.

ADMINISTRATION RECOMMENDATION:

That the Standing Policy Committee on Utilities and Corporate Services recommend that Council direct Administration to:

1. Report on water security annually as part of the Water Utility update to the Standing Policy Committee on Utilities and Corporate Services, and;
2. Report on the Source Water Protection Plan and Policy by end of Q2 2020.

PREVIOUS COUNCIL DIRECTION / POLICY

On 2019 May 13, the Water Utility (The Utility) facilitated a Strategic Meeting of Council (C2019-0648) on Integrated Watershed Management, which included a recommendation:

- (1) That Council, using today's discussion as input, direct Administration to provide an update to Council with short and long-term recommendations, through the SPC on Utilities and Corporate Services, on The City of Calgary's Water Security Strategy no later than Q4 2019.

BACKGROUND

The United Nations and governments around the world, including Canada are highlighting water security as a critical global issue. Central to this issue is the question: "*Will there be enough*

City of Calgary Water Security

water to meet the needs of citizens, the environment, and ensure a sustainable economy in the future?". The City has a secure water supply serving more than 1.3 million people daily. To maintain this water secure future, The Utility is carefully managing The City's water licences to accommodate growth for the next two decades within the limited water resources in Southern Alberta. However, with a changing climate and a growing population Calgary is not immune to water security challenges. Actions taken today with a view to the future will work towards a water secure future for generations to come.

INVESTIGATION: ALTERNATIVES AND ANALYSIS

Water security is maintained as long as a suitable supply of water exceeds demand. Recognizing there are water supply limitations in the region, The Utility has invested significantly in water treatment and distribution infrastructure as well as water efficiency programming for customers. Through these investments, The City continues to protect and manage water resources, and delivers safe, clean and reliable drinking water to one in three Albertans.

Over the past decade, three risks have emerged that challenge the balance of water supply and demand. The following risks require The City to take an integrated and adaptive long-term management approach to ensure future water security:

- A changing climate, which introduces uncertainty regarding water quality and quantity in the future, including disruptive events like drought;
- Regulatory and water licence limits that impact river water availability; and
- Population and economic growth pressures that change Calgary's balance of water supply and demand.

To date, The Utility has managed these risks through infrastructure investments, programs and policies that achieve water security outcomes in water supply (the amount and quality of water supply), water demand (how much water customers use) and systems operations (the infrastructure that delivers the water service) (Figure 1).

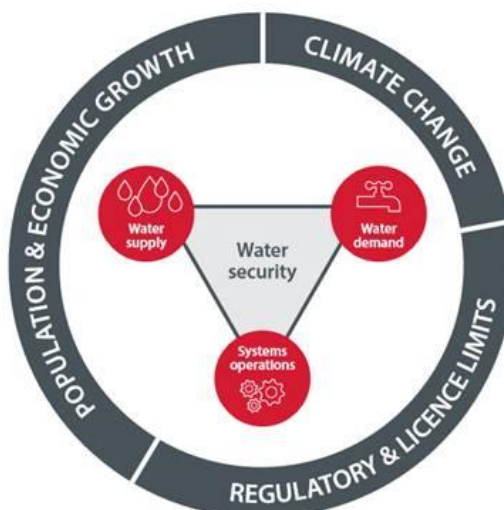


Figure 1. Key risks and water security elements

City of Calgary Water Security

Examples of these programs and policies include implementation of the Source Water Protection Plan, development of an updated Drought Management Plan, and collaboration with the Calgary Metropolitan Region Board (CMRB) on regional planning. The Utility has also invested in the new Glenmore Gates for the Glenmore Reservoir and advanced treatment technologies to improve water security.

Focused efforts on prioritizing new and existing work will be critical to managing the risks identified in an integrated and fiscally responsible manner.

One Calgary One Water: A framework for Calgary's water secure future (Attachment 1) expands on the top risks identified that will impact water security now and in the future. The Framework also highlights The Utility's key initiatives and the following near-term actions to manage risks:

- Develop future water supply scenarios
- Address water licence limits on high demand days
- Ensure collaboration on a regional solution for water security
- Advocate for a new upstream reservoir on the Bow River
- Finalize the Drought Management Plan
- Finalize the Source Water Protection Plan and Policy

Council's awareness and support of these actions and advocacy with other orders of government and watershed stakeholders will advance water security for our customers. Administration will provide an annual progress update to Council, which will include a report back on these six actions.

Stakeholder Engagement, Research and Communication

Administration engaged Council at the 2019 May 13 Strategic Session to explore issues of water security. Through open-ended dialogue, an interactive water supply exercise and presentations from subject matter experts, Councillors were able to explore water security and its connection to city-building. This input was used in developing this Framework.

The CMRB and its members are key stakeholders in regional water supply and servicing discussions. The City of Calgary continues to participate in building a sustainable regional growth and servicing plan.

Strategic Alignment

One Calgary One Water: A framework for Calgary's water secure future aligns to:

- The Government of Alberta's *Water for Life Strategy* that identifies goals of safe, secure drinking water supply, healthy aquatic ecosystems and reliable, quality water supplies for a sustainable economy.
- Council's One Calgary directive: Integrated watershed management is essential to protect public health and the environment, while strengthening our resiliency to a changing climate. Calgary must develop our communities with a focus on achieving future water security and a sustainable water supply.
- Corporate plans including the Climate Resilience Strategy (2018) and The Resilient Calgary Strategy (2019).

**Utilities & Environmental Protection Report to
SPC on Utilities and Corporate Services
2019 December 18**

**ISC: UNRESTRICTED
UCS2019-1539**

City of Calgary Water Security

Social, Environmental, Economic (External)

Water security is an essential component of livability in any urban environment. A water secure future will make life better every day for citizens, communities and businesses. Water security is critical for public health and strengthens the ability to attract and retain businesses, promote recreation and tourism, benefit from healthy watersheds and continue to live in safe and resilient communities.

Financial Capacity

Current and Future Operating Budget:

Strategic priorities and actions to achieve water security priorities are incorporated in the 2019-2022 Utilities operating budget.

Current and Future Capital Budget:

Additional capital budget is not required during this business cycle.

Risk Assessment

Although The Utility is confident in Calgary's water security today, there is risk of future demand for water exceeding the supply. This potential could jeopardize The City's levels of service, result in increased programming and infrastructure costs, and limit when and where water services can be delivered to new customers. Proactive near-term actions, refreshed as new data becomes available, will help mitigate these risks.

Due to the various stakeholders involved in water security, there continues to be uncertainty in how this issue will be addressed more broadly. Current provincial support for climate change research and initiatives is limited. The implications of the CMRB's Regional Growth and Servicing Plans for Calgary's water security are not yet determined. The future of Calgary's water licencing and regulatory environment requires action to ensure access to The City's full water licences. If these or other risks to Calgary's water security require urgent attention from Council, we will communicate with Council outside of the Annual Water Utility Update.

REASON(S) FOR RECOMMENDATION(S):

1. The One Calgary One Water: A framework for Calgary's water secure future is needed to influence and align with municipal, regional, and provincial policies and regulations as the framework articulates The City of Calgary's commitment to specific actions that advance water security.
2. Administration is actively managing risks to water security and will provide Council updates on progress through the Annual Water Utility Update.
3. Council support is needed to ensure source water protection is a consideration in City and regional planning and development decisions.

ATTACHMENT(S)

1. Attachment 1 – One Calgary One Water: A Framework for Calgary's Water Secure Future



One Calgary One Water

A framework for Calgary's water secure future

December 2019

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Shaping a water secure future

Calgary is a big city on a small river

For thousands of years, people have met at the confluence of the Bow and Elbow rivers. These rivers are the lifeblood of Calgary—they provide safe drinking water, clean water for the natural environment and a reliable water source to support Calgary's economy.

Calgary has grown to become a big city on a small river. Limited water availability and declining water quality have already been experienced in other semi-arid regions around the world and water is a limited resource in Southern Alberta. The United Nations and governments across the world, including Canada, are highlighting this critical global issue.

Careful management of Calgary's water supply and demand, investing in efficiencies and managing the operations of Calgary's water treatment and distribution systems ensures there is a secure water supply for The City of Calgary's (The City's) customers now and in the near future. The Water Utility (The Utility) continues to plan for long-term water security by addressing the critical question... **will there be enough water to meet the needs of customers, the environment and ensure a sustainable economy in the future?**

To answer this question, The Utility is taking an adaptive management approach to water security planning. Adaptive management allows for decision making in the face of uncertainty. It improves long term management outcomes by balancing the best short term actions based on current knowledge with monitoring and feedback that improves learning and adjusts actions over time.

The region's water supply is fundamentally changing. River flows and water quality seen in the past will be very different in the future because of a changing climate. Over the next several years, work will be completed to better understand the impacts while continuing to manage emerging risks.

OUR RELATIONSHIP TO WATER

The City of Calgary has a secure water supply serving more than 1.3 million people. With a changing climate and a growing population, Calgary is not immune to water security challenges in the future.

Cities around the world that have experienced historic droughts have highlighted the need to have sustainable, reliable and diversified water security options. For example, Austin Water's 100-year plan shifts the way Austin thinks about its water resources by looking for new storage options and maximizing local water reuse opportunities.

What is water security?

Water security is a complex concept that can be framed at the global, national, provincial and local scale. In 2018, the UN launched the Water Action Decade to mobilize action on water security to address health, education, ecosystems, human rights, and economic development. The UN defines water security as:

“The capacity of a population to safeguard sustainable access to adequate quantities of an acceptable quality water for sustaining livelihoods, human well-being, and socio-economic development, for ensuring protection against water-borne pollution and water-related disasters, and for preserving ecosystems in a climate of peace and political stability”.

Water Security in Canada

In positioning Canada as an international leader in global water security expertise, a national focus includes creating a better, safer and a more water secure nation. In 2019, a collaboration of scientists and policy experts released the *Water Security for Canadians Initiative*¹ encouraging the federal government to exercise its jurisdiction to prevent a water crisis in Canada.

Water Security in Alberta

The Government of Alberta’s (GoA) 2003 *Water for Life* strategy outlines commitments to safeguard Alberta’s water resources by adopting the following goals:

- Safe, secure drinking water supply
- Healthy aquatic ecosystems
- Reliable, quality water supplies for a sustainable economy.

The 2006 *South Saskatchewan River Basin (SSRB) Water Management Plan* directed water management in Southern Alberta to safeguard existing water users’ supply and protect the aquatic environment. Key to this Plan, the Province is no longer accepting new surface water licence applications to withdraw water from the Bow, Oldman and South Saskatchewan River basins. Municipalities only hold about 20 per cent of the licence allocations in the SSRB. Furthermore, The City’s water licence allocations do not guarantee water availability and licences have daily and annual limits on how much water can be taken from the river, which have direct impacts on Calgary’s water security.

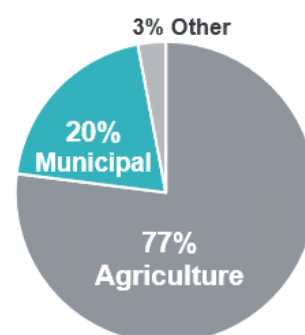


Figure 1: Distribution of water licence allocations in the Bow River Basin. Source: GoA 2007

¹ Global Water Futures, Centre for Indigenous Environmental Resources, Forum for Leadership on Water, POLIS Water Sustainability Project, Centre for Global Studies, University of Victoria and United Nations University Institute for Water, Environment and Health

Water Security and The City of Calgary

Building on the UN and *Water for Life* goals, The City of Calgary defines water security as **having enough safe water for human well-being, ecosystem resilience and economic activities now and for future generations**. This means having the right balance of activities across the following connected ‘levers’ used to influence water security (Figure 2):

1. Supply – the availability and quality of water obtained from the source watershed
2. Demand – how, when and amounts of water used by customers, and
3. Systems Operations – how The Utility manages the infrastructure required to deliver the overall water service.

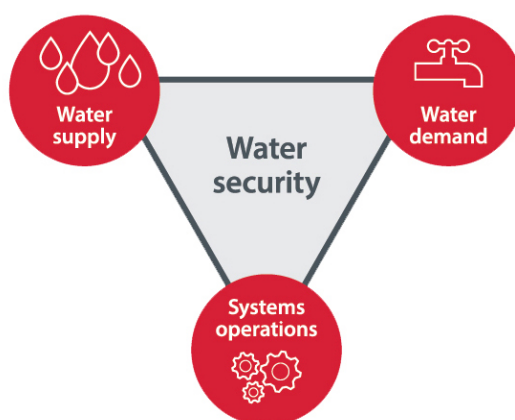


Figure 2. Three levers used to influence water security

This document is intended to create a high level framework for addressing water security across the three levers of influence. This framework articulates:

- **The top risks** that will have a significant influence on water security,
- **Key initiatives** that are being undertaken to manage The City’s water supply, demand and systems operations, and
- **Near term priority actions** to ensure The City can address the question of future water security.

This Water Security Framework (Framework) is aligned to The City’s 2018 Climate Adaptation Action Plan and the 2019 Resilient Calgary Strategy. The Resilient Calgary Strategy is aimed at creating a Calgary that is more resilient in the face of stresses (something that weakens the fabric of a city), and shocks (sudden events). The Framework addresses one of Calgary’s key stresses, climate change, and identifies actions around key shocks, such as extreme weather events and drought. The framework supports The Utility’s One Calgary customer commitments (see sidebar), and the actions identified should help inform and influence decisions at the municipal, regional and provincial orders of government.

ONE CALGARY CUSTOMER COMMITMENTS

Your access to drinking water is reliable and available.

You have drinking water now and for generations to come.

Your drinking water is of high quality and safe to drink.

Calgary's water security risks

Calgary's water security is challenged by three main risks that must be managed in the short and long term: climate change, regulatory and water licence limits, and population and economic pressures. While additional social, economic and environmental risks do exist, these three main risks identified have the most significant impact to future water security.

Climate change

Climate change is altering how and when precipitation falls in Calgary's watershed, affecting both water quantity and water quality. Climate impacts now and in the future are uncertain, but alterations in timing of river flows are expected: mountain snowpack melting may occur earlier in the year, precipitation falling with greater intensity, and summers becoming hotter, drier and longer. Snowmelt may fill reservoirs earlier in the year that need to be sustained to support increased water demands for a longer, hotter outdoor water use season. Increasing temperatures and drought conditions will result in increased water demands and pressure on supply. Southern Alberta is an arid region, inherently susceptible to drought. Severe, multi-year droughts observed in the past include those between 1858-1872, 1930-1941 and dry conditions in the early 2000s. Tree ring evidence suggests that even more severe droughts hit the region in the 1400s, 1500s, and 1700s (Figure 3).

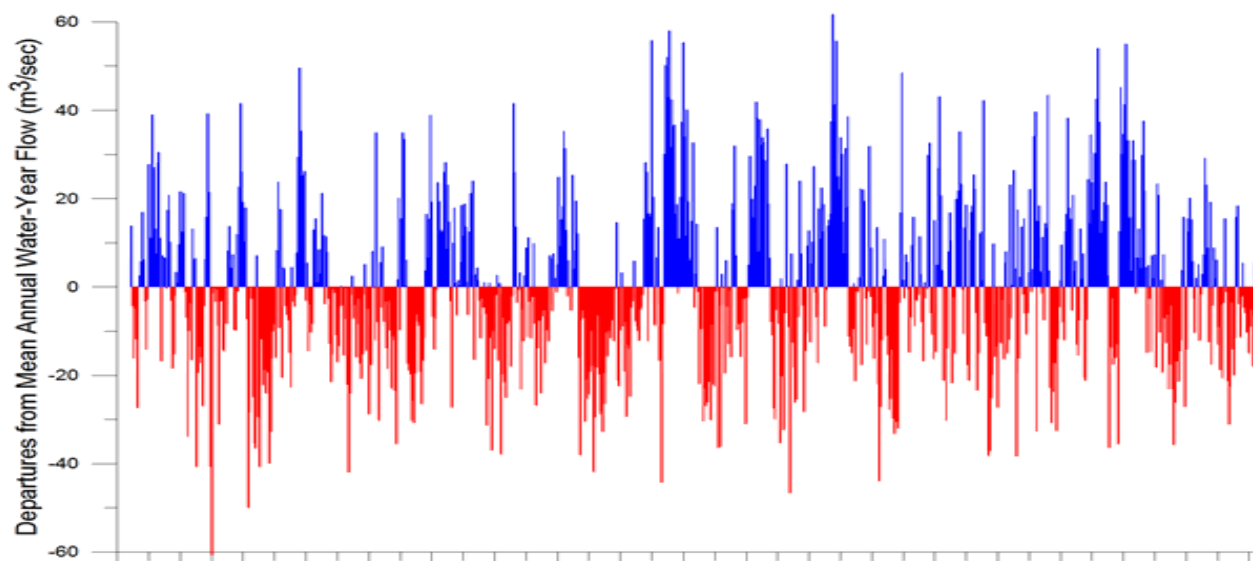


Figure 3. In 2015, The Utility partnered with the University of Regina to conduct tree ring analysis to analyze wet and dry conditions in the Bow Watershed over the past millennium. Decades long periods of drought (shown in red as deficits from the average annual flows) have occurred between 1100 and now.

Climate change is likely to make extreme weather, including severe drought, more common. According to The City of Calgary Climate Adaptation Plan, the average global temperature could increase by up to 4.5°C by the year 2100. Temperature increases for the Calgary region are projected to be higher than the rest of the globe. The risk of drought occurrence in summer or early fall in particular – when demand tends to peak – is likely to increase. Water management practices and storage capacity for both extreme flood and drought are priorities in adapting to the uncertainties of climate change as it relates to water security.

The City is supporting a number of additional studies to better understand water security risks from climate change. In 2018, The City participated in a country wide expert panel that developed recommendations to the Government of Canada on Climate Change Adaptation and Resilience Results. There is also work underway with the Global Water Futures research program through the University of Saskatchewan, examining historical and future flow regimes on the Bow River. This study includes a climate change analysis to develop climate modelling to estimate future flows and flood frequencies. The City is also working with the Province on a new forecasting and modelling platform to examine river flows and improve accuracy of forecasting.

While climate change discussions often focus on water quantity, it is predicted that large, widespread wildfires are also likely to become more frequent in the future. Wildfires that impact source water quality have been identified as one of the highest risks in The City's Source Water Protection Plan.

After a wildfire, water chemistry from burned watersheds changes and includes higher concentrations of nutrients, sediment, metals, dissolved organic carbon and other organics, which can pose significant challenges for water treatment processes. This could mean increased treatment costs, and in some cases a significantly reduced water supply availability if treatment technology cannot address these higher concentrations. To address this risk, The City has also completed a Calgary Wildfire-Source Water Risk Strategy to recommend new tactics and tools to reduce the impact of wildfires on water resources in our watershed.

Regulatory and water licence limits

Regulatory requirements for water and watershed management are complex and challenging to navigate, particularly in a river basin closed to new surface water licences. The City's water licence allocations do not guarantee river water availability, and The City's licences have priority, daily, and total allocation limits. These licences must be managed to meet the short and long term water supply needs of customers and communities. One of the critical challenges identified within the next 20 years is the regulatory limitation on the maximum daily amount of water Calgary can withdraw from The City's water licences.

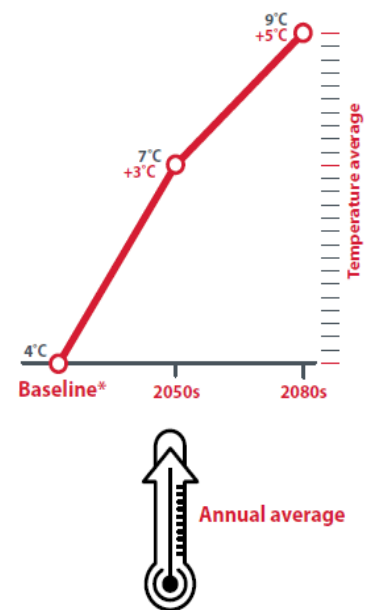


Figure 4. Average temperature increases in the Calgary region are expected to be higher than other parts of the world. (source: Calgary's Climate Resilience Strategy, 2018)

The water treatment plants carefully operate within the maximum day allocation, as indicated by the yellow (bottom) line on the graph below (Figure 5). With current projections of water demand from population growth, The City will not be able to provide the full amount of water demanded on a high volume day by customers by the mid-2030s. To address this operational risk, The City will examine options to increase the maximum daily water diversion rate. This includes discussions with TransAlta (as the owners of the Bearspaw Reservoir) and the Province (The City's regulator) and investigating infrastructure opportunities.

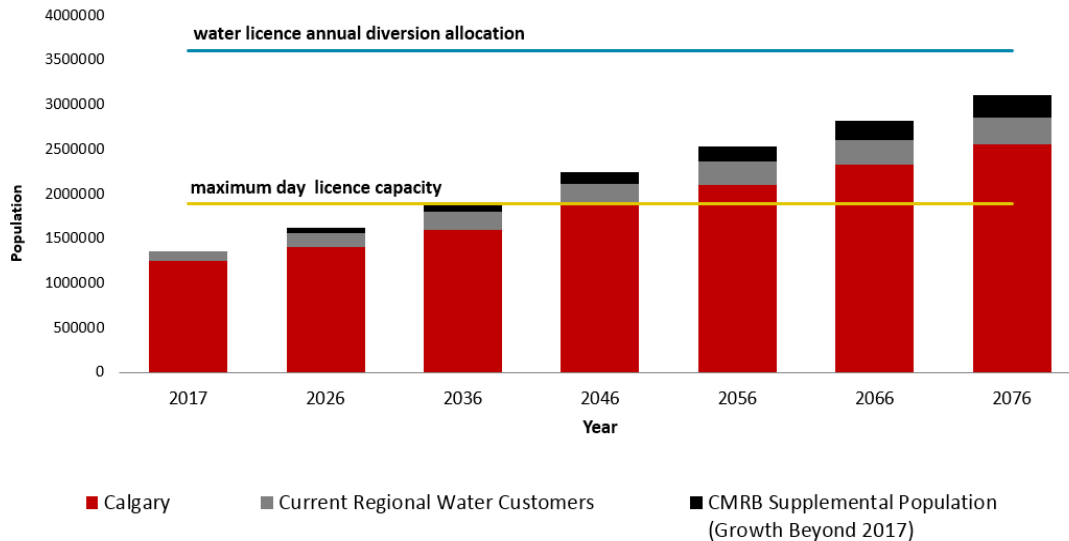


Figure 5. City of Calgary Water Licence Limits

REGIONAL WATER SECURITY

The development of the Calgary Metropolitan Region Board (CMRB) Growth and Service Plans by 2021 presents an opportunity to highlight growth pressures on The City's servicing. This is also an opportunity to explore a regional approach to water security.

Water licence priority and the total annual allocation (blue line at the top of the Figure 5) of Calgary's water licences are important to proactively manage seasonal water supply during times of drought and long term water supply for customers. Long term water supply is fundamentally changing and there is a better understanding that the flows seen in the past, on which current licence allocations are based, will be very different in the future. This creates uncertainty for all licence holders in the region. The City holds relatively large and senior licences compared with smaller municipalities on the Bow and Elbow Rivers. But this licence priority is below other large water users in the basin, mainly the irrigation districts. Currently, The City does not have approval from the Province to withdraw The City's total annual allocation. To address the total annual allocation limit, the growth vision and plan for the Calgary Metropolitan Region Board (CMRB) must be understood in the context of the constraints on water supply. The City will continue to work with the Province, CMRB and other regional stakeholders to establish an adaptive long term water supply management strategy.

Population and economic pressures

Water security is a limiting factor to growth. Population and economic growth put pressure on Calgary's water supply, even as The City continues to invest significantly in infrastructure upgrades and water conservation programming. Multiple and growing water users and needs must be considered within the context of climate uncertainty, to ensure that demand does not exceed supply in the future.

A vibrant and diversified economy is dependent on the secure provision of water. A safe, affordable and reliable water supply is an advantage in attracting and retaining businesses, recreation and tourism, and agricultural production in the region. In the future, growth in water intensive uses (i.e. food and energy production), climate change or an economic downturn may impact water security in terms of competition for water resources and ability to pay for water services.

On the water quality side, water security and land development are inter-related. Growing communities in Calgary and the region will increase stormwater runoff, resulting in higher water supply contamination risks. The City's Source Water Protection Plan identifies stormwater runoff from current and future land development as one of the top risks to the quality of Calgary's water supply.

On 2018 November 14 Council approved the One Calgary 2019-2022 Service Plans and Budgets, (C2018-1158), which included Council Directive (H3) on Integrated Watershed Management. City Council recognized the important relationship between land and water and adopted a Council Directive that *Calgary must develop our communities with a focus on achieving future water security and a sustainable water supply. Accordingly, watershed management must be integrated into our land use policies, plans and decisions....working collaboratively with other orders of government, adjacent municipalities, residents, landowners, developers, businesses and the First Nations.*

Ensuring water supply and demand are balanced and that land use decisions include water supply and water quality considerations will be critical to mitigate the impact of population and economic pressures.

WATER QUALITY AND STORMWATER MANAGEMENT

Recognizing a joint responsibility for stormwater management, The City is engaging with Calgary's urban development industry and other stakeholders to understand their needs and work towards stormwater quality improvement, which contributes to protecting water security.

This is especially important upstream of Calgary's water treatment plants.

Managing water security risks

Calgary's water services have become so reliable that it is easy to forget the level of effort required to deliver safe, clean drinking water to customers in the complex risk environment of climate change, regulatory and water licence limits, and increasing population and economic pressures. The City has made significant investments and implemented a range of programs, policies and operational processes to address each of these risks through the water security levers.

How The City is managing risks is highlighted in the sections below. These risks are interconnected and have the potential to impact multiple levers. The full range of programs and projects The City is undertaking to manage water security risks is provided in the Annual Water Utility Update to Council.

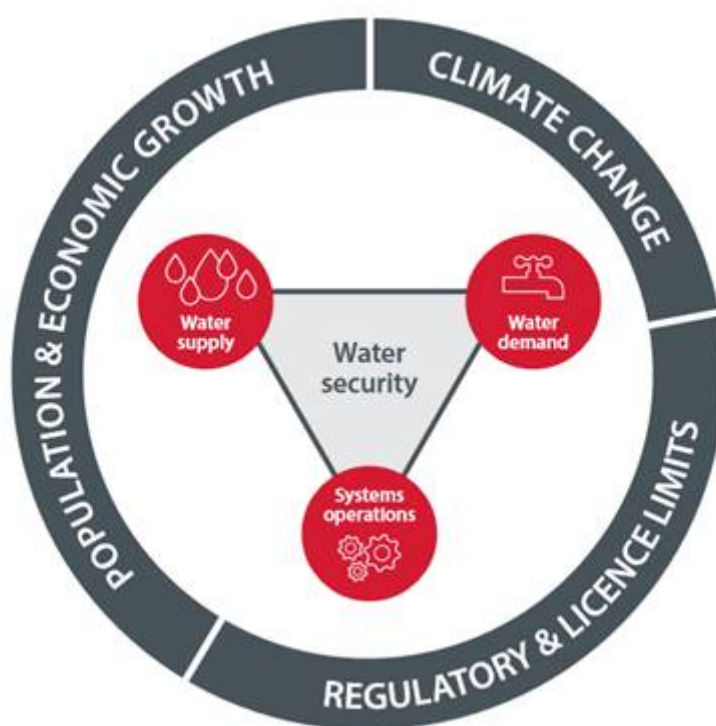


Figure 6. Three key risks that will impact each of the three water security levers



Water Supply

Calgary's water supply is dependent on the quality and quantity of Calgary's source water upstream of its two water treatment plants, and the ability to withdraw source water to meet water demand and system operational requirements. Calgary has two sources of drinking water. The Bow River supplies the Bearspaw Water

Treatment Plant. The Elbow River, which flows into the Glenmore Reservoir, supplies the Glenmore Water Treatment Plant. Both rivers originate in the Rocky Mountains west of Calgary, flowing eastward through the foothills and prairies.

Calgary is located in one of the driest regions of Canada, receiving an average of 419 mm of precipitation per year. Fortunately, the Rocky Mountain headwaters are significantly wetter and cooler, helping to reliably provide clean water downstream to the Calgary region. Water availability changes considerably during the year. Fall, winter, and early spring are characterized by low flows in both the Bow and Elbow Rivers. In contrast, river flows are high during the spring runoff period, which typically starts in May and ends in mid July. A gradual tapering of river flows usually occurs during summer and early fall. However, climate impacts will create uncertainty for water supply: earlier and more snow melt; hotter and drier summers and higher intensity rainfall events.

Water use in Alberta is strictly controlled by water licences issued under the Provincial *Water Act*. Each licence allocates a maximum annual volume, specifies diversion rate limits (i.e. the rate water can be extracted from one location point on a water body) and is issued with a “priority” number. Priority means that access to the water in each licence is managed in a “first in time, first in right” approach. Since senior licences were mostly granted in the late 1800s and early 1900s, they have priority for water withdrawal over junior licences obtained more recently. The priority system becomes especially important during times of drought or water shortage when a water user’s access to water is based on the licence priority system.

The City holds a portfolio of water licences, dated 1895, 1971, and 1981, which were obtained as Calgary’s water treatment plants were built or expanded. Importantly, most of Calgary’s water allocation is held in relatively junior licences compared with non-municipal licence holders. Managing water use and priority across the basin is a critical component of an overall response during a water shortage.

PROTECTING WATER SUPPLY: 2013 FLOOD

As part of upgrades at the Glenmore Treatment Plant, the Actiflo filtration system allowed the Water Utility to continue to deliver clean drinking water to customers during the 2013 floods. This is remarkable given the rapid influx of sediment laden waters that entered the plant.

Highlights of Water Supply Programs

Advancing programs related to water supply is critical to ensuring there is enough water to meet customer needs – especially during times of drought. Source water protection is important to ensure the watershed remains healthy so that The City can continue to provide affordable, high quality drinking water to Calgarians and customers.

Source Water Protection Plan

Source water protection is the first line of defence to minimize the risk of drinking water contamination. The highest risks to Calgary's source water supply are wildfire and stormwater, which are tied to land management largely outside of Calgary's jurisdiction. A major wildfire in our forested headwaters and further land development with increased stormwater runoff will result in higher contamination risks to our water supply. Completed in 2018, The City's Source Water Protection Plan has 12 implementation actions to reduce source water risks in the Bow River watershed. These actions build resiliency in The City's operations and contribute to water security. The Source Water Protection Plan will be presented to City Council in 2020.

Fit for use water

The Water Utility continues to work with our internal and external partners on rainwater and stormwater use for internal plumbing and irrigation, supporting water reuse projects to proceed in a safe and cost effective manner and reducing risks associated with public health, the environmental, and cross contamination into the Water Utility's infrastructure. In January 2019, the Water Utility provided comments and input to the draft Provincial Water Reuse Guidelines. Currently, the timing for a finalized Provincial guideline is unknown.

Groundwater is not expected to be a significant fit for use option due to physical limitations of aquifer storage and water quality.



Water Demand

Calgary's historically booming population and rapid economic growth placed heavy demands on Calgary's water supply. Since the late 1980s, The City has invested in significant infrastructure and programming to manage water demand (Figure 7).

WATER METERS

Water meters play an important role in conserving water and managing demand. Prompted by the Water Efficiency Plan, today nearly all Calgary homes and businesses have water meters installed as part of the Water Utility Bylaw.

WATER DEMAND DURING DROUGHT

A key component of drought management is a temporary reduction in water use to manage low water supply conditions. If necessary, The City can reduce water demand by restricting outdoor water use if water supply is low.

A key component of water demand management is water conservation and using water efficiently. In the mid-1980s, the Water Utility was planning the expansion of the Bearspaw Water Treatment Plant to produce more drinking water. At that time, water demand was 750 litres per capita per day and it became evident that the ability to provide service at that demand level was unsustainable.

This observation led to the development of the 2005 Water Efficiency Plan (WEP), which has guided water conservation efforts and demonstrated Calgarians' leadership in using water more efficiently. WEP's goal is to hold withdrawals from the river steady at 2003 levels, even with population growth. To do this, the WEP charted a path of programs and initiatives to reduce water consumption by 30 per cent over 30 years, and Calgary is on track to meet this goal.

Significant investments have been made to reduce per capita demand through leak detection, main replacement, water metering, promotion of low flow toilets and faucets, educational programs and water treatment plant upgrades. These demand investments have allowed us to accommodate growth by deferring and better sequencing water treatment plant upgrades.

Highlights of Water Demand Programs

Water security requires us to encourage water efficient customer behavior and to understand demand projections for customers and other users (municipalities, agriculture, hydropower, recreational users etc.) that rely on the same water sources. This allows us to make informed decisions that align infrastructure investments with projected capacity for water efficiency.

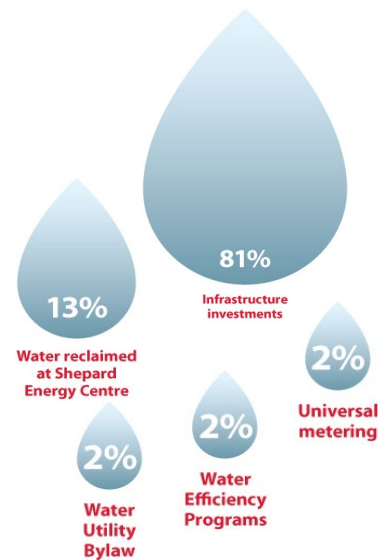


Figure 7: Water Demand in Calgary has decreased through various programs and investments over the years.

Water Efficiency Plan update

The Utility continues to implement program recommendations through the 2016 update of the WEP. This includes a shift in focus away from customer, or user, incentive-based programs to industrial, commercial and institutional customers. A focus on outdoor water conservation programming will also help manage peak day demand, which is the one day each year that Calgarians use the most water. Typically, this occurs in the summer months, as water demand spikes. Keeping this value below current plant capacity ensures that The City can continue to meet water demands without requiring additional infrastructure. A renewed focus on peak day programming will continue to reduce overall water consumption and help achieve The City's 2033 water demand target.

Drought Management

Planning and preparing for drought is an essential part of The City's integrated watershed management work. Drought Operational Guidelines were developed to respond to an immediate need to improve preparedness and decision-making. These guidelines include four drought phases that incorporate water restrictions from the Water Utility Bylaw, a drought communication plan, increased water quality and quantity monitoring, Corporate readiness actions, and communication with the Province, TransAlta and irrigation districts. Establishing the Drought Operational Guidelines are the first step in developing a Drought Management Plan.

GLENMORE GATES

The Glenmore reservoir is a critical component of Calgary's water supply operations.

The City is installing new steel gates and an elevated hoist system on the Glenmore Dam crest, which will provide greater flexibility to manage reservoir storage during low flows in the winter and high flows in the spring.

The new gates will also increase the operational efficiency of the Glenmore Treatment Plant and help build resiliency for Calgary.

The Water Utility is assessing of future drought risk and vulnerabilities under changing climate scenarios to inform the final Drought Management Plan. This risk assessment will guide improved drought management strategies and stakeholder engagement over the next two years. The Drought Management Plan is anticipated to be finalized in 2022.

Demand Forecast model

The Utility is updating its water demand forecast model, which considers all key drivers. The model will provide statistically based outlooks on city, regional and community level water consumption. The model will also incorporate future climate change and economic scenarios to analyze and optimize future demand management programs.



Systems Operations

The City of Calgary owns and operates two drinking water treatment plants: the Bearspaw Water Treatment Plant and the Glenmore Water Treatment Plant. The City also owns and operates an extensive network of underground water supply pipes, treated water storage reservoirs, and pumps. This infrastructure enables the delivery of reliable, high quality drinking water to customers every day.

The Bears paw plant supplies treated Bow River water to North Calgary, while the Glenmore Plant supplies treated water originating from the Elbow River to South Calgary.

The City recognizes that infrastructure needs to work in conjunction with the other users and their assets in the Bow River basin. Extensive operational co-ordination exists between The City, the Province, TransAlta and downstream irrigation districts to ensure adequate river flows for all users and the environment in the SSRB.

Highlights of Systems Operations Programs

Water Long Range Plan

The City is currently updating the Water Long Range Plan (WLRP), which was last completed in 2011. The WLRP projects future water demands, and through a review of various supply strategies, identifies future water supply system requirements and associated capital investments. The WLRP looks at major infrastructure from source to tap including treatment plants, pump stations, reservoirs and transmission mains to ensure service levels are met.

Water Loss Strategy

The City conducts leak detection testing on water infrastructure as a critical part of a maintenance program to reduce water loss. Leaks identified are scheduled for repair, saving hundreds of thousands of litres of water daily.

As part of adaptive management and continual improvement, The Utility is developing a Water Loss Strategy to better understand the use of potable treated water within The Utility's infrastructure and minimize the volume of non-revenue water (i.e. water that is either used or "leaked" before being delivered to rate paying customers). Implementing these strategic changes will make better use of the existing water resources and infrastructure.

SYSTEMS OPERATIONS RESILIENCY

Systems Operation resiliency is covered by multiple approaches:

Water storage in large reservoirs provides a resilient seasonal water supply source for the water treatment plants.

The Utility uses in-system storage and redundancy to ensure we continue to meet our customers' treated water needs.

The Utility's business continuity and emergency management program further contributes to resiliency through preparedness and response strategies including planning for an emergency drinking water supply.

Water security priority actions

The Utility is confident that its current actions and adaptive management approach in the areas of water supply, demand management and systems operations will ensure a secure water supply now, and help Calgary prepare for long-term water security. Addressing the key risks requires both short term actions and a long term outlook. In the near term, there are six priority actions that support building understanding and managing the risks to water security. The actions below focus on the three water security levers discussed – water supply, water demand, and systems operations.

Near term priority actions

1. **Develop future water supply scenarios** - Effective long term management of water security requires future water supply and demand planning scenarios. These scenarios must consider climate change effects. The Utility will develop these scenarios together with options assessment criteria and continue to study how a changing climate affects water yields from the Bow River watershed. This understanding will guide servicing decisions, infrastructure investments, programming, and policies in a fiscally responsible manner leading into the next century.
2. **Address water licence limits on high demand days** – To accommodate projected population growth, The City will examine options to increase the maximum daily water diversion rate. This includes discussions with TransAlta (as the owners of the Bearspaw Reservoir) and the Province (The City's regulator) and investigating infrastructure opportunities.
3. **Ensure collaboration on a regional solution for water security** – Since many stakeholders contribute to water security in the Bow River watershed, The City will continue to work collaboratively with a variety of organizations, stakeholders, and partners to build a shared understanding of water security issues. Through the development and implementation of the CMRB's Regional Growth and Servicing Plans, The City will work with the Province, CMRB and other regional stakeholders to set a long term adaptive water supply and demand management strategy and assess options to achieve long term water security for the region.
4. **Advocate for a new upstream reservoir on the Bow River** - Water management practices and storage capacity for both extreme flood and drought are priorities in adapting to the uncertainties of climate change. The City will continue to advocate for a new provincially owned upstream reservoir on the Bow River as a major component in flood mitigation and drought management for the Calgary region.

5. **Finalize the Drought Management Plan** – Managing for drought ensures Calgary can operate within water shortage shocks and stresses. The City is currently assessing drought risks and vulnerabilities under changing climate scenarios. This work will inform improved drought management adaptation strategies and stakeholder engagement that will be incorporated as part of The City's Drought Management Plan. This plan will be completed by 2022.
6. **Finalize the Source Water Protection Plan and Policy** – Source water protection is critical for water security. The City's Source Water Protection Plan identifies contamination from wildfires and stormwater runoff from land development as the top risks to the quality of Calgary's water supply. The Plan will be presented to City Council in 2020.

Long term planning

Building a resilient future requires taking a long term view of water security and embracing an adaptive management approach across the three water security levers of supply, demand and system operations. This approach requires The City to be comfortable with uncertainty and managing risks that are not fully understood today. New data, changing conditions, external influences and collaboration with stakeholders will continue to inform the path forward. The Utility will provide an annual update to Council on progress made with the six actions, and any new priority actions identified. Actions taken today and over the long term will ensure a water secure future for generations to come.

Plan for Piloting Variable Set-Out for the Black Cart Program

EXECUTIVE SUMMARY

This report presents a plan for piloting the use of Radio Frequency Identification (RFID) technology for a pay-as-you-throw (PAYT) program for residential waste collection customers. PAYT is a solid waste management approach that charges customers based on the amount of garbage they produce. Variable set-out is a type of PAYT program that charges customers based on how often their cart is set out for collection.

Having a portion of a customer's bill reflect how often their cart is set out for collection is common in Europe and is primarily based on RFID technology. While this practice is rare in North America, municipalities like Calgary are beginning to evaluate variable set-out for PAYT. Variable set-out would continue to progress Calgary residential waste services towards a user-pay system, improve fairness, and incentivize customers to divert and reduce waste.

Cart capacity audits conducted by Waste & Recycling Services (WRS) in 2018 and 2019 found that approximately 40 per cent of black carts checked appeared to be, at most, half-full on collection day. This indicates that there is an opportunity for these households to reduce a portion of their garbage costs if they reduce how often they put their carts out for collection.

Variable set-out requires updated technology in WRS' collection fleet, building a system to capture data during collection, and updating the billing system with ENMAX. WRS is currently evaluating new technology for the collection fleet to improve collection efficiency and customer service. The new technology for WRS' collection fleet, anticipated to be in place by mid-2021, presents an opportunity to pilot variable set-out starting in 2021.

To prepare for the pilot, WRS will use a combination of surveys and in-person customer interactions to understand customer behaviour and motivations for setting out carts on collection day. This will allow WRS to evaluate potential cost savings from this program, and inform details of the proposed variable set-out pilot to make it work best for Calgarians.

Exploring and evaluating customer behaviour in 2020 to inform future pilot design will cost approximately \$140,000 and will be funded by the existing operating budget. The customer database and billing system, which will be required for variable set-out, is estimated to cost \$800,000 to \$1.1million. Other costs related to the pilot will depend on the length and scale of the pilot. A report to Council in Q2 2021 will provide additional details for the variable set-out pilot, including feedback from customers, proposed pilot communities, rates that will be piloted, a detailed cost estimate, and a plan for funding the pilot.

Variable Set-Out Pilot Plan

ADMINISTRATION RECOMMENDATIONS:

That the Standing Policy Committee on Utilities and Corporate Services recommend that Council direct Administration to:

1. Explore customer behaviour in 2020 to develop a detailed plan for piloting variable set-out; and
2. Report back to the SPC on UCS no later than Q2 2021 with results from the review of customer behaviour and a detailed pilot plan including proposed pilot communities, rates that will be piloted, a detailed cost estimate, and a plan for funding the pilot.

PREVIOUS COUNCIL DIRECTION / POLICY

On 2019 April 08, Council approved the recommendations in the Financial Model: Pay-As-You-Throw for the Residential Black Cart Program report (UCS2019-0364). The report recommended introducing a tag-a-bag program for residential garbage collected outside of the black cart starting no later than Q2 2020 and developing a plan for piloting RFID technology for PAYT and reporting back to SPC on UCS no later than Q4 2019.

BACKGROUND

WRS has explored several options for introducing pay-as-you-throw (PAYT) to the residential black cart program. PAYT programs are a form of user-pay system that improve fairness and incentivize customers to divert and reduce waste. Variable set-out PAYT programs bill customers based on how often they put their cart out for collection.

Variable set-out programs are common in Europe and are starting to emerge in North America. Billing based on cart set-out is primarily managed through the use of RFID technology. With this technology, each cart is fitted with an RFID chip linked to an address and a customer, and the chip information is read by a reader on the truck when the cart is emptied. Customers are billed using information collected through the reader.

WRS' black carts already have RFID chips, but for this system to work, the following also need to be in place:

- A system that captures data during collection.
- A database that stores collection data and links it to billing addresses.
- A billing system that facilitates customer billing based on collection data.

A system to capture collection data using RFID readers on trucks is part of a current project to equip collection vehicles with technology to improve collection efficiency and customer support. This technology is anticipated to be in place by mid-2021. The database and billing system are required specifically to implement variable set-out and would be developed as part of the pilot project.

Cart capacity audits conducted by WRS in 2018 and 2019 found that while there are households that continue to set out full carts and excess waste, approximately 40 per cent of black carts checked were, at most, half full on collection day. This indicates that there is an opportunity for

Variable Set-Out Pilot Plan

these households to reduce a portion of their garbage costs if they reduce how often they put their carts out for collection. Fixed costs such as truck leases and customer support costs will still be built into the monthly rates. However, reducing the number of times the carts are set out will result in lower variable costs and allow customers to save on how much they pay for garbage.

INVESTIGATION: ALTERNATIVES AND ANALYSIS

The proposed plan to pilot the use of RFID for PAYT is designed to:

- Build on lessons learned from other municipalities.
- Align with technologies WRS has in place and plans for new technology in the collection trucks.
- Gather additional information on customer behaviour before investing more widely in the pilot program.

Understanding and Evaluating Customer Behaviour: This will involve customer surveys and in-person customer interactions to gain insight into current customer set-out behaviours, preferences and views on variable set-out. This will allow WRS to design a pilot for customers, estimate how much behaviour change may be achieved through a pilot, and provide a mechanism for customer feedback in pilot communities. Exploring and evaluating customer behaviour in 2020 to inform future pilot design will cost approximately \$140,000 and will be funded by the existing operating budget.

Variable Set-Out Pilot: This will include building the systems required to collect customer specific data for billing and testing it in pilot communities. Customer bills will reflect how often their cart is collected. WRS will monitor the impact of variable set-out on factors such as:

- customer experience
- waste diversion and reduction
- efficiency and safety
- cost of service and potential savings

The pilot will be timed to align with the upgraded collection fleet technology project currently underway in WRS and will start as early as Q3 2021. The systems required for collecting customer specific data and billing will cost an estimated \$800,000 to \$1.1million. Detailed pilot costs will depend on the length and scale of the pilot. A report to Council in Q2 2021 will include a detailed cost estimate and a plan for funding the pilot. Potential savings will also be estimated once initial information has been gathered on customer behaviour in 2020.

Stakeholder Research, Engagement and Communication

WRS will conduct surveys and hold in-person interactions with residential households that receive cart-based services to understand:

- current cart set-out behaviours
- thoughts about variable set-out
- factors that may influence set-out behaviour

Results from these activities will inform details of the proposed pilot program.

Variable Set-Out Pilot Plan

Strategic Alignment

Implementing a variable set-out program can provide customers with a financial incentive to divert waste and reduce how often carts are set out for collection. This is accomplished by aligning the charges residents pay with the amount of waste they put out for collection. This contributes to a Healthy and Green City and a Well-Run City.

Social, Environmental, Economic (External)

Social

A variable set-out program may be viewed as a fairer system, as residents are only paying for the garbage they set-out. It would require a behaviour change by residents to only set-out their carts when they need to.

Environmental

Variable set-out encourages customers to divert and reduce waste. Diverting waste reduces greenhouse gas emissions, redirects natural resources back into the economy, reduces environmental liability, and increases the life of landfills.

Economic (External)

A variable set-out program would improve the transparency and fairness of the residential cart programs by aligning the charges a resident pays with how often they put their cart out for collection.

Financial Capacity

Current and Future Operating Budget:

Exploring and evaluating customer behaviour in 2020 to inform future pilot design will cost approximately \$140,000. This will be accommodated within WRS' current operating budget. The pilot beginning in 2021 will have additional operating costs, and the report in 2021 will provide a plan for funding the pilot.

Current and Future Capital Budget:

There are no capital costs for the customer understanding work in 2020. The pilot beginning in 2021 will have capital costs, and the report in 2021 will provide a plan for funding the pilot.

Risk Assessment

Risks associated with approving this recommendation include:

- The pre-pilot work may lead to a recommendation not to proceed with the full pilot, and Administration will have allocated staff time to this exploration.

Risks associated with not approving this recommendation include:

- Potential efficiencies as a result of a variable set-out program will not be realized.
- The black cart billing system may continue to be perceived as unfair by customers who generate less waste, but pay the same as customers who generate more.

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SPC on Utilities and Corporate Services
2019 December 18**

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UCS2019-1142
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Variable Set-Out Pilot Plan

REASONS FOR RECOMMENDATIONS:

A variable set-out pilot is proposed to explore whether this type of pay-as-you-throw program is beneficial for Calgary. If successful, variable set-out will enable customers who generate less waste to pay less on their monthly bills.

ATTACHMENTS

1. Attach 1 - Variable Set-Out Pilot Plan
2. Attach 2 - Presentation

Variable Set-Out Pilot Plan



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DEFINITIONS

Radio Frequency Identification (RFID)

RFID tags can be embedded in carts and scanned by hand readers or readers on trucks to track the location of carts and gain information on program usage by customers. RFID technology can be used to track how often residents put out their cart for collection and this information can be used for billing as a type of variable set-out program.

Pay-as-you-throw (PAYT)

Customers are charged based on how much waste they set out for collection. Waste is measured by weight or volume and units are identified using different types of bags, tags, containers or RFID.

Variable set-out

Customer bills reflect how often they put their cart out for collection. This may be a subscription-based service or set-out may be tracked using RFID technology.

1. Introduction

This document provides an overview of the variable set-out pilot proposed by Waste & Recycling Services (WRS). It outlines the preliminary approach, timeline, estimated cost and criteria to measure pilot success.

2. Variable Set-Out in Calgary

2.1 Pay-As-You-Throw Objectives

Pay-as-you-throw (PAYT) is a solid waste management approach that charges customers based on the amount of garbage they produce. The general objectives of PAYT programs are:

- Social – improve fairness by charging customers based on their use of a service.
- Environmental – incentivize customers to divert and reduce waste.
- Economic – reduce costs of delivering waste management programs.

PAYT programs may also require new investments and can create a more complex program for customers. These are important considerations when exploring which PAYT program is best for a community.

Variable set-out is a type of PAYT program that charges customers based on how often their cart is set out for collection. Variable set-out can be managed by using Radio Frequency Identification (RFID) technology to track how often customers set out their carts on scheduled garbage collection days.

2.2 Technology Requirements for RFID-Based Variable Set-Out

Variable set-out using RFID technology is only possible when specific technologies and associated systems are in place. These are:

1. RFID tags on carts.
2. A system that captures data during collection.
3. A database that stores collection data and links it to billing addresses.
4. A billing system that facilitates customer billing based on collection data.

The first two technology requirements provide additional benefits to residential collection operations. RFID tags are in place on all black carts and are used to track the location and maintenance of carts. A system to capture collection data using RFID readers on trucks is part of a current project to equip collection vehicles with technology to improve collection efficiency and customer support. The scope of the project is currently under development and this technology is anticipated to be in place by mid-2021.

The other two technologies listed above are required specifically to bill customers based on how often they set out their cart for collection (Figure 1).

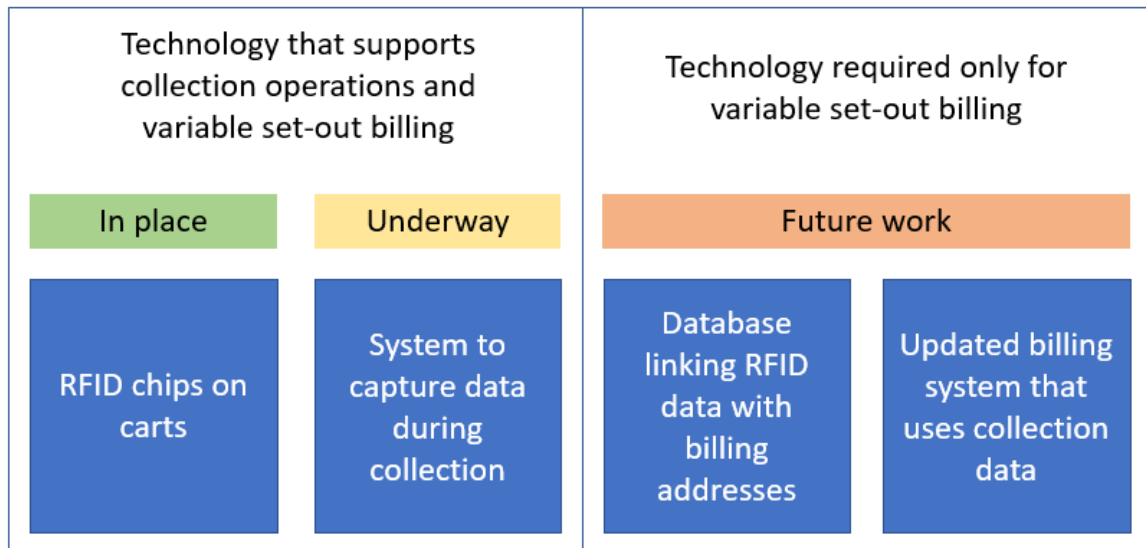


Figure 1: Technology requirements for RFID-based variable set-out and their status

Systems required exclusively to bill customers based on how often they set out their carts will be implemented and tested as part of this pilot. This includes the creation of a database that links RFID data with billing addresses, and associated updates to the ENMAX billing system. These new systems have significant costs attached, which are highlighted in section 3 of this report.

2.3 Pilot Objective

The objective of the variable set-out pilot is to **determine if variable set-out is a beneficial PAYT (pay-as-you-throw) program for Calgary**. To assess the program, this pilot will examine:

- Current cart set-out behaviours, and whether price incentives impact how frequently customers put their carts out for collection.
- Costs associated with accurately tracking cart collection, providing customer bills based on set-out frequency, and additional customer support.
- Extent of the benefits associated with the program, including improved collection efficiency, reduced cost of service delivery, and reduced waste to landfill.
- Impact to revenue, and what price incentive is most effective.
- Value that customers experience with a variable set-out billing program.

3. Proposed Approach, Timeline and Estimated Costs

There are two stages to the proposed pilot project: a pre-pilot stage to better understand customer behaviour; and a pilot of variable set-out billing in communities (Figure 2).

3.1 Pre-Pilot

Understanding and evaluating customer behaviour

WRS will explore how residents may respond to a variable set-out program through surveys and in-person customer interactions. Outcomes of this activity will inform details of the pilot design. It will investigate:

- Current household set-out behaviours.
- Reasons for setting out carts on collection day.
- Customer awareness of how set-out behaviours impact cost of service, driver safety, and the environment.
- Factors that could motivate customers to set out their carts less often.
- Anticipated changes to set-out behaviours based on price incentives.
- Level of support for a variable set-out program.

A report to Council in Q2 2021 will provide additional details for the variable set-out pilot, including feedback from customers, proposed pilot communities, rates that will be piloted and a more detailed cost estimate.

Truck technology development

WRS plans to modernize collection operations through the introduction of technology in collection vehicles. The technology will support improvements related to customer support, data tracking and management, service validation, asset tracking, and improved routing capabilities.

Before variable set-out can be piloted, technology must be in place in the trucks to track collection. It is expected that the technology required for the trucks will be in place mid-2021. Depending on the technology implemented in the trucks, there may be impacts on the scope of work and budget for the variable set-out pilot.

3.2 Variable Set-Out Pilot

It is anticipated that piloting variable set-out can begin in Q3 2021. Key elements of the pilot program include:

- Pilot community engagement
- Database and billing system development
- Billing pilot with customers

Pilot community engagement

Once the pilot communities have been determined, WRS will engage residents in those communities throughout the pilot. Feedback will be incorporated into the pilot to make it as customer-friendly as possible. There will be three stages of customer engagement during the pilot as follows:

- Stage 1 – Baseline measures of the following:
 - Awareness of and support for the variable set-out pilot

- Understanding of pilot objectives
 - Anticipated changes to set-out behaviours
 - Motivators and barriers to participation in the pilot
 - Attitudes regarding variable set-out
- Stage 2 – Measures from stage 1 will be tracked and used to assess any changes. Opportunities to improve communications and specific program elements will be identified.
- Stage 3 – Measures from the stage 1 and stage 2 engagement will be tracked and used to assess any changes.

Customer database and billing system development

The final systems that are required to bill households based on RFID data will be developed and tested. This includes a database for tracking specific household waste collection data and changes to the ENMAX billing system. The database will store information related to each household's waste collection and link it to customer addresses. Once the customer database is developed and tested to ensure accuracy, WRS will work with ENMAX to update the billing system to allow bills to reflect how many times a cart has been set-out for collection.

All systems will be field-tested to ensure data collected is accurate and reliable prior to launching the variable set-out billing. Customer database and billing system development and testing will take approximately 12 months.

Billing pilot with customers

Variable set-out billing will include a fixed amount to cover fixed costs (e.g. truck leases and customer support), and a variable portion that reflects how often customers set out their carts for collection. Reducing how often carts are set out will allow customers to save on how much they pay for garbage.

Customers in the pilot communities will have their garbage collection tracked and their bills will reflect how often their carts are tipped in a given month. During this pilot WRS will continually monitor impacts on diversion, waste reduction, safety and efficiency, cost and revenue. There will be ongoing education, communication and feedback with households in pilot communities.

This pilot is expected to run for at least a year. WRS will report back to Council with a recommendation regarding city-wide rollout once the pilot is complete.

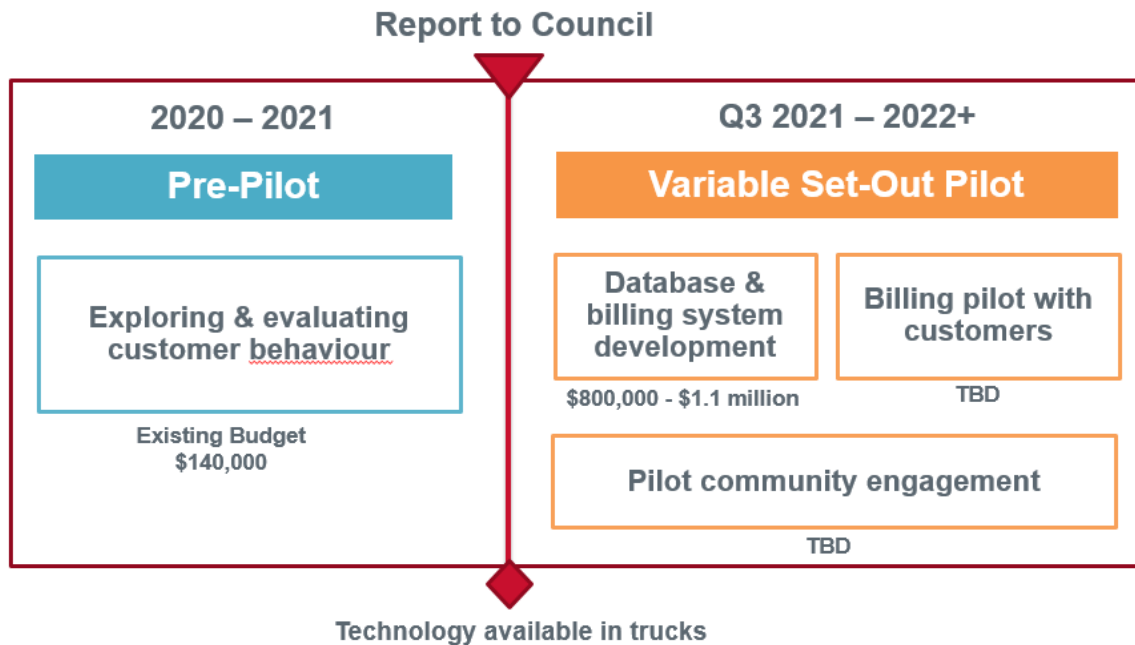


Figure 2: Variable set-out pilot activities, timeline, and costs

3.3 Pilot Costs

The estimated cost for the pre-pilot stage is \$140,000 and will be funded from the existing WRS operating budget. The estimated cost for customer database development and the billing system is \$800,000 to \$1.1million. Other costs related to the pilot will depend on the number of pilot communities selected and how long the pilot is carried out.

The cost of the technology required in the trucks to track collection for each household is not included in the pilot costs. A more detailed cost estimate and a plan for funding the pilot will be included in the report to Council in 2021.

3.4 Pilot Community Considerations

WRS will select pilot communities that represent a cross-section of residential households receiving cart-based services. As many as 10,000 households will be included in the pilot to ensure results are broadly representative of residential customers across the city.

Demographic factors that will be considered in selecting pilot communities include, socioeconomic status and cultural diversity. Operational considerations will include cart set-out type (street vs back alley), type of dwellings (detached, semi-detached, and secondary suites), historical set-out rates, and collection routes.

4. Pilot Evaluation

WRS will track and report on a set of performance measures that are aligned with PAYT objectives. Preliminary metrics that will be tracked and measured during the pilot are listed in the table below.

Waste diversion and reduction	Customer experience
<ul style="list-style-type: none"> • Tonnage of waste collected • Percent of waste diverted through Blue and Green Cart Programs • Blue and Green Cart contamination rates • Illegal dumping activities 	<ul style="list-style-type: none"> • Customer satisfaction • Customer perception of fairness • Billing accuracy • Number of 3-1-1 SRs
Efficiency and safety	Financial impact
<ul style="list-style-type: none"> • Average set-out frequency • Excess set-out • Average cart capacity utilization 	<ul style="list-style-type: none"> • Cost • Revenue



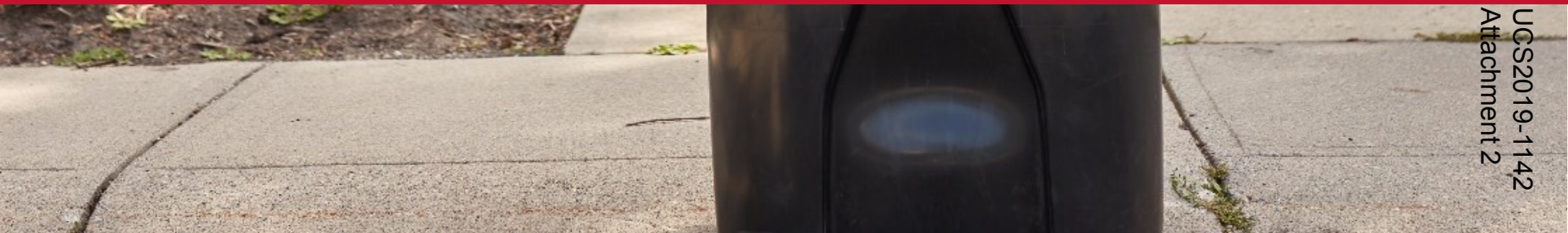
Plan for Piloting Variable Set-Out for the Black Cart Program

UCS2019-1142

ISC: Unrestricted

Standing Policy Committee on Utilities and Corporate Services

18 December 2019





Pay-As-You-Throw and Variable Set-Out

Pay-as-you-throw (PAYT)

Customers are charged based on how much waste they set out for collection.

Variable set-out

A type of PAYT program.

Customer bills reflect how often they put their cart out for collection.





Previous Council Direction

On 2019 April 8, as part of the Financial Model: Pay-As-You-Throw for the Residential Black Cart Program (UCS2019-0364), Council directed Administration to:

1. Implement a tag-a-bag program for residential garbage collected outside of the black cart starting no later than Q2 2020, with a price of \$3.00 per tag in 2020;
2. Bring bylaw amendments, if required, as part of the budget adjustment process in November 2019 to update the Black Cart Program charge in 2020 to adjust for excess garbage costs being recovered through tag-a-bag revenue; and
3. **Develop a plan for piloting RFID technology for PAYT and report back to SPC on UCS no later than Q4 2019.**



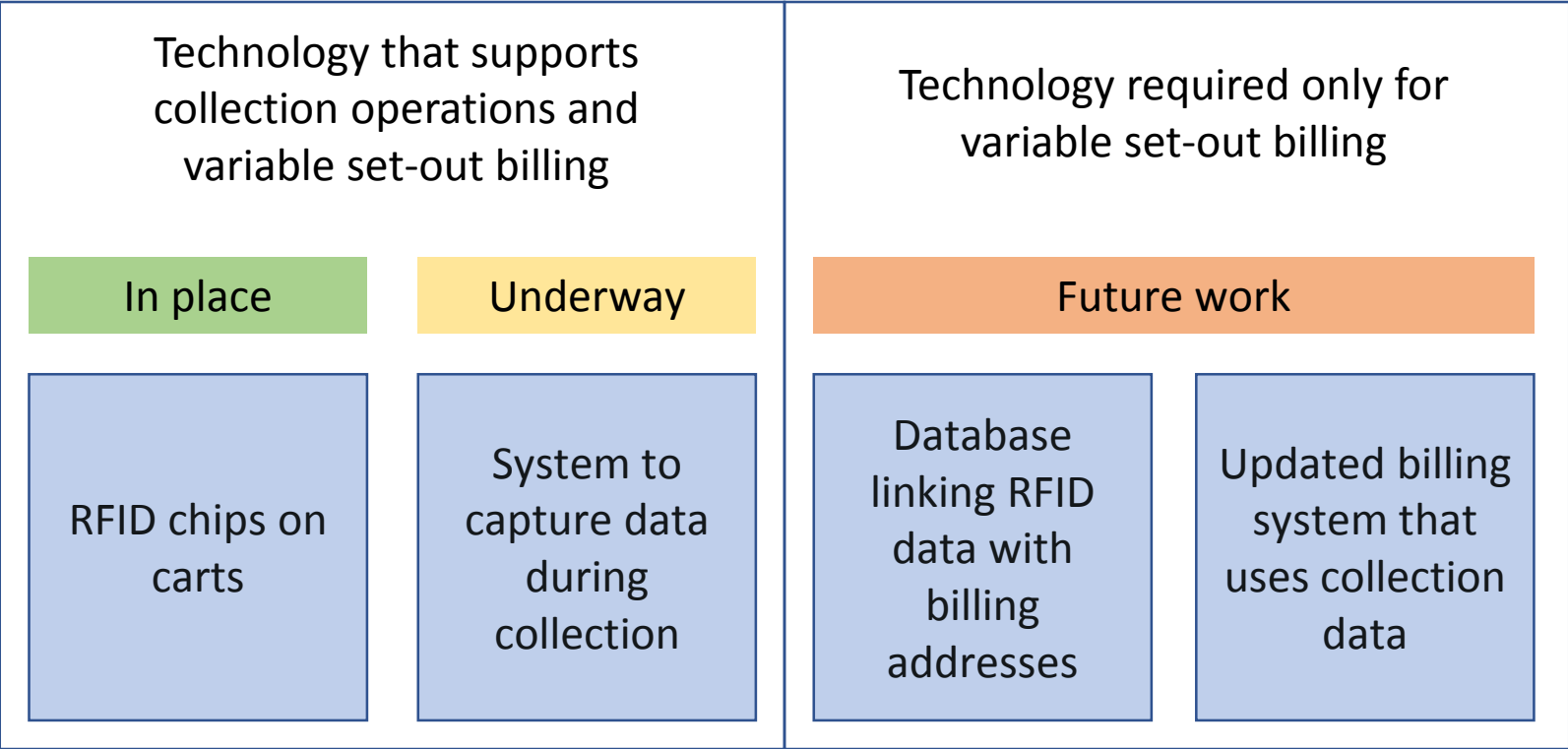
Piloting Variable Set-Out in Calgary



Pilot objective

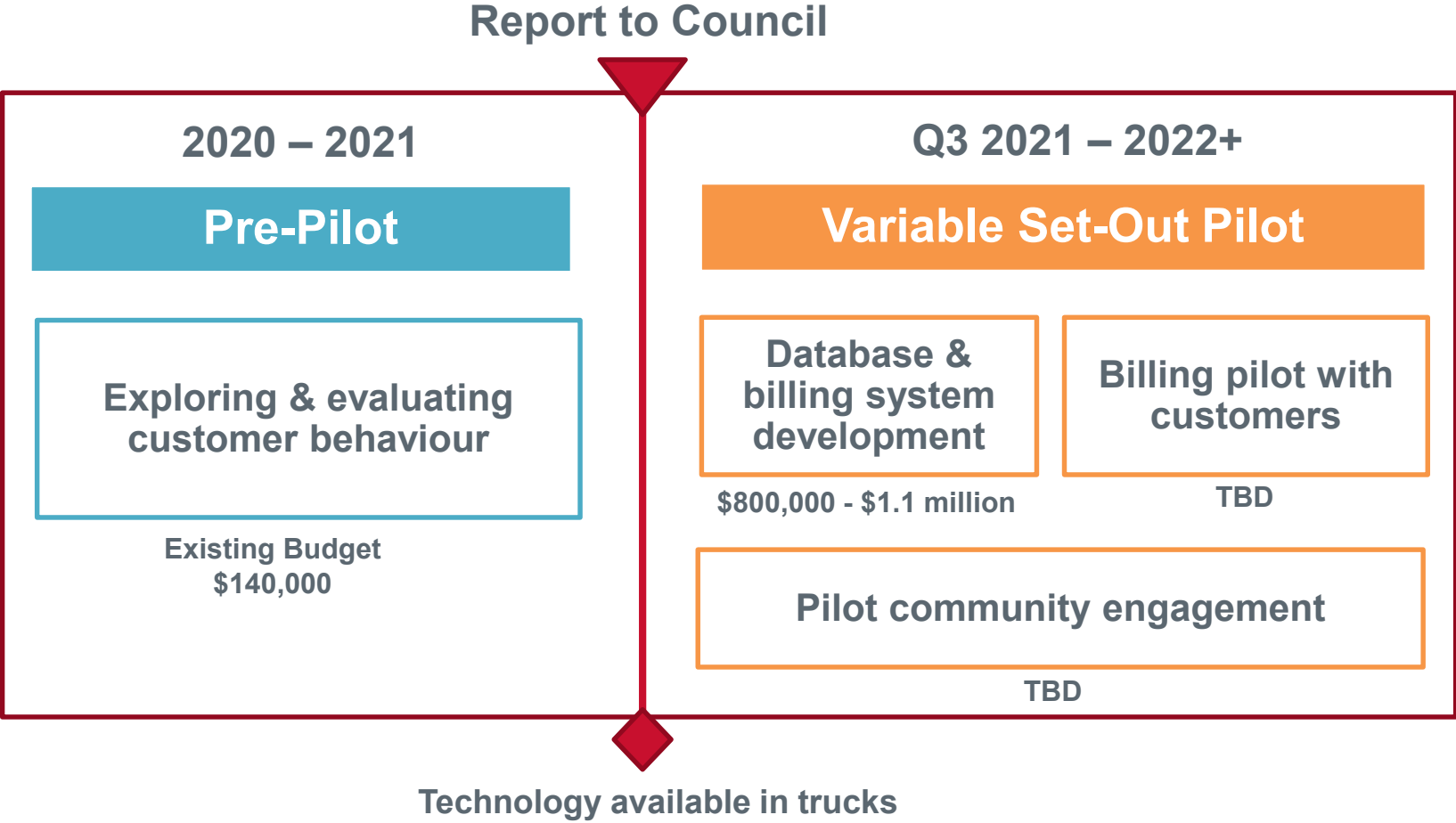
Determine if variable set-out is a beneficial Pay-As-You-Throw program for Calgary.

Technology requirements for variable set-out





Timeline and costs



Risks associated with approving this recommendation:

- The pre-pilot work may lead to a recommendation not to proceed with the full pilot, and Administration will have allocated staff time to this exploration.

Risks associated with not approving this recommendation:

- Potential efficiencies as a result of a variable set-out program will not be realized.
- The black cart billing system may continue to be perceived as unfair by customers who generate less waste, but pay the same as customers who generate more.

Recommendation

That the SPC on Utilities and Corporate Services recommend that Council direct Administration to:

1. Explore customer behaviour in 2020 to develop a detailed plan for piloting variable set-out; and
2. Report back to the SPC on UCS no later than Q2 2021 with results from the review of customer behaviour and a detailed pilot plan including proposed pilot communities, rates that will be piloted, a detailed cost estimate, and a plan for funding the pilot.

Waste Management Storage Site Operational Practices

EXECUTIVE SUMMARY

In November 2018, Council brought forward Notice of Motion C2018-1356 that highlighted situations where waste management storage site operations may present a risk to public safety. In March 2019, Administration reported back on challenges with The City's identification of these sites and the implementation of the Subdivision and Development Regulation (SDR), and interim steps to minimize the safety risks of these site operations through inspections. This report provides Council with an update on additional analysis and actions The City has taken to further limit safety and liability risks.

Administration has resolved that:

- 1) Fire is the key risk at a waste management storage site and The City will enhance the frequency of Alberta Fire Code compliance inspections as the primary action to mitigate fire risks from poor operations.
- 2) The City will conduct compliance inspections to better oversee waste management storage sites, as well as non-regulated material recyclers which can pose similar public safety risks. Attachment 1 shows the 12 sites identified to date.
- 3) Challenges with site identification and implementation of the Subdivision and Development Regulations are addressed through improved communication procedures between Alberta Environment and Parks (AEP) and The City, as well as improvements to City of Calgary planning applications intake processes.
- 4) The City will better control the location of new waste management storage sites by ensuring Land Use Bylaw 1P2007 is consistently applied and all waste management storage sites are approved as a 'Waste Disposal and Treatment Facility', which requires a Direct Control District.
- 5) The City will engage with the Alberta Urban Municipalities Association (AUMA) and other municipalities to move the province-wide standardization of waste management storage site operational best practices forward with the Government of Alberta, as per the recently passed (September 2019) City sponsored AUMA resolution.
- 6) The City should continue to advocate with other members of the Calgary Metropolitan Region Board (CMRB) for regional waste management storage site issues to be considered within a waste and recycling service plan.

Administration's response balances taking actions within our existing authority, control, and budgets, while encouraging a coordinated provincial regulatory approach to address additional risks.

Waste Management Storage Site Operational Practices

ADMINISTRATION RECOMMENDATION

That the Standing Policy Committee on Utilities and Corporate Services recommends that Council direct Administration to:

1. Mitigate waste management storage sites risks by focusing The City's efforts on better utilizing existing controls exercised through the Alberta Fire Code and Land Use Bylaw 1P2007; and,
2. Control the location of new waste management storage sites by ensuring Land Use Bylaw 1P2007 is consistently applied.

PREVIOUS COUNCIL DIRECTION / POLICY

On 2018 November 19, Council brought forward a Notice of Motion C2018-1356 on Waste Management Storage Site Operational Practices, directing Administration to report back through Standing Policy Committee (SPC) on Utilities and Corporate Services no later than Q1 2019 on an interim approach to minimize the safety risks of these operations.

Administration was also directed to return no later than Q4 2019 with a scoping report on The City's authority to use existing controls to limit the safety hazard, risk and liability of The City of Calgary from the operation of waste management storage sites, and recommendations for potential policy and potential regulatory requirements to standardize practices that reflect best practices.

BACKGROUND

Within the waste management sector are companies that operate sites where materials other than hazardous waste are collected or received from multiple sources, sorted, stored temporarily, and then either sold for recycling or sent to landfill and/or composting. At some of these sites, poor operational practices have resulted in fires; non-compliance with the Alberta Fire Code with regards to stockpile content, height, and/or separation; and concerns for public safety. Other concerns raised include the potential for environmental contamination, impacts on adjacent properties, and risk of landowner and City financial liabilities.

INVESTIGATION: ALTERNATIVES AND ANALYSIS

Attachment 2 provides additional details on the analysis and actions The City has taken at the municipal and provincial levels to further address the risks and challenges and close the gaps. The following points summarize the key takeaways:

- 1) Fire is the key risk at a waste management storage site and The City will enhance the frequency of Alberta Fire Code compliance inspections as the primary action to mitigate fire risks from poor operations.
- 2) The City will conduct compliance inspections to better oversee waste management storage sites, as well as non-regulated material recyclers which can pose similar public safety risks. Attachment 1 shows the 12 sites identified to date.

Waste Management Storage Site Operational Practices

- 3) Challenges with site identification and implementation of the Subdivision and Development Regulations are addressed through improved communication procedures between Alberta Environment and Parks (AEP) and The City, as well as improvements to City of Calgary planning applications intake processes.
- 4) The City will better control the location of new waste management storage sites by ensuring Land Use Bylaw 1P2007 is consistently applied and all waste management storage sites are approved as a 'Waste Disposal and Treatment Facility', which requires a Direct Control District.
- 5) The City will engage with the Alberta Urban Municipalities Association (AUMA) and other municipalities to move the province-wide standardization of waste management storage site operational best practices forward with the Government of Alberta, as per the recently passed (September 2019) City sponsored AUMA resolution.
- 6) The City should continue to advocate with other members of the Calgary Metropolitan Region Board (CMRB) for regional waste management storage site issues to be considered within a waste and recycling service plan.

Stakeholder Engagement, Research and Communication

Administration's response involved Calgary Building Services, Calgary Community Standards, Calgary Fire Department, Calgary Growth Strategies, Environmental & Safety Management, Intergovernmental & Corporate Strategy, Law, and Waste & Recycling Services. Regional engagement occurred through the Intermunicipal Committees (IMCs) of Rocky View County and Foothills County, as well as through the respective Administrations. Provincial engagement occurred with AEP and through the AUMA. Administration provided the owners of waste management storage sites and recycling businesses an update regarding The City's actions to mitigate site risks.

Strategic Alignment

This report aligns with the 2019-2022 Citizen Priorities: A Prosperous City, A City of Safe & Inspiring Neighbourhoods, and A Healthy & Green City.

This report also aligns with the Municipal Development Plan, 2.6 Greening the city, 2.6.6 Waste:

- a. Encourage development that incorporates sustainable planning and building practices by (ii) utilizing best practices for building deconstruction with emphasis on recycling materials and material reuse; and
- b. Protect the operational needs of landfill and recycling facilities by reducing conflicts with incompatible uses by locating uses such as commercial, industrial and recreational between waste management facilities and incompatible uses (e.g. residential).

Social, Environmental, Economic (External)

Administration's analysis and actions have taken into consideration the balance of social, environmental, and economic factors associated with waste management storage sites by:

Waste Management Storage Site Operational Practices

continuing to support citizen and industry recycling efforts; managing potential for environmental contamination; mitigating public safety risks associated with contamination and fires; considering the location of sites and their impacts on adjacent properties and businesses; and, continuing to support businesses to remain viable and enter the sector.

Financial Capacity

Current and Future Operating Budget:

The actions taken in support of this report have been achieved within current operating budgets.

Current and Future Capital Budget:

The actions taken in support of this report have no impact on current capital budgets.

Risk Assessment

Risks associated with not approving this recommendation are:

- The potential for improper site operations that contravene the Alberta Fire Code, resulting in unmanageable waste management practices, posing a risk to health and safety.
- A lack of control over the location of new waste management storage sites and the implementation of the associated Subdivision and Development Regulation prohibited use setbacks.

There are no identified risks associated with approving this recommendation.

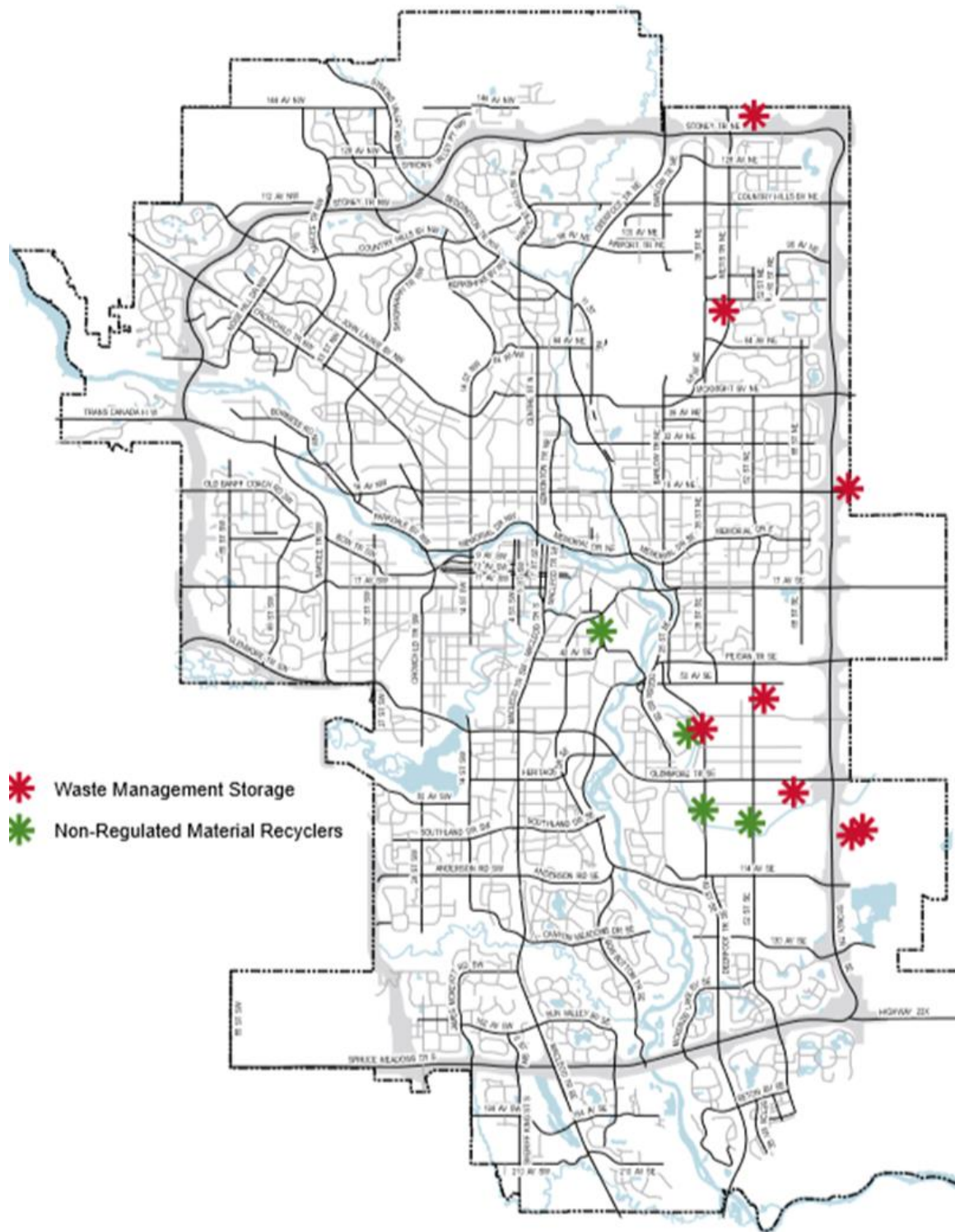
REASON FOR RECOMMENDATION:

Administration's collective actions provide reasonable mitigation of risks associated with waste management storage sites, while balancing what is within our existing authority, control, and budgets.

ATTACHMENTS

1. Attachment 1 – Map of Waste Management Storage Sites and Non-Regulated Material Recyclers
2. Attachment 2 – Analysis and Actions

MAP OF WASTE MANAGEMENT STORAGE SITES AND NON-REGULATED MATERIAL RECYCLERS SUBJECT TO ENHANCED RISK-BASED INSPECTIONS





ANAYLSIS AND ACTIONS

Jurisdictional Authorities

The waste management sector consists of public and private companies providing services and facilities to support garbage disposal, hazardous waste management, recyclables diversion, composting, hauling, and landfilling. Many of these facilities are regulated by the Province under the Environmental Protection and Enhancement Act (EPEA). Landfills, hazardous waste management facilities, facilities for processing hazardous recyclables, compost facilities, and storage sites are all subject to various levels of regulatory oversight including requirements for approvals, registrations or notifications with the Province. Landfills, hazardous waste management facilities, and waste management storage sites are also all subject to the Municipal Government Act, Subdivision and Development Regulation, which establishes a prohibited use setback area adjacent to these types of waste management facilities. Some kinds of recyclable materials, such as tires, paint and paint containers, oil, and beverage containers, are specifically regulated by the Province. However, as a general rule, recyclable material is not regulated through the same approvals process as facilities that store waste.

Further review of jurisdictional authorities and the risks associated with poor operational practices at waste management storage sites highlighted that all of the identified risks fall under the purview of existing legislation or authority, and the risk of fire was determined to be the primary risk associated with waste management storage sites.

Administration has assessed that mitigation of risks is best managed by focusing The City's efforts on utilizing existing controls exercised through the Alberta Fire Code and Calgary's Land Use Bylaw, and by not taking on new roles for municipal oversight or establishment of municipal operational best practices, but encouraging a coordinated provincial regulatory approach. The City will utilize the Alberta Fire Code as the key mechanism to mitigate fire risks from poor operations through enhanced inspections to oversee stockpile content, stockpile height, and separation distances.

Site Identification and Implementation of the Subdivision and Development Regulation

After further consideration of the risks and incidents that have taken place to date, Administration determined that there are facilities that do not fall under the scope of waste management storage sites, but present similar risks related to operational practices. Accordingly, the range of facilities considered for this report was expanded to include both storage sites and non-regulated material recyclers that don't fall under existing provincial regulations.

Waste management storage sites are subject to the Subdivision and Development Regulation (SDR) under the Municipal Government Act (MGA) and have a 300 metre setback area in which food, residential, school, and hospital uses are prohibited. There is no setback for non-regulated material recyclers.

Through this work, a lack of communication between Alberta Environment and Parks (AEP) and The City with respect to the approval of new sites was discovered. AEP does not require proof of municipal approvals to endorse a new site and there were no processes in place for AEP to



notify The City of a new facility or for The City to notify AEP of an application for a new site. This resulted in The City not being aware of new waste management storage sites that had been recognized by AEP and unable to fulfill legislative obligations to implement the SDR.

The following actions have been taken to address this problem:

- Engaged with AEP to create a comprehensive list of waste storage sites recognized by the Province.
- Established and implemented a referral standard operating procedure (SOP) and contacts between The City and AEP, where both parties have agreed to notify each other of new applications for waste management facilities. Two additional sites were identified based on the SOP.
- Updated City of Calgary internal mapping and site warning information to ensure staff can identify waste management storage sites and implement the SDR.
- Created new application intake processes for land use, development permit, change of use, and tenancy change applications to help identify activities that are subject to the SDR.

Attachment 1 of this report shows the eight waste management storage sites and four non-regulated recyclers identified to-date. Going forward The City will focus on remedial actions related to these sites.

Compliance Inspections

Administration has determined that the key mitigation strategy within our existing authority is the execution of Alberta Fire Safety Code compliance inspections on a higher-frequency basis to support business in ensuring operations are meeting the Alberta Fire Safety Code requirements. Identified waste management storage sites and non-regulated material recyclers have been categorized as requiring Risk Based Inspections as part of Calgary Fire Department's (CFD) Community Risk Reduction Strategy. This will generate an annual inspection for each business, thereby ensuring more timely reviews of operations contributing to materials' stockpile content, height, and separation. CFD will also coordinate with AEP, development permit inspections, and include Environmental & Safety Management staff as necessary to ensure a comprehensive, single review for each site.

Businesses receive a formal inspection report and support from CFD if they have any questions or concerns. CFD's first priority is life safety and compliance with the Safety Codes through education and information.

No additional costs are required for increased inspections of the currently identified waste management storage sites and non-regulated recyclers. Fire inspection fees are collected as part of the business license process, and thus already included as a service if the business is licensed. If a business is not licensed, the annual fire inspection fee of \$108+GST would apply.

Administration has communicated these changes to inspection practices and provided an update on this report to impacted business owners, contacting them by phone and providing a subsequent mail-out.

City Control on the Location of New Waste Management Storage Sites

The SDR setback areas have a direct impact on The City's land use and development strategies. The approval of each new waste management storage site creates a setback area that prohibits specified uses and can be restrictive to development and business activity. This may impact The City's ability to implement the Municipal Development Plan's goals for community evolution, growth and change.

As part of this work, it was discovered that planning application approvals for the existing waste management storage sites have been approved under several different uses in the Land Use Bylaw. This has created an inconsistent approach for this type of waste management facility.

Moving forward, new development applications for waste management storage sites will be appropriately recommended under Bylaw 1P2007 as a 'Waste Disposal and Treatment Facility'. This use can only be implemented through the Special Purpose – City and Regional Infrastructure District, or a Direct Control District which requires Council review and approval through a public hearing. This will allow City Council and Administration to ensure that new waste management facilities are appropriately located and legislated setbacks are applied. Additional training initiatives will be carried out to ensure staff are aware of the new practice.

Best Practices Review

Administration conducted a best practice review to better understand how other provincial jurisdictions regulate waste management storage sites. The majority of provincial authorities require proof of municipal planning and development approvals as an application submission requirement. Currently, this is not an AEP requirement for the submission of notification for waste management storage sites.

Regulations can generally be categorized into operating requirements and development standards. Operating plans often include information on material lists, logbooks, emergency response plans, odour control, and maintenance programs. Development standards often include site suitability reports, surface finishing material standards to prevent leachate and soil/water contamination, proximity to water bodies and flood zones, and separation distances from active transfer areas to on-site buildings and the site parameter.

In the Alberta context, operational requirements are governed by AEP. The City's analysis on operational requirements will be incorporated into the Alberta Urban Municipalities Association (AUMA) work (see below).

Regional Coordination

The Calgary Metropolitan Region Board (CMRB) has the opportunity to potentially include a waste and recycling service plan. While the CMRB planned to convene working groups for waste and recycling in Q2 2019, the timelines have been delayed. The scope of the service plans is dependent on the interests of the municipalities and may provide The City of Calgary the future opportunity to address waste management storage sites at a regional level. Continuing to advocate for such an approach with other members of the CMRB would be advisable.



Regional engagement occurred through the Intermunicipal Committees (IMCs) of Rocky View County and Foothills County, as well as through the respective Administrations. Early discussions have shown that the Counties are experiencing similar issues with definition, identification, and approval of sites and the absence of regulations to govern their operations.

Advocacy for Improved Provincial Oversight

The Alberta Fire Code regulates stockpile content, stockpile height, and separation distances, but is inadequate to deal with operational and environmental practices that fall outside the code, licensing, and land use bylaws.

To address the regulatory gap that requires a coordinated Provincial response, The City brought forward an AUMA resolution in September focused on three areas for improvement:

1. Develop the operational guidelines and management practices for the approval and operation of waste management storage sites;
2. Clarify the classification of sites; and
3. Clarify the roles and authorities of municipalities and the provincial government, to improve public safety and environmental performance.

The AUMA assembly passed the resolution with 86.9% in favour. The City will now engage with AUMA staff and other municipalities to move this issue forward with the Government of Alberta.

Financial Liability Risks

These storage and recycling facility lands are not generally owned by The City but are instead owned and operated by private parties who bear the majority of the liability for these sites. Furthermore, there are provisions under both the MGA and Environmental Protection and Enhancement Act that limit municipal legal liability for the condition of lands on The City's tax arrears list. Accordingly, Administration considers that the greatest financial risks posed by these sites are the additional resources that may be required to address emergencies and enforcement measures.

Deputy City Manager's Office Report to
SPC on Utilities and Corporate Services
2019 December 18

ISC: UNRESTRICTED
UCS2019-1579

Corporate Land Strategy – Guiding Document

EXECUTIVE SUMMARY

This report presents the Guiding Document and the recommended direction to guide development of the Corporate Land Strategy (the “Strategy”). The Strategy is proposed to provide a comprehensive, corporate approach to managing The City’s land assets.

The Guiding Document provides context on The City’s land inventory, its current stewardship practices and a best practice scan of how other public land organizations manage land. It outlines Administration’s approach to developing the Strategy, key directions, and a set of Guiding Principles to frame the overall direction of the Strategy and support on-going decision-making.

Council approval of the recommendation will direct Administration to complete the scope of work presented in the Guiding Document and report back by 2020 July 31 with the Corporate Land Strategy. The Strategy will support the program-specific frameworks that provide more operational direction and the day-to-day implementation of specific land programs, including Corporate Land Administration, Industrial Land Development and Strategic Redevelopment. These Administration-level documents will be developed and delivered by 2021 June 30.

ADMINISTRATION RECOMMENDATION:

That the Standing Policy Committee on Utilities and Corporate Services recommends that Council approve the *Corporate Land Strategy – Guiding Document* (Attachment 1) and direct Administration to deliver the Corporate Land Strategy to the Standing Policy Committee on Utilities and Corporate Services by 2020 July 31.

PREVIOUS COUNCIL DIRECTION / POLICY

On 2018 November 19, Council received the “Corporate Land Strategy – Information Report” (UCS2018-1141).

On 2019 May 27, Council received the “Calgary’s Strategic Approach to Managing City Land-Update” report for information and directed Administration to report back to SPC on Utilities and Corporate Services no later than 2019 September 30 with the Guiding Document.

On 2019 September 30, Council deferred the Guiding Document report to no later than 2019 December 18.

BACKGROUND

The Corporate Land Strategy is an Administration initiative to create greater efficiencies and add value to City land management, real estate, and land development decisions. It is being developed to support staff with clear direction and maximize the benefits and opportunities The City receives from its lands. An overarching Corporate Land Strategy will:

- Recognize land as a valuable public asset to be managed to provide maximum benefit.
- Establish transparent standards and procedures to manage City lands.
- Clarify roles and responsibilities within Administration to deliver land services.
- Ensure sustainable financial models for land programs and funding reserves.

**Deputy City Manager's Office Report to
SPC on Utilities and Corporate Services
2019 December 18**

**ISC: UNRESTRICTED
UCS2019-1579**

Corporate Land Strategy - Guiding Document

- Define how the achievement of broader Corporate objectives are considered in land decisions.
- Align land decisions with other Corporate strategic direction.

In 2018 November, the Corporate Land Strategy – Information Report (UCS2018-1141) informed Council of this work being initiated by Real Estate & Development Services (RE&DS) and to create an awareness of how land is managed by The City.

In 2019 May, Calgary's Strategic Approach to Managing City Land – Update report (UCS2019-0663) provided Council information on the results of engagement with key internal stakeholders. It indicated a broader, corporate-wide approach to land management and decision-making was required, as well as clear alignment of the Strategy with other existing and planned strategic projects across the Corporation.

INVESTIGATION: ALTERNATIVES AND ANALYSIS

Administration has developed a phased-approach to delivering the Corporate Land Strategy. The first phase was to complete engagement and consensus-building amongst key stakeholders involved in the stewardship and positioning of City land. The Guiding Document (Attachment 1) summarizes the outcomes of that work and provides direction and scope to deliver the Corporate Land Strategy project. The Guiding Document and this report provides:

- Background - why The City owns land and current land inventory data.
- The City's current land management practices (Attachment 2).
- Corporate alignment (Attachment 3).
- A scan of municipal and public organizations' land management practices (Attachment 4).
- Scope of the Corporate Land Strategy.
- Guiding Principles that will support development of the Strategy, set governance structure, align policies and program frameworks, and support ongoing actions and decision-making to implement the Strategy.
- Key directions - the overall approach and priorities for the Strategy to address:
 - Expectations: Council, citizen and customer service level expectations are addressed.
 - Governance: Land management decisions are governed through a collaborative, integrated and transparent approach.
 - Triple Bottom Line: Consideration of The City's economic, environmental and social objectives and benefits in land management decisions.
 - Financial sustainability: City-owned lands and real estate expertise are positioned to increase the tax base and generate revenue.
 - Decision-making: Criteria and processes are clearly defined, fair, equitable and timely.

Administration will complete this second phase of work and bring the Strategy for Council approval no later than 2020 July 31, and could include a Corporate Land Management Policy.

Once the corporate direction is confirmed, Administration will complete the final phase of the project by aligning supporting program frameworks and procedures that will implement the

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Corporate Land Strategy - Guiding Document

Strategy. These supporting documents and procedures would be approved at the Administration level.

Stakeholder Engagement, Research and Communication

Engagement to define the direction of the Corporate Land Strategy has focussed on The City's internal stakeholder network of land stewards, land administrators, planning policy groups. It also included senior Administration groups, including Corporate Land Committee and Administrative Leadership Team (ALT). The Guiding Document has been reviewed with these key groups, who support its direction.

Strategic Alignment

The Corporate Land Strategy will align with other programs, strategic directions and objectives of The City. Work also includes building awareness and alignment between the Strategy and in-progress Corporate implementation programs, including Enhanced Rationalization, Green Line Real Estate and Non-Market Housing Land Disposition.

Social, Environmental, Economic (External)

A primary outcome of the Corporate Land Strategy will be to address how broader, triple bottom line and policy objectives of The City are integrated into land portfolio management and decision-making processes. The Strategy will develop criteria and procedures to identify and weigh these objectives in conjunction with broader real estate transactional needs and the financial sustainability of RE&DS program operations and funding reserves.

Financial Capacity

Current and Future Operating Budget:

Resources to complete and deliver the Corporate Land Strategy and supporting Frameworks, Policy Alignment and Real Property Bylaw amendment are included in RE&DS' existing operating budget Program 488.

Current and Future Capital Budget:

Project resources to support project delivery are included in Program 698 funded from the Revolving Fund Reserve for General Land Purchases.

Risk Assessment

Administration has completed a risk assessment as part of development of the detailed Project Charter. No significant risks have been identified. Project risks are being mitigated through project planning, stakeholder engagement and communications plans.

REASON(S) FOR RECOMMENDATION(S):

Council approval of the Guiding Document will confirm direction for the Corporate Land Strategy project and outline the steps and schedule to deliver the Strategy and aligned policies, frameworks and procedures in a timely manner.

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ATTACHMENT(S)

1. Attachment 1 – Corporate Land Strategy – Guiding Document
2. Attachment 2 – Current Directions
3. Attachment 3 – Corporate Alignment
4. Attachment 4 – Public Land Management Practices

Calgary



Corporate Land Strategy Guiding Document



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1.0 EXECUTIVE SUMMARY

The City of Calgary (The City) is the owner of over 8300 parcels of titled land. These parcels support the delivery of City services to business and citizens in the form of over 34,000 acres of parks and natural spaces, community-focused services, affordable housing, administration buildings, public works and utility infrastructure. These lands are also an asset for The City, to be managed well in fulfilling its operational needs and leveraged to the benefit of all Calgarians.

The Corporate Land Strategy, is about unlocking the Triple Bottom Line value of land. It will encapsulate all existing land management artifacts (frameworks, policies, strategies, bylaws), identify and fill gaps, and ultimately enable connection points between the various land initiatives across the corporation to capitalize on cross business unit and department opportunities.

This report provides information about work being led by Administration to define a strategic, portfolio-based approach to managing The City's land assets. A successfully executed Corporate Land Strategy will benefit the corporation by establishing more sustainable business operations and decision making processes that maximize the overarching and long-term value of municipal lands.

The Corporate Land Strategy is about unlocking the triple bottom line value of land.

This Guiding Document will provide overall direction on the project's approach to:

1. Expectations: Council, citizen and customer service level expectations are addressed

2. Governance: Land management decisions are governed through a collaborative, integrated and transparent approach

3. Triple Bottom Line: Consideration of The City's economic, environmental and social objectives and benefits in land management decisions

4. Financial sustainability: City-owned lands and real estate expertise are positioned to increase the tax base and generate revenue

5. Decision-making: Criteria and processes are clearly defined, fair, equitable and timely

2.0 BACKGROUND

2.1 Why The City of Calgary holds land

As a municipality in the Province of Alberta, The City of Calgary (The City) is granted powers by the Province through the Municipal Government Act (MGA Part 1,3) to carry out “municipal purposes,” including:

- Providing good government
- Fostering well-being of the environment
- Providing services, facilities and other things that, in the opinion of Council, are necessary or desirable for all or part of a municipality
- Develop and maintain safe and viable communities

Land is essential for The City to provide city-wide and citizen-focused services. These include protection of the environment, providing and operating public infrastructure, emergency protection, public open spaces, recreation facilities, community-based services, affordable housing and public facilities.

At the direction of Calgary City Council, The City also delivers land development services that include acquisition, management, planning and approvals, investment in infrastructure and the sale of parcels for the following benefits:

- Providing serviced industrial land to businesses that support Calgary’s economic diversification, create jobs and increase the non-residential tax base.
- Leveraging strategic land holdings for non-market housing units, other social benefits and to deliver public planning policy objectives, including community redevelopment and transit-oriented development (TOD).
- In general, maximizing the overall value of City-owned land.



2.2 City of Calgary Land Inventory Overview

To deliver its services, The City holds title to over 8,300 parcels of land (13,939 hectares/34,442 acres). This land has been acquired through the history of Calgary to support its growth. This large portfolio of land, representing numerous asset-classes, is managed through a number of Administration programs.

A majority of this land (12,525 hectares/30,950 acres) is located across the city and directly supports The City's operations and delivery

of its municipal services to communities and citizens (Figures 1 and 2). Approximately half the area of City-owned land comprises Calgary's extensive park, river valley and open space system. Of that area, 43% was acquired through municipal and environmental reserve dedication as subdivisions in new neighborhoods were registered. Other large land positions are required for large regional infrastructure facilities, Operations Work Centres, and land held for future services, as described in Table 1.

Figure 1 Land Inventory Status

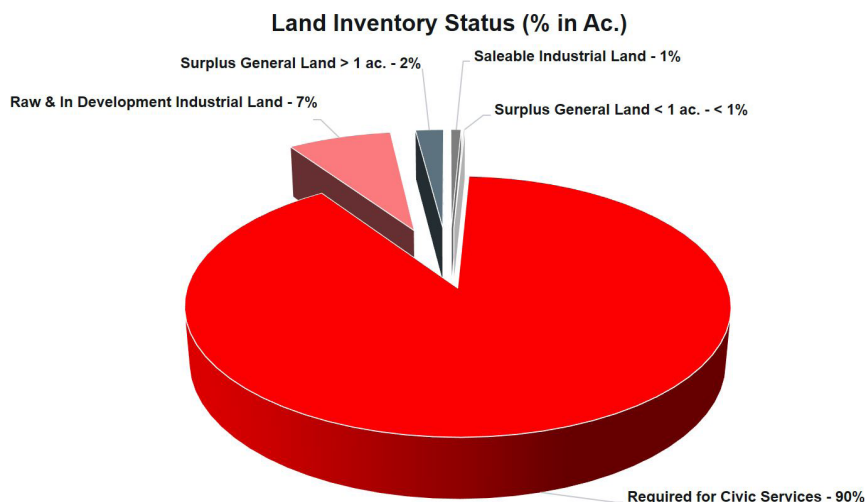
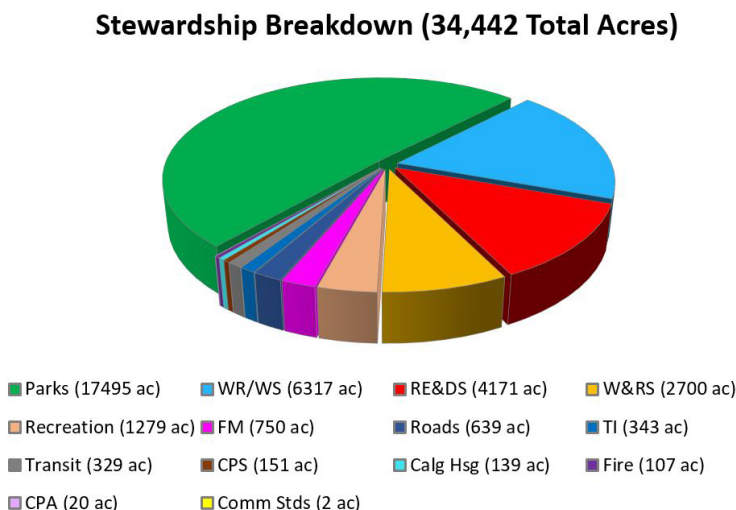


Figure 2 Stewardship Breakdown by Business Unit



City of Calgary - Land Steward Inventory Area, by Business Unit - Updated 2019 August

Table 1 Land Inventory Area, by Business Unit

	Acres	Hectares
Parks – local, community and regional parks, community association sites, river valley lands and escarpments, wetlands and maintenance facilities.	17,495	7,080
Water Resources/Water Services (WR/WS) – water treatment plants, water reservoirs, wastewater/sewage treatment plants (e.g. Bonnybrook, Pine Creek), community storm ponds and regional stormwater management facilities (e.g. Ralph Klein Park).	6,317	2,557
Real Estate & Development Services Land Holdings (RE&DS): <ul style="list-style-type: none"> Industrial Land Program – raw land being managed for future industrial parks, active development projects, and serviced lots being marketed for sale Strategic Redevelopment Program – smaller parcels no longer required for service delivery, in strategic locations that support comprehensive planning, development and sale Surplus Lands Program – surplus parcels identified for disposition Corporate Land Inventory (CLA) lands acquired for future City service needs and leased until required, or leased to City-partners and third-party organizations on a long-term basis (e.g. West Village, Blackfoot Motorcycle Park) 	4,171	1,688
Waste and Recycling Services (W&RS) – regional landfill, recycling and composting facilities, historic landfill sites in Calgary.	2,700	1,093
Recreation – includes community and district recreation centers, regional recreation facilities, golf courses, etc.	1,279	518
Facilities Management (FM) – City portfolio of workspaces and civic spaces, Operations Work Centres (OWC) and fleet and maintenance facilities required to provide efficient City services throughout Calgary.	750	304
Calgary Roads – non-right-of-way land acquired for future transportation infrastructure, and remnant roadway parcels.	639	259
Transportation Infrastructure (TI) – land acquired to deliver major transportation infrastructure, interim lease parcels.	343	139
Calgary Transit – fleet maintenance and garages (Bus and LRT vehicles), transit stations and park & ride lots.	329	133
Calgary Police Service (Police) – includes headquarters, district stations and training facilities.	151	61
Calgary Housing – City-owned or leased affordable housing.	139	56
Calgary Fire Department (Fire) – includes headquarters, training, district stations.	107	43
Calgary Parking Authority (CPA) – land for CPA-run parking facilities.	20	8
Community Standards – Ramsay Animal Services Centre.	2	1
Total	34,442	13,939

2.3 Current Land Management and Real Estate Practices

“Real estate” is typically defined as real property consisting of land and improvements, including buildings, fixtures, roads, structures and utility systems.

The Real Estate & Development Services (RE&DS) business unit delivers two lines of service on behalf of The Corporation and for internal business unit (BU) land-steward clients. These services include:



Other City BUs also perform specific land development functions that support day-to-day operations and program delivery. These functions can include site planning, preparation, construction of buildings and facilities, utility installations, site remediation, etc. and are not within the scope of this project. The broader land management and operational functions are currently guided by various levels of direction, specific to the service needs. There is no overarching or comprehensive guidance to align the programs to higher goals for City-owned land and ensure consistency in day to day decision-making.



3.0 INFORMING STRATEGIC DIRECTION

3.1 Corporate Alignment

Development of the Corporate Land Strategy will support and align with current directions and initiatives of The City defined through a series of Council-approved strategic plans and policies, including:

- Citizen Priorities and Council Directives 2019-2022
- One Calgary Services Plans and Budget Process
- Corporate Asset Management Program
- Maximize Asset Value Review
- Municipal Development Plan
- Triple Bottom Line Policy
- Long Range Financial Plan

3.2 Public Land Management Best Practices

Municipalities and public agencies hold and steward land for a variety of purposes. They manage their land inventories through a variety of means to support delivery of their services to the public. This section provides an overview of how land is managed in other public organizations with a focus on Canadian cities' practices. Administration also reviewed other public organizations that hold land and best practices research in municipal land management (consulting studies, and National Executive Forum on Public Property (NEFPP) library). Calgary's current procedures and operations were assessed to identify where Calgary stands in relation to national peers and to identify opportunities for the Corporate Land Strategy approach.

The best practices review provided evidence of how other organizations manage an entire public land portfolio in a comprehensive and strategic manner. The focus was to understand overarching value statements, guiding principles and strategic policies that direct strategic land management decisions for the respective organization. Learnings from the research are summarized in this section. A more detailed table of land management practices across various municipalities and public organizations is also included in Attachment 4.





3.2.1 Roles common to public land organizations

Municipal organizations manage land to fulfill mandates and fund the delivery of services to the public and customers. For the most part, they undertake land management and real estate transactional services.

3.2.2 Roles unique to specific public land organizations

Some cities intentionally develop and service land to achieve other benefits to the community.

3.2.3 Common challenges for public land organizations

Public organizations are challenged by many of the same issues that make managing land more difficult, less efficient and does not optimize the value of their land assets. Usually this has resulted from lack of a comprehensive strategy or direction.

3.2.4 Leading public land management practices

Mature land management practices tend to have policies and directions in place to guide strategic decision-making and align operations to deliver that direction.

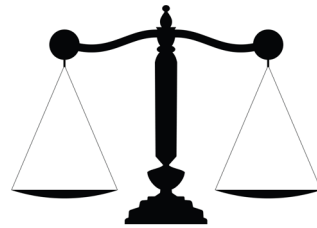
3.3 Informing Direction of the Corporate Land Strategy

Learnings from the best practices research and stakeholder engagement indicate there are practice areas where The City is already well positioned and can continue to improve. There are also some opportunities and new practice areas for The City to consider through the development of the Corporate Land Strategy, as outlined below.

There are four areas in which **The City is leading the way in quality land management practices.**



Land Inventory



Dedicated Funding Reserves



In-House Professional Services



Land Frameworks



Land Inventory Management – Land Inventory Data Application (LInDA) and the planned integration with other real estate information systems is well advanced for municipalities.



Dedicated and Sustainable Funding Reserves – Two reserves are in place for the management of City land (Revolving Fund) and the Land Development program (Real Estate Reserve).



In-House Professional Services – The City of Calgary has professional real estate and legal services on staff to manage all needs.



Land Frameworks – The City has put extensive effort into building solid frameworks, processes and collaborative governance for some of its land programs (e.g. Corporate Land Management Framework, Industrial Land Strategy, and Real Property Bylaw) to set the foundation and vision for quality land management.

There are four areas of improvement where the Corporate Land Strategy will place focused attention to better serve the management of land by The City:

1. Define a corporate approach to making strategic land decisions.
2. Define a portfolio-management approach for City land and programs.
3. Define new opportunities to optimize the value of land.
4. Simplify processes and clarify roles and responsibilities.

4.0 Corporate Land Strategy Project Scope

City Council recognizes land as a public asset that should be managed in a manner that maximizes community use and benefits of the land, and supports the financial sustainability of the real estate and land development programs. An overarching strategy will clarify these expectations. It will also provide Administration with clear direction to tie the various administrative and procedural tools together, thus enabling The City's land services and programs to be delivered in a corporate-focused and results-based manner. A Corporate Land Strategy will support these needs by providing an overarching, comprehensive approach to managing City lands.

Figure 4 Corporate Land Strategy



To ensure this project addresses the four areas of improvement identified, Administration will be taking a phased approach.

Phase One was to produce the Guiding Document to establish the scope and direction for the project.

Phase Two will be focused on making sure The City has a solid foundation through the creation of a Corporate Land Strategy. This strategy will include:

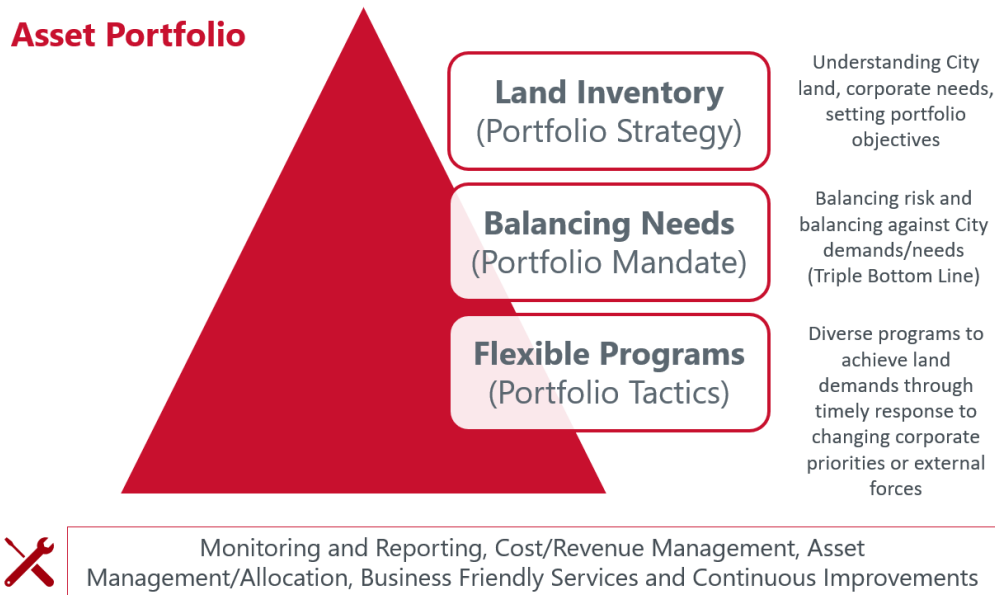
- **Governance** – Who will be involved in the decision making for City land demands. Administration will reflect on existing governances that are working effectively at The City (e.g. Integrated Civic Facility Planning or Infrastructure Calgary).
- **Standards** – How the decisions will be made, making sure all required demands are adhered to including updating and further developing as required.
- **Roles and Responsibilities** – How The Corporation will be organized and accountable for delivering City land management. Administration will reflect on existing efforts that are working effectively at The City (e.g. Corporate Project Management Framework or Infrastructure Calgary) to deliver this direction.
- **Decision methodology** – What data and information will be used for City land decisions. Administration will incorporate the decision criteria with existing Council directions, professional real estate and market analysis, best practice, land inventory data, technical feasibility and financial sustainability of programs. This will deliver clear and consistent land decision-making processes with adaptability to respond to technological, customer, market, societal and organizational changes.

City Council recognizes land as a public asset that should be managed in a manner that maximizes community benefit, including financial return



Phase Three will provide the vehicle for how the strategy will be administered. Administration will take a portfolio management approach to incorporate the strategy. The defined portfolio approach is shown in Figure 5.

Figure 5 Portfolio Management Approach



Land Inventory (Portfolio Strategy)

- Management and tracking of the land inventory
- Understanding City land, corporate needs
- Setting portfolio objectives

Balancing Needs (Portfolio Mandate)

- Understanding corporate objectives
- Assessing land potential to deliver objectives
- Managing risks and balancing competing needs
- Making timely and transparent decisions

Flexible Programs (Portfolio Tactics)

- Define portfolio approach and tactics applicable to all land programs (e.g. surplus lands, industrial land development, strategic redevelopment)
- Scalable to the specific demands and challenges of each program and asset type
- Identify short-term priorities and specific actions (now to four years) that align with projects and budgets
- Set portfolio plans for medium and long-term horizons (5, 10, 20 and 30 years) to address strategic opportunities, and prioritize projects and investment

- Responsive to changing corporate priorities, external market forces (market, customer demands, trigger events)

Tools (Implementation)

To effectively deliver this work, Administration must have tools to support its operations and will be mindful of the following in developing the portfolio approach:

- Monitoring and reporting – effective reporting tools for transparent decision making
- Cost and revenue management – reduce operating costs, find land efficiencies, lease long-term land, sell surplus land, capture market value
- Land asset management/allocation (purpose for each parcel) – land inventory, data and process management, rationalize holdings
- Business friendly services – support market cycles, understand customer needs, build trust with clients and partners, implement transparent procedures, reduce time to market
- Continually improve – find greater efficiencies and effectiveness in service delivery and project outcomes

5.0 GUIDING PRINCIPLES

Guiding principles represent the general aspiration and values that will guide the Corporate Land Strategy project and support decision-making throughout the planning, development, delivery and transition to operations.

City-owned lands are valuable assets that provide long-term and strategic benefits to current and future generations.

Citizen Value

- Land management decisions consider economic, environmental, social and cultural values to ensure balanced benefits to citizens.

Transparent and Accountable

- Land management decision-making processes are clear, consistent and communicated.

Coordinated and Collaborative

- Land decisions are made collectively to reflect our One City, One Voice culture, and are managed internally and externally to capitalize on our broad range of expertise.

Evidence-Based and Timely

- Appropriate decisions are made in consideration of Council directions, professional real estate and market analysis, best practices, land inventory data, technical feasibility and the financial sustainability of programs.

Reliable and Flexible

- Decisions will use consistent and repeatable processes with the flexibility to respond to rapid technological, customer, societal and organizational changes.



5.1 Communicate and Educate

Communication and education about the Corporate Land Strategy project, why it's required, its benefits and desired outcomes, including implementation will be promoted throughout the project. Informing decision-makers, corporate partners and customers about land management will achieve corporate understanding and buy-in and support collective and transparent decision making on land to achieve the best results for The City and citizens.

Target audiences

- City Council
- Administration Leadership Team
- Internal customers and staff
- Corporate partners in land stewardship and asset management
- Corporate policy groups
- Implementers of land and real estate programs
- External customers of land, partners in land development, market experts

Key messages

- City land is a valuable public asset, and Administration is committed to managing it well.
- This is a 'One City' approach to managing City land; it's well thought out, comprehensive and unified.
- Our goal is to maximize the benefits and unlock the triple bottom line value of City land for current and future generations.
- Ultimately, this is about making the most of City-owned lands.

Tools

- Stakeholder engagement
- Information sessions
- On-line depository for land strategy, policies, frameworks, and procedures, and links to related corporate land projects
- Key indicators and measures
- Reporting templates that clearly align decisions to the Strategy, weigh alternatives and explain the rationale for decisions that are made



CURRENT DIRECTIONS

1 Land Administration

The City manages land through the direction of the **Corporate Land Management Framework** (CLMF), approved by Administrative Leadership Team in 2015. The CLMF scope is the full inventory of City land managed across all 15 land-stewarding Business Units (BUs).

The CLMF promotes:

- a vision and principles for managing and making best decisions for public land;
- the financial sustainability of the dedicated reserve (the “Revolving Fund”) that funds operations and new land acquisitions;
- a collaborative governance structure to support good land management practices, decision-making and accountability;
- foundational and operational standards for managing land; and
- a regular review of BU lands to rationalize need and identify surplus.

Real Estate & Development Services (RE&DS) administers the CLMF through a variety of standards, collaborative processes and tools that coordinate decision-making and streamline the management of the inventory of properties. These tools consolidate and align implementation to:

- identify inconsistencies and fill gaps in direction;
- create connections between various real estate initiatives across the corporation;
- capitalize on cross BU-department knowledge and collaboration;
- provide corporately aligned decision-making; and
- set up programs and projects for success.

The CLMF does not direct how The City manages its programs to develop industrial or other strategic lands for value-added purposes or sale.

2 Real Estate Transactions and Property Management Policies

Real estate services include the work undertaken by Administration to manage lands, acquire and sell land and to manage liabilities through leasing and licensing.

There are existing procedures, directions and tools in place that support Administration to deliver its services. Many of these address specific challenges in one part of land service delivery, but are not guided by an overall strategy that would align the entire land program. Some key policies include:

- **Real Property Bylaw (52M2009)** – Provides direction and delegated authorities for Administration to manage real property transactions.
- **Sales, Acquisitions and Leases Environmental (S.A.L.E.) Policy** – A Council policy addressing appropriate environmental due diligence in all real property transactions.
- **Encroachment Policy** – A Council policy providing direction and consistent approaches to effectively manage encroachments on to City-owned land.

CURRENT DIRECTIONS

3 Land Development Program Guidance

Since 1965 The City has planned, developed and serviced new industrial business parks to ensure an available supply of shovel-ready land for sale to businesses. This supports Calgary's economic diversification, creates local jobs and expands the non-residential tax base to the benefit of the greater community. The Industrial Land Development Program is financially self-sustaining, with the revenues from the sales of industrial lots returned to a dedicated land development reserve fund (the "Real Estate Reserve") to support future land acquisitions and industrial development projects.

3.1 Industrial Land Development Program

The direction and delivery of the Industrial Land Development Program is guided by the Council-approved **2013-22 Industrial Land Strategy: for the development of City-owned lands**. It provides the rationale for why The City is involved in industrial land development and a framework for how it will develop and service industrial business parks. Decisions on project priority and deliverables are made within RE&DS and approved by Council through the capital budget process. Projects are advanced that support land supply targets, meet market demand for serviced land and are financially viable. The Program also directly supports City social objectives by contributing five percent of gross proceeds from industrial land sales to support affordable housing capital projects.

3.2 Strategic Land Redevelopment Program

The Strategic Land Redevelopment Program focusses on City-owned land that, due to location, proximity to infrastructure or future public investment provides an opportunity to maximize the return from sale of land redevelopment and advance The City's public policy directions. There is currently no strategic guidance for the program. The Program is project-driven, often at the direction of City Council in conjunction with other planning policy or capital investment decisions. Upon receiving direction, Administration assesses the feasibility of the redevelopment project and scales it to achieve the best objectives given available resources. However, the feasibility and prioritization of projects is not rigorously considered across the broader portfolio of similar projects to understand market alignment or competition between City and private development projects. Strategic Land Redevelopment projects are also funded through the Real Estate Reserve and compete for capital with industrial projects. Clear direction to guide Strategic Land Redevelopment will ensure that, in consideration of the available funding, the most feasible projects are advanced and successful in achieving the best outcomes for The City.

CORPORATE ALIGNMENT

The Corporate Land Strategy will align with current policy and direction guiding The City. A number of the relevant corporate directions and current policy initiatives that influence the delivery of this comprehensive land management strategy are provided below for information. These and others will regularly be reviewed as the Corporate Land Strategy is being developed and delivered.

1 **Citizen Priorities and Council Directives 2019-2022**

Council's vision and the five citizen priorities guide Administration in delivering services as defined through One Calgary. Together these inform The City's land management practices and the direction of the Corporate Land Strategy.

- **A Well-run City** – land decisions are made in a transparent and accountable way, support Calgary's economic resilience, expand the tax base and promote financial sustainability of the Corporation.
- **A Healthy and Green City** – land decisions support environment, promote biodiversity, resilience to changing climate, improve contaminated sites, etc.
- **A City that Moves** – land is available to support mobility networks, and surplus land is leveraged to support existing transportation investments.
- **A City of Safe and inspiring Neighbourhoods** – land decisions support social needs, cultural benefits and help to build great communities.
- **A Prosperous City** – land decisions support economic diversification and resilience, attract talent, and support businesses that create job opportunities.

2 **One Calgary Service Plans and Budgets process**

One Calgary is The City's serviced-based approach to and four-year budgeting process for 2019-22. It identifies Real Estate & Development Services (RE&DS) as the provider of Real Estate Services and Land Development and Sales lines of service for The Corporation.

3 **Corporate Asset Management Program**

The Corporate Asset Management Program manages The City's tangible capital assets including buildings, infrastructure and equipment. Land is not currently considered within the Asset Management Program as it historically appreciates in value.

A corporate land strategy can impart an asset management approach to land. It would align land management with the evolving asset management practices at The City by establishing an overall land asset planning (portfolio) approach, a management system and corporate governance to guide all programs that deliver land services.

CORPORATE ALIGNMENT

4 **City Facilities Management Programs**

The Corporate Coordinated Operations Maintenance (CCOM) Program, Corporate Facility Planning and Delivery Policy and Integrated Civic Facility Program (ICFP) provide direction for management of building and facility assets managed by The City. New strategies and procedures to support City-owned land management will be aligned with these current facility programs to ensure consistency, clarity of roles and integrated decisions.

5 **Asset Sale Review**

The Asset Sale Review is a current Council priority with implications for land. The Corporate Land Strategy will support strategic and intentional decision-making around land asset sales that support financial priorities. It should also direct where longer-term public benefit can be gained from land assets and how to optimize those decisions.

6 **Municipal Development Plan and Corporate Planning Policies**

The Municipal Development Plan (MDP) and Calgary Transportation Plan (CTP) set out 30-year direction for the growth of Calgary. These policies inform corporate decisions for leveraging land and real estate expertise to deliver visions and public policy objectives, including:

- Supporting a prosperous economy and creating a city attractive to business.
- Creating vibrant, transit-supportive, mixed-use activity centres (Transit Oriented Development-TOD).
- Supporting the redevelopment of strategic land parcels.

7 **Triple Bottom Line Policy**

The Policy expresses The City's commitment to consider social, economic and environmental impacts of City decisions. The Corporate Land Strategy will reflect this approach to identify opportunities, challenges and trade-offs in positioning land to deliver broader benefits.

8 **Long Range Financial Planning**

The City ensures it has the long-term financial capability to support growth and investment decisions. The Long-Range Financial Plan and Council's Capital Investment Principles establish a fiscal framework to inform the Corporate Land Strategy, including:

- Responsible financial decision-making.
- Understanding long-term impacts of spending decisions.
- Managing finances in a sustainable manner.
- Reducing impacts on the mill-rate.
- Managing land assets well and making strategic investment decisions.
- Remaining flexibility to respond to changing circumstances.

Public Land Management Practices

Canadian Municipal Land Management Practices					
City/ Region	Land Trans- actions	Land Development – Greenfield Industrial	Land Development – Greenfield Residential	Strategic Redevelopment	Comprehensive Land Management Program?
City of Calgary AB	✓	<ul style="list-style-type: none"> Support local economic development Serviced land supply 		<p>RE&DS (City BU) Redevelopment City Business Unit-TOD and strategic sites incl. The Bridges, Midfield, Anderson TOD,</p> <p>Calgary Municipal Land Corporation (CMLC) Redevelopment and investment in The Rivers District (East Village and East Victoria Park), David D. Oughton School site.</p>	<p><i>Partial – evolving</i></p> <p>Corporate Land Management Framework (2015) (for the stewardship of City lands)</p> <ul style="list-style-type: none"> Vision - City-owned lands are recognized as valuable assets that support the services The City of Calgary provides to citizens. Responsible land stewardship and decision making will be achieved through collaborative and consistent land management policies, practices and standards. Governance – collaborative and corporate oversight and decision-making Operating Standards to guide land management Guiding Principles – Land management decisions will: <ol style="list-style-type: none"> 1. Address citizen service level expectations without compromising the ability to meet future service needs in a manner that is respectful and deliberate. 2. Balance current economic, environmental and social benefits and overall goals and objectives of The Corporation. 3. Work across The Corporation to achieve land management decisions that are collaborative and integrated. 4. Respond to changing economic, environmental and social factors over time and will be improved through periodic monitoring, measuring and transparent reporting. 5. Consistently follow clearly defined decision-making criteria and processes in a fair, equitable and timely manner. <p>Industrial Land Strategy – for the development of City-owned lands (2013)</p> <ul style="list-style-type: none"> Vision – Lead in the creation of sustainable industrial parks that support economic development in Calgary and maximize the long-term benefits for all Calgarians. Guiding Principles <ol style="list-style-type: none"> 1. Support local economic development 2. Achieve Corporate objectives 3. Operate within our financial capacities 4. Foster a fair and transparent business environment 5. Attract the right business 10-year action plan to deliver industrial land development services

Public Land Management Practices

Canadian Municipal Land Management Practices					
City/ Region	Land Trans- actions	Land Development – Greenfield Industrial	Land Development – Greenfield Residential	Strategic Redevelopment	Comprehensive Land Management Program?
City of Lethbridge AB	✓	<ul style="list-style-type: none"> • Support economic development • Land Banking • Land supply (10 years) • 	<ul style="list-style-type: none"> • Land Banking • Land Supply (10 years) • Create attractive and efficient neighbourhoods • Compete to keep lot prices down • Capture incremental value for public 		City Involvement in Land Development (1977) - Framework <ol style="list-style-type: none"> 1. Land banking and land ownership 2. Development of City-owned land for urban use 3. The control of land use and development of both public and private land through zoning and development control
City of Edmonton AB	✓	<ul style="list-style-type: none"> • Support economic development • Serviced land supply • Streamline approvals • Remove obstacles • Build infrastructure • Maintain industrial data 	Enterprise Land Development (ELD) - City business unit that has developed new residential communities to ensure lot supply for small builders, innovation and affordability through self-sustaining operations.	Civic Property Services BU - Leverages vacant land (incl. surplus school sites) to deliver Council strategic direction. EELD - redevelopment of strategic City sites e.g. Blatchford (Municipal Airport redev't), Ft. Road Station (TOD).	<i>Comprehensive Strategy currently in development</i> Land Governance Model (2018) <ul style="list-style-type: none"> • Proposing breaking up Enterprise Land Dev't (ELD) and Municipal Lands • Set up new Reserve Account for Acquiring Municipal Lands • Differentiate dividends paid by both programs (ELD and Municipal Lands) City of Edmonton Land Management Guidelines (2018) Overriding Principle to guide decisions and dispute resolution: <i>"Land is a Corporate Asset"</i> .
City of Surrey BC	✓	<ul style="list-style-type: none"> • New jobs and economic growth • Implement broader corporate planning policies and environmental and other conditions 	<ul style="list-style-type: none"> • Limited Infill residential development of surplus lots 	Surrey City Development Corporation(SCDC) Industrial, Residential, Mixed use projects e.g. Surrey City Centre, Campbell Hts. Industrial Park	SCDC Mandate: <ol style="list-style-type: none"> 1.To develop land for financial profit and the betterment of the City of Surrey. 2.To build an income producing real estate portfolio. 3.To advance City's financial, social, economic and community objectives. <ul style="list-style-type: none"> • City has a partnering agreement, which align City goals to SCDC • Acts as catalyst and facilitator to accelerate beneficial development • Partners with private sectors on real estate development projects • Provides consulting advice to City to achieve its visions

Public Land Management Practices

Canadian Municipal Land Management Practices					
City/ Region	Land Trans- actions	Land Development – Greenfield Industrial	Land Development – Greenfield Residential	Strategic Redevelopment	Comprehensive Land Management Program?
		<ul style="list-style-type: none"> Financial considerations of the project 			<ul style="list-style-type: none"> Provides annual dividend to City of Surrey
City of Vancouver BC	✓			Vancouver Affordable Housing Endowment Fund positions City land for non-market housing. It includes acquisition and assembly of new sites.	<p>Property Endowment Fund (PEF) Strategy (1975)– long-term strategy for the City's real estate investment portfolio.</p> <p>Purpose: To preserve and increase the real value of PEF assets and increase the Fund's ownership of strategic sites</p> <p>Goal: To manage PEF assets in such a way to preserve their real value and generate a reasonable economic return. In addition, where it is possible without jeopardizing either the real value of the Fund or the reasonable return on its assets, to support the City's public objectives.</p> <p>Objectives to:</p> <ul style="list-style-type: none"> Manage and develop Fund's holdings to generate reasonable economic return Buy and sell land to assemble a land inventory that offers the best opportunity to preserve and where possible increase the real value of the PEF assets Support the City's public objectives Develop a program to accomplish the conversion of non-strategic holdings to strategic ones <p>Priorities: In making decisions, the financial criteria must first be met, however, where possible, preference will be given to opportunities that also meet public criteria.</p> <p>Strategic Sites defined as: Sites that possess best opportunity to achieve either the PEF financial objectives, or both financial and public objectives.</p>
City of Saskatoon SK	✓	<p>Saskatoon Lands (Devt Corp)</p> <ul style="list-style-type: none"> Land Supply 	<p>Saskatoon Lands (Devt Corp)</p> <ul style="list-style-type: none"> Land Supply 	Sells City owned parcels with conditions to deliver specific City	<p>Saskatoon Land (Development Corporation) operates one of the largest, self-financed municipal land development programs in Canada.</p> <p>Core Mandate</p>

Public Land Management Practices

Canadian Municipal Land Management Practices					
City/ Region	Land Trans- actions	Land Development – Greenfield Industrial	Land Development – Greenfield Residential	Strategic Redevelopment	Comprehensive Land Management Program?
City of Saskatoon(cont'd)		<ul style="list-style-type: none"> Design innovation and leadership in new growth Provide competitive ROI on investments Finance other civic projects 	<ul style="list-style-type: none"> Design innovation and leadership in new growth Provide competitive ROI on investments Finance other civic projects 	objectives - residential, affordable housing units, mixed use, environmental remediation, etc. Uses RFP process for larger, strategic sites.	Develops new residential communities and serviced industrial parks
City of Toronto ON	✓			<p>CreateTO – has two corporate arms via service agreements to deliver specific real estate solutions:</p> <p>Build Toronto - Develops commercial properties</p> <p>Toronto Port Lands Company - Manages real estate assets and promotes revitalization in Toronto's Port Lands.</p>	<p><i>Strategy in progress</i> – launched City-wide Real Estate transformations in 2018 to address diverse governance structures, program objectives, investment lands processes, data and technology, skills and expertise among 24 City agencies and corporations involved in real estate activities.</p> <p>CreateTO – a City Board established to act on behalf of Council to manage the City's real estate portfolio, develop City buildings and lands for municipal purposes and deliver client focused real estate solutions to City divisions, agencies and corporations.</p> <ul style="list-style-type: none"> Provides centralized real estate and facilities management to ensure the effective use and management of an 8000-property portfolio. To adopt a Corporate Real Estate Strategy in 2019 to provide a city-wide approach for the delivery of real estate services and promote a balance of community and economic benefits. <p>Corporate Asset Management Policy (May 2019)</p> <ul style="list-style-type: none"> Includes "land and land improvements" Take an evidence-based approach Considers whole City needs and decisions will not occur in isolation from other City goals – Strategic Plan, Official Plan, Long-term Financial Plan, Climate Mitigation Strategy, Resilience Strategy, Master Plans, Service Plans Requirement for a Land-specific Asset Management Plan

Public Land Management Practices

Canadian Municipal Land Management Practices					
City/ Region	Land Trans- actions	Land Development – Greenfield Industrial	Land Development – Greenfield Residential	Strategic Redevelopment	Comprehensive Land Management Program?
City of Hamilton ON	✓				Real Estate Portfolio Management <ul style="list-style-type: none"> to rationalize municipal assets dispose of non-core municipal assets Long-term land leases <i>See also their 2004 comprehensive real estate study below</i>
Regional Mun. of Ottawa ON	✓			Ottawa Community Lands Development Corporation - implement Council directed land development and sale of strategic land parcels, incl. TOD on new LRT lines.	<i>In development</i> Corporate Real Estate Office (CREO) Disposal of Real Property – Policy/Procedures – <ul style="list-style-type: none"> All City-owned land is a corporate asset, not an asset of individual Department Land disposed of at current market value Seeks to use City land to achieve other corporate initiatives, including the objectives of strategic and Official Plans, affordable housing, environmental and easement protection. Ottawa Community Lands Development Corporation <ul style="list-style-type: none"> To obtain "optimal value" pertaining to financial and non-financial (municipal objectives)
Halifax Regional Mun. NS	✓			May redevelops high value property, and may act as land developer or partnering.	Administrative Order 50 Disposal of Surplus Real Property (2013) Identifies surplus land as follows, with differing processes to dispose: <ul style="list-style-type: none"> Economic Development – maximize value, attract targeted industry and employment, community regeneration Extraordinary Property – historic or legal distinctions with extraordinary processes to allow disposal Community Interest Properties Ordinary Sale – achieving market value through a variety of tactics Remnant – negotiation with abutting property owner

Public Land Management Practices

Agency	Other Public Land Organizations
Government of Canada Treasury Board	<p>Maintains a comprehensive suite of Policies and Frameworks to guide full range of land and land management issues - pertains to all Federal Departments requiring real property (including land)</p> <p>Policy on Management of Real Property (2006, as amended)</p> <p>Objective The objective of this policy is to ensure real property is managed in a sustainable and financially responsible manner, throughout its life cycle, to support the cost-effective and efficient delivery of government programs.</p> <p>Expected Results The expected results of this policy and its associated directive and standards are:</p> <ul style="list-style-type: none"> • effective and efficient management that enables program outcomes and serves broader government objectives. • financially responsible management that maximizes the long-term economic advantage to the Crown and provides best value to the Canadian taxpayer. • barrier-free access and use of federal real property and services that ensures inclusiveness and non-discrimination. • cultural and environmental stewardship that contributes to the preservation and protection of our heritage and the environment. • fair, open and transparent transactions that ensure equitable treatment. • respects market value principles.
Canada Lands Company (Crown Corporation)	<p>Canada Lands Company helps federal government departments and agencies deal with surplus strategic real estate. When properties are no longer required for program purposes by the federal government, they are acquired by Canada Lands Company and related carrying costs for the government are eliminated. Canada Lands Company also generates substantial community and financial value for the Government of Canada through the sale of properties.</p> <p>Providing Value to Canadians policy Canada Lands Company obtains the optimal value in the sale of its assets by balancing financial returns and community benefits. Price is not the sole determinant and is only one criterion in determining optimal value.</p> <p>In all of the Company's transactions, it strives to:</p> <ul style="list-style-type: none"> • be equitable and transparent. • encourage the use of competitive processes. • select reputable purchasers that are well-qualified in their respective areas of expertise. • require that employees of the Company conduct their sales activities in a manner consistent with the Company's ethics and values. • keep appropriate and adequate records of the selection process.
Province of Ontario Ministry of Natural Resources	<p>Strategic Direction of Management of Ontario Crown Lands (1993) Provides context on Why? and How? the Province of Ontario will manage its public lands</p> <p>Mission:</p> <ul style="list-style-type: none"> • Protect Province's title to land to safeguard environment, support social and economic development. • Support needs of clients – increasing process efficiencies and information. • Remain leaders in land management.

Public Land Management Practices

Agency	Other Public Land Organizations
	<p>Goal for Managing Crown Lands</p> <ul style="list-style-type: none"> to contribute to Ontario's environmental, social and economic well-being by providing for orderly use and sustainable development of Crown land. <p>Guiding Principles</p> <ul style="list-style-type: none"> A healthy natural environment and ecosystem integrity are essential co-requisites to sustainable development and prosperity; they must be regarded as overriding priorities. The needs of both present and future generations must be provided for. Land is the base for many renewable and non-renewable natural resources and must be "managed" with due regard for all resource objectives, including those for aquatic environments, through an ecosystem approach to stewardship. As a limited resource, land has intrinsic value; Crown Land is no less valuable than private land. Sound planning is vital; it must be based on the best available information and involve the widest possible range of expertise and perspectives. The public, interest groups and stakeholders must be actively involved in Crown Land use planning and decision-making. All clients must be treated fairly; principles and processes behind land management decisions must be open and understandable to all. Consistent with the "Statement of Political Relationship" (between Aboriginal governments in Ontario and the provincial government, August 1991), management activities must accommodate Crown Land and natural resources co-management arrangements and support Ontario's recognition of the inherent right of First Nations to self-government

Public Land Management Practices

Research - Municipal Land Management Best Practices	
City of Hamilton ON	<p>Real Estate Portfolio Management Strategy (2004) – Metropolitan Knowledge International (MKI), in association with Chapple Consulting Services, and McCallum Sather Architects, Inc.</p> <ul style="list-style-type: none"> This Study was undertaken to deal with the management of a significant real estate portfolio resulting from the amalgamation of The City of Hamilton with The Region of Hamilton-Wentworth. <p>Principles:</p> <ol style="list-style-type: none"> 1. Real property assets will be used and managed cost effectively; 2. Surplus property will be sold unless there is a compelling reason to retain it, including public interest considerations. 3. City will have regard to the current and future needs of City departments, taking into account all relevant policy and financial considerations. 4. City will acquire real property only in support of municipal programs 5. Responsibility for City of Hamilton real estate matters rests with the Corporate Buildings and Real Estate Division. 6. Except where Council specifies otherwise, all City of Hamilton real property transactions, including leases, will be based on fair market value 7. The Real Estate section will maintain a database of the properties owned and leased by the City of Hamilton, which shall be accessible to the public in accordance with the Municipal Act. 8. Every three years, The City will prepare a Real Estate Management Plan to review its real estate portfolio to stay abreast of changing needs. 9. Procedures will be developed to ensure consistency in the way the City handles all property acquisitions, disposals, and leasing.
City of San Diego, CA	<p>Best Practices Methodology for Real Assets Department (2007)- Grubb & Ellis Company</p> <ul style="list-style-type: none"> Review completed for City to provide a best practice review and methodology based on government and private sector real estate organizations. <p>Recommended approach:</p> <p>Processes – focusing on portfolio performance, operating portfolio planning, customer service</p> <ul style="list-style-type: none"> Develop an overall Portfolio Plan to provide a framework for real estate decision-making, by portfolio: <ul style="list-style-type: none"> City's property and occupancy strategy Income-producing property Info gathering to drive good decision-making and continuous improvement <p>People</p> <ul style="list-style-type: none"> commitment to people through training in business processes, new technology, and professional real estate techniques Commit people resources to "portfolio management" - to develop consolidated portfolio plan and monitor property performance and market activity. <p>Performance Measures</p> <ul style="list-style-type: none"> Standard Real Estate performance measures (Rates of Return, market comparison, etc.) in formats that support portfolio analysis Measures relating to execution (response times, unresolved transactions, accuracy and completion of property records) Managing transition to new business model. (schedules, implementation, successful transactions) <p>Technology –</p> <ul style="list-style-type: none"> Need systems to keep and track data that supports portfolio monitoring, performance measures, project tracking and property agents/portfolio analysts System that has lease admin, portfolio management and project management <p>Authority</p> <ul style="list-style-type: none"> Appropriate authority delegated to complete transactions – from customer service perspective and portfolio performance Batched approvals – Council approve a portfolio plan rather than individual transactions with annual reporting Authority within a box – Admin to execute plans that comply with Portfolio Plan Management by exception – Council focus should be on anomalous transactions (magnitude or complexity) and monitoring flow of routine transactions.