City of Saskatoon

PUBLIC AGENDA
STANDING POLICY COMMITTEE ON ENVIRONMENT, UTILITIES AND CORPORATE SERVICES

Monday, June 12, 2017, 9:00 a.m.

Council Chamber, City Hall

Committee Members:

Councillor M. Loewen, Chair, Councillor H. Gough, Vice-Chair, Councillor T. Davies, Councillor S. Gersher, Councillor D. Hill, His Worship, Mayor C. Clark (Ex-Officio)

Pages

1. CALL TO ORDER

2. CONFIRMATION OF AGENDA

Recommendation

That the agenda be confirmed as presented.

3. DECLARATION OF CONFLICT OF INTEREST

4. ADOPTION OF MINUTES

Recommendation

That the minutes of meeting held on May 8, 2017, be adopted.

5. UNFINISHED BUSINESS

6. COMMUNICATIONS (requiring the direction of the Committee)

6.1 Delegated Authority Matters

[Approval of exemptions under The Noise Bylaw.]

Recommendation

That the request for extension to The Noise Bylaw as outlined in 6.1.1 to 6.1.12 be approved subject to any administrative conditions.

6.2 Matters Requiring Direction

6.2.1 Proposed Advisory Committee Budget for 2018 [CK. 1704-5]

The following proposed budget is submitted for consideration for

placement in the 2018 Business Plan and Budget:

Saskatoon Environmental Advisory Committee - $7,800

(an increase of $1,000 from 2017) to include:

Student Action for Sustainable Future (SASF) Program - $1,800

Public Education and Awareness Campaigns/Initiatives - $6,000

Recommendation

That the above proposed budget of the Saskatoon Environmental Advisory Committee be included in the 2018 Business Plan and Budget for consideration at that time.

6.2.2 Hydropower Joint Ownership Project with Saskatoon Tribal Council [CK. 2300-1] 29 - 29

The Saskatoon Environmental Advisory Committee (SEAC) is recommending the Administration to consider adding to the upcoming feasibility study, an opportunity cost analysis as it relates to other renewable power opportunities along with potential partnerships with the Saskatoon Tribal Council.

A representative from the Saskatoon Environmental Advisory Committee will be in attendance to present the above matter.

Recommendation

That the direction of Committee issue.

6.2.3 Internal Process Review of Special Events [CK. 205-0 x 116-1] 30 - 57

The Saskatoon Environmental Advisory Committee recommends that the City consider expanding the recommendations stemming from the Special Events-Internal Review Process to include the following items as part of the special events process:

1. That organizers must provide a short environmental sustainability plan to the City before permits are issued (how the event will handle waste, recycling, water services, and energy supply, what steps will be taken to encourage alternative transportation); and
2. That the City will develop resources to assist organizers enhance the environmental performance of their events (example: workshops, green event guide, supplier lists, volunteer pools).

A representative from the Saskatoon Environmental Advisory Committee will be in attendance to present the above matter.

Recommendation

That the direction of Committee issue.

6.2.4 Proposed Targets for Community-wide Greenhouse Emissions Reductions [CK. 375-4] 58 - 61

At the Regular Business Meeting of City Council held on December 12, 2016 it was resolved, in part, that the Saskatoon Environmental Advisory Committee be asked to assist in developing a Community Greenhouse Gas (GHG) Reduction Target.

Attached is a report of the Saskatoon Environmental Advisory Committee in this regard. A representative from the Committee will be in attendance to present the matter.

Recommendation

That the direction of Committee issue.

6.3 Requests to Speak (new matters)

6.3.1 Safe Drinking Water [CK. 7920-1] 62 - 63

A request to speak from Gail Stevens, Council of Canadians, Saskatoon Chapter, dated May 27, 2017, is provided.

A PowerPoint presentation will be provided.

Recommendation

That the information be received.

7. REPORTS FROM ADMINISTRATION

7.1 Delegated Authority Matters

7.1.1 Integrated Waste Management Annual Report 2016 [CK. 430-1 and CP. 0430-004] 64 - 123

Recommendation

That the report of the A/General Manager, Corporate Performance Department, dated June 12th, 2017, be received as information.

7.1.2 Environmental Protection Annual Report 2016 [CK. 430-1 and 124 - 156

CP. 7556-001]

Recommendation

That the report of the A/General Manager, Corporate Performance Department, dated June 12, 2017, be received as information.

7.1.3 Civic Environmental Sustainability Program [CK. 7550-1 and CP. 7550-005] 157 - 161

Recommendation

That the report of the A/General Manager, Corporate Performance Department dated June 12, 2017, be received as information.

7.1.4 Remai Modern Construction Update - June 2017 [CK. 620-5, CC. 4130-2 and CS. 4130-3] 162 - 164

Recommendation

That the report of the A/General Manager, Corporate Performance Department, dated June 12, 2017, be received as information.

7.1.5 Saskatoon Water 2016 Annual Report [CK. 430-37 and WT. 430-2] 165 - 213

Recommendation

That the report of the General Manager, Transportation & Utilities Department dated June 12, 2017, be received as information.

7.1.6 Saskatoon Light & Power 2016 Annual Report [CK. 430-16 and SLP. 430-2] 214 - 253

Recommendation

That the report of the General Manager, Transportation & Utilities Department dated June 12, 2017, be received as information.

7.2 Matters Requiring Direction

7.2.1 South Saskatchewan River Watershed Stewards - 2017 Membership [CK. 225-1 and CP. 0174-002] 254 - 260

Recommendation

That the Standing Policy Committee on Environment, Utilities,

and Corporate Services recommend to City Council:

That the City of Saskatoon membership with the South Saskatchewan River Watershed Stewards Incorporated be renewed for 2017.

7.2.2 Saskatoon Greenhouse Gas Emissions Targets [CK. 375-4] 261 - 276

Recommendation

That the Standing Policy Committee on Environment, Utilities and Corporate Services recommend to City Council:

1. That the greenhouse gas emissions reduction target for the City of Saskatoon (corporate) be adjusted to utilize 2014 as the base year, specifically, a reduction of 40% below 2014 levels by 2023;
2. That the recommended reduction targets for the community proposed by the Saskatoon Environmental Advisory Committee be adopted; and
3. That the Administration apply to the Federation of Canadian Municipalities (FCM) Municipalities for Climate Change Innovation Program to develop a Climate Change Mitigation Business Plan to achieve these targets.

7.2.3 Growth Plan to Half a Million - Brownfield Renewal Strategy [CK. 7550-1, x 4110-2 and CP. 7556-008] 277 - 286

Recommendation

That the Standing Policy on Environment, Utilities and Corporate Services recommend to City Council:

That the proposed change in scope to Capital Project 2541 – Growth Plan to Half a Million be approved to facilitate use of an anticipated FCM Green Municipal Fund grant on a citywide Brownfield Renewal Strategy as described in this report.

7.2.4 Vehicle Idling Bylaw Implications [CK. 375-4 and CP. 7550-001] 287 - 310

Recommendation

That the report of the General Manager, Corporate Performance Department, dated June 12, 2017, be forwarded to City Council for information.

7.2.5 Expanding the Waste Services Utility - Key Considerations [CK. 7830-1 and CP. 1720-001] 311 - 342

A PowerPoint presentation will be provided.

Recommendation

That the Standing Policy Committee on Environment, Utilities and Corporate Services recommend to City Council:

1. That the Administration investigate a new business model for waste services that includes a waste utility; and
2. That the Administration report in August 2017 on a potential design for expanding the Waste Services Utility in Saskatoon.

7.2.6 Fire Prevention - Internal Process Review [CK. 115-13 and CP. 0116-003] 343 - 353

Recommendation

That the report of the A/General Manager, Corporate Performance Department, dated June 12, 2017, be forwarded to City Council for information.

7.2.7 Managed Print Services - Request for Proposal Award [CK. 1005-1 and CP. 0260-002] 354 - 356

Recommendation

That the Standing Policy Committee on Environment, Utilities and Corporate Services recommend to City Council:

1. That the proposal submitted by WBM Office Systems Inc. for the managed print services for a term of five (5) years with an option to extend for two (2) additional years, be approved; and
2. That the City Solicitor be requested to prepare the appropriate agreement and that His Worship the Mayor and The City Clerk be authorized to execute the agreement under the Corporate Seal.

7.2.8 Urban Forestry - Civic Service Review [CK. 4200-1 and PK. 4206-1] 357 - 374

Recommendation

That the report of the General Manager, Community Services Department dated June 12, 2017 be forwarded to City Council recommending:

1. That the information be received; and

2. That the current service level be acknowledged and approved for 2017.

7.2.9 **Wastewater Treatment Plant - Digester and Heating Upgrade Project - Award of Engineering Services [CK. 7800-1 and WT. 7990-111]** 375 - 379

Recommendation

That the Standing Policy Committee on Environment, Utilities and Corporate Services recommend to City Council:

1. That the proposal submitted by CH2M HILL Canada Limited for engineering services for the design and construction of the Wastewater Treatment Plant Digester and Heating Upgrade, at a total upset fee of $3,159,638.70 (including GST and PST), be approved; and
2. That the City Solicitor be requested to prepare the appropriate agreement and that His Worship the Mayor and the City Clerk be authorized to execute the agreement under the Corporate Seal.

7.2.10 **Wastewater Treatment Plant - North 40 - Biosolids Management Study - Award of Engineering Services [CK.7800-1 and WT. 7990-113]** 380 - 383

Recommendation

That the Standing Policy Committee on Environment, Utilities and Corporate Services recommend to City Council:

1. That the proposal submitted by CH2M HILL Canada Limited for engineering services for the Biosolids Management Study, for a total upset fee of $203,821.39 (including GST and PST), be accepted; and
2. That the City Solicitor be requested to prepare the appropriate agreement and that His Worship the Mayor and the City Clerk be authorized to execute the agreement under the Corporate Seal.

7.2.11 **Saskatoon Water Capital Projects Funding Reallocation [CK. 1702-1 and WT. 1815-1]** 384 - 385

Recommendation

That the Standing Policy Committee on Environment, Utilities and Corporate Services recommend to City Council:

That $115,561 from the Waterworks Capital Projects Reserve be allocated to Capital Project #2218 – WTP/WWTR – Time and Attendance System.

Recommendation

That the Standing Policy Committee on Environment, Utilities and Corporate Services recommend to City Council:

That the current level of service as outlined in Option 6 of this report be maintained for the collection of garbage and recycled materials in neighbourhoods with significant on-street parking.

Recommendation

That the Standing Policy Committee on Environment, Utilities and Corporate Services recommend to City Council:

1. That the proposal submitted by Clark Engineering for the St. Paul’s Hospital Combined Heat and Power Plant Feasibility Study, for a total cost of $79,800 (including taxes) be accepted; and
2. That the City Solicitor be requested to prepare the appropriate agreement and that His Worship the Mayor and the City Clerk be authorized to execute the agreement under the Corporate Seal.

Recommendation

That the Standing Policy Committee on Environment, Utilities and Corporate Services recommend to City Council:

That a Request for Proposal be issued for an engagement consultant for a period of one year with an upset limit of $130,000 to help facilitate engagement on upcoming environmental initiatives including waste diversion and climate change mitigation.

8. MOTIONS (NOTICE PREVIOUSLY GIVEN)

9. GIVING NOTICE

10. URGENT BUSINESS

11. IN CAMERA SESSION (OPTIONAL)

12. ADJOURNMENT

185-9

From: executiveassistant@simfc.ca
Sent: May 15, 2017 10:41 AM
To: Web E-mail - City Clerks
Subject: Noise Bylaw Extension Request, National Aboriginal Day celebrations

Good morning,
I am requesting a noise bylaw extension for our National Aboriginal Day Celebrations event.

Contact:
Melanie St. Juste, Program Manager, The Saskatoon Indian and Metis Friendship Centre
Cell: 306-206-6854 or 306-244-0174

Ward:
Ward 2, Victoria Park
Event Name, Date and Time(s)
National Aboriginal Day, June 21, 2017, 8:30 a.m.-4 p.m.
I am requesting a noise extension for our National Aboriginal Day event in Victoria Park. We are looking into having entertainment start as early at 9 a.m. (fiddle music) on the community stage, set up of microphone and sound check by 8:30 a.m. therefore we will require a noise extension. In (2016) we had the same location and same noise extension request, and in 2015 and 2014 our event was held in Friendship Park.
The event and entertainment is free for the whole community.

Sincerely,
Melanie St. Juste,
SIMFC Programs Manager

185-9

From: City Council
Sent: June 06, 2017 4:42 PM
To: City Council
Subject: Form submission from: Write a Letter to Council

Submitted on Tuesday, June 6, 2017 - 16:41
Submitted by anonymous user: 71.17.193.94
Submitted values are:

Date: Tuesday, June 06, 2017
To: His Worship the Mayor and Members of City Council
First Name: Ethan
Last Name: Moore
Address: 510 Carr Crescent
City: Saskatoon
Province: Saskatchewan
Postal Code: S7S1m2
Email: ethanroy@shaw.ca
Comments:
Ethan Moore
510 Carr Crescent
Saskatoon, SK
S7S 1M2
(306) 880 - 7199
ethanroy@gmail.com

Monday, June 5, 2017

To: Mayor C. Clark, and Members of City council
City of Saskatoon
222 - 3 Ave N
S7K 0J5

Re: Noise Bylaw Extension Request

To Whom It May Concern:

My name is Ethan Moore, and I am planning on hosting a bi-weekly series of events showcasing local DJ talent on the rooftop patio of Drift / Vista Lounge, which is located at 339 ave A South. The events will be running every second Thursday, starting June 22nd, from 8:00 pm to 12:00 am, and will be running until the end of August. Music will be played through an amplification system at a reasonable level which will be promptly shut off and taken down at the end of the event. These events aim to expand and enhance the already thriving arts and culture scene in the Riversdale district, and set precedent as being the first event like this to be held on a rooftop patio in Saskatoon. I understand the potential success or failure of this, and future rooftop events in Saskatoon, and will be going above and beyond my duty of care to ensure all city requests are met, and proper measures are taken to limit noise spread. All neighbours within a 2 block radius will be notified of these events one week before the start of the events. (see attached Letter of Notice)

The complete set of dates and times of these events are as follows:
June 22, 2017, (8pm - 12pm); July 6, 2017, (8pm - 12pm); July 20, 2017, (8pm - 12pm); August 3, 2017, (8pm - 12pm); August 17, 2017, (8pm - 12pm); August 31, 2017, (8pm - 12pm)

Please consider this my request for an extension of the Noise Bylaw to accommodate our activities on the dates and times outlined herein.

Sincerely,

Ethan Moore
Event Coordinator
Technical Director
'The Treehouse'

Dear Riversdale Neighbours,

Starting Thursday June 22nd, 2017, Drift / Vista Lounge will be hosting a Bi-weekly Series of shows on the rooftop patio of Vista Lounge. These events will be starting at 8pm and running until 12 am. We will be having DJ's playing music using an amplification system, positioned and blocked to minimize noise spread to the surrounding area.

Please be advised our event dates and hours are as follows:

June 22, 2017, (8pm - 12pm)
July 6, 2017, (8pm - 12pm)
July 20, 2017, (8pm - 12pm)
August 3, 2017, (8pm - 12pm)
August 17, 2017, (8pm - 12pm)
August 31, 2017, (8pm - 12pm)

If you have any questions or concerns, please feel free to email Ethan Moore at:
treehouseseries@gmail.com

We invite all of you to come check out these free events, at 339 Ave A S, and enjoy the performances of our talented artists, and atmosphere of our gorgeous patio space.

Respectfully,

Ethan Moore
Event Coordinator
Technical Director
'The Treehouse'
ethanroy@gmail.com

The results of this submission may be viewed at:
https://www.saskatoon.ca/node/398/submission/174584

185-9

From: City Council
Sent: May 08, 2017 9:13 AM
To: City Council
Subject: Form submission from: Write a Letter to Council

Submitted on Monday, May 8, 2017 - 09:13
Submitted by anonymous user: 207.164.22.51
Submitted values are:

Date: Monday, May 08, 2017
To: His Worship the Mayor and Members of City Council
First Name: Skipp
Last Name: Anderson
Address: 64 24th street east
City: Saskatoon
Province: Saskatchewan
Postal Code: S7K 0J9
Email: anderson_skipp@hotmail.com
Comments:
PiNK Gay bar is thrilled to be continue its support in fundraising for pride and its charities by having our 5th annual Street Party fundraiser. We would like to as for a Noise bylaw extension for our event on Friday June 23rd and Saturday June 24th 2017. (9pm - 2am Fri + Sat)

For our event we host it along 24th street east in front of our location. PiNK is located in an industrially zoned area with little residences in the surrounding area which makes it an ideal location to celebrate pride as not to disturb anyone.

For our event we tent the street and work with city police to offer a fun safe value priced event to celebrate pride in the city with proceeds going to OUT saskatoon to fund future pride events.

As this is our 5th year we have been fortunate to host one of the countries largest pride party in Canada, the largest outdoor light show in the city, have had no fights or police dispaches and our neighbours have embraced this event.

We ask that this year we could have the same exception you have granted us in the previous years to continue our work for the community and contribute to Saskatoon's events.

If you have and questions or would like any additional information please contact me anytime

Thank you,

Skipp Anderson

The results of this submission may be viewed at:
https://www.saskatoon.ca/node/398/submission/167461

185-9

From: Kaden Welch <kaden@colormerad.com>
Sent: Wednesday, May 31, 2017 2:47 PM
To: Web E-mail - City Clerks
Cc: Cockrum, Lindsay (CY - Recreation & Community Development)
Subject: CMR Saskatoon Noise Bylaw Extension Request
Attachments: Saskatoon Neighborhood Notification.pdf

- Subject Title - Noise Bylaw Extension Request and Event Name- **8:30 AM Saturday June 24th; Color Me Rad Saskatoon**
- organizer contact information- **Kaden Welch, Event Director; 801-494-3336; kaden@colormerad.com**
- The ward where the event is taking place- **Ward 7**
- event name, date(s) and time(s); **Color Me Rad Saskatoon; June 24th, 2017; 9:00 am-12:00 pm**
- a sample of the flyer/poster that you will share with the community association and any business or resident within a two block radius with the details of the event, should your extension be approved; **See Attached**

- identify previous years and locations of event- **I was just asked to take over this event. I'm unaware of the previous locations.**

Thank you,

Kaden Welch
Color Me Rad Event Director
kaden@colormerad.com
801-494-3336

NOTIFICATION OF SPECIAL EVENT

WHAT: Color Me Rad 5k
WHERE: Diefenbaker Park Saskatoon, SK S7J 0S6, Canada
DATE: 6/24/2017
TIME: 9:00AM – 12:00PM
WHO: Color Me Rad
CONTACT: Kaden Welch, 801-494-3336

On June 24, 2017, our organization, *Color Me Rad,* will produce a special event in the neighborhood. Diefenbaker Park is the perfect location for our event. We are thrilled to be guests in your neighborhood and it is important to us that we are communicating clearly with you, the neighbors.

EVENT DESCRIPTION:

We are working closely with the City of Saskatoon Special Events Committee to minimize the impacts of the Color Me Rad 5k on your neighborhood. Our goal is to create an enjoyable and positive experience in your neighborhood. We would also like to invite you and your family to join us at the event. We look forward to visiting Saskatoon on June 24th!

If you or any of the surrounding residents have questions or comments about impacts of this event, please contact me at:

Kaden Welch, Director
801-494-3336
Kaden@colormerad.com
Color Me Rad 59 W. 100 S. Salt Lake City, UT 84101

Event hours are from 9:00AM – 12:00PM on 6/24/2017.

Our goal is to leave your neighborhood as we found it.
During the event hours, we expect around 2,500 Participants and Observers.

Streets may be closed or have limited vehicle and/or pedestrian access between the hours of 8:00 AM through 12:00 PM on 6/24/2017

We will have amplified sound during the hours of 9:00AM-12:00PM on 6/24/2017.
• Amplified sound consists of: PA System, Music, and an Emcee.

185-9

From: SCC Exhibitions <scc.exhibitions@sasktel.net>
Sent: May 25, 2017 11:48 AM
To: Web E-mail - City Clerks
Subject: Noise bylaw extension

To Whom it May Concern,

The Saskatchewan Craft Council will be hosting an art reception on Saturday, June 24, 2017 from 7:30 - 11:30 pm for an exhibition entitled "Dimensions", the Saskatchewan Craft Council's biennial, open, juried, touring exhibition which encourages and rewards excellence in hand crafted work. We are applying for a special event permit to open up the back lot of our building for use as a beer garden, and I have will be sending the Municipal Approval Request to your office by mail today. We would also like to apply for a noise bylaw extension as our party will be going later than 9:00 pm. Could you please advise me on how to go about requesting the extension?

Please let us know if you require any additional information.

Thank you,
-Stephanie

--
Stephanie Canning & Maia Stark
Exhibitions & Education Coordinators
Saskatchewan Craft Council
813 Broadway Avenue
Saskatoon, SK S7N 1B5
Phone: 306-653-3616 Ext. 2
E-mail: scc.exhibitions@sasktel.net
www.saskcraftcouncil.org
Facebook • Twitter • Instagram • Pinterest • YouTube • Blog
Steph's office hours: Wednesday - Thursday - Friday
Maia's office hours: Monday - Tuesday - Wednesday

The SCC appreciates the support of its members, Creative Sask and City of Saskatoon.

185-9

OPTIMIST CANADA DAY

April 28th, 2017

RECEIVED
MAY 03 2017
CITY CLERK'S OFFICE
SASKATOON

Mayor Charlie Clark and Members of City Council
City of Saskatoon
City Hall
Saskatoon, Saskatchewan
S7K 0J5

RE: OPTIMIST CANADA DAY 2017

Dear Your Worship and members of City Council,

The Optimist Club of Saskatoon (OCS) is in the planning stages for this year's celebration of Optimist Canada Day 2017, in Diefenbaker Park, on July 1. The Optimist Club of Saskatoon has been organizing Canada Day events since 1967, which started as a centennial project. 2017 will be our 50th year and Canada's 150th celebration, which all citizens will be proud of.

There are three separate items for your consideration as follows:

- OCS requests an exemption from the noise bylaw until 11:30 pm on July 1. This will allow time for the fireworks and crowd clearance from the park. We will continue to face the main stage south, to mitigate the noise that occurs in the local neighborhood.
- Exemption from the ***park access*** by-law from 7 am June 30th to 1 pm July 2 for set-up/pull down and clean up by vendors and exhibitors.
- As in the previous years, OSC requests continued support from the Saskatoon Police Services, and Fire and Protective Services to work with our committee to provide a safe family day and evening.

I understand these requests will be referred to committees for consideration. Please contact me as the OCS representative to answer questions at committee level and/or at council upon request.

Yours in Optimism,

R. A. Belyk

Rob Belyk
Co-Chair, Optimist Canada Day 2017
523 Hurley Court
Saskatoon, Sask. S7N 4H9
306 260-7888
walterjr@sasktel.net

CANADA 150

185-9

LAWN SUMMER NIGHTS

/lawnsummer
/lawnsummernights
hello@lawnsummernights.com
www.lawnsummernights.com

Dear Mayfair Resident,

Lawn Summer Nights is a lawn bowling fundraiser held in cities coast-to-coast across Canada, benefitting Cystic Fibrosis Canada. Since the event began in 2009, Lawn Summer Nights has raised over $2,000,000 for the cause, engaged thousands of young professionals in philanthropy and community leadership, and started a new trend that has taken everyone by surprise (us included!).

Lawn Summer Nights is a nationally trademarked and federally registered not-for-profit organization in Canada. The events in each city are led by a local organizing committee comprised entirely of volunteers, and a Lawn Summer Nights Coordinator to ensure the events all run smoothly.

The event is simple: In each city, hundreds of people in their twenties and thirties gather wearing classic leisure attire, sipping cocktails, enjoying the sunset with music in the air, all while reviving one of summertime's grand leisure sports in equal measure of philanthropy and fun.

This year, Lawn Summer Nights has expanded to Saskatoon and we are pleased to be bringing it to your neighborhood. We hope you will join us at:

Lawn Summer Nights YXE
July 13th, 2017
5:30 pm – 10:30 pm
Mayfair Lawn Bowling Club
923 Ave D North

You can find more information about Lawn Summer Nights YXE, including how to join us on the greens, at http://lawnsummernights.com/YXE-PopUp/. We promise to be good neighbors – so please get in touch if you have any questions or concerns about our event. We would love to hear from you.

Sincerely,

Gillian Allen

Gillian Allen
Lawn Summer Nights YXE – City Lead
saskatoon@lawnsummernights.com

All proceeds raised during Lawn Summer Nights benefit Cystic Fibrosis Canada.

TourismSaskatoon

MAY 10, 2017

NOISE BYLAW EXTENSION – FIBA 3X3 WORLD TOUR MASTERS

Saskatoon will host the only FIBA 3x3 World Tour Masters event in North America in 2017. This professional 3x3 basketball event will take place in conjunction with Taste of Saskatchewan on July 14 – 16, 2017 in downtown Saskatoon (4th Avenue & 21st Street). This marks the first time the FIBA 3x3 World Tour Masters has ever been held in Canada.

Saskatoon's own foursome of Michael Linklater, Michael Lieffers, Nolan Brudehl and Steve Sir (Edmonton) will participate in the tournament. The squad finished the 2016 season in 10th place and are each ranked in the top 20 globally. Together, with former member Willie Murdaugh, they have a combined 378 games representing Canada at events around the world, including three consecutive FIBA 3x3 All Stars from 2014-16.

Event Details
FIBA 3x3 World Tour Masters Basketball
July 15 & 16, 2017
4th Avenue & 21st Street – Ward 6

Schedule:
July 13, 2017 – Venue Set Up (6:00 pm to 2:00 am)
July 14, 2017 – Venue Set Up and Team Practices (6:00 am to 10:00 pm)
July 15, 2017 – Competition (6:00 am to 11:00 pm)
July 16, 2017 – Competition and Venue Tear Down (6:00 am to midnight)
July 17, 2017 – Venue Tear Down (12:00 am to 7:00 am)

2016 Hosts
Mexico City, Mexico
Utsunomiya, Japan
Prague, Czech Republic
Lausanne, Switzerland
Debrecen, Hungary
Beijing, China
Rio de Janerio, Brazil
Abu Dhabi, United Arab Emirates

For more information, please contact:

Tourism Saskatoon
c/o Todd Brandt
101 – 202 4th Avenue North
Saskatoon, SK S7K 0K1
tbrandt@tourismsaskatoon.com
(306) 931-75874

185-9

To: Sproule, Joanne (Clerks)
Subject: RE: 2017 RibFest and noise bylaw

From: Robert and Janet MacGillivray <rmacgill@shaw.ca>
Date: May 25, 2017 at 9:29:28 AM CST
To: <joanne.sproule@saskatoon.ca>
Subject: 2017 RibFest and noise bylaw

Hi: The Rotary Club of Saskatoon Nutana is again planning for its annual RibFest to be held in Diefenbaker Park on the long weekend on August the 4,5,6 and 7 2017. We will have food vendors as well as entertainment. Our hours of operation will be from noon until 9pm on the Friday, Saturday and Sunday and from noon until 7pm on the Monday. As we will be outside the Noise Bylaw hours on the Sunday we would seek permission to exceed those hours on that day.

Robert MacGillivray

Rotary Club of Saskatoon Nutana

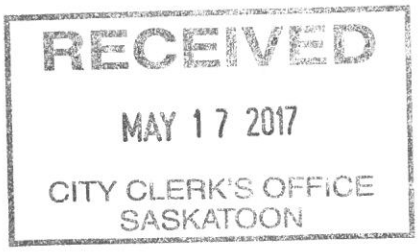
306-227-7622

Rmacgill@shaw.ca

Slaney, Marlee (Clerks)

185-9

From: City Council
Sent: Wednesday, May 17, 2017 1:36 PM
To: City Council
Subject: Form submission from: Write a Letter to Council



Submitted on Wednesday, May 17, 2017 - 13:35
Submitted by anonymous user: 207.47.180.15
Submitted values are:

Date: Wednesday, May 17, 2017
To: His Worship the Mayor and Members of City Council
First Name: Nicole
Last Name: Kelly
Address: 715 Saskatchewan Crescent West
City: Saskatoon
Province: Saskatchewan
Postal Code: S7M 5V7
Email: nkelly@rawlco.com
Comments:
We'd like to request an extension on the noise by law in the Down Town Area on Sunday, August 20th for Rock 102 Show & Shine.
We usually start set up around 5am. The event officially begins at 11am however the Down Town area is quite busy by 9am with classic cars and vendors getting into their locations for the day. The event wraps up at 5pm and takes about 1 hour for us to clear the area and remove barricades, etc.
Thanks for your consideration!
~Nicole Kelly

The results of this submission may be viewed at:
https://www.saskatoon.ca/node/398/submission/169975

1859

RECEIVED
JUN 05 2017
CITY CLERK'S OFFICE
SASKATOON

From: Jamil, Zunaira <zuj736@mail.usask.ca>
Sent: June 05, 2017 12:45 PM
To: Web E-mail - City Clerks
Subject: Noise Bylaw Extension Request for Miles for Smiles 2017

Hello there,

My name is Zunaira and I am the race director for Miles for Smiles 2017. I would like to apply for a noise bylaw extension for the event.

The SMSS will be putting on our 14th annual fundraising event, Miles for Smiles 2017 on September 9, 2017 at Rotary Park, Saskatoon (8am-12pm). This year we are planning to have a 2.5km fun run, as well as a 5 km and 10km race in Saskatoon. All funds raised will go towards AboutFace, a national charitable organization that offers a unique program called Camp Trailblazers. It is a camp for children aged 10-18 with facial differences. More information can be found at:
http://www.aboutface.ca/programs/#camp-trailblazers

Last year's event turnout was about 200 people and we are hoping the same for this year. Due to this, there is a chance of increased noise and thus, I would like to apply for a noise bylaw extension.

If I missed any information or you have any questions, please feel see to email me and I will be more than willing to answer your questions the best I can.

Sincerely,
Zunaira Jamil, Miles for Smiles 2107
Fundraising Representative, Student Medical Society of Saskatchewan
Year 1, MD Undergraduate Program
College of Medicine, U of S
zuj736@mail.usask.ca

185-9

From: Katherine Skulski <katherineskulski@broadwayyxe.com>
Sent: June 02, 2017 4:34 PM
To: Web E-mail - City Clerks
Subject: Noise Bylaw Extension Request Fit Fest
Attachments: 2017 Fit Fest Road Closure Map .png; 2017 Fit Fest W E Graham Map.png; 2017 Noise Bylaw Extensions Notice.doc

Hello,

I am emailing to request a noise bylaw extension for the Fit Fest on **Saturday, September 16th.** The event will be taking place from **9am - 4pm on Broadway Avenue in Ward 6.** This can be seen on the site map attached below.
This is an annual event as it also took place in 2016 on June 11th.
This event consists of various local fitness groups conducting group workout classes throughout the day. Many of these require music, for example spin class. All proceeds will be going to charity.

If you have any concerns please feel free to contact me at KatherineSkulski@BroadwayYXE.com or 306-664-6463.

Thank you,

Katherine Skulski
Broadway Business Improvement District
Events & Admin Coordinator
katherineskulski@broadwayyxe.com

Attention: Residents & Businesses of Broadway

Broadway will be hosting the **Fit Fest** on **Saturday, September 16th.** This is a charitable event put on by a local business, RYDE YXE.
This event will run from 9AM-4PM. This will cause road closures from 7AM-6PM as well as amplified music/sound for the same duration.
We apologize about any inconveniences this may cause.
Thank you for being apart of Broadway!

Sincerely,

The Broadway Business Improvement District
306-664-6463
813 Broadway Avenue
Saskatoon SK, S7N 1B5

Dufferin Ave
12 St E
École Victoria School
Broadway Ave
Broadway Roastery
Booster Juice
Handmade House
Yard & Flagon
11th St E
Crave Cookies and Cupcakes
10 St E
The Hose and Hydrant Brew Pub
Broadway Theatre
Brainsport

Boot
Camp
Dufferin Ave
12 St E
11th St E
École Victoria School

City of Saskatoon

Office of the City Clerk
222 3rd Avenue North
Saskatoon SK S7K 0J5

www.saskatoon.ca
tel (306) 975.3240
fax (306) 975.2784

May 12, 2017

Secretary, Standing Policy Committee on
Environment, Utilities and Corporate Services

Dear Secretary:

Re: Hydropower Joint Ownership Project with Saskatoon Tribal Council [CK. 2300-1]]

The report of the General Manager, Corporate Performance, dated March 27, 2017 was considered by the Saskatoon Environmental Advisory Committee at its meeting held on May 11, 2017.

The Saskatoon Environmental Advisory Committee congratulates the City of Saskatoon and the Saskatoon Tribal Council on their proposed partnership toward a hydropower project at the Saskatoon weir. The Saskatoon Environmental Advisory Committee asks the Administration to consider adding to the upcoming feasibility study, an opportunity cost analysis as it relates to other renewable power opportunities along with potential partnerships with the Saskatoon Tribal Council.

The Committee respectively requests to present the above matter at the June 12, 2017 meeting of the Standing Policy Committee on Environment, Utilities & Corporate Services for its consideration.

Yours truly,

D. Sackmann

Debby Sackmann, Committee Assistant
Saskatoon Environmental Advisory Committee

DRS:

cc: A/General Manager, Corporate Performance
Director of Environmental & Corporate Initiatives

City of Saskatoon

Office of the City Clerk
222 3rd Avenue North
Saskatoon SK S7K 0J5

www.saskatoon.ca
tel (306) 975.3240
fax (306) 975.2784

May 12, 2017

Secretary, Standing Policy Committee on
Environment, Utilities and Corporate Services

Dear Secretary:

Re: Internal Process Review of Special Events [CK. 205-0 x 116-1]

The report of the General Manager, Corporate Performance, dated January 31, 2017 was considered by the Saskatoon Environmental Advisory Committee (SEAC) at its meeting held on May 11, 2017.

The Saskatoon Environmental Advisory Committee would like the City to consider expanding the recommendations stemming from the Special Events- Internal Review Process.

SEAC has held the environmental performance of our festivals and events as a strategic priority for our committee over the past four years. In that time our committee has conducted research into the current practices of municipalities across Canada, held a facilitated consultation session with event organizers, assembled a green event guide for organizers, and provided recommendations and waste audit service to organizers through a summer student position. The highlights of this research are attached.

We have seen many organizers improve their overall environmental performance in the past four years. There is a desire amongst organizers and attendees to see that progress continues, but we feel this progress will only continue onwards with a push from the City.

SEAC recommends that the City include the following items as part of the special events process:

- That organizers must provide a short environmental sustainability plan to the City before permits are issued (how the event will handle waste, recycling, water services, and energy supply, what steps will be taken to encourage alternative transportation); and
- That the City will develop resources to assist organizers enhance the environmental performance of their events (example: workshops, green event guide, supplier lists, volunteer pools).

These recommendations come as a result of four years of research on this subject by our committee. More importantly, environmental issues related to recycling, waste, water, and energy were also identified by the main customers of the special events process (organizers) during the City's Internal Process Review. This feedback from

'customers' has not made it into the recommendations for the future of the special events process, SEAC believes it should be included.

Including environmental performance considerations into the special events process coincides with the City's strategic goals of environmental leadership, continuous improvement, and quality of life. SEAC asks that the City consider enhancing the Special Events Process to include environmental performance as a necessary component of the Special Events Process.

The Committee respectively requests to present the above matter at the June 12, 2017 meeting of the Standing Policy Committee on Environment, Utilities & Corporate Services for its consideration.

Yours truly,

D. Sackmann

Debby Sackmann, Committee Assistant
Saskatoon Environmental Advisory Committee

DRS:

Attachments
1. Public Input Meeting Summary Report, Green Event & Festival Grant Program
2. Festival Sustainability Report 2014

cc: A/General Manager, Corporate Performance
Director of Environmental & Corporate Initiatives

Attachment 1

Public Input Meeting Summary Report
Green Event & Festival Grant Program

Prepared by Nancy Lackie
for the
City of Saskatoon Environmental Advisory Committee
November 4, 2013

Introduction

The City of Saskatoon Environmental Advisory Committee (SEAC) provides advice to Council on policy matters relating to the environmental implications of City undertakings, and to identify environmental issues of potential relevance to the City. The committee identified there was a need to have events/festivals become more environmentally sustainable, therefore a decision was made to investigate a potential grant program that would provide funding to assist groups in achieving this goal.

Methodology

SEAC invited event organizers to participate in a focus group to provide feedback on the development of a grant pilot program. In turn, this would encourage events and festivals in Saskatoon to become more environmentally sustainable.

Event organizers were informed via email and the meeting took place on:

Wednesday, October 30, 2013 at 7pm
Alice Turner Library (110 Nelson Road)

Lead facilitator: Nancy Lackie (nancy.lackie@sasktel.net)

Group Facilitators:

Large Event Group
- Facilitator – Mairin Loewan
- Note Taker – Katie Burns (Environmental Coordinator, City of Saskatoon)

Mid-sized Event Group
- Facilitator – Sean Shaw
- Note Taker – Allyson Brady (Executive Director, Saskatchewan Environmental Society

Small Event Group
- Facilitator – Sean Homenick
- Note Taker – Joanne Fedyk (Executive Director, Waste Reduction Council)

The format of the meeting began with a presentation on the background and purpose of the meeting Participants were then divided into three breakout groups (small, mid and large events). Participants were asked to identify a list of ideas that they would like to implement to make their event more sustainable. With the lists generated from all three groups, each participant identified their top priorities.

Attendees:

Event	Contact	Email	Phone No
Canadian Cancer Society	Sandra Thompson	sandra.thompson@3shealth.ca	306-242-3675
Children's Wish Foundation	Grace Maclennan	grace.maclennan@childrenswish.ca	306-955-0511
Meewasin	Gillian May	gmay@meewasin.com	306-477-9145
Mount Royal Community Association	Einar Haugo	e.haugo@sasktel.net	306-664-3140
MS Walk	Maggie Lens	maggie.lens@mssociety.ca	306-244-2114 ext-5051
Nutana Community Association	Kacey Keene	kacey.keene@usask.ca	306-291-9810
OnPurpose Leadership	Kara Lackie	klackie@onpurpose.ca	306-652-1487
Ovarian Cancer Canada Walk of Hope	Elizabeth Miazga	themiazgas@sasktel.net	
Pets in the Park	Tiffany Kohach	director@saskatoonspca.com	
Canada Day Arts & Cultural Festival	Nathan Holowaty	nholowaty@verbnews.com	306-280-9615
Saskatoon Craft Council	Ferron Olynyk	scc.memberservices@sasktel.net	306-653-3616 ext-24
Saskatoon Futures Tennis Tournament	Michelle Alting-Mees	riverside@saskatoonriverside.com micam@sasktel.net	306-242-5584
Saskatoon Road Runners	Ed Tomlinson	edtomlinson@sasktel.net	306-934-5856
Saskatoon Triathlon	Carmen Bell	c.bell@triseries.ca	306-249-1534
Terry Fox Run	Sherri Sanche	cssanche@shaw.ca	306-244-7380
Westview Heights Community Association	Alana King	aeking@sasktel.net	306-683-3695
Saskatoon Optimist Club	Barb Wohlford	bwohlford@sasktel.net	306-834-7005

Summary of Discussion (See appendix for full discussion notes)

Participants in each group were asked to identify ideas that would make their event/festival more environmentally sustainable. Once the lists were created, they were then asked to determine if the ideas could be implemented within their current resources? Of all the ideas generated, 70% were identified as needing additional resource.

Participants were then give ten colored stickers to assist in prioritizing the ideas. Of the 160 'votes', three key areas emerged. They are:

1. Coordinated approach to having a sustainable special event
2. Recycling bins
3. Access to tap water

1. Coordinated Approach to having a sustainable special event
   Of the 160 priority 'votes', 57 or 36% support the concept of a coordinated approach to sustainable events/festivals. The suggestions were:
   - Consistent signage that events can borrow was the top priority – 25/57 votes. The groups felt if there was consistent signage at all events (i.e. recycle here) it would then become habit for the public. Resources would be required to design and coordinate distribution of the signs (digital and hard copy)
   - Access a list of contacts of green event people/companies - 19/57 votes. This could also include a system for smaller events to access (i.e. website, check list)
   - Having a coordinated approach – 13/56 votes. There was an expressed need to coordinate with recycling providers to ensure there is a formal process in place. If this occurred, it was suggested that this could then be a criteria for future permits. The idea of a permanent 'green team' that would be hired by the City to advise/support all events was also suggested

2. Access to recycling bins
   Twenty-nine percent (46/160 priority rating) identified having access to recycling bins as a priority. Currently it is difficult to access recycle or composting bins (cost, time, access). It was also identified a one-stop shopping for all recycling equipment would be beneficial.

3. Access to tap water
   Sixteen percent (25/160) listed having access to tap water as the third priority. Groups will either haul their own water or provide bottled water. The goal would be to eliminate or reduce plastic bottles.

Evaluation

Overall attendance was good with a mix of small to medium sized events/festivals represented. There was a small number in attendance that represented the larger events/festivals.

Quality of input from the groups' sessions was high. Facilitators noted that there was good discussion with all participants providing input. It was felt by the organizing committee that the information received will provide a good basis to begin discussion at the November SEAC meeting.

It should be noted that the feedback provided in this document, represents events/festival that are small to mid in size and does not effectively represent the major events/festivals in Saskatoon.

It is recommended that a separate meeting take place with the major event/festival organizers in Saskatoon to obtain feedback.

Appendix

Full Discussion Notes

1. Current situation

1. What environmental actions does your festival currently take on?

Large Sized Event Group
- Alcohol element – recycle all products, curb side and Loraas
- Green team hired, honorarium paid to keep bins, take cans back for refund
- Marathon paint – washable, sage cups are recyclable (Lorass recycle)
- Tried with cutlery and plates, but expensive

Mid Sized Events Group
- Meewasin – reusable prizes, Tim's cups, environmental goals
- Pet days – concession waste recycled (difficult as people put in wrong bin)
- Triathlon – no recycling (lots of waste)
- Road race – going to put recycling bags for runners to toss cups in as they go
- Waterfront Show – reusable bags for purchase, little food, relatively little impact
- Relay for Life – three Loraas bins, garbage – half recycled, use food vendors, no place to recycle

Small Sized Events Group
- use golf carts
- composting (pig farmers or C of S site)
- use re-usable tea lights
- fruit as snack (low waste)
- use power at the park rather then generator
- didn't use posters, most advertizing by social media
- recycle cans/bottles
- hotdog in napkin rather then plate
- use large water pump to reduce water bottle waste
- encourage participants to bike to event or car pool
- talk about sustainability with staff and volunteers
- get recycle bin from Laraas

2. Does your festival set environmental goals?

Large Sized Event Group
- no measuring of recycling – talk about before and during – most conscious at Marathon, market as green event for beverages (all cups, no water bottles)
- water cups on site, refillable bottles
- bike valet, bus access
- need bins, will purchase and store if needed, only get garbage cans, regular sizes form City grounds
- goal is recycling bins (2-3 bins) with volleyball team

Mid Sized Events Group

- Meewasin – yes
- Road Runners – leave site same as they found it

Small Sized Events Group

- one goal/year (emailing newsletters-however didn't' work
- whole event does have this theme (community based event)

3. What do you feel are the major environmentally detrimental attributes of your festival? (Destruction/disturbance of nature and wildlife)

Large Sized Event Group

- no response

Mid Sized Events Group

- send notes to everyone – include SES, SWRC, Environmental Services contact

Small Sized Events Group

- gators instead of golf carts – detrimental to wild space
- situating tent on top of underground sprinklers
- chloroplast signs of sponsors – not able to be re-used or recycled

4. From your perspective, what are some barriers to creating a more environmentally sustainable festival?

Large Sized Event Group

- no response

Mid Sized Events Group

- public education
- cost to get green alternatives
- lack of facilities
- knowing what is possible

Small Sized Events Group

- lack of recycling bins at site (permanent bins on site)
- power available at site
- communication on composting to event organizers
- portable toilets – expensive
- expensive to pay for environmental initiatives
- getting participants on board – getting volunteers to be green advocates

2. Feedback on Incentives and Areas of focus

a. Small group discussion

1. Fill in the blank

"Wouldn't it be great if we could .....to make our event/festival more environmentally sustainable. "

Identification of resources:

A. Which could be managed right now with your current resources?
B. Which would require some assistance?
C. At this time which do you feel is unattainable?

Large Event Group	**Resources**	**Priority (# of dots)**
Build new facilities that are more efficient	C-long-term, requires major collaboration	
Have a group/organization of "experts" re: sustainability to advise/provide support for executing "permanent Green Team" (i.e. how to approach composting)	B-doable with more volunteers, education and funding Would need city staff, manpower, salaries. Educational resources needs to be centralized.	5
For downtown festivals – use river to move people to reduce congestion	A – Currently being done by some. Would need additional grants/sponsorship to expand	
Replace lighting at courts - presently insufficient - using CFL's but concerned about mercury levels - would like to use LED	B – additional funding. May have to look at a sponsor (i.e. Potash Corp)	3
Access to power that isn't diesel generators (vendors each bring a generator)	B – need city's help with power supply	10
If festivals could purchase blue bins it would reduce costs/get from city	B - funding to do it or City provides	6
Providing permanent recycling bin in City parks	B- City to fund	10
– need to coordinate with recycling providers - would rather see a negotiated relationship between festivals/recycling providers than a grant – would be a greater collective benefit - could be a criteria for future permits		8

Mid-sized Event Group	**Resources**	**Priority (# of dots)**
Reduce the waste	A. need to know who and plan to do it	
Find additional volunteers	A. need to use current volunteers more effectively	

Afford green alternative	B. additional funding	
Have the volunteers to make it work	A/B. use them more effectively and need more people	
Find a way to serve food sustainably	C/D. Funding and no access to water at some sites	6
Borrow "green event signs" from the City. Consistent signage so people get use to it. "recycle here"	B. someone to design and coordinate (digital and hard copy).	17
City or someone else could provide recycle bins (turn key)	B – Bins to access	9
Access a list of contacts for green event people/companies	A	12
Easy to access transit plans/passes	B/C – agreement with City. No transit access to some sites and 24 hours	
Access to tap water stations	B – equipment	12
Measure our waste diversion	A/B – need the knowledge to know how	2

Small-sized Event Group	**Resources**	**Priority (# of dots)**
City bus system to pick up participants	B – financial resources	1
Specific volunteer resources to address sustainability	A – manpower needed/staff to develop it	2
Recycling bins/garbage bins	A – assistance from City/recycling companies to pick up and drop off	3
Clear bags/good signage for recycling/composting	A – grant to support. Resource on who to call	8
Locally produced food for events	B – food vendor licenses restrictive. Need to source local food in advance. Const prohibitive. Potential health license issue. Seasonal	2
Service/someone to recycle bottles/cans to SARCAN	A – but, who gets the money? i.e. if get NGO to take it in for you. Support from Loraas/SARCAN	
BIG compost bins		
One stop shop with bins and compostable plate/information for drop offs/product order	B – no one place to go – however are there rental facilities/ companies. - staff/volunteer resources to develop	10
System for smaller events to share these resources (i.e. website, one place to call) Calendar of events, so if overlap events can share resources	B – resources to share. City to make event information public - staff/volunteer resources to develop	7
Events for kids i.e. recycle relay to educate participants about sustainability	B – NGO/or local group needs to support to put this on	2
Participants "get it" i.e. bring reusable's/recycle – becomes part of festival culture. Education	C – change culture of city! Challenging!	8

campaign to create this culture		
Bike valet by Saskatoon Cycles	B – if available would be used. If there is a cost, may be prohibitive. Where to rent bike racks?	5
Water stations to avoid bottled water waste/re-usable cups that City could provide	C – - MVA turns off water fountains by mid-Sept - Organizing big buckets of water and getting them on site difficult - Having a place to provide water i.e. City/WAM	13
Re-usable plate stations	C -storage in off-season -cleaning problematic -educating participants to bring – i.e. BUT done at school pancake day -public festival kit (with plate/cup/cutlery) -"kit" for organizations to put on event	

3. FEEDBACK QUESTIONS

1. What would your organization require assistance in to work towards a more sustainable festival/events:

a. Setting sustainable goals and objectives?

Large Sized Event Group

- Tourism SK –
  - an evaluator to attend events, run through assessment standards,
  - see high standards fro Tourism point of view. Do the same for environmental point of view
  - outside consultant to help guide them towards this

Mid-sized Event Group

- No comments made

Small Event Group

- clear explanation of what sustainable event is
- someone to do an audit of your event to give feedback and ideas
- checklist of sustainable initiatives – (come with permit for event
- things to consider and where to find resources
- to know where we are at across the country – goals to attain – statistics compared to others
- justification that being sustainable is affordable and helpful for your event
- ability to count recycling

b. Have a better understanding of the long term environmental effects?

Large Sized Event Group

- Don't know impact of event – have someone that knows to provide advice e.g. Generator for 16 hrs – expensive but environmentally? – don't know alternatives
- Can't mandate generators, etc. from rental companies
- Rather a person instead of a book to read
- Like the resource list
- Need help if it take 3 weeks of research to figure out options

Mid-sized Event Group

- this is needed
- support/recognition system for promotion of:
    - green events listing
    - logo – qualified as a green event
- funding contingent on achieving targets
- awards

Small Event Group

- quantify costs/savings for your event of sustainable initiatives
- identify categories of waste and capacity to keep track of waste
- size/type – need expert to analyze this or if you do X, you save X (e.g. If you car pool to event you save X green house gases)

c. Is there any other assistance you may require?

Large Sized Event Group

- Not always about the money. More efficient can cost less in longer term, but events are short term.
- Information available may influence decisions, want to be seen as environmentally friendly.
- So much time spent on research, someone to provide feasible options and problem solving is how they spend their time.

Mid-sized Event Group

- Green list – e.g. includes restaurants that have reusable dishes

Small Event Group

- grant program! Money and man power to support this
- pamphlet to spell this our – consultant you could talk to, to advise
- how does the city measure this. How would they report to the groups? What's the reporting mechanism?

2. Currently is there anything that your festival willing to offer in order to reach sustainability goals?

Large Sized Event Group

- Recycling – all parts need it anyway, sports fields especially

Mid-sized Event Group

- No comments made

Small Event Group

- cost sharing of resources – e.g. Tow events on same day – e.g. Portapotties in central location to both events

Festival Sustainability Report 2014

Rebecca Anderson
Research support by Joanne Durocher and Jerome Ho

Table of Contents

Overview

1.1 Introduction and Objectives

Festivals and events held in public spaces have a significant impact on the environment; however, there is currently little information about how great this impact may be. For this reason, Saskatoon's Environmental Advisory Committee (SEAC) researched how to best support local festivals to become more sustainable so residents and visitors can continue to enjoy the natural areas that provide the backdrop for many of our great summer events for years to come.

Objectives of the study were as follows:

- Understand the current environmental performance of Saskatoon's festivals
- Quantify and identify the materials that make up the current waste stream
- Evaluate effectiveness of current green initiatives
- Identify recycling, diversion and cost reduction opportunities
- Provide recommendations for improvement

1.2 Methodology

Over the course of a three-month period (June- August 2014) a group of City of Saskatoon researchers attended four summer festivals (listed in Table 1) to gather information about the current environmental performance of these events. The information presented in this report was gathered by observing the current waste, water, energy and transportation practices of each festival.

Waste audits were also conducted at each individual event.

Table 1- Festival Information

Festival	Study Area	Address	Type	Date
Sasktel Saskatchewan Jazz Festival	Potash Corp. Club Jazz Free Stage	4th Ave S 19th street E	Waste Audit	June 20th-28th 2014
Saskatoon Pride Festival	Community Pride Fair	Rotary Park (Saskatachewan Cres. E)	Waste Audit	June 21st 2014
Canada Day Celebrations	Diefenbaker Park	St. Henry Ave and Ruth Street W	Waste Audit	July 1st 2014
Potash Corp Fringe Festival	Broadway Ave	Broadway Ave between 8th Street E and 12th Street E	Waste Audit	July 31st-August 9th 2014

Image 1- Waste audit process

Since the researchers were already attending these events to gather data, a public education component was also added. Education on the City's recycling program was provided in the form of a trivia game called the "Spin and Sort."

Image 2- The Spin and Sort game

Findings

2.1 Waste

Waste Audit Results

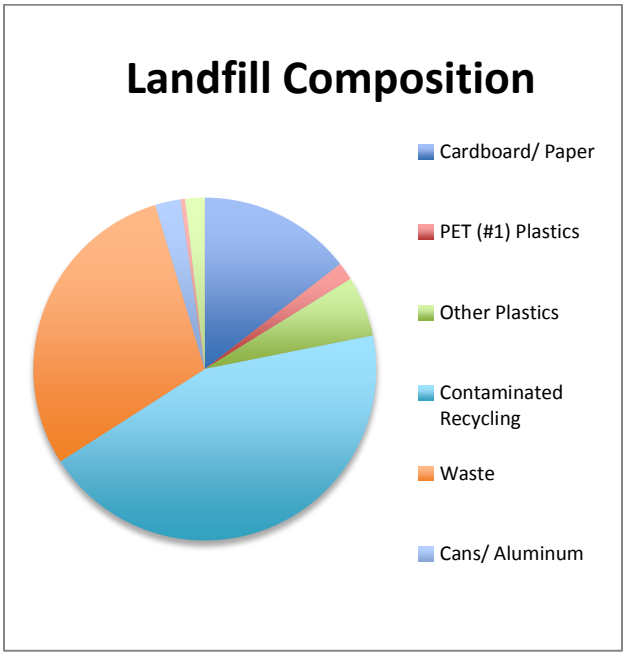
Understanding the approximate volume of waste that is currently generated during a festival helps organizers set a realistic target for waste reduction. To gather this information, waste audits were conducted on four local festivals. During the audits, waste samples were collected from the areas of study (listed in Table 1) and were then taken to an off-site location to be sorted, weighed and analyzed.

The following is a summary of festival information, areas of study and the dates in which samples were collected. The information offered in the tables below is a combination of the data collected at all four festivals (see appendix for a breakdown of each individual festival).

Table 2- Waste Material by Category

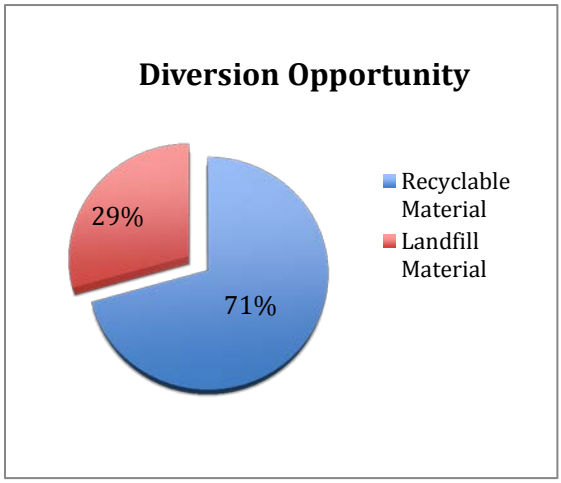
Waste Category	Total Audited Waste (kg)	Material Composition (%)
Cardboard/ Paper	6.02	14
PET (#1) Plastics	0.7	1.69
Other Plastics	2.36	5.68
Glass	0	0.00
Contaminated Recycling	18.31	44.08
Waste	12.21	29.39
Cans/ Aluminum	1	2.41
Milk Cartons	0.18	0.43
Organics	0.76	1.83
Total	**41.54**	**100**

Table 3- Waste Material by Category



Separating materials by category allowed researchers to identify recycling opportunities and to gain insight into how waste should be managed in the future in order to attain the highest possible rates of recycling. Contaminated recycling (which accounts for 44 percent of the waste stream) refers to material that is recyclable, but because it is soiled by food waste, rain or other liquids, it must be sent to the landfill. Paper/cardboard (primarily coffee cups and disposable serve ware) was the most common material found amongst the waste samples. Other common materials include: plastic lids (from beverage containers), plastic beverage containers and Styrofoam.

Table 4- Diversion Opportunity



Currently 71 percent of materials sent to the landfill from these four festivals are recyclable. Therefore, these festivals could reasonablily aim to reduce the amount of garbage generated by 70 percent in subsequent years. Implementing a waste minimization strategy that includes paper, plastic and beverage container recycling is one of the most important steps towards improving the environmental performance of Saskatoon festivals.

Waste - Observations

The composition of the waste stream remained fairly consistent from one festival to another. We found that the source of a large majority of festival waste can be traced back to food vendors. The types of materials in the waste stream were largely dependent on the serve ware and food being distributed by the vendors.

It was also observed that although the majority of the festivals did have some type of recycling infrastructure in place, it was unclear to staff, vendors and attendees how this infrastructure was to be used. Further, in the cases in which recycling was available to the public, the bins contained a fairly high level of contamination.

In each case it was unclear who was in charge of waste disposal and as a result waste bins were often overflowing (as seen in Image 3).

Image 2- Refundables in the trash bin

Image 3- Overflowing trash bin where the majority of the contents could have been recycled

Image 4- Sound Board

Image 5- Stage Lighting

2.2 Energy

Energy - Observations

The amount of energy used during a festival or event is difficult to quantify unless an energy audit is performed. It is clear, however, that special events require an immense amount of power during food preparation, and to operate stages, lighting, etc.

Energy conservation did not appear to be a priority for these four events. The researchers observed conventional gas generators being used at these events and did not observe any attempts to make use of alternative energy sources to power stages, lighting, etc.

2.3 Water

Water - Observations

Waste from disposable plastic water bottles is a recurring and significant issue that festival organizers worldwide encounter when attempting to green their events – and Saskatoon festivals are no exception. Bottled water was sold at each of the four festivals, and no information was provided as to where attendees/ volunteers could go to access free tap water.

2.4 Transportation

Transportation - Observations

There are many things to consider when observing the transportation practices of a festival or event. Some considerations include: how attendees, volunteers, entertainment and staff travel to and from the festival, the physical location of the event and the types of vehicles used during the event's operations.

Transportation was an area in which all four festivals excelled. Hosting events at central locations is the simplest and most effective way to reduce the transportation related emissions of a festival. The Saskatoon Cycles Bike Valet was present at all four festivals. Free Saskatoon transit was offered to attendees of the Canada Day Celebrations in Diefenbaker Park. Fringe festival goers that had a "fringe-theatre button" received free bus rides for the duration of the festival. Access to parking was limited at each festival and alternative modes of transportation were promoted.

Image 6- Saskatoon Cycles Bike Valet

Recommendations

3.1 Summary

The following is a summary of recommendations that would result in the most significant improvements to the environmental performance of festivals and special events in Saskatoon:

- Implement a single stream recycling program
- Ensure that staff and volunteers are educated on proper recycling practices
- Communicate green initiatives and recycling opportunities with vendors and attendees
- Provide access to free tap water
- Consider having an energy audit performed
- Continue to promote alternative transportation

Setting Goals

Creating a vision or plan that includes measurable goals is an important first step towards making any festival or event more sustainable. When addressing festival/event sustainability, it is helpful to create goals that are unique to each initiative or category (for example waste reduction or transportation). To simplify, we have organized our recommendations into four categories: Waste, Transportation, Energy and Water.

3.2 Waste

Recommendations

Develop a Waste Diversion Strategy

Developing an effective waste minimization strategy is one of the most significant ways in which a festival can reduce its environmental impact.

Consider hiring a waste specialist or assigning a committee to develop a waste diversion strategy. Consider contracting a recycling provider such as Loraas, Waste Management or Cosmopolitian Industries (more information in resources section). Use the information provided from the waste audits conducted for this report to set realistic waste diversion targets.

Example Goal: The Sasktel Saskatchewan Jazz Fest will **divert 94 percent of all material in the waste stream from the landfill.**

See appendix A for a sample timeline for a waste diversion strategy.

Volunteer, Staff and Vendor Support

Ensuring that volunteers, staff and vendors are properly trained and educated on sustainable waste practices is crucial to the success of a green event. Having a volunteer oversee the waste stations will drastically reduce the amount of contamination found in recycling receptacles. Asking that vendors consider using compostable, recyclable or reusable serve-ware would greatly reduce the amount of waste that enters the waste stream.

See SEAC's Green Events Guide for Volunteer Training Guidelines

Image 7- Exemplary volunteer from the Ness Creek Music Festival

Waste stations

- For ease, festivals should accept all recyclable material in one bin (single stream)
- Each station should be paired with a trash bin
- Stations should be centrally located and visible.
- It is also important to have one station adjacent to food vendors
- Mark the location of these stations on a site map
- Information about where to find waste stations should be posted throughout the site
- It is recommended that a festival have one waste station for every 500 attendees
- Stations should be overseen by a properly trained volunteer to minimize contamination of the recycling bins
- After single stream recycling has been successfully implemented, event organizers may consider developing a program to deal with organic material (composting). This may require assistance from the City or a partnership with a local farmer

See Appendix for sample signage

Green Procurement Strategy

Controlling the types of materials offered at a festival or special event is the most effective way to reduce the amount of materials sent to the landfill.

See appendix B for more tips on how to develop a Green Procurement strategy.

Case Study: The Edmonton Folk Festival has been successfully operating a "Plate Deposit Program" since 1995. Patrons pay a small deposit to use a washable plate, and once their plates are returned they receive their deposit back.

Image 8- Compostable serve ware from Snak Foodtruck

Reward Sustainable Behavior

Consider featuring vendors who made an effort to conduct their business sustainably on the festival website or in festival communications. Consider offering automatic application acceptance for the next year to the vendor who displays the greatest commitment to sustainable behavior.

3.3 Water

Recommendations

Changing the way in which water is used, consumed and sold during a festival is one of the simplest ways to make an event or festival greener. By offering free Saskatoon tap water to event attendees, the festival can help remove disposable plastic water bottle from the waste stream. Other ways in which the festival can become more water wise include:

- Encourage event attendees and volunteers to bring their own refillable water bottle
- Have a visible, free tap water station
- Consider purchasing a water buggy

Image 9- Festival Water Station

(Source: Event Solutions)

Example goal: **Disposable water bottles will be removed from The Community Pride Fair's waste stream by 2020.**

<u>Case Study</u>: According to a report done in 2011 by Green Calgary, the number of beverage containers disposed of at the festival was reduced by 43 percent from 2010-2011. The report attributes this reduction to the ban placed on bottled water implemented in 2010.

3.4 Energy

Recommendations

Festivals around the world are beginning to explore creative ways to curve the amount of energy they consume by integrating alternative power sources such as solar or bio-fuel. Although these solutions are

attractive, they are also quite expensive. When considering the scale of these festivals, the most effective way to reduce energy use is through conservation (i.e. turning off lighting, stage equipment, etc. whenever possible). It may be also helpful to have an energy assessment performed to determine the most effective steps an event can take towards energy conservation. Other ways in which a festival or event can reduce the amount of energy used are:

- Consider using bio-fuel or solar generators
- Consider participating in a carbon offset program
- Set an energy reduction target
- Power down appliances that are not being used overnight

Example goal: **25 percent of the power used will be supplied by alternative energy sources by 2017.**

Case Study: Festivals and companies worldwide (including the Squamish Valley Music Festival) are making use of Bull Frog power. Bullfrog Power's generators contribute, renewable energy onto the grid to match the amount of electricity used during special events.

3.5 Transportation

Recommendations

Although it is difficult to quantify the degree to which festival related transportation negatively impacts the environment, it is an important factor when considering the overall sustainability of a festival. Festival transportation includes: the energy consumed when transporting food/goods/stage equipment/ etc. to the site, and vehicle use to transport staff, volunteers, attendees and entertainers. The following are effective ways in which these events can reduce the amount of transportation related pollution:

- Continue to work with Saskatoon Transit to provide free or discounted transportation to festival attendees
- Continue to promote alternative transportation and communicating services such as the bicycle valet and ride sharing in festival advertisements
- Encouraging vendors to source locally

Example Goal: **Increase the number of patrons who travelled to/from the festival via alternative transportation by 30 percent in 2016.**

Image 9- Free Bike Parking

3.6 Other Recommendations

Sponsorship

- Consider finding a sponsor to off-set the costs of green initiatives
- Communicate green initiatives with all stakeholders to create shared value

Accountability

- Tourism Saskatchewan will publish an organization's green goals on their website free of charge. This initiative is called the Green Stem Program.

Grants

- Consider applying for a City of Saskatoon Environmental Grant. Up to $10,000 is awarded annually to assist community groups in implementing their environmental initiatives.
- Larger events may also wish to apply for the special events reserve. This program provides funding to community groups or organizations with an operating budget that exceeds $100,000.

3.7 Recommendations - City of Saskatoon

The City of Saskatoon has the capacity to assist festivals and events in achieving their green goals through policy and financial support.

Amendments to Bylaw No. 7767

Section 5 (3) of Bylaw No. 7767 (The Recreation Facilities and Parks Usage Bylaw) outlines the terms in which a festival or event must adhere to in order to host an event in a City Park. The City could add a clause that takes into account the environmental impact of special events.

Amendments to the Special Event Application Form

The City could request that the event organizer submit a summary of sustainable initiatives (including a green procurement strategy and a waste minimization plan) with the Special Event Application form. Festivals with a greater commitment to sustainability would be given priority over other events.

City of Saskatoon Environmental Grants

Continue to provide community groups with grants that help offset the cost of environmental initiatives. The city may consider increasing the amount of funding in the future.

Resources

4.1 Appendix A: Sample Waste Minimization Timeline

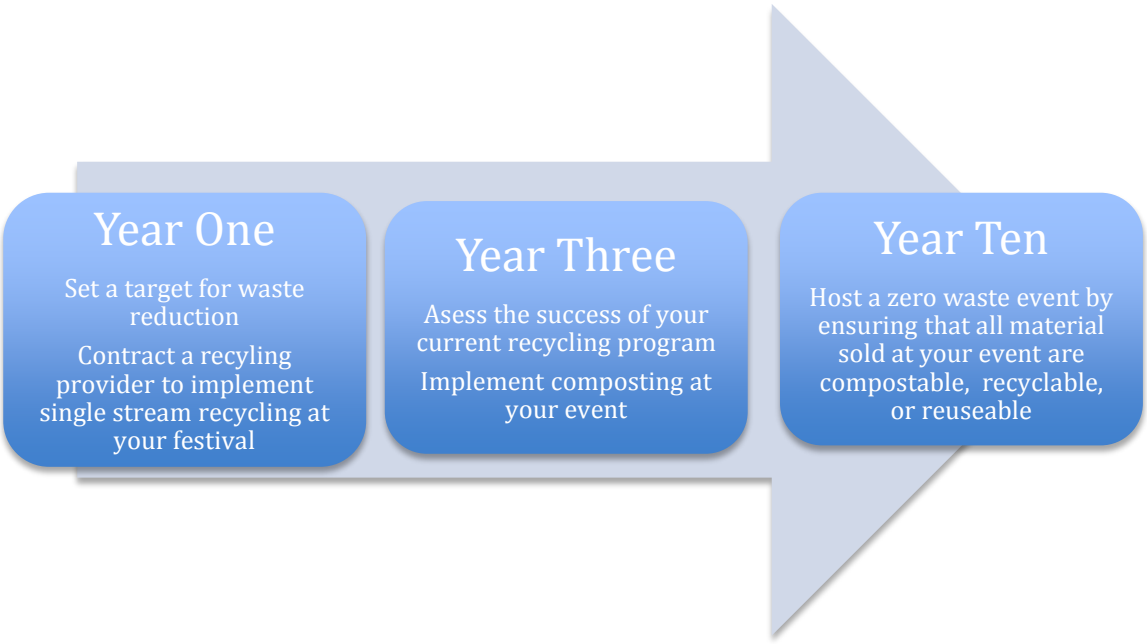


Image 10- Sample Zero Waste Station

4.2 Appendix B: Green Procurement

Developing a Green Procurement policy is about incorporating environmental, economic and social aspects into procurement procedures (ecoprocura). All parts of the supply chain should be considered when creating the policy (types of materials used, how they are being transported, and who is supplying the product). Organizers can include a sustainable procurement policy as part of the vendor application process. Ensuring that vendors adhere by this policy will have dramatic impact on the environmental performance of the festival.

Benefits:

- Reduce waste by removing non-recyclable items from the waste stream
- Reduce the amount of CO_2 used during transportation
- Supporting local and regional businesses
- Financial savings (reduced energy and transport costs)

Vendors

- Ask that all serve ware is either recycled, reusable or compostable
- Recommend vendors use bulk containers for condiments
- Recommend that food is locally sourced

Volunteers

- Try to use sustainable material and have shirts printed locally
- Reuse when possible: training information, ID badges, etc.

Merchandise

- Try to use sustainable material and have shirts printed locally

Ticketing

- Use electronic ticketing whenever possible

Media

- Use FSC and recycled paper for printed materials such as schedules, advertisements/ posters
- Rely more on paper- less communications: Facebook ads, other social media
- Re-using signage from one year to another

Entertainment

- Stages: choose companies who are close to Saskatoon- if that is not possible companies that include environmental considerations in their mandate
- Local trades and services
- Show case local talent to cut back on transportation emissions

Administration

- Adopt sustainable practices year round at the festival office. Go paper-less when possible, purchase FSC/recycled paper when needed, opt for environmentally friendly cleaning products, etc.

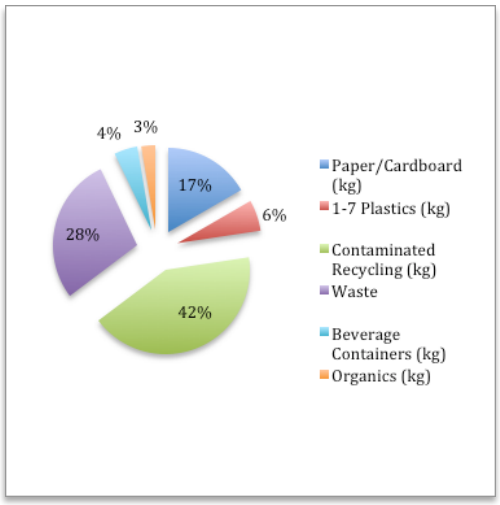
Reward Good Behaviour

- Feature vendors on your website or consider granting automatic acceptance into next year's festival to the greenest vendor

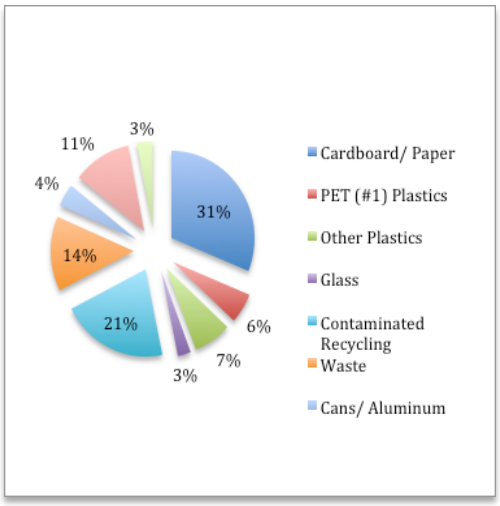
See the Alberta Recycling Council's Green Procurement template for a sample vendor- event organizer contract.

4.3 Appendix C: Individual Festival Waste Characterization

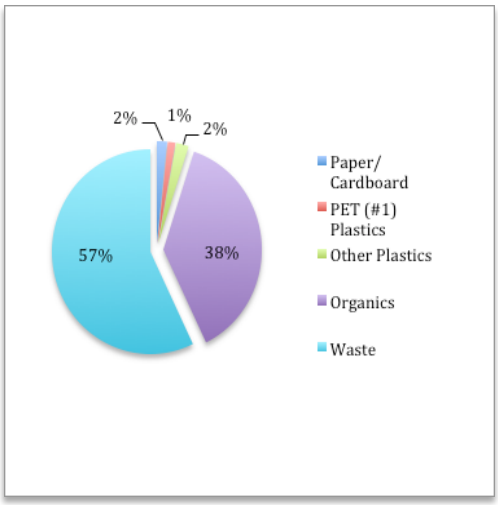
Fringe Festival



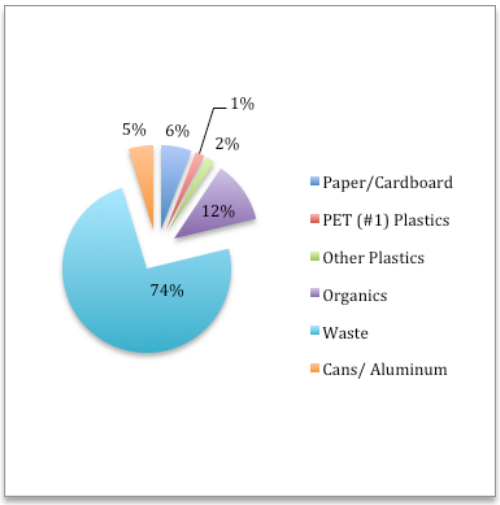
Jazz Festival



Community Pride Fair



Canada Day Celebrations



4.4 Additional Resources

The Saskatoon Environmental Advisory Committee's Green Event Guide has an extensive list of green suppliers and service providers.

References

Bylaw number 7767:The Recreation Facilities andParks Usage Bylaw, 1998. The City of Saskatoon.http://www.saskatoon.ca/DEPARTMENTS/City%20Clerks%20Office/Documents/bylaws/7767.pdf

Environmental Grants. City od Saskatoon. http://www.saskatoon.ca/DEPARTMENTS/Utility%20Services/Environmental%20Services/CommunityEnvironmentalPrograms/Pages/EnvironmentalGrants.aspx

Event Water Solutions. http://www.eventwatersolutions.com/

Green Procurement. http://www.ecoprocura.eu/

Green Procurement Policy. Alberta Recycling Council. https://www.recycle.ab.ca/uploads/File/pdf/GreenProcurementTemplate.pdf

Green Stem Program. Tourism Saskatoon. http://www.tourismsaskatoon.com/green-stem/

Green Events. Saskatchewan Waste Reduction Council. http://www.saskwastereduction.ca/recycle/resources/green-events/ness-creek-music-festival-profile-of-a-green-event

Saskatoon Green Event Guide. Saskatoon Environmental Advisory Committee

Special Event Application Form. The City of Saskatoon. http://www.saskatoon.ca/DEPARTMENTS/Community%20Services/LeisureServices/Documents/SpecialEventApplicationForm.pdf

City of Saskatoon

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May 12, 2017

Secretary, Standing Policy Committee on
Environment, Utilities and Corporate Services

Dear Secretary:

Re: Proposed Targets for Community-wide Greenhouse Emissions Reductions [CK. 375-4]

At the Regular Business Meeting of City Council held on December 12, 2016; it was resolved, in part, that the Saskatoon Environmental Advisory Committee be asked to assist in developing a Community Greenhouse Gas (GHG) Reduction Target.

The Committee respectively requests to present the above matter at the June 12, 2017 meeting of the Standing Policy Committee on Environment, Utilities & Corporate Services for its consideration.

Yours truly,

D. Sackmann

Debby Sackmann, Committee Assistant
Saskatoon Environmental Advisory Committee

DRS:

Attachment
Proposed Targets for Community-wide Greenhouse Emissions Reductions

cc: Kathleen Aikens, SEAC Chair
A/General Manager, Corporate Performance
Director of Environmental & Corporate Initiatives

Proposed Targets for Community-wide Greenhouse Emissions Reductions
Saskatoon Environmental Advisory Committee
April 30, 2017

SEAC proposes the following targets for community-wide GHG emissions reductions within the city of Saskatoon:

- **15% emissions reductions below 2014 levels by 2023**
- **80% emissions reductions below 2014 levels by 2050**

We recommend an initial ambitious but attainable target for 2023, and advocate for a more aggressive emissions reductions approach in the proceeding years. We recommend setting ***incremental targets every five years*** after 2023, to be developed in conjunction with City Administration. Additionally we recommend yearly reporting to Council on progress.

Our rationale for these emissions is outlined below:

Globally, cities and urban areas are responsible for at least 70% of greenhouse gas emissions (International Energy Agency, 2008). While the Paris agreement is an accord between nations, there is increasing recognition that cities have a major role to play in climate change leadership (e.g. Figueres, 2017; C40 Cities Climate Leadership Group; Covenant of Mayors). The City of Saskatoon has indicated its intention to serve as a climate change leader, through its commitment to the Global Covenant of Mayors. The Covenant of Mayors includes over 7,000 cities, encompassing over 9% of the world's population. It promotes a "shared long-term vision of promoting and supporting voluntary action to combat climate change and move to a low emission, resilient society" (Global Covenant of Mayors for Climate & Energy, 2017).

The Saskatoon Environmental Advisory Committee (SEAC) is pleased that the City of Saskatoon has moved beyond the initial step of commitment to the Global Covenant and has tackled the milestone of a comprehensive inventory of greenhouse gas (GHG) emissions. The next step in meeting its obligations to the Covenant is the establishment of targets for GHG emissions reductions.

The international community has determined that the safest course of action is to limit warming to a global average of no more than 2°C. A recent *Science* publication notes that the targets put forward in the Paris agreement are technically and economically achievable (though many current targets are inconsistent with these goals) (Rockström et al., 2017). At this time, SEAC recommends community-wide GHG targets in line with international commitments. This means that atmospheric CO2e (Carbon Dioxide Equivalent) concentrations should be stabilized at approximately 450 parts per million (ppm) by 2050 and indicates an 80% reduction in GHG emissions (below) 2020 for

industrialized nations by 2050(IPCC AR 4, 2007; Union of Concerned Scientists, 2007).

The 2014 City of Saskatoon Emission Inventory reports that emissions within the City of Saskatoon have increased 12% since the last inventory completed in 2003. Per capita emissions have fallen. SEAC recommends targets that are not based on per capita rates, but rather limits to the total agreed-upon concentration of atmospheric CO_2. However, we additionally recommend that reporting include per capita emissions reductions, in order to understand how our city's mitigation plans are interacting with population growth.

Sources:

C40 Cities Climate Leadership Group. http://www.c40.org

City of Saskatoon. (2016). 2014 City of Saskatoon Emission Inventory. https://www.saskatoon.ca/sites/default/files/documents/corporate-performance/environmental-corporate-initiatives/2014_saskatoon_greenhouse_gas_emissions_inventory.pdf

Global Compact of Mayors for Climate and Energy, The. http://www.globalcovenantofmayors.org

Figueres, C. (2017). Three signs that the world is already fighting back against climate change. *World Economic Forum. https://www.weforum.org/agenda/2017/01/3-signs-that-the-world-is-already-fighting-back-against-climate-change*

International Energy Agency (IEA). (2008). World Energy Outlook 2008, IEA, Paris, 569 pages.

Intergovernmental Panel on Climate Change (IPCC). (2007). Climate Change 2007: Synthesis Report. Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, Pachauri, R.K and Reisinger, A. (eds.)]. IPCC, Geneva, Switzerland, 104 pp.

Rockström, J., Gaffney, O., Rogelj, J., Meinshausen, M., Nakicenovic, N. (2017). A roadmap for rapid decarbonisation. *Science*, 355(6331), 1269-1271.

Union of Concerned Scientists (UCS). Avoiding dangerous climate change: A target for U.S. emissions reductions. http://www.ucsusa.org/sites/default/files/legacy/assets/documents/global_warming/emissions-target-fact-sheet.pdf

7920-1

From: City Council
Sent: May 27, 2017 2:03 AM
To: City Council
Subject: Form submission from: Write a Letter to Council

Submitted on Saturday, May 27, 2017 - 02:02
Submitted by anonymous user: 142.165.85.140
Submitted values are:

Date: Saturday, May 27, 2017
To: His Worship the Mayor and Members of City Council
First Name: Gail
Last Name: Stevens
Address: #18 - 306 Silverwood Road
City: Saskatoon
Province: Saskatchewan
Postal Code: S7K 6Y4
Email: gailstevens@sasktel.net
Comments:
Council of Canadians Saskatoon Chapter
c/o PO Box 9053 Saskatoon, SK. S7K 7E7

May 22, 2017

Standing Policy Committee on Environment, Utilities and Corporate Services
City of Saskatoon, Saskatchewan

Dear Standing Policy Committee Members,

Wise decisions in the past enable Saskatoon to provide citizens with safe drinking water, and water treatment and waste water services that are publicly financed, owned and managed.

We have a request that offers the City of Saskatoon an opportunity to extend its strong record into the future. The Saskatoon Chapter of the Council of Canadians, with the support of several community groups as listed below, requests that the City of Saskatoon becomes a "Blue Community". The City could do this by adopting motions that have this framework:

Recognize that access to safe drinking water is a human right.

Prevent the sale and provision of bottled water in public facilities and at municipal events.

Commit to publicly financed, owned and operated water and waste water services.

The Blue Communities project is part of the Council of Canadians' Water Campaign. Blue Communities include Victoria, Burnaby, Courtenay, the First Nation community of Tsal'alh. In Ontario, St. Catherine's, Goderich, Niagara Falls, Ajax and Kingston have decided to become Blue Communities.

We request that you recommend the above framework to City Council. We are confident that the administration is able to incrementally eliminate the sale or provision of bottled water in ways that are operationally reasonable. Safe Drinking Water Week and other city events would provide opportunities to promote the City's commitment to safe drinking water as a human right and publicly financed, owned and operated water and wastewater systems.

We would appreciate the opportunity to present to the Standing Policy Committee on Environment, Utilities and Corporate Services' meeting on June 12th.

Please direct correspondence and further questions to: Gail Stevens - gailstevens@sasktel.net.
Thank you.
Sincerely,

Council of Canadians, Saskatoon Chapter
Saskatoon Unitarians
Treaty 6 Justice Collective/The Stand
Saskatchewan Waste Reduction Council
Climate Justice Saskatoon
Sustainability Education Research Institute
Wild About Saskatoon

The results of this submission may be viewed at:
https://www.saskatoon.ca/node/398/submission/172547

Integrated Waste Management Annual Report 2016

Recommendation

That the report of the A/General Manager, Corporate Performance Department, dated June 12th, 2017, be received as information.

Topic and Purpose

The performance of the civic waste handling, operations, and diversion programs are reported in the Integrated Waste Management Annual Report for 2016.

Report Highlights

1. The 2016 Waste Diversion Rate was 21.8%, slightly higher from the 2015 rate of 21.0%, but still below the 2014 national average of 36.1% and the City's Waste Diversion Target of 70% by 2023.
2. The City's composting programs, curbside residential and multi-family recycling, recycling depots, landfill recycling, charity bins, household hazardous waste events, eco-centres, and public space recycling diverted at total of 28,000 tonnes of materials from the landfill, removing 43,650 tonnes of CO_2e of GHG emissions.
3. The City of Saskatoon's (City) application for the National Zero Waste Council was approved on April 22, 2016.
4. The number of landfill visits was 91,400 in 2016, 9,400 of which were City garbage trucks.
5. Through a waste characterization study conducted in 2016, it was determined that 51,900 tonnes of waste was generated by single family households, up to 77% of which can potentially be diverted from the City landfill. Multi-family household generated 9,100 tonnes of waste, 61% of which has the potential to be diverted. 56% of Industrial Commercial and Institutional (ICI) waste has the potential to be diverted if recycling and compost programs were similar to residential programs. 58% of self-hauled and 91% of the Construction and Demolition (C&D) waste could be diverted once Recovery Park is operational.

Strategic Goal

This report relates to the Strategic Goal of Environmental Leadership including the four-year priorities of promoting and supporting city-wide composting and recycling, implementing more energy-efficient practices in City operation and the ten-year priority of eliminating the need for a new landfill.

Background

City Council received an Integrated Waste Management Annual Report for 2015 on May 9, 2016.

Report

The Integrated Waste Management Annual Report for 2016 can be viewed as Attachment 1. The report provides details related to waste handling, waste reduction, and diversion programs offered by the City, including:

- Curbside garbage and recycling collection for single-family households
- Multi-family recycling collections
- Garbage collection for many multi-unit and commercial customers
- Subscription based curbside food and yard waste collections
- Two compost depots
- Four recycling depots
- Household hazardous waste collection events
- A regional landfill
- Public Space Recycling
- Home composting education
- Curbside swap
- Integrated waste education
- Waste Bylaw enforcement

This report outlines the various metrics and initiatives related to waste diversion, awareness and educational programs and services that the City offers. This report will serve as an annual progress report towards the City's 70% waste diversion target by 2023.

Communication Plan

The 2016 Integrated Waste Management Annual Report will be publicly available on the City's webpage. A Public Service Announcement and social posts will also be distributed.

Environmental Implications

Diversion programs including recycling and composting reduced the greenhouse gas (GHG) emissions from the landfill by 43,650 tonnes of Carbon Dioxide equivalent (CO_2 e). In 2016, the volume of landfill gas captured was 6,035,300 standard cubic metres, and reduced the greenhouse gas emissions of the landfill by 55,800 tonnes of CO_2e. Further environmental implications and protection measures are detailed in Attachment 1**.**

Other Considerations/Implications

There are no policy, financial, privacy or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

An Integrated Waste Management Report will be published annually. The next report will be prepared for the Standing Policy Committee on Environment, Utilities and Corporate Services in June 2018.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachment

1. Integrated Waste Management Annual Report 2016

Report Approval

Written by:	Moe Al-Mahdawe, Environmental Coordinator, Environmental & Corporate Initiatives Aman Sangha, Environmental Coordinator, Environmental & Corporate Initiatives
Reviewed by:	Amber Weckworth, Manager, Education & Environmental Performance, Environmental & Corporate Initiatives Michelle Jelinski, Senior Project Management Engineer, Water & Waste Stream Division Mark Shaw, Environmental Operations Manager, Water & Waste Stream Brenda Wallace, Director of Environmental and Corporate Initiatives
Approved by:	Jeff Jorgenson, A/General Manager, Corporate Performance Department

Integrated Waste Management Annual Report 2016.docx

INTEGRATED WASTE MANAGEMENT

Annual Report 2016

City of Saskatoon

Corporate Performance
Environmental & Corporate Initiatives

Contents

Table of Figures

INTRODUCTION

What is Integrated Waste Management?

Integrated Waste Management (IWM) is a strategic approach to managing waste by combining waste handling and waste reduction strategies that include reducing, reusing, recycling, composting, and disposal. An effective IWM system considers how to prevent, recycle, and manage waste in ways that protect both human and environmental health while staying affordable, convenient and maximizing resource use efficiency.

City's Integrated Waste Management Services

Integrated Waste Management falls within both the Environmental Health and Utilities Business Lines. Service Lines arejointly managed by Waste and Water Stream Division and Environmental & Corporate Initiatives Division through the Waste Handling Service Line, the Waste Reduction & Resource Recovery Service Line, and Waste Services Utility.

In 2016, the core services that comprised the City of Saskatoon's Integrated Waste Management approach included:

Waste Diversion Services

- Recycling collections for single-family residential households (Curbside Collection)
- Recycling collections for multi-unit residential households
- Recycling depots for residential use
- Public space recycling
- Recycling in civic facilities
- Recycling opportunities at the regional landfill
- Yard & food waste collections (Optional subscription based service) for single-family residential households
- Compost depots
- Household hazardous waste drop-off days
- Christmas tree drop-off sites

Waste Disposal Services

- Saskatoon Regional Waste Management Facility (Landfill)
- Garbage collections for single-family residential households (Curbside Collection)
- Garbage collections for many multi-unit residential households and commercial customers (other buildings and businesses contract to private haulers)

Education and Communications

- Webpage and online engagement
- Annual collection calendar
- Recycling Communications Campaigns
- Rolling Education Unit and the Let's Roll Recycling Team
- Newcomer Workshops
- Home Composting Education
- Saskatoon Curbside Swap
- School Education Program at Loraas Recycle
- Cart Blitzes
- Waste bylaw enforcement

Waste Diversion Target

The City of Saskatoon (the City) has adopted a 10-year target to divert 70% of waste from the Saskatoon landfill by 2023 with a longer term vision of achieving Zero Waste. This ambitious target shows a commitment by the City to establish new options for waste reduction, recycling, reusing, and composting as well as continuously improving our existing programs.

The target is linked to the City's Strategic Plan 2013-2023. Priorities under Environmental Leadership include:

- Eliminate the need for a new landfill by eliminating waste and/or diverting waste for re-use in other projects.
- Promote and facilitate city-wide composting and recycling to reduce the rate and volume of waste sent to the landfill.

National Zero Waste Council

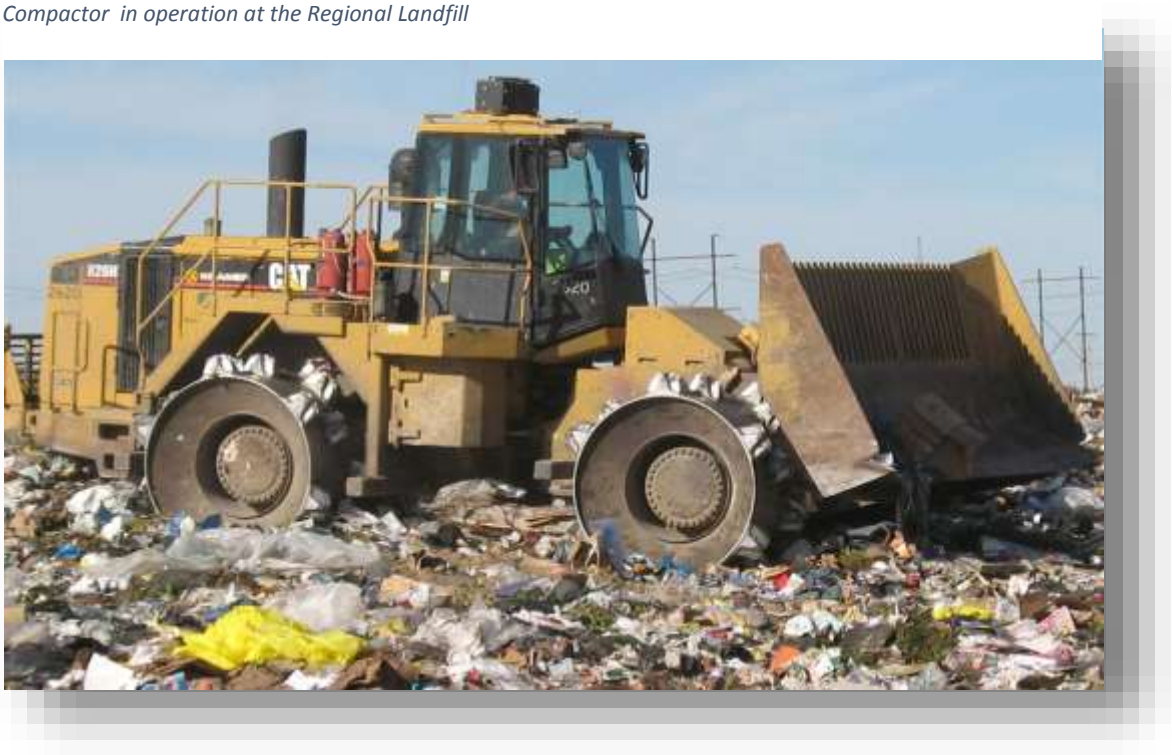
The National Zero Waste Council (NZWC) is a cross-sector leadership group that brings together governments, businesses, and non-government organizations to advance waste prevention in Canada. The aim for the NZWC is to substantially reduce waste and the associated environmental and economic costs of waste management through product design and behaviour change. The City of Saskatoon became a member of NZWC on April 22, 2016, after its application was approved by the NZWC Management Board.

Delivering Integrated Waste Management Services

Waste Handling is provided by the Water and Waste Stream Division with the goal to provide efficient, effective, customer-oriented waste management services. Waste Handling includes:

- Garbage containers and garbage collection services for single-family, multi-family and commercial customers
- Management of the Saskatoon Regional Waste Management Facility (Landfill)
- Operation of compost and recycling depots
- Provision of carts, collections and customer service for Green Cart subscriptions
- Collection of recyclable materials from recycling depots and civic facilities to Cosmopolitan Industries
- Communications related specifically to waste management operations
- Enforcement of the Waste Bylaw

Compactor in operation at the Regional Landfill



The Water and Waste Stream Division has the following resources dedicated solely to waste management: Under the Environmental Operations Manager, there is an Operations Superintendent for Collections & Containers with 43 staff in the summer and 28 in the winter and an Operations Superintendent for Landfill with 28 staff in the summer and 21 in the winter; Under the Senior Project Management Engineer, there is an Operations Engineer, a Depots Supervisor, a Project Engineer for Landfill Gas, and two Environmental Protection Officers.

Waste Reduction and Resource Recovery efforts are led by Environmental & Corporate Initiatives and focus on reducing, reusing, recycling, recapturing resources, and seeking operational efficiencies. Initiatives under this program include:

- Managing recycling contracts with Loraas Recycle for single-family residential and Cosmopolitan Industries Ltd. for multi-unit residential
- Waste diversion programs and initiatives including Curbside Swap, public space recycling, and household hazardous waste drop-off
- Capital projects related to waste diversion, such as Recovery Park
- Energy efficiency initiatives, such as the Efficient Waste System project and natural gas vehicles
- Development and amendments of plans, policies, and regulations in order to meet waste reduction targets
- Monitoring and reporting on waste diversion/reduction, energy use, and greenhouse gas emissions
- Increasing awareness, generating excitement, and educating residents on how and why to reduce and recycle waste

The Environmental & Corporate Initiatives Division has the following resources: a Director, an Education & Environmental Performance Manager with six staff, an Environmental ProtectionManager with three staff and one intern student in 2016, and an Energy & Sustainability Manager with three staff and one intern student in 2016. In addition to Waste Reduction & Resource Recovery, the Environmental & Corporate Initiatives Division has responsibilities within the following Service Lines: Environmental Programs, the Waste Services Utility, Water, Wastewater, Storm Water, Facilities Management, River Landing, and Corporate Projects.

The work of both Divisions is directly supported by Business Administration and Communication staff.

Waste Characterization Study

In 2016, the City of Saskatoon completed a Waste Characterization Study. The study sampled and audited waste from single family households, multi-family households, the industrial, commercial and institutional (ICI) sector, construction and demolition (C&D) and self-hauled loads to landfills. It compared the solid waste composition with a similar study completed in 2014 to monitor performance of existing waste diversion programs and identify opportunities for additional programs.

The study focussed only on City programs and, therefore, provides a representative picture of waste behaviours in the community rather than a comprehensive audit of waste generation and handling.

The 2016 Waste Characterization Study was a year-long process that produced a precise estimate of our waste composition. Methods used in previous studies were

expanded to gather more detailed information on solid waste, particularly where estimates had been vague such as in the ICI sector, self-haul loads to the landfill, and Construction and Demolition waste.

An estimate of the total solid waste in Saskatoon (including private waste disposal and recycling) indicated that 66% was being generated by businesses and organizations in the ICI sector and 34% is from residential sources (including self-haul loads).

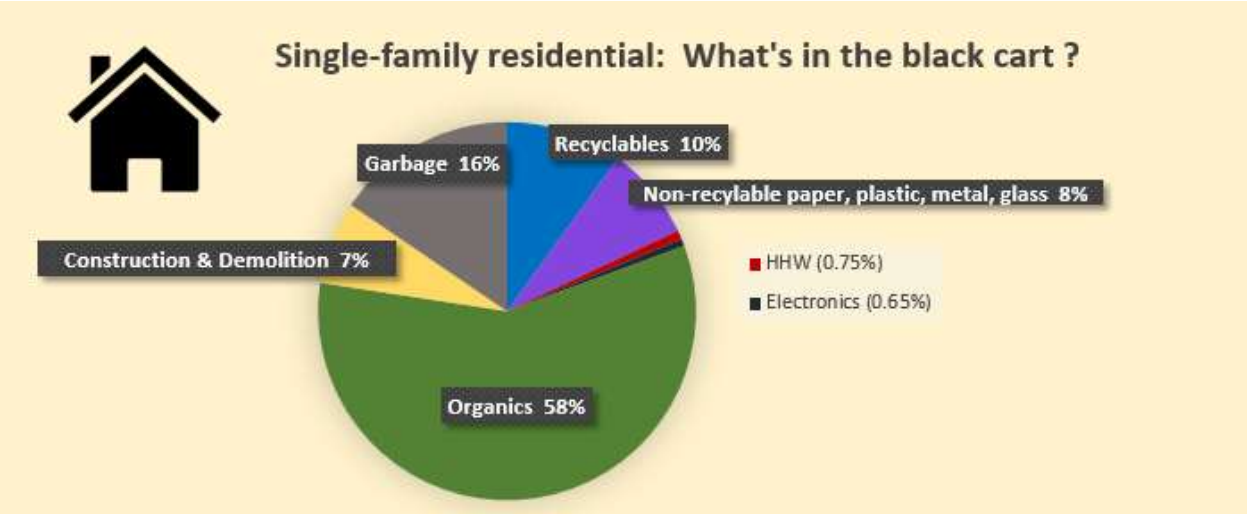
Single-family Residential Households

The results of the characterization showed that of the 51,900 tonnes of waste generated by single family homes in 2016, up to 77% of it could be diverted if programs for composting are expanded and recycling program capture rates are expanded and improved.

Of this, approximately 10% of the material was recyclable (i.e. could have been recycled through the blue cart program). In comparison, the 2014 study found that 13% of the material could have been recycled.

58% of material found in the black cart consisted of compostable organic waste, 27% of which was food waste, the remaining 31% was yard waste; this varied seasonably. A large portion of the food waste is considered avoidable (i.e., edible at one point), suggesting there are opportunities for both food waste prevention as well as waste diversion.

Figure 1. Single- family Residential Household Waste Composition in 2016



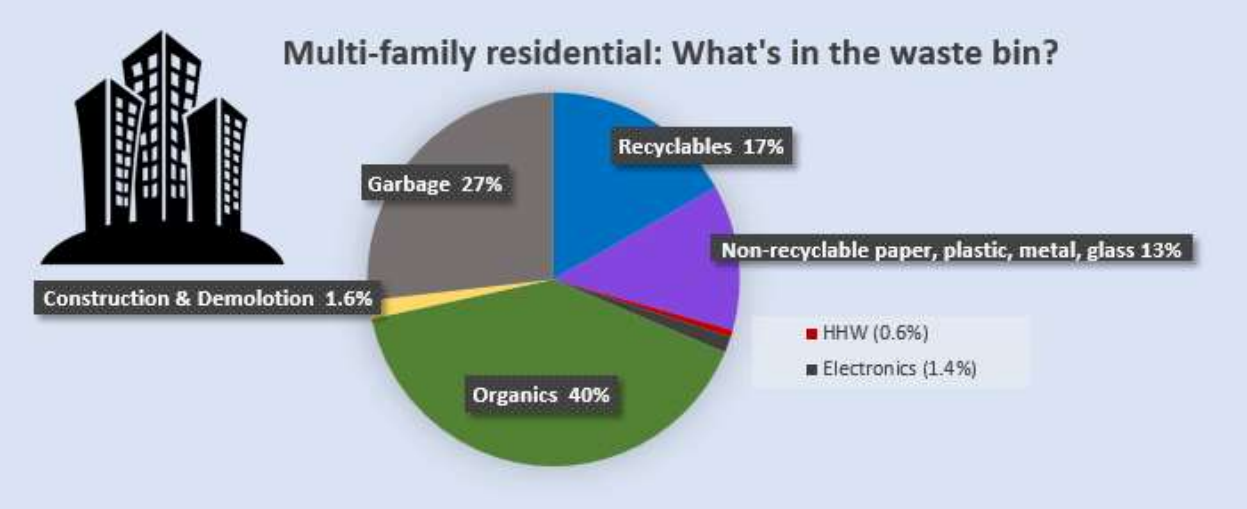
Multi-unit Residential Households

The 2016 results for the multi-unit waste composition audits showed that 9,100 tonnes of waste were generated from multi-unit buildings and up to 17% of the materials could have been recycled through the existing Multi-unit Residential Recycling program. The

2014 study found that 23% of the material could have been recycled, suggesting current education and awareness efforts are having a positive impact.

It is estimated that 61% of total waste could be diverted if programs for composting are expanded and recycling program capture rates are expanded and improved. 40% of the waste was compostable organics, with 88% of the organic waste consisting of food scraps. Of the food waste, 53% was avoidable (i.e., edible at one point).

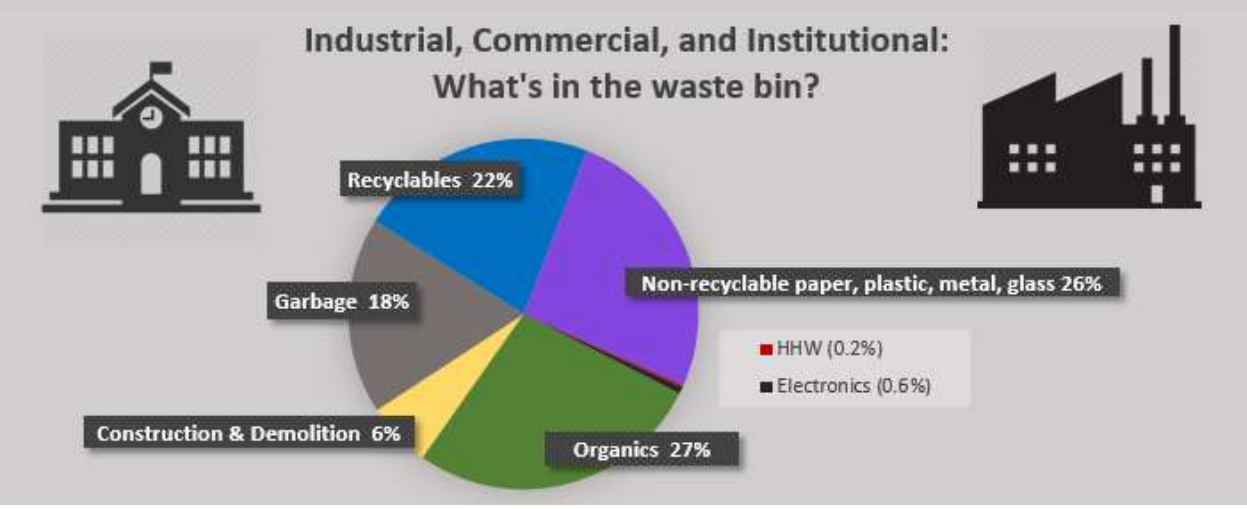
Figure 2. Multi-unit Residential Household Waste Composition in 2016



Business – Industrial, Commercial, and Institutional (ICI)

The 2016 Waste Characterization Study also sampled waste from the Industrial, Commercial and Institutional sector as it entered the Saskatoon Landfill. The results showed a high proportion of materials that could be diverted through recycling or composting programs. It is estimated that approximately 56% of the ICI waste stream could be diverted if composting and recycling programs that handle materials similar to existing residential programs were introduced. The key waste streams that could be diverted include food waste (27%), recyclable paper/paper packaging (22%), and construction and demolition (C&D) waste (6%).

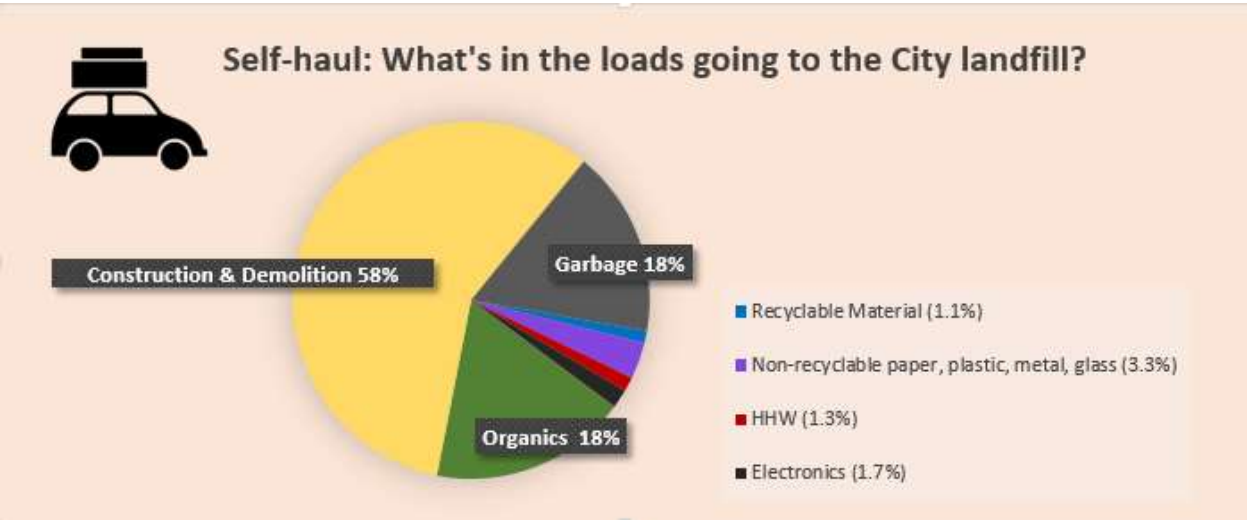
Figure 3. Industrial, Commercial, and Institutional Waste Composition in 2016



Self-haul loads

Additional effort to understand the composition of Self-haul waste from residents and businesses was undertaken by completing visual waste audits of loads received at a private landfill in the Saskatoon region. A small portion (1%), consisted of recyclable waste which could have been captured in the City's recycling programs. Approximately 18% consisted of organic waste, with 98% of organic waste consisting of yard waste. A large portion (58%) consisted of construction & demolition waste.

Figure 4. Self-haul loads Waste Composition in 2016



Construction and Demolition

To understand the composition of Construction & Demolition waste hauled by businesses, visual waste audits of construction loads received at a private landfill in the Saskatoon region were also completed. These audits will help in the planning phase for Recovery Park.

91% of the waste in sampled loads consisted of construction and demolition materials such as untreated wood, asphalt roofing shingles, asphalt, concrete and bricks, and metals. These materials could be diverted once Recovery Park is operational.

Planning New Initiatives for Waste Diversion

To achieve the Performance Target of 70% waste diversion from the Saskatoon landfill with a long term vision of achieving zero waste, new initiatives are underway in 2017. The purpose of the initiatives listed below is to improve the current waste diversion rate and continue to reduce the amount of waste landfilled.

Waste Diversion Plan

A Waste Diversion Plan was started in 2016 based on the results of the Waste Characterization Study in 2016. The plan will propose a set of actions including policy options, program options, education and awareness. The Plan will look for program feasibility based on existing conditions (current waste diversion programs), forecasted future waste quantities, research on best practices for waste diversion in other municipalities and will include a needs assessment. The next step will identify costs and implementation strategies for the identified programs. Community engagement will be an important component of the Waste Diversion Plan.

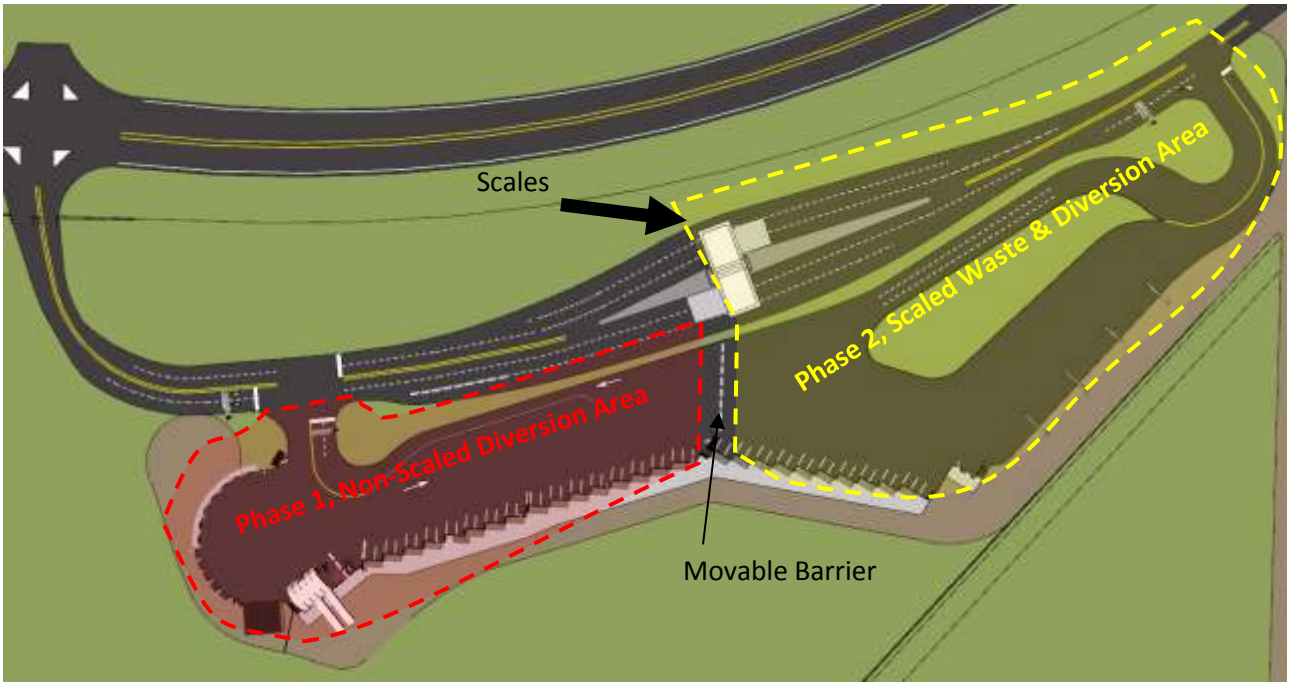
Planning for Expanded Recycling at the Saskatoon Landfill

Planning for expanded recycling, improved material recovery and improved waste management customer service ('Recovery Park') continues, with design and procurement for construction of Phase I and II now underway. The new facility will be located immediately adjacent to the Landfill, and will incorporate existing and new waste management and diversion opportunities for businesses and residents. Including:

- Waste transfer station – The new facility becomes the new customer service area for landfilled garbage. Only City garbage trucks and commercial account holders will continue to access the active face of the landfill.
- HHW Days – The facility will accommodate a permanent Household Hazardous Waste (HHW) drop-off which provides a significant service level increase over the existing eight HHW events each year.
- West Compost Depot drop-off – The Depot at Highway 7 and 11th Street West will continue to operate as a yard waste processing facility, and the new facility may become the drop-off centre like the East Side Compost Transfer site. Eventually organics processing may be located at the new facility.
- Provincial Product Stewardship programs – The Province supports the recycling of electronics (e-waste), used oil and antifreeze, batteries, tires, and paint. These materials can be collected at the new facility.
- Construction & Demolition (C&D) waste – Residents and businesses who separate their C&D materials by type will be able to dispose of these materials for recycling at a lower disposal fee than regular landfill rates.

- Mattress and box spring recycling – It is estimated the landfill receives over 17,000 mattresses and box springs each year, which consume airspace and cause problems for landfill equipment. A location for collecting mattresses and box springs will be created to enable recycling off-site.
- Future material recycling – There is room for growth in the number of materials collected for recycling at the new facility. For example, a waste processor has expressed there is interest in collecting Styrofoam for processing. The Administration is exploring this opportunity and will report separately in the coming months.

Figure 5. Conceptual Layout of the new facility



Disposal ban on Paper and Cardboard

The City is exploring options for mandatory recycling of paper and cardboard by the Industrial, Commercial and Institutional (ICI) sector. According to the 2016 Waste Characterization Study, 22% of recyclable paper and paper packaging found in ICI waste stream could have been diverted.

Multi-Material Recycling Program

The Multi-Material Recycling Program (MMRP) is the waste paper and packaging stewardship program administered by Multi-Material Stewardship Western (MMSW). The program was launched on January 1, 2016 in response to provincial regulations. Municipalities and regional waste authorities are now compensated for some portion of the cost of collection and processing of recyclables ($11.75/unit). In 2016, the funds received by the City were used toward the Multi-Unit Residential Recycling Program, Recycling Depot operations and the Green Cart program.

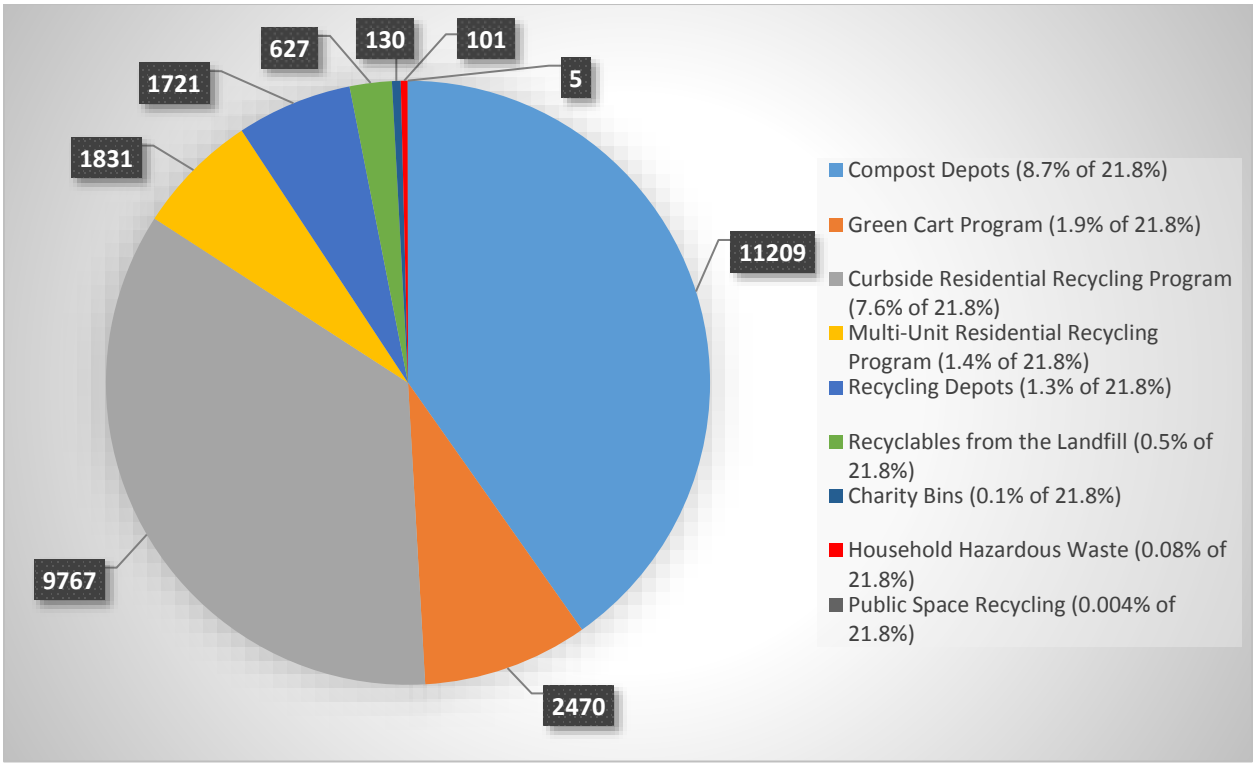
WASTE DIVERSION SERVICES

Compost Windrow Turner at West Compost Depot

Waste Diversion in Saskatoon

A variety of programs and initiatives including recycling, composting, hazardous waste collection, and reuse of gently-used items help to divert waste from the Saskatoon landfill. Outreach and education supports these programs and raises awareness about the importance of waste reduction and diversion. Education programs include the Saskatoon Curbside Swap, home composting education, the rolling education unit, and school-based recycling education. The figure below shows the tonnes of recyclable material diverted from each initiative (total of 27,864 tonnes) and how each initiative contributed to the diversion rate of 21.8% in 2016.

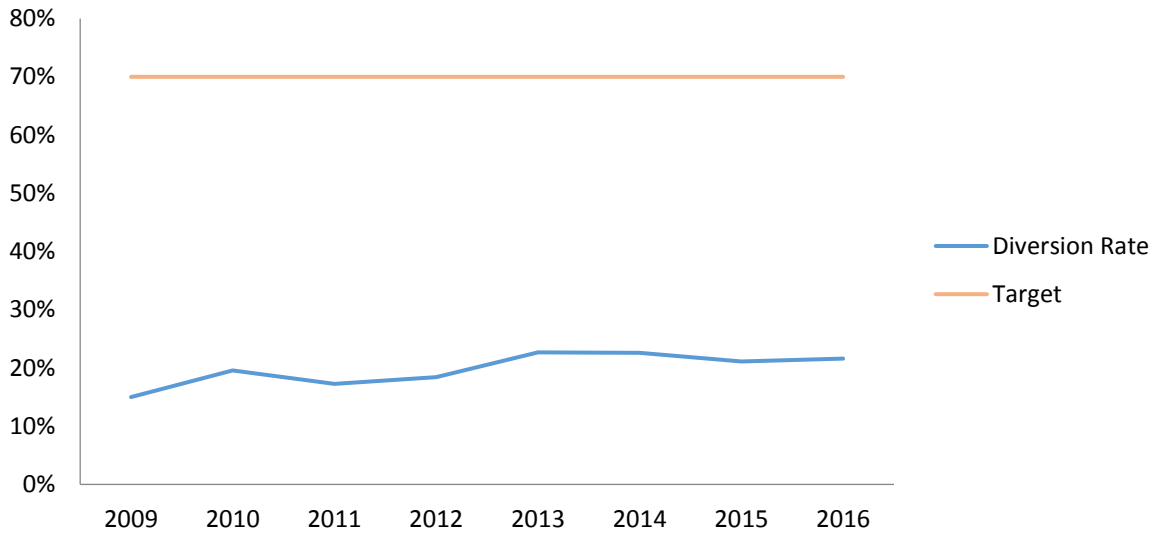
Figure 6. Tonnes of Diverted Materials



Saskatoon's Waste Diversion Rate

The City's Waste Diversion Rate for 2016 was 21.8%, slightly up from 21.0% in 2015. For this reason the progress towards the target of 70% has been identified as needing improvement.

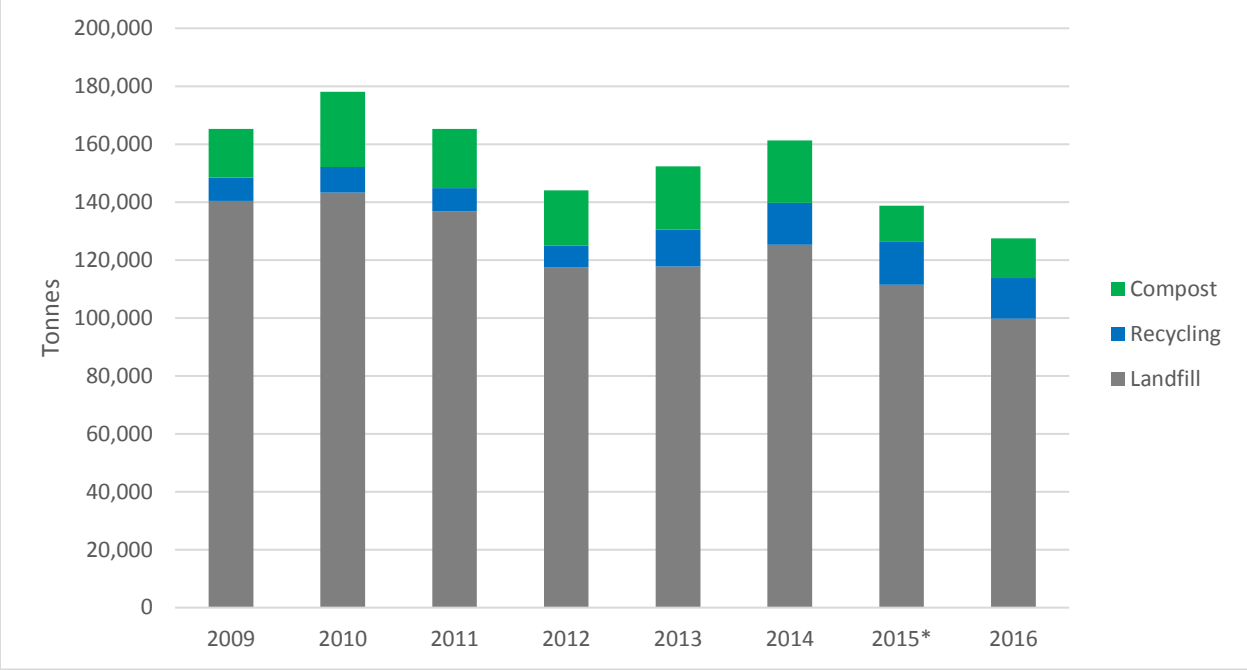
Figure 7. Saskatoon's Waste Diversion Rate 2009-2016



The City calculates the Waste Diversion Rate based on City-run diversion and disposal programs. It does not include reduction, reuse, recycling or disposal through non-City programs, such as beverage containers, e-waste or nearby landfills.

The total amount of waste managed by the City in 2016 was lower than 2015. The annual quantities of recyclables, organics (Yard & Food) and garbage are shown in the figure below. Clean fill is not counted towards diversion as it is used in construction or as cover for the landfill. The decline in the amount of waste managed does not necessarily indicate that Saskatoon residents and businesses are reducing their overall waste as it could be due to increased use of other landfills.

Figure 8. Waste Quantities (Tonnes) Managed by the City (2009-2016)



*2015 Compost data was misreported in the 2015 Integrated Waste Management Report. The actual tonnage was 12,500.

The City's waste diversion rate is below the national average. In 2014 (Statistics Canada), Canadians diverted 255 kilograms of material per capita resulting in an overall diversion rate of 36.1%. Saskatoon's 2015 diversion rate was benchmarked against other Canadian cities, as shown in the table below. Saskatoon's diversion rate is second lowest amongst comparable cities.

Table 1. Diversion Rate across Canada

City	Diversion Rate
Surrey	68%**
Halifax	61%***
Toronto	53%*
Edmonton	51%**
Ottawa	45%*
Winnipeg	34%*
Calgary	28%*
Saskatoon	21%
Regina	19%***

* Source: 2014 Partnering for Service Excellence Performance Measures Report, Ontario Municipal CA's Benchmarking Initiative
** Source: 2015 rate from webpage of the City
*** Source: 2014 rate as previously reported in the 2014 IWM annual report (the 2015 diversion rate not yet available)

Recycling

The City's residential recycling services are operated by Loraas Recycle and Cosmopolitan Industries who are responsible for collection and processing of recyclables generated by residents.

Recycling Collections for Single-family Residential Households (Curbside Collection)

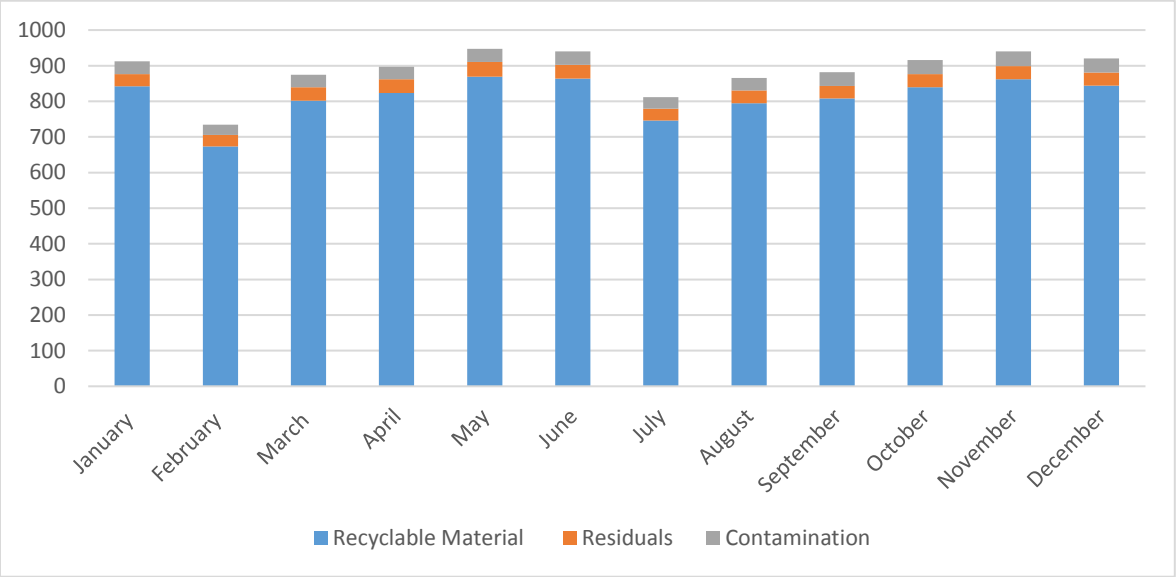
Loraas Recycle has been providing curbside recycling service to single family households in Saskatoon since 2013. There were 68,591 active carts at the end of 2016, each household (including secondary suites) in Saskatoon is provided with a blue cart that is collected from their curb every second week based on a published collection schedule. Households can now request a second cart for additional recyclables for a fee.

Residential Recycling Curbside Collection.

- A total of 10,641 tonnes of materials were collected in 2016. Of this, 9,767 tonnes were marketed to be recycled into new products, 4% of this was contamination (materials placed in the cart that are not recyclable) and 4% of this was residual (materials that are technically recyclable but could not be recovered usually because of their small size).

- The Single-family residential recycling program contributed 7.6% toward the City's waste diversion rate of 21.8%. This is down from 2015 when 10,457 tonnes were recycled.

Figure 9. Tonnes of Materials Collected through the Single-family Residential Recycling Program in 2016



Set out rate

The average set-out rate for the program averaged 70.3%, which provides a snapshot of what occurs on each collection day. This does not indicate how many people use their blue carts since many do not necessarily put them out each collection.

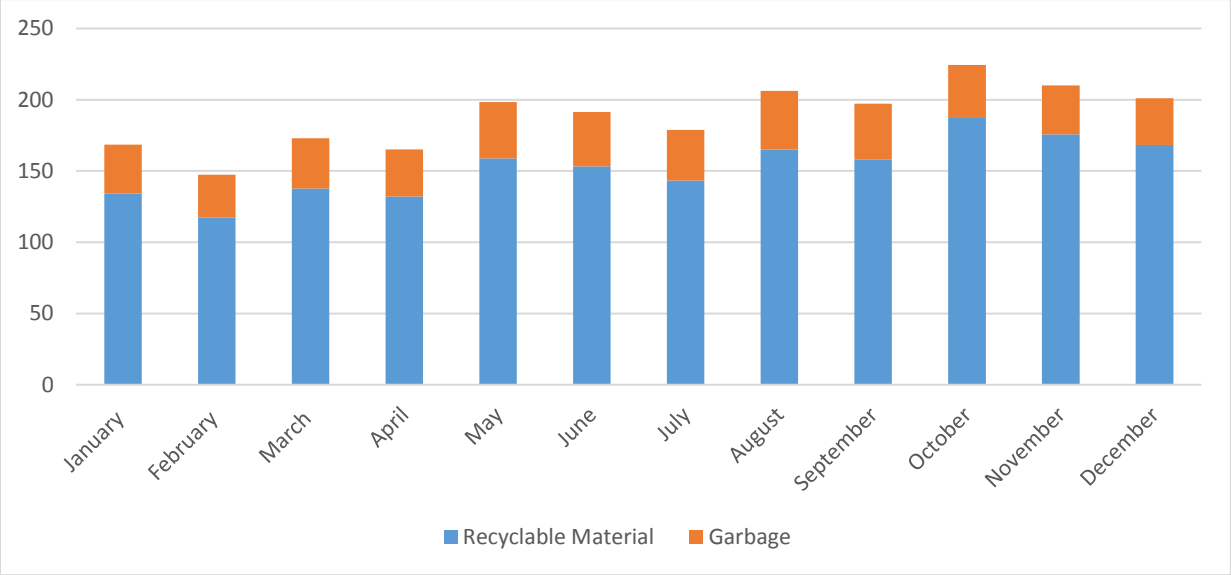
Carts not being collected due to incorrect placement or overfilling continue to occur. In 2016, there were an average of 805 non-compliant carts per month. To put that into context, there were a total of 1,257,708 blue carts tipped in 2016, so approximately 1% were non-compliant. Other ongoing concerns are carts left out in back lanes for more than 24 hours and scavenging of high value materials (beverage containers and milk jugs). Back lane issues are addressed through communications such as the waste and recycling calendar and through warnings and tickets issued by the City's Environmental Protection Officers (EPOs).

<u>Multi-unit Residential Recycling Collection</u>

The Multi Unit Residential Recycling (MURR) program was launched on October 6, 2014 and was fully operational in 2015. Service is provided by Cosmopolitan Industries. In 2016:

- 1,831 tonnes of recyclable materials were collected and marketed to be recycled into new products, contributing 1.4% toward the City's waste diversion rate of 21.8%.
- 2,261 tonnes of material were collected; on average, 23% of this was contamination (materials placed in the bins that are not recyclable) or residual (materials that are technically recyclable but could not be recovered usually because of their small size).

Figure 10 Tonnes of Material Collected through the Multi-unit Residential Recycling Program in 2016



Recycling Program Customer Service

Resident inquiries regarding the curbside residential recycling program continues to be low at an average of 241 inquiries per month, which is down from an average of 323 inquiries per month in 2015.

Inquiries for the MURR program have started to decrease. In 2016, Cosmo received and responded to 700 customer service calls and emails, which were on average 58 inquiries per month as compared to approximately 80 calls per month in 2015.

Recycling Depots

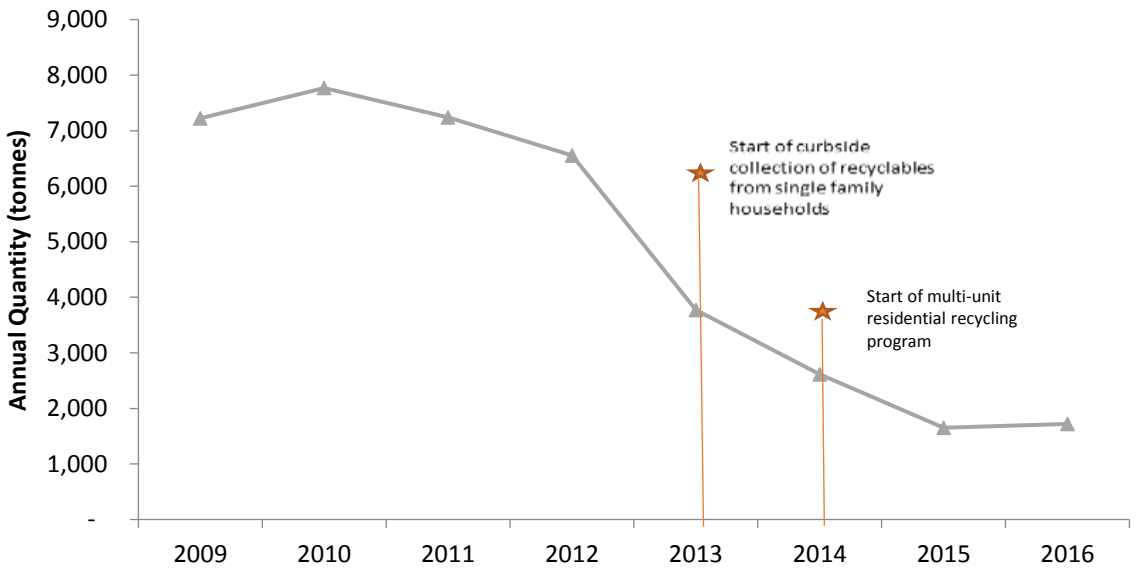
In 2016, 1,721 tonnes of material were collected at the depots contributing 1.3% to the City's diversion rate of 21.8%, a monthly average of 143 tonnes. The use of the depots has decreased since the City introduced residential recycling programs.

The four City-run depots accept the same materials accepted in the MURR and curbside programs in a single stream with no sorting, as does all recycling at Civic facilities. The bins at the depots remain the property of Cosmopolitan Industries and all

materials are collected by the City and processed at Cosmo's Material Recovery Facility.

City staff use a fork truck to collect recyclables from the depots (stored in metal bins) and rear loader trucks and crews to collect illegally dumped waste. Illegal dumping is often a problem since the depots are unstaffed and as such, City staff spend considerable time cleaning up the sites. Collected recyclables are hauled to Cosmo for processing who receive the revenue for the marketed recyclables. The City is under contract with Cosmo until 2023 (rolled into the MURR collection and processing contract).

Figure 11: Recycling Depot Quantities (2009-2016)



Charity Bins

In 2016, 130 tonnes of material were collected at charity bins located at the City-run recycle depots contributing 0.1% toward the City's total diversion rate of 21.8%. In 2016, the charities were Canadian Diabetes, Community Living, and Salvation Army.

Public Space Recycling

5 tonnes of recyclables were collected through the City's Public Space Recycling programs in 2016. Collection bins installed in pedestrian-oriented commercial areas offer separation of paper and beverage containers (bottles and cans) from the regular garbage.

In 2016, the City's pedestrian-oriented public space recycling initiative had 39 full-service receptacles called MetroBins. These containers are located in the Downtown, Broadway, 8th Street, and Sutherland Business Improvement Districts and are serviced under contract by Creative Outdoor Advertising. Recycling is dropped off at Cosmo

Industries and garbage is brought to the Saskatoon Landfill. These bins will be phased out in 2017.

Various locations (including nine civic parks) throughout the city have also been using bottle baskets to divert beverage containers. Bottle baskets are an informal, "self-serviced" recycling method that are attached to existing garbage containers. Six (6) existing garbage containers were converted to beverage recycling with corporate sponsorship from SARCAN.

Paper (blue) and Bottle (purple) recycling baskets attached to garbage container

In 2016, the City introduced a pilot program for paper recycling in downtown, business improvement districts (BIDs) and at other locations across Saskatoon. Eight (8) paper recycling containers were piloted in the summer of 2016 and serviced by The Partnership's street ambassadors program.

Forty-nine paper recycling containers will be installed in Broadway, Downtown, Riversdale, and Sutherland in 2017 and around 20 additional bottle and can recycling / paper recycling containers will be installed in 2017 at special use parks, and sporting facilities.

Recycling in Civic Facilities

Recycling has been established in most civic facilities, with single-stream collection in place at 21 facilities in 2016. Recyclable materials from civic facilities are collected with material from the depots, so the exact tonnages are not available. However, a dedicated run of civic materials was done in June 2016 in order to estimate program success. 780 kilograms of recyclables were reported in January 2016 through Civic Facilities which will be used to benchmark program growth.

Organics Programs

The City of Saskatoon's organic programs include Green Carts for Yard and Food Waste, the Compost Depots, and the Christmas Tree Drop-Off.

Green Carts for Yard and Food Waste

Green Carts for yard and food waste is an optional fee for service program for residential yard and food waste, available for households with curbside cart collection. The City owns and maintains the green roll-out carts provided to program subscribers. In 2016, the number of subscribers to the Green Cart program reached an all-time high of 6,300 which equates to 9% of eligible households. In addition, approximately 20 community gardens subscribe to the program. The subscription rate is $55 per season and collections are provided on a bi-weekly basis from the first week of May to the first week of November. In total, 14 collections are provided which equates to an approximate cost to the resident of $4.79 per collection. The total amount of material diverted through the Green Cart program in 2016 was 2,470 tonnes, contributing 1.9% toward the City's waste diversion rate of 21.8%.

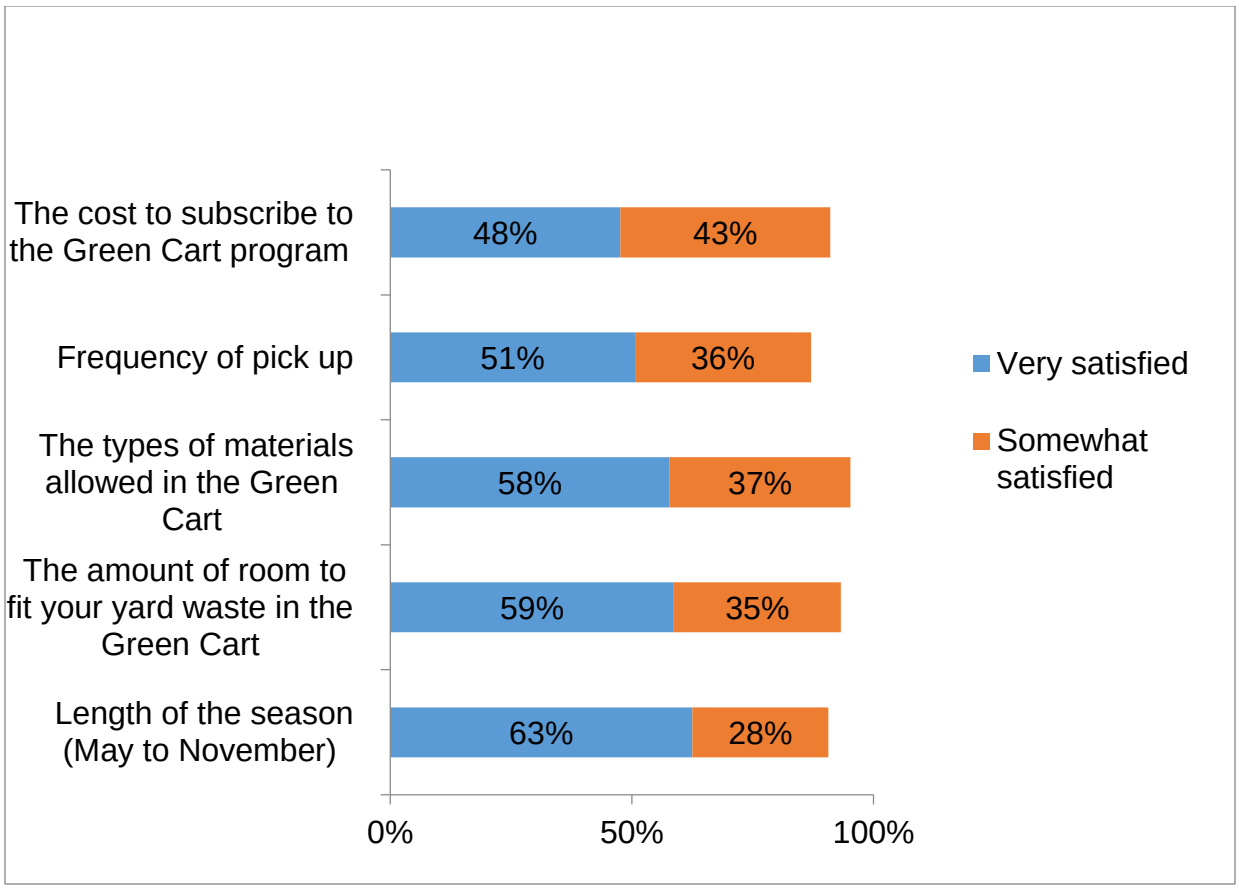
Green Cart for Yard and Food Waste

In 2016, food waste was added as an acceptable material. All collected materials are taken to the west side (Highway 7) compost depot for processing. The program is not available for multi-unit residential complexes or commercial customers.

In 2015, the City contracted Insightrix Research Inc. to conduct a quantitative study to understand attitudes, usage, and satisfaction with the City's Green Cart program among subscribers. A total of 958 subscribers participated in the survey between June and July.

Satisfaction with the Green Cart program among current subscribers is high. A large majority are pleased with the season length, cart size, types of materials allowed in the cart, frequency of service and cost.

Figure 12. Satisfaction with Green Cart Program Attributes



Compost Depots

In 2016, the City operated two compost locations for drop off of leaves, grass, non-elm tree and shrub branches, as well as garden waste that would otherwise end up in the landfill. The composting sites, located on Highway 7 (West depot) and on Highway 5 (East transfer station) are available to residents at no charge and to commercial haulers by permit ($200 for the season). In 2016, 11,200 tonnes of material were diverted through the compost sites, contributing 8.7% toward the City's diversion rate of 21.8%.

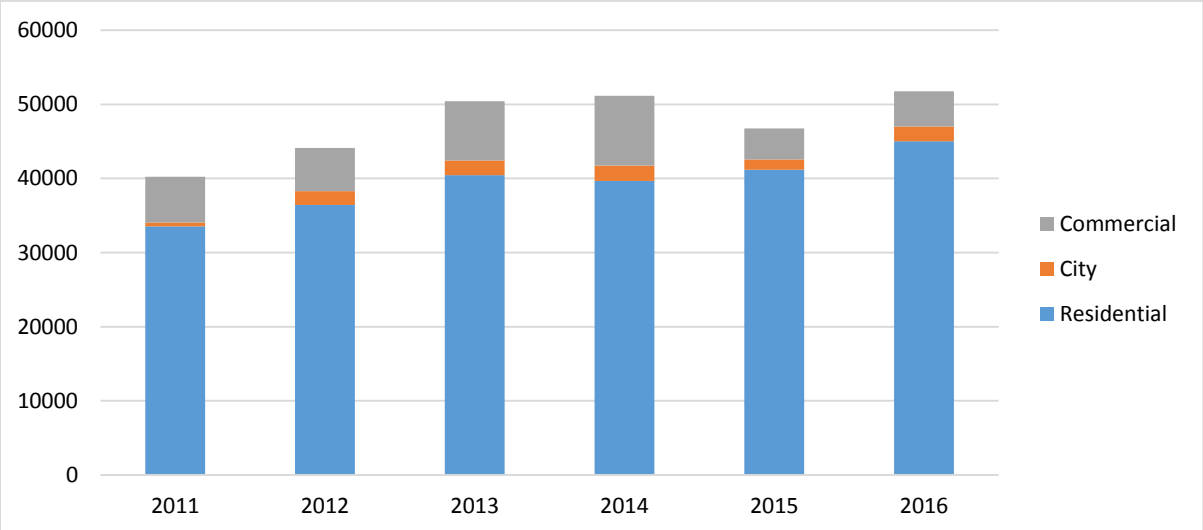
The Highway 5 compost site serves as a transfer station and all materials are processed at the Highway 7 depot. At the end of the 2014 season the depot on McOrmond Drive closed permanently for development of Brighton neighbourhood in the area.

The two depots operate every season from mid-April to early November. In 2016, the West Depot was open 7 days a week and the East Depot was open 5 days a week (Thursday to Monday). Both depots were open on statutory holidays.

Logs for Grinding at Compost Depot

In 2016, more than 51,800 vehicle visits were made to the compost depots. Out of 51,800 vehicle visits, around 87% (45,000) were residential vehicle visits, 9% (4,700) were commercial vehicle visits, and 4% (2,100) were City vehicle visits. The graph below shows the number of visits made to the compost depots by the residential and commercial sectors as well as City operations for the past 6 years.

Figure 13. Compost Depot Vehicle Visits



For a nominal annual fee, businesses can also access the two depots. In 2016, around 187 commercial permits were issued to 85 companies at the cost of $200 which provided unlimited access to the composting sites for the season. Commercial haulers brought in approximately 27% of the materials delivered to the depots.

Christmas Tree Drop-Off

Every winter season temporary drop-off sites are set-up to collect natural trees from December 26 to January 31. Trees dropped off at these locations are chipped and either taken to the City compost depot or used as mulch. On average, 5000 to 6000 trees are dropped off every year. In 2016, an estimated 56 tonnes of material were collected through this program.

Household Hazardous Waste (HHW) Collection

Corrosive, flammable or poisonous materials like aerosols, cleaning products, pesticides, fertilizers and other chemical materials should not be put in the garbage, recycling, sent to the landfill or poured down the drain. The City hosts regular Household Hazardous Waste Drop-Off Days from April to November at the SaskTel Centre parking lot.

In 2016, eight Household Hazardous Waste Collection Days collected 101 tonnes of hazardous materials from 2,891 participants. The overall cost of the program continued to rise in 2016. In 2016, the budget to run the eight events was $150,000 but the actual cost was $235,000.

Figure 14. Participation and Cost of HHW Days

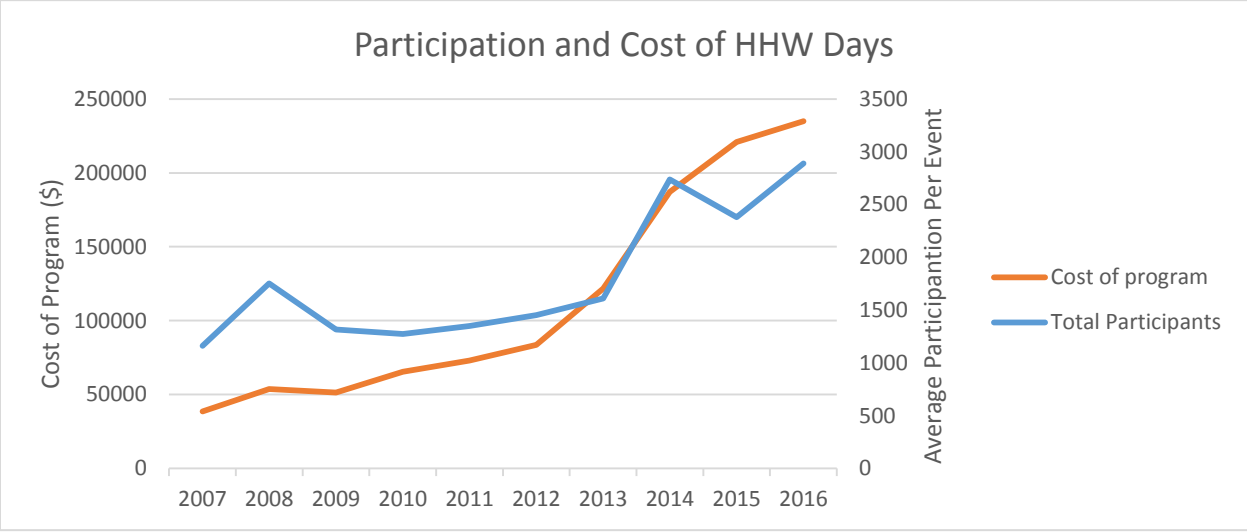
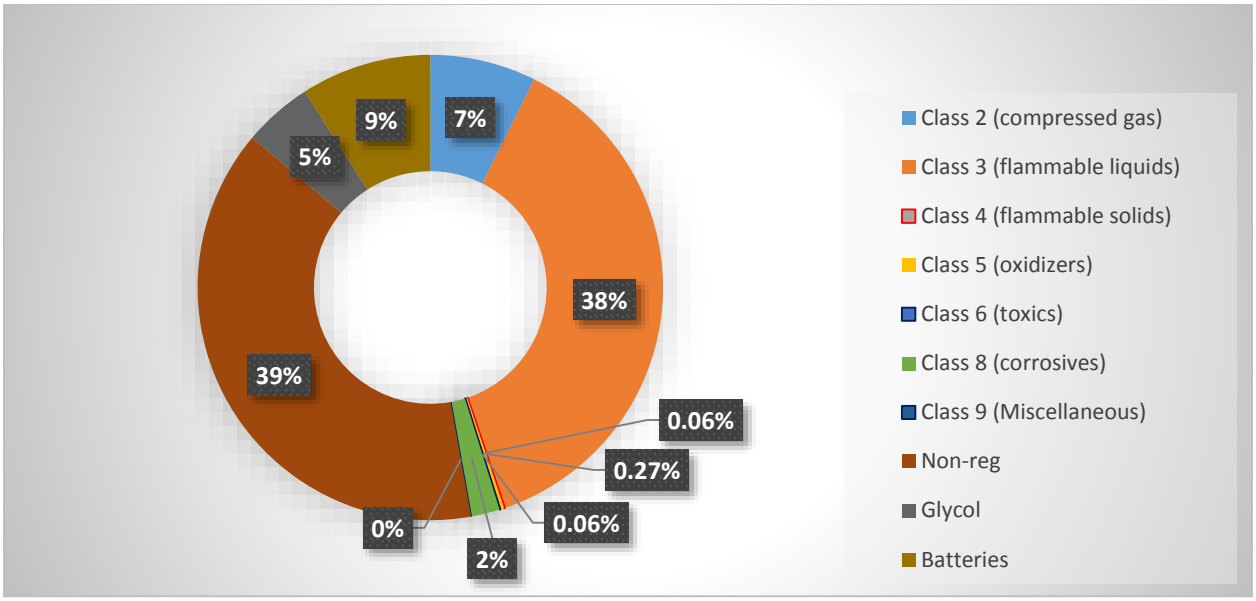


Figure 15. Hazardous Materials Collected through HHW Days in 2016



Class 2 (compressed gas): aerosols, propane tanks, inhalers, fire extinguishers
Class 3 (flammable liquids): flammable liquids, paint and paint-related materials, adhesives, printing ink
Class 4 (flammable solids): flammable solids
Class 5 (oxidizers): oxidizing solids and liquids, organic peroxide
Class 6 (toxics): toxic liquids, pesticides, pharmaceuticals
Class 8 (corrosives): corrosive liquids and solids, mercury, ammonia solution
Batteries: alkaline, lead-acid, lithium
Non-regulated: oil, oil filters, oil containers, antifreeze, fertilizers, liquid cleaners, non-PCB light ballasts, fluorescent tubes, CFL bulbs, ink cartridges, lighters, treated railway ties
Other/miscellaneous: PCB light ballasts, sharps, smoke detectors, e-waste, test samples (unknowns)

The Let's Roll Team (contracted recycling educators) assisted Envirotec (now Green For Life) with four HHW Collection Days that were held between May and August. The Let's Roll Team also researched alternative drop-off options for HHW such as battery take-back programs at local return-to-retailer locations. The Let's Roll Team visited all 28 participating Call2Recyle collection sites in the city, and offered them promotional materials about the program (posters and brochures).

Envirotec staff at Household Hazardous Waste Day in 2016

Recycling opportunities at the Landfill - Eco-Centre

The Saskatchewan Association for Resource Recovery Corporation (SARRC) manages the industry-led stewardship program at the Landfill's Eco-Centre (one of 34 collection networks across Saskatchewan) for used engine oil, oil filters, oil containers and antifreeze. The City's Eco-Centre accepts these materials (up to 500 litres) at no charge to residents (costs are covered under landfill operation costs). In 2016, the total weight of materials collected at the Eco-Centre was 65 tonnes.

Eco-Centre at the Saskatoon landfill

Environmental and GHG Implications

Waste diversion results in a net reduction in greenhouse gas emissions compared to landfilling the same waste. This means the emission reductions associated with recycling materials exceed the emissions produced in collection and processing activities.

Diversion programs including recycling and composting reduced the greenhouse gas (GHG) emissions from the landfill by 43,650 tonnes of Carbon Dioxide (CO_2e). This is equivalent to removing approximately 9,200 cars from Saskatoon roadways.

WASTE DISPOSAL SERVICES

Garbage disposal truck at the Landfill

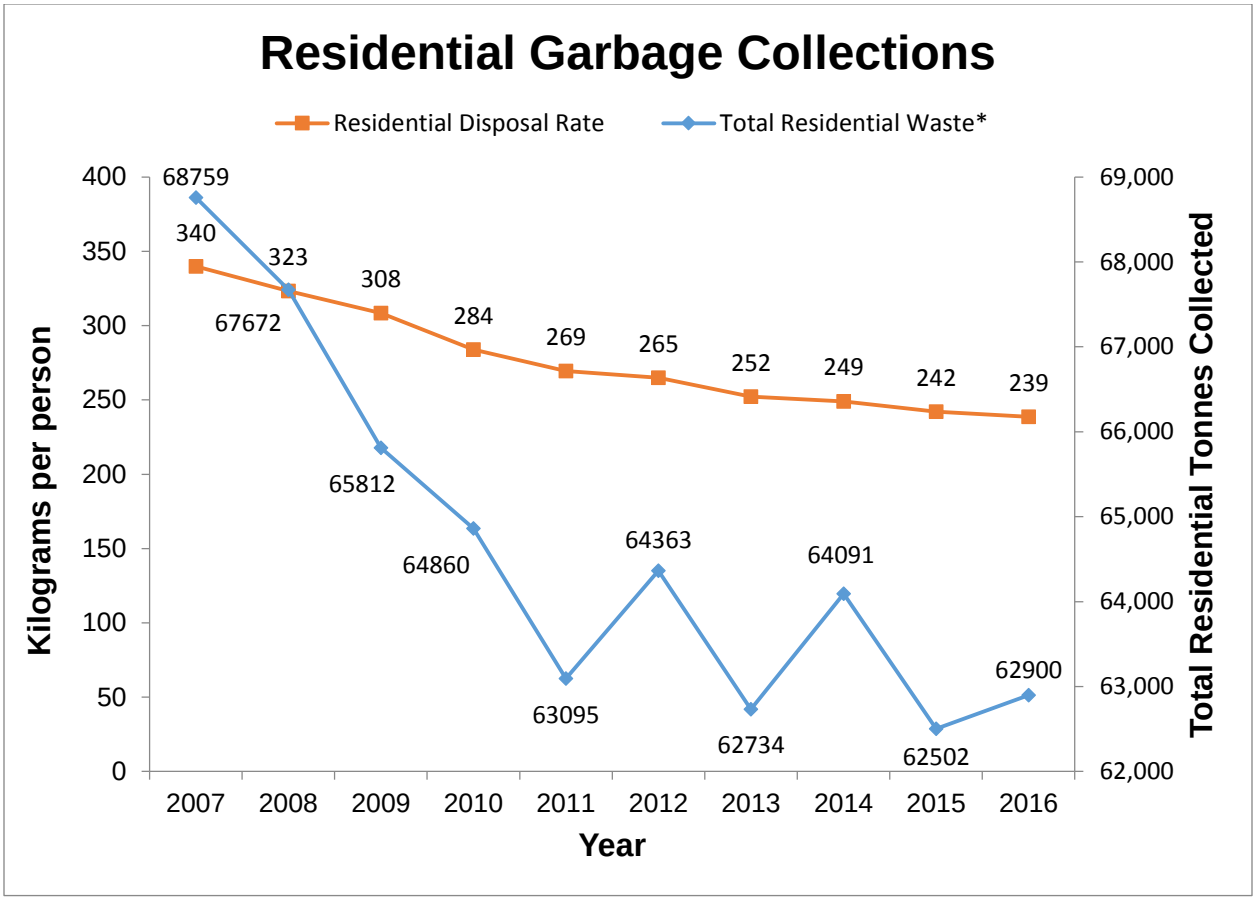
Saskatoon's Waste Disposal

The amount of garbage that is collected and disposed of is decreasing every year, however, the residential waste rate in Saskatoon is high compared to other urban centres in Canada. In 2016:

- 155,230 tonnes of materials, including clean fill were collected at the landfill
- 99,800 tonnes of garbage was disposed of at the landfill from all sources, once recyclable materials and clean fill were removed
- Residential and commercial collections by the City accounted for 62,900 tonnes (63% of all waste received at the landfill)
- 239 kg of residential garbage was disposed of per person (this is an estimate as not all multi-units are collected via the City collection crews, and some commercial tonnes are included).

As shown in the figure below, the rate of garbage disposal per person has been declining over time. The total tonnes of residential garbage collections has also generally shown a trend of decline, with some fluctuation over the past four years.

Figure 16. Residential Garbage Collections.



**Includes Garbage collected for Mulit-units and Commercial properties that use City garbage collections*

Saskatoon's total disposal rate, which includes waste received from all sources, was compared to the national and provincial averages as shown in the table below.

Region	Year	Total Waste Disposed (tonnes)	Total Waste Rate (kg/capita)	Residential Component (tonnes)	Residential Rate (kg/capita)
Saskatoon	2014	125,238	484	64,091	249
Saskatoon	2016	99,800	379	62900	239
Saskatchewan[1]	2014	940,595	839	-	-
Canada[1]	2014	25,103,034	706	-	-

[1]Source: Statistics Canada

Saskatoon's Residential Waste Disposal Rate was also compared to other cities in Canada using data from the National Solid Waste Benchmarking Initiative. The tonnes of residential garbage collected per household was higher than the median for reporting municipalities.

Containers

Black Carts

The City of Saskatoon owns and maintains the black roll-out carts provided to street-oriented residential properties. In 2016:

- 68,000 black carts were managed in the field
- 1,160 new carts were delivered to new homes
- 820 carts were repaired and 4,600 were replaced

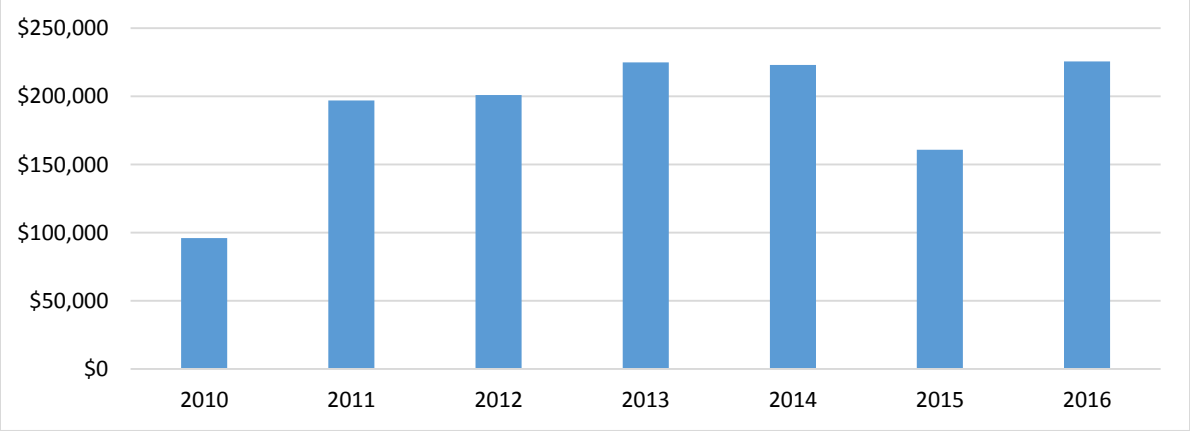
Carts are replaced because they reach the end of their useful life.

Multi-Unit Residential Containers

The City of Saskatoon does not provide garbage containers for multi-unit dwellings and instead offers a multi-unit dwelling waste bin grant to offset the costs borne by condominium associations and property managers for the purchase and maintenance of metal waste bins.

The grant provides $8 per year per residential unit. In 2016, 81% of eligible properties (28,000 units out of 34,700) submitted an application and received the grant payment.

Figure 17. Multi-unit Dwelling Container Grant Payments



Garbage Collections

Garbage Collections for Single-family Residential Households (Curbside Collection)

Residential Garbage Collection

In 2016, Garbage collection services were provided to approximately 68,000 single-family households. 51,500 tonnes of garbage was collected from single-family households and there were 2.6 million individual back cart lifts ('tips').

Scheduled garbage collection occurs from Monday to Friday, including Stat holidays, except Christmas Day and New Year's Day. In 2016, weekly collections were provided from May to September, with the remainder of the year on a bi-weekly collection schedule. A post-Christmas collection was provided for all homes the week following Christmas.

Efficient Waste System

New routes and collection days came into effect on January 4, 2016. The garbage routes are more efficient by being as short and direct as possible, which improves

reliability and efficiency of City services, reduces fuel use and reduces the greenhouse gas emissions from our garbage trucks.

Garbage Collection for Multi-unit Residential Households

The City of Saskatoon provides one collection per week for each multi-unit residential property as part of regular service supported by property taxes. Additional levels of service may be contracted with the City or through a private waste management company. Multi-residential properties may also choose to contract their entire waste collection requirements through a private service provider.

Commercial Garbage Collection

Garbage collection is provided to external commercial customers and internal City of Saskatoon customers. In 2016, there were approximately 450 external commercial customers.

Saskatoon Regional Waste Management Facility

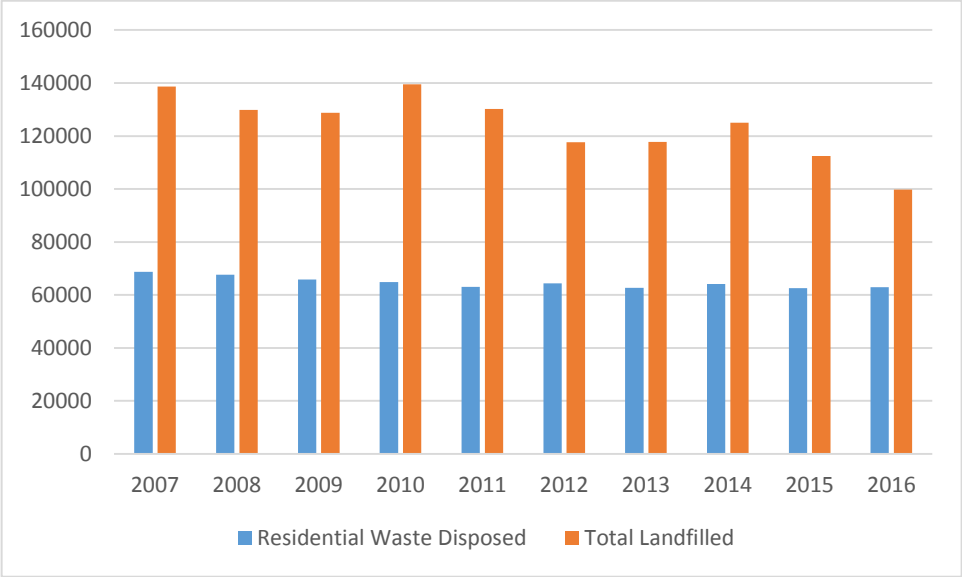
The Saskatoon Regional Waste Management Facility (landfill) has been in operation since 1955. It is an engineered facility that is designed and operated to maximize available air space and ensure solid waste is managed in a safe and environmentally sound manner. The Saskatchewan Ministry of Environment regulates the operations of the Facility under a Permit to Operate a Waste Disposal Ground.

Saskatoon Regional Waste Management Facility

In 2016, approximately 155,230 tonnes of material was accepted at the landfill, 99,800 tonnes of garbage requiring burial and 54,700 tonnes of clean earth fill used for

construction purposes or landfill cover. As shown in the figure below, 62,900 tonnes of this was residential and commercial waste collected by City trucks.

Figure 18. Tonnes of Garbage Disposed at the Landfill



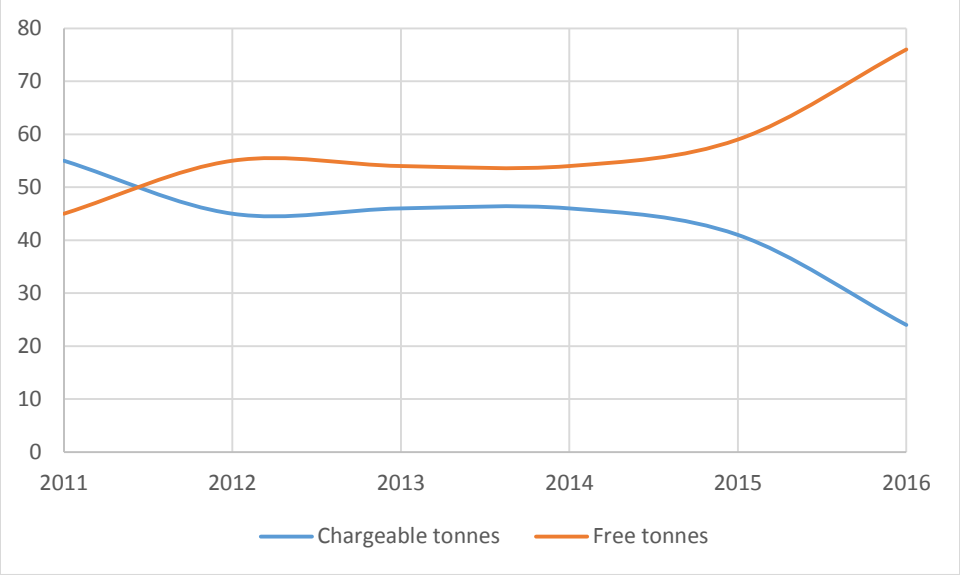
The landfill is open to the public every day of the year except for Christmas Day and New Year's Day. Six transfer bins are located on site for public waste disposal. In addition, several public drop-off areas are provided for metals, white goods, batteries, propane tanks, used oil, oil containers, filters, and used antifreeze.

Landfill Customers

Out of 91,400 visitors, only 74,700 were paying customers. The number of loads made by City garbage trucks was 9,400 and no-charge clean fill deliveries accounted for the remaining.

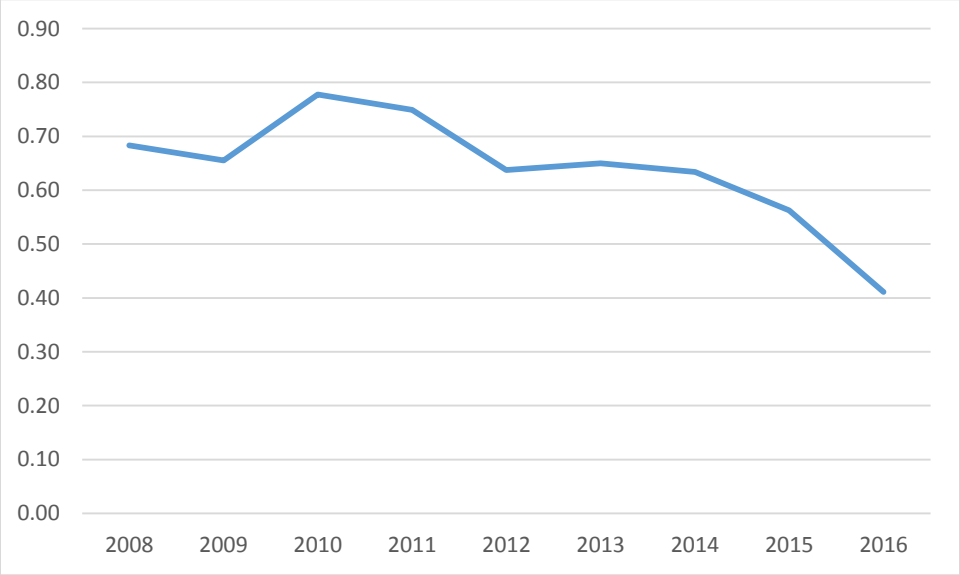
The tonnes of garbage that are hauled to the landfill as a result of municipal garbage collections are tracked, but the costs of disposal are not incurred by the operating budget for collections. This is atypical compared to other municipalities. The amount of chargeable tonnes as a percentage of the total tonnes has been declining since 2011. This is a significant financial risk to the sustainability of landfill operations. Of the total 155,230 tonnes that were brought to the landfill in 2016, only 37,600 (24%) were chargeable tonnes. The non-chargeable or "free" tonnes include 54,700 tonnes of clean fill and 62,900 tonnes from residential garbage collection by City collection vehicles.

Figure 19. Chargeable vs Free tonnes accepted at the Landfill



Saskatoon has one of the highest rates of residential garbage self-hauled to the Landfill in Canada. The average size of chargeable loads delivered to the Facility has been shrinking and was approximately 0.4 tonnes in 2016 (meaning the costs of service per tonne are increasing).

Figure 20. Average Tonnes per Paying Vehicle

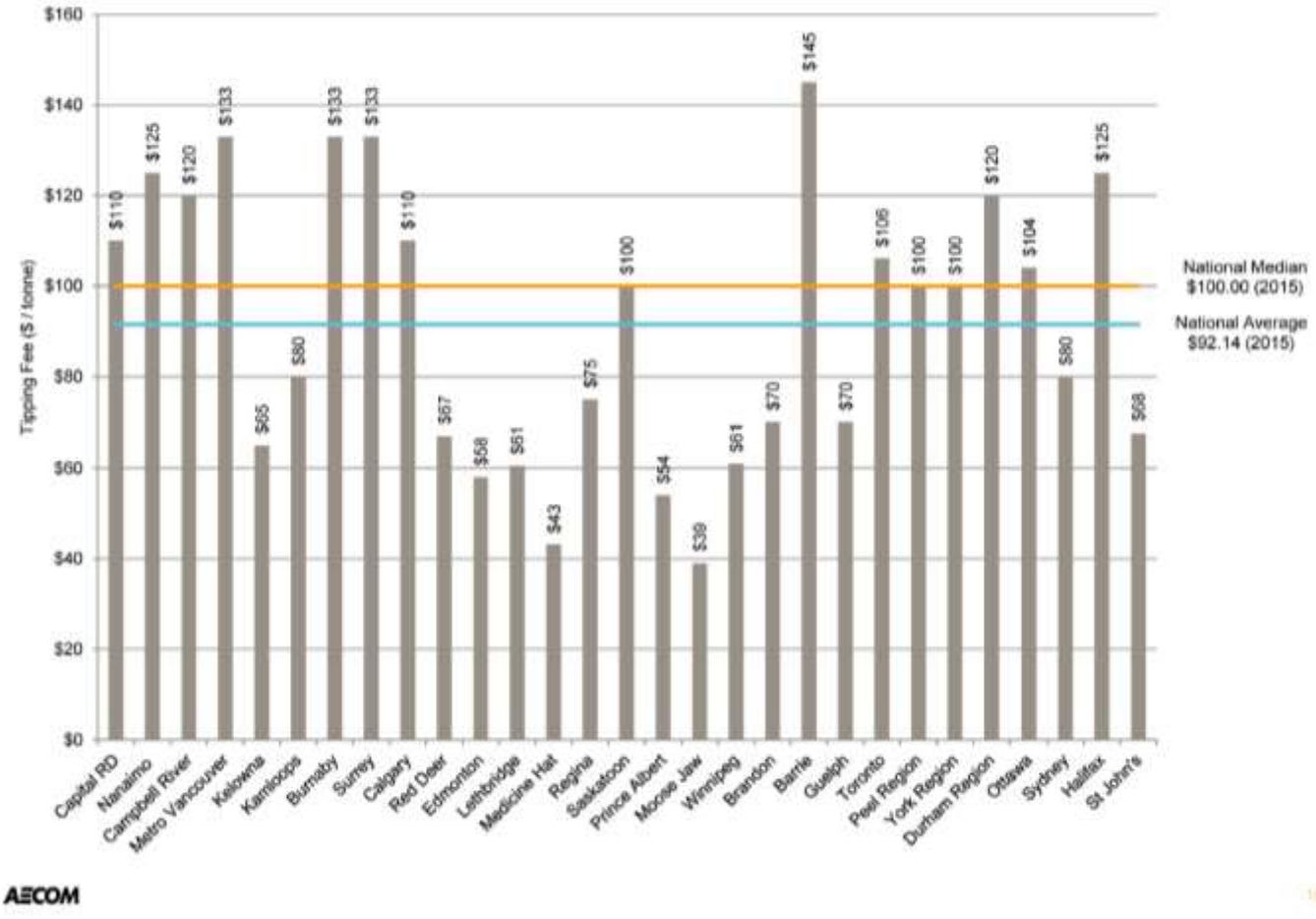


A review of rates and subsidies in 2012 led to changes to the schedule of fees. As of January 1, 2013, all subsidies previously available to customers at the Landfill were removed with the exception of a 75% subsidy which is applied to small loads weighing less than 250 kilograms. The rationale for this subsidy is to offer options to residents in

the absence of a curbside service for the handling of bulky items that may not fit in City-provided roll-out garbage carts. This subsidy, however, is contributing to the shrinking sizes of average loads at the landfill. This, in turn, increases demands for traffic management and can increase wait-times for customers. Some of the decline in commercial visitors may be a result of competition from the Northern Landfill operated by Loraas Disposal and more recently, competition from Green Prairie Environmental, the new owner and operator of the former South Corman Park Landfill.

According to nation-wide benchmarking for 2015, the range of fees for tipping waste among 31 municipal landfills across Canada is $36.15 to $140 per tonne. Saskatoon's fees at $105 per tonne in 2016 fall in the middle of this range.

Figure 22. 2015 Mixed Solid Waste Tipping Fees at the Scale Across Canada (west to east) from the 2015 National Solid Waste Benchmarking Initiative (AECOM)



Environmental and Greenhouse Gas Implications

A number of environmental protection measures are part of the regular operations of the landfill.

Surface water management addresses storm water runoff at the landfill. Storm water management infrastructure also helps minimize the creation of leachate ('garbage juice') and protects roadways and other customer-serving assets of the site. Improvements to storm water infrastructure are integrated into the capital improvement plan for the site.

The Ground water monitoring program includes groundwater sampling and analysis from more than 40 monitoring locations. Results are reviewed by an independent party and infrastructure is in place to mitigate potential impacts.

Fire prevention and suppression is critical. Materials within the mound have the potential to burn for prolonged periods and to release toxins into the atmosphere. Landfill staff are trained in fire prevention and suppression and operate a water truck on-site to respond to incidents in a timely manner. A strong relationship with Saskatoon Fire and Protective Services has also been developed as landfill fires pose a unique challenge.

Landfill gas management began in 2012 with the completion of the clay cap on the north mound of the site. Since then, 29 vertical gas collection wells have been drilled into the waste, the Landfill Gas Collection and Power Generation Facilities were completed and the system was fully commissioned in late 2013. The volume of landfill gas captured in 2016 was 6,035,300 standard cubic metres resulting in an estimated emissions reduction of 55,800 tonnes CO_2e (Carbon Dioxide Equivalent) Or the equivalent of taking 11,800 vehicles off Saskatoon roads.

Landfill Gas Collection Facility

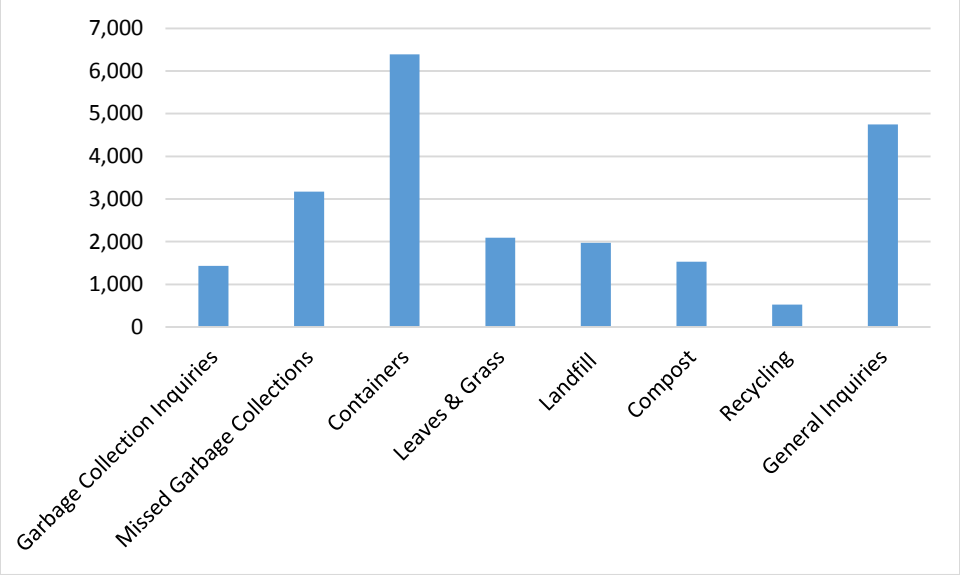
Greenhouse gas emissions reduction efforts occur at two levels at the landfill. The production of landfill gases, or methane (which is a greenhouse gas 25 times more potent than carbon dioxide), is addressed through landfill gas management. And as equipment is replaced, Tier IV emissions-compliant equipment is being selected to significantly reduce the impacts of fuel used for on-site transportation.

Customer Service

In 2016, more than 22,000 waste-related calls and 2,000 emails were handled by the Customer Service Reps.

A breakdown of the categories are shown below. Requests for new or replacement garbage containers generated the highest number of calls, followed by general inquiries, and garbage collection-related calls.

Figure 21. Waste Stream Customer Service Calls in 2016



EDUCATION AND ENGAGEMENT SERVICES

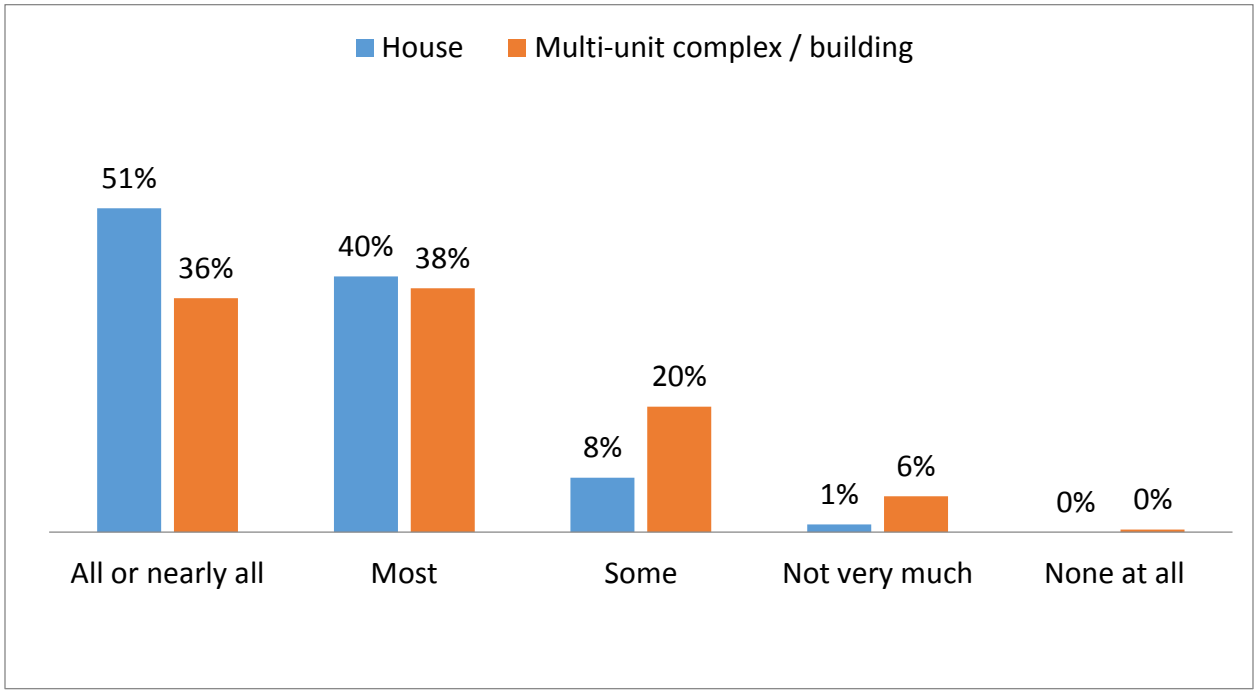
Rolling Education Unit

City-Wide Recycling Survey

In 2015, the City conducted a quantitative study about recycling among Saskatoon residents to measure recycling knowledge and program satisfaction, identify where residents go for information about recycling, and to look at ways to enhance the programs. The survey was conducted between October 21 and November 20, 2015, asking a mix of 1000 single-family and multi-unit residents by Insightrix Research Inc.

Overall, program participation was reported as being fairly high with most Saskatoon residents claiming that they recycle all or most of their household's recyclable items.

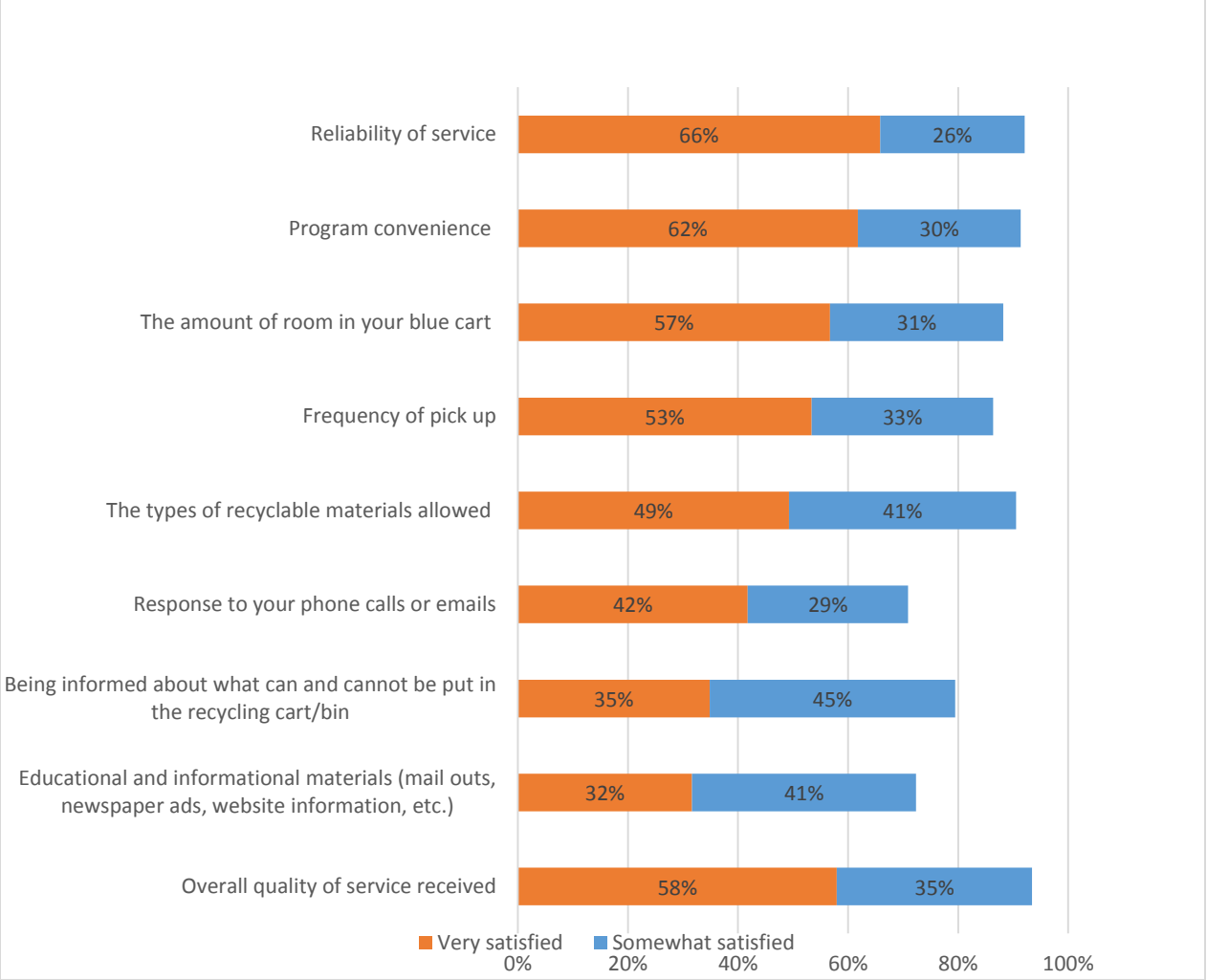
Figure 22. Proportion of Recyclable Items Recycled by Type of Household in 2015



More than eight in ten Saskatoon residents correctly identified that most items can or cannot be recycled in curbside carts / multi-unit bins. Areas of weaker knowledge included recycling of hard plastics, plastic grocery bags, Styrofoam, plastic toys, foil paper, and foil containers.

Broad-level satisfaction exists with most aspects of the recycling program. However, many are only somewhat satisfied; particularly with communications elements and responding to inquiries.

Figure 23. Satisfaction with Recycling Program in 2015.

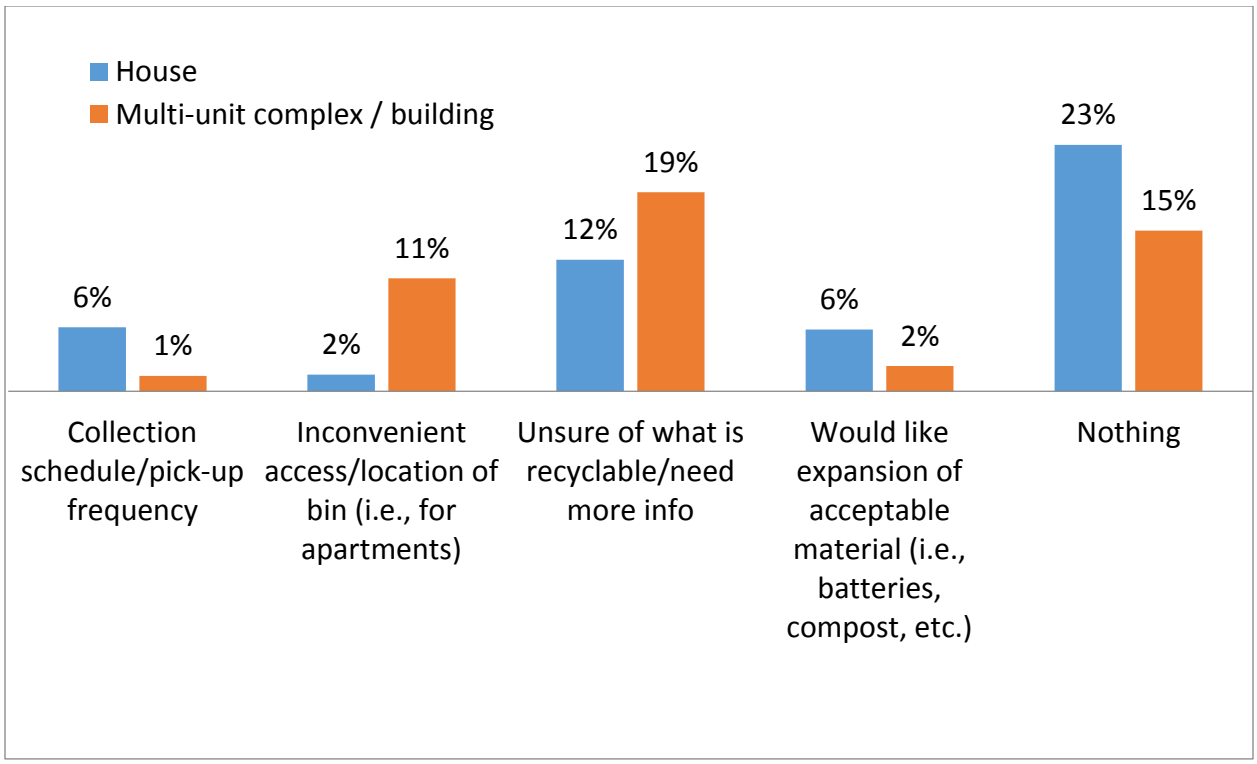


Residents who live in a house are more likely to feel constrained by collection schedules and types of acceptable items when it comes to household recycling. Those who live in a multi-unit building are more likely to cite inconvenience and lack of knowledge as barriers to recycling household items.

Those with curbside pick-up tend to be more satisfied with the City's recycling service compared to those who live in multi-unit buildings, particularly in the areas of communications, responses to inquiries, and satisfaction with items allowed in the program.

Key self-reported barriers to household recycling include situation (e.g. capacity issues, pick-up frequency), knowledge, and behaviour (e.g. cleaning items, laziness).

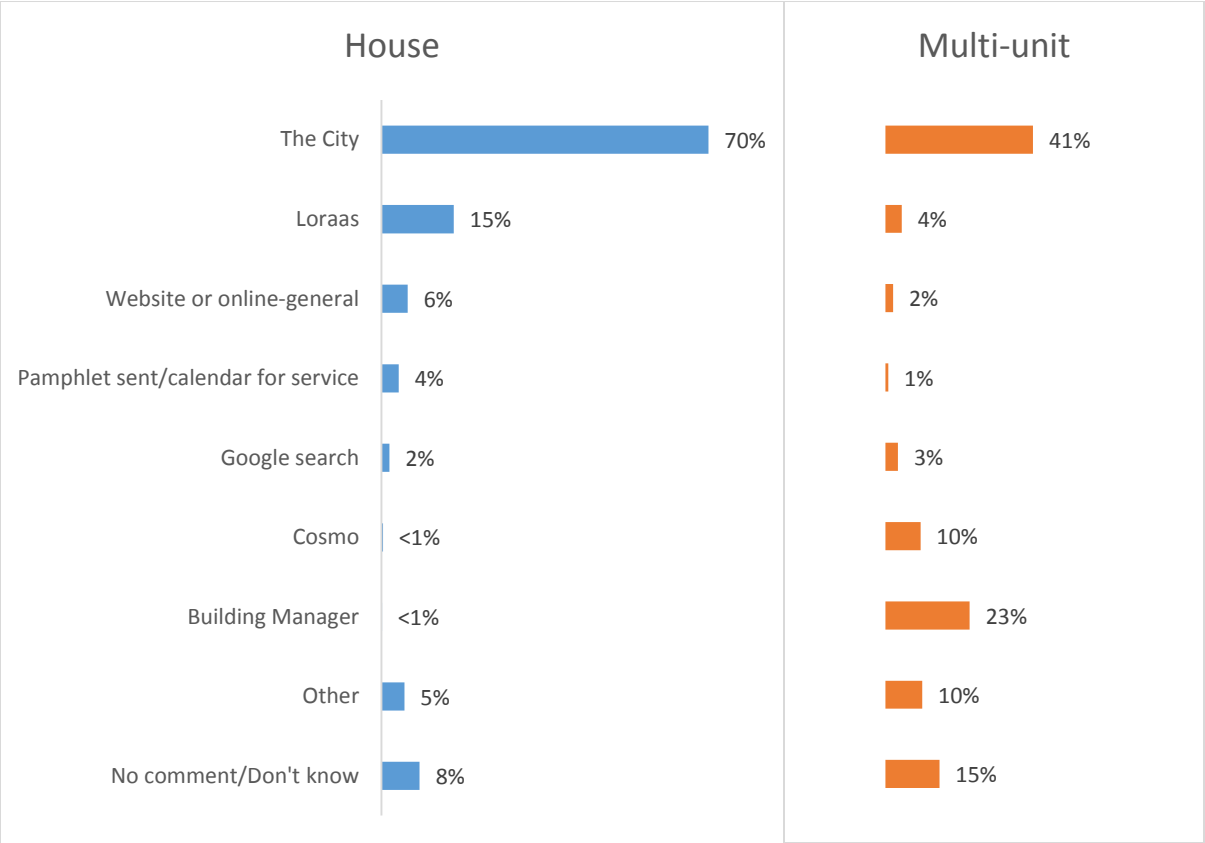
Figure 24. Barriers to Recycling by Type of Household (open-ended question) in 2015.



More than three quarters of Saskatoon residents claim to recall receiving a printed copy of the Waste & Recycling Collection Calendar, most of whom say they have it available at home for easy reference. Roughly one half are aware that the Waste & Recycling Collections Calendar is available on the City's website yet few are aware that they can sign up for collection reminders.

Recycling Information Sources by Type of Household

Figure 25. Recycling Information Sources by Type of Household in 2015.



Older citizens are more likely to turn to traditional means for recycling information, such as the printed collection calendar, newspaper, and news reports. Younger generations are more inclined to obtain information using digital means (such as the internet and social media) and through family and friends.

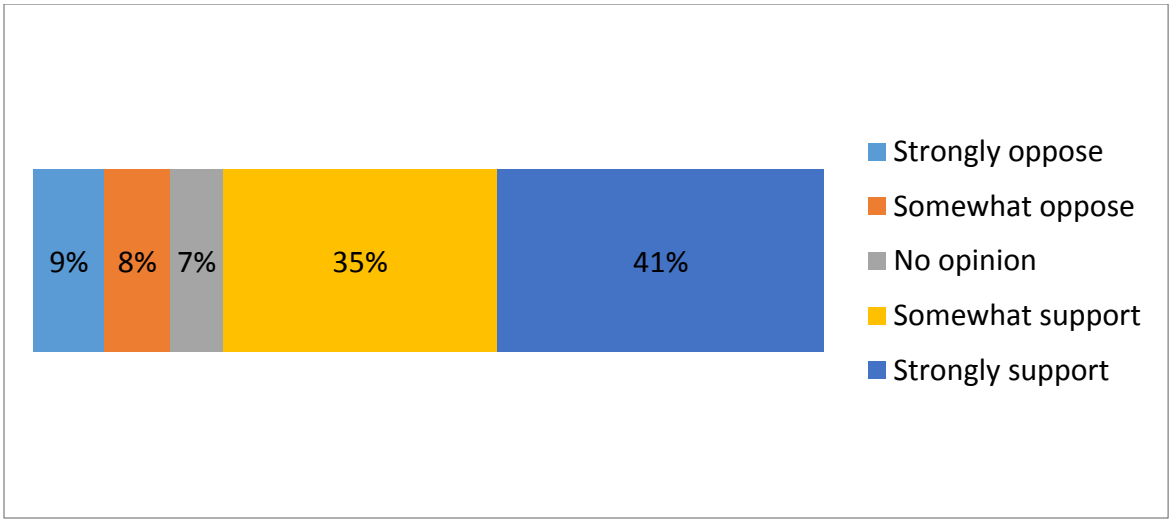
Few claim to place items such as used appliances, clothing, furniture, hazardous waste or electronics in the garbage. Most commonly, unwanted clothing and furniture are given to local charities and household waste and electronics are taken to SARCAN.

Six in ten citizens drop off items at a City of Saskatoon Household Hazardous Waste Day, most commonly once a year. While most place kitchen scraps in the garbage, residents who live in a house are more likely to compost such items. Findings are generally consistent with the Green Cart study conducted in the spring. Yard waste is commonly placed in the garbage, composted at home or taken to compost depots.

Three quarters of residents support a city-wide food and yard waste collection program for all households. These findings are generally consistent with the Green Cart Subscriber study conducted this spring.

Support for City-wide Food and Yard Waste Collection Program

Figure 26. Support for City-wide Food and Yard Waste Collection Program in 2015.



The perceived importance of most environmental challenges presented to respondents is high. Energy efficiency, waste treatment, air quality, conserving natural areas, and water conservation top the list, based on importance. Initiatives for adapting to climate change and better transit, biking, and walking options are deemed to be comparatively less important.

Webpage and Online Engagement

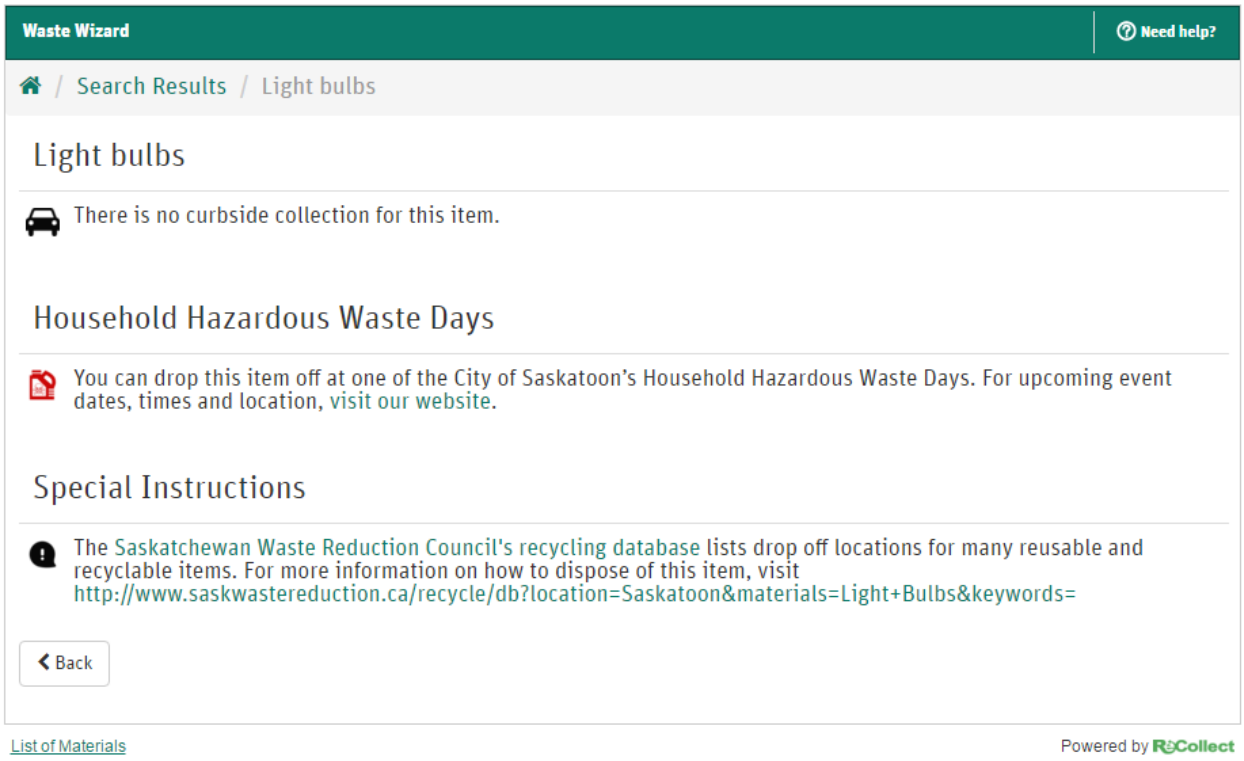
Information about the City's waste, recycling, compost, and other waste diversion programs are available online through the City's website (Saskatoon.ca), Facebook, and Twitter.

Visitors to the City's website (Saskatoon.ca) access up-to-date information on anything they need to know to manage their waste including:

- collection schedules;
- cart collections;
- how to use their blue, black, and green carts;
- search dates for the monthly household hazardous waste days and the annual Saskatoon curbside swap event;
- landfill rates and hours; and
- other tips on reducing or diverting waste.

In 2016, there were 308,310 visits to the Waste & Recycling webpages. The Collection Calendar was the most visited waste-related webpage with 127,867 hits. In 2016, the City introduced a new tool called the Waste Wizard to help residents figure out how to properly dispose of or recycling all their waste materials. Residents simply type in any item and the tool tells them how to best manage it through a City or non-City program.

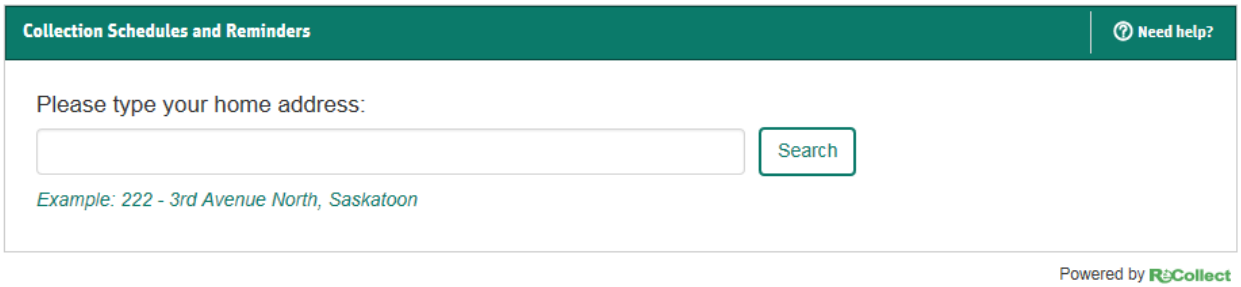
23,300 materials were searched on the Waste Wizard with Styrofoam, plastic bags and batteries being the top three searched materials.



The public can also find out about other local recycling opportunities through the Saskatchewan Waste Reduction Council's province-wide online database of information on where to recycle a variety of materials. The City of Saskatoon partners with the Council in promoting this online tool: http://www.saskwastereduction.ca/

2016 Collection Calendar

Each household receives a personalized print calendar with the garbage, recycling, green cart, and household hazardous waste schedules. The calendar also includes information on what items are accepted by each program, information on how to use carts to ensure successful collections, and customer service contact information. In 2016, 70,240 calendars were distributed by mail.



Residents can also:

- view their calendar online;
- download a PDF calendar from the website;
- sign up for collection reminders by e-mail, phone, or twitter; or
- add their schedule to their own online calendar.

The use of online calendars and reminders has increased in 2016. In 2016, there were 127,867 webpage visits. Personalized online collection calendars were viewed by 48,510 unique households in 2016, up from 37,345 in 2015. In 2016, there were 11,171 calendar PDF downloads compared to 9,504 in 2015. In 2016, there were 14,638 collection reminders compared to 8,996 collection reminders provided in 2015.

Curbside Recycling Program Education

The education program that targets residential single-family homes is a partnership between the City of Saskatoon and Loraas. The program aims to increase recycling by raising awareness through mass marketing on what and how to recycle, change behaviours, and establish recycling as a social norm.

Programs and tactics in 2016 included marketing campaigns like ‘Blue Approved’, promoted through social media, web-site, and media relations; as well as in-person education such as neighbourhood cart blitzes, workshops for newcomers, a school program, and the Rolling Education Unit.

The impact of the communications program in 2016 included:

- 33,798,899 Billboard impressions from 40 Billboards.
- 35,290 views of recycling web pages
- Over 10,900 interactions with residents at community events
- 4,203 Trash Talk Flyers, Tattoos and T-shirts distributed
- 84% of survey respondents indicated they were satisfied with information on what can and can't be recycled
- 76% of survey respondents indicated they were satisfied with educational and informational materials

Loraas Education Room

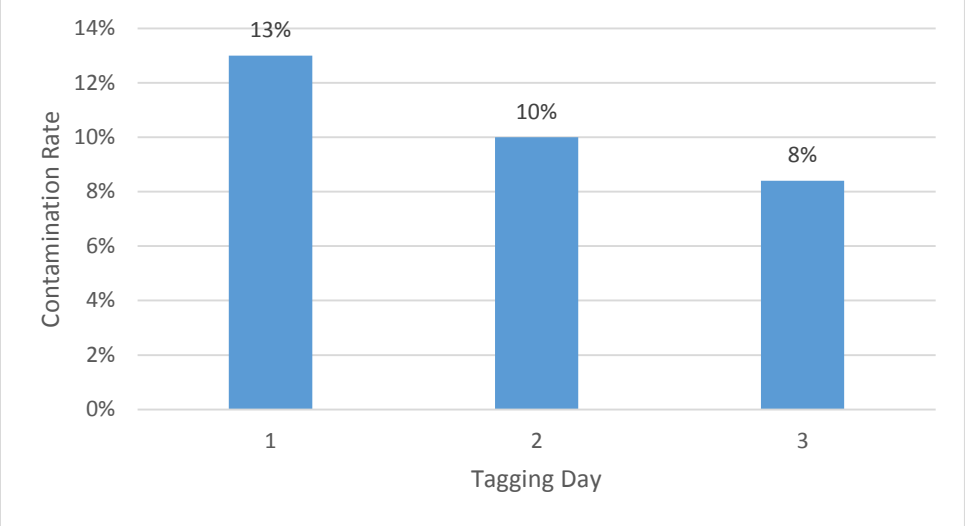
In 2016, 3,247 elementary students visited the Education room at the Loraas facility to learn how material is processed at the material recovery facility (MRF), to increase awareness on how and why to recycle, and emphasize the importance of waste diversion and environmental stewardship.

Neighbourhood Cart Blitz

The Neighbourhood Cart Blitz program is delivered by Loraas Recycle. They use a team of summer students to look in carts in selected neighbourhoods on three consecutive collection days to identify whether or not the resident is using the recycling program properly (i.e. types of materials and cart placement behaviour). Carts that have the right materials and are placed correctly get a green "You Rock!" tag; non-compliant carts get an orange "Oops!" tag with information on how to correct behaviour. In either case the cart is collected (unless hazardous material is found). A material audit is was performed before and after the cart inspection to measure changes in contamination.

In 2016 five new neighbourhoods were selected. Neighbourhood inspections, although resource intensive, appear to produce favourable results by showing an average decline in contamination, shown below.

Figure 27. 2016 Contamination rates over 5 Neighbourhood Cart Blitzes



Newcomer Workshops

Using recycling awareness as the subject for English as a Second Language training, new Canadians were provided both language training and information about their recycling program during two workshopswith 400 students. This program will be expanded in 2017.

Multi-Unit Residential Recycling (MURR) Program Awareness

The City of Saskatoon and Cosmopolitan Industries worked together on an education program to inform building owners and managers on how the program works and encouraging them to work with their tenants and condo residents.

To respond to challenges such as identifying who the appropriate site contact is, posters and brochures not being distributed by building managers, and a high proportion of residents not speaking English as their first language meant that not all residents received the information they required to properly recycle; a door hanger was distributed to every unit by Cosmo.

Figure 28. Door hanger distributed to all multi-units in 2016

The impact of the education program in 2016 included:

- 30,818 door hangers placed in buildings

- 67 building managers and 420 residents participated in presentations
- 63% of survey respondents indicated they were satisfied with information on what can and can't be recycled
- 59% of survey respondents indicated they were satisfied with educational and informational materials

Rolling Education Unit and the Let's Roll Recycling Team

In 2016, the Saskatchewan Waste Reduction Council (SWRC) coordinated with the City of Saskatoon to provide Waste and Recycling education to Saskatoon through the City's mobile education trailer, the Rolling Education Unit (REU). Four students were hired for 16 weeks to be the Let's Roll Team.

Rolling Education Unit at an event in 2016

The Let's Roll Recycling Team attended 37 events in 2016, where they encouraged children and adults to learn about waste management through interactive activities. Citizens were engaged at events using the "Spin and Sort" and "Yep, Nope" sorting game. The team kept track of interactions with the public. They estimate that they made contact with a total of 10,905 people over the summer. The top events by attendance included: The Children's Festival, the Saskatoon Ex, The Fringe Festival, Canada Day, and Rib Fest.

Home Composting Education

The City provides composting education through a partnership with the Saskatchewan Waste Reduction Council (SWRC). The SWRC has been running composting education programs since 1993 and in partnership with the City since 1995. In partnership with SWRC, the City offers a number of composting programs and services.

- $20 rebates on compost bins
- Free home visits for residents seeking one-on-one composting support
- *What's your Composting Style?* quiz
- Educational materials
- Composting workshop and presentations

New Master Composters are trained each year (there is now over 200) and in turn engage the community through volunteer work such as outreach and education at events, presentations, workshops, and home visits. Compost education, research, and incentives provided in 2016 in partnership with the SWRC included:

- 16 new volunteers were trained and 33 different Compost coaches volunteered, attended 10 community events and held 19 workshops.
- 64 compost bin rebates of $20
- 55 home visits and answered 72 compost inquiries.

In 2016, the City of Saskatoon worked with SWRC to launch an education campaign (shown below) to encourage residents to start composting at their home and provided information on how composting program works.

Angry Banana Flyer

Saskatoon Curbside Swap

The purpose of the Saskatoon Curbside Swap is to encourage residents to pass on reusable household items, to raise awareness on the importance of reuse, build a sense of community, and reduce the number of items ending up in the landfill. The City provides information and guidelines on its website to help plan a Curbside Swap, and provides customizable materials such as a poster or postcard to help promote an event.

In 2016, the City-wide Curbside Swap was held on September 10, 2016. There were 6,177 webpage visits for the Saskatoon Curbside Swap webpage on the City's website. Participation of the City-wide event was evident by:

- Roughly 60 homes visited by the City of Saskatoon
- 1,500 interested in the event on Facebook
- 727 attended the event on Facebook
- 532 shares on Facebook
- 106 addresses posted
- Media coverage: EcoFriendly Sask, CBC, Starphoenix, Cruz FM
- 11 city neighbourhoods mentioned the September 10th swap on Facebook or their webpage

Customizable Postcard for Curbside Swap

Waste Bylaw Enforcement

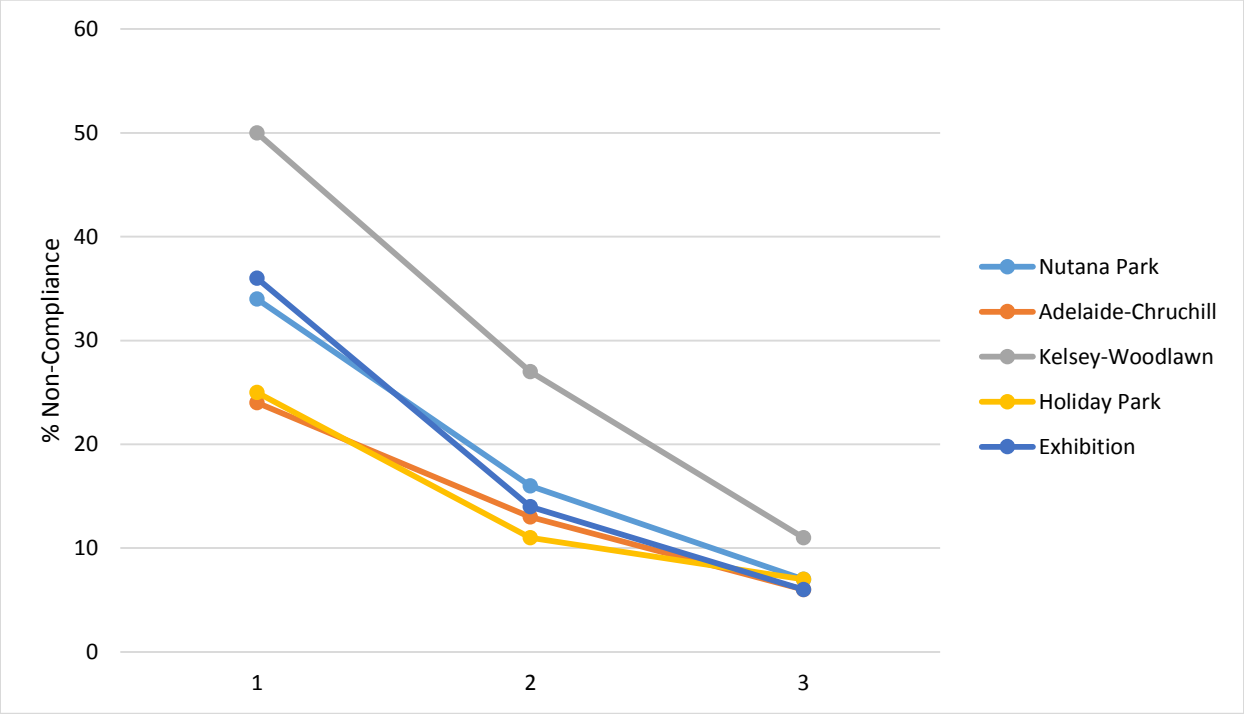
The role of waste bylaw enforcement is to provide education and enforcement to ensure garbage and recycling are managed by the community in a way that is safe for people and the environment.

The City's Environmental Protection Officers (EPOs) focus on issues in the community related to the Waste Bylaw. In addition to enforcing the Waste Bylaw, EPOs are also responsible for responding to hydraulic spills, illegal dumping and waste & recycling cart complaints, as well as conducting bylaw related education initiatives for the general public.

The Waste Bylaw (No. 8310) specifies that carts must be removed from the Public Right-of-Way within 24 hours of Collection. In 2016, EPOs conducted neighbourhood cart blitzes to educate on and enforce this requirement.

Neighbourhood cart blitzes consist of three phases including initial inspections and an education letter to non compliant homeowners; a follow up inspection and warning letter; and ultimately a final inspection with a Notice of Violation including a $100 ticket. Neighbourhood inspections, although resource intensive, show a significant decline in the number of carts that remain in the public right-of-way. The results of the five neighbourhood inspections conducted in 2016 are shown below.

Figure 29. Number of carts left out over three phases of cart blitzes done by EPO's in 2016.



Green Cart Program Education and Marketing

In 2016, the number of Green Cart subscribers reached an all-time high of 6,300. Promotional efforts focus on encouraging additional subscribers each year using on-line and social media. The Green Cart program is included in a number of other education efforts (e.g. Rolling Education Unit, 'Healthy Yards').

The impact of the education and marketing program in 2016 included:

- 70,240 households through the Waste and Recycling Collection calendar
- 30,246 webpage visits for both green cart and compost depots
- 3 PSAs (collection start, collection end, calendar)
- 1 print ad x 2 newspapers
- 3 Renewal mailings to 2015 subscribers (5000 email/1000 mail)
- 500 Green Cart promo handouts at Gardenscapes
- ReCollect - 3 ads for all ReCollect subscribers
- Letter with tips to reduce odours with composting to green cart subscribers (5000 email/1000 mail)

Environmental Protection Annual Report 2016

Recommendation

That the report of the A/General Manager, Corporate Performance Department, dated June 12, 2017, be received as information.

Topic and Purpose

Corporate environmental protection activities have been summarized in the Environmental Protection Annual Report for 2016.

Report Highlights

1. The 2016 Environmental Protection annual report provides a description of corporate-level environmental protection activities that were undertaken and key outcomes of these initiatives.
2. Environmental Protection staff within the Environmental and Corporate Initiatives Division are proactive in promoting corporate regulatory compliance and implementation of best management practices for soil, water, and air quality management for the City of Saskatoon (City).
3. Projects, programs, and services delivered by Environmental Protection are relevant to all operations and projects of the corporation.

Strategic Goal

Environmental Protection activities support the strategic goal of Environmental Leadership by working toward compliance with environmental regulation, stimulating collaboration among civic staff, and encouraging implementation of good operating practices. The 10-year strategies to improve the quality and reduce the quantity of storm runoff, and to address soil quality issues on city-owned properties are specifically addressed. Work also aligns with the four-year priority of waste diversion for beneficial reuse within City projects.

Environmental Protection initiatives also support the strategic goal of Asset and Financial Stability by ensuring that our assets are well managed and maintained. The goal of Continuous Improvement is addressed by modernizing policy and operations to reflect best practices and changing demands.

Background

This is the second annual report of Environmental Protection activities that has been produced by the Administration.

Report

Annual Report

Attachment 1 is the Environmental Protection Annual Report for 2016. This report provides a description of the corporate-level environmental protection activities that

were undertaken in that year and key outcomes of these initiatives. Projects and services delivered by Environmental Protection are relevant to all operations and projects of the corporation, specifically when environmental issues regulated by other levels of government are involved.

Environmental Protection services are provided via two main activities:

- Support services for City operations and projects that deal with environmental protection issues.
- Developing projects that address corporate liability/due diligence regarding compliance with current and future environmental regulation, as well as improving civic management of environmental assets.

Support Services

Support services provide the corporation with central access to specialized environmental knowledge and expertise. This increases corporate environmental knowledge, reduces corporate risk, promotes consistency in the City's approach to environmental issues, and reduces reliance on external consultants.

Support services provided in 2016 are described in Attachment 1.

Projects

Projects are developed by Environmental Protection staff to integrate, coordinate, and create up-to-date approaches to municipal operations that have an environmental component. As such, projects intentionally create opportunities for cross-corporate collaboration on environmental and public health issues.

Protection of the soil, water, and air quality within our watershed is key to the health of our environment and the quality of life of our citizens. Environmental Protection projects and programs that were under development in 2016 are shown in the table below and described in Attachment 1.

Water	Soil	Air
Storm Water Education	Soil Handling Strategy	Air Quality Management
Sewer Use Bylaw		
Source Control Programs for the Sanitary Sewer		
Water Quality Monitoring		
Corporate Spill Response		
Green Infrastructure Strategy		
Environmental Protection Regulatory Framework		
Watershed Protection		

Communication Plan
The Environmental Protection Annual Report for 2016 will be available for viewing on the City's website.

Financial Implications
This Annual Report highlights a number of vulnerabilities within the Environmental Protection program that stem from the current level of resourcing and a reliance on temporary staff for some critical components of the program. The Administration intends to review resource sufficiency with the City's Internal Auditor (PwC) as part of the climate change risk review identified by City Council. A report on resourcing options will be developed following completion of this review.

Environmental Implications
Environmental protection implications are included in the annual report.

Other Considerations/Implications
There are no policy, privacy or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion
An Environmental Protection Annual Report will continue to be produced each year.

Public Notice
Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachment
1. Environmental Protection Annual Report 2016

Report Approval
Written by:	Twyla Yobb, Environmental and Corporate Initiatives
Reviewed by:	Brenda Wallace, Director of Environmental and Corporate Initiatives
Approved by:	Jeff Jorgenson, A/General Manager, Corporate Performance Department

Environmental Protection Annual Report 2016.docx

Environmental Protection Annual Report 2016

City of Saskatoon

Corporate Performance

Environmental & Corporate Initiatives

1 Introduction

Clean water, soil, and air are crucial to the health of the environment we live in and, ultimately, to the long term health of our residents and community. As time passes and our city grows, our understanding of how to maintain a good quality environment changes, and this is reflected by changes to the way we manage our city.

1.1 What is Environmental Protection?

Environmental Protection activities preserve the quality of our water, soil, and air now and for future generations by safeguarding our community from the impacts of pollution. The minimum standard for effective environmental protection is compliance with federal and provincial environmental regulation. City of Saskatoon (City) operations and projects must all consider how to best integrate with current and future environmental regulation while remaining cost effective and practical to implement.

1.2 Purpose

The purpose of this report is to provide information about corporate-level Environmental Protection initiatives that:

- Ensure civic operations maintain compliance with changing environmental standards;
- Monitor best practices in managing risks that have environmental implications;
- Incorporate appropriate best-practice approaches into future plans; and
- Attempt to respond to some of the environmental trends reported in the 'Our Environment' report.

1.3 Delivering Environmental Protection Services

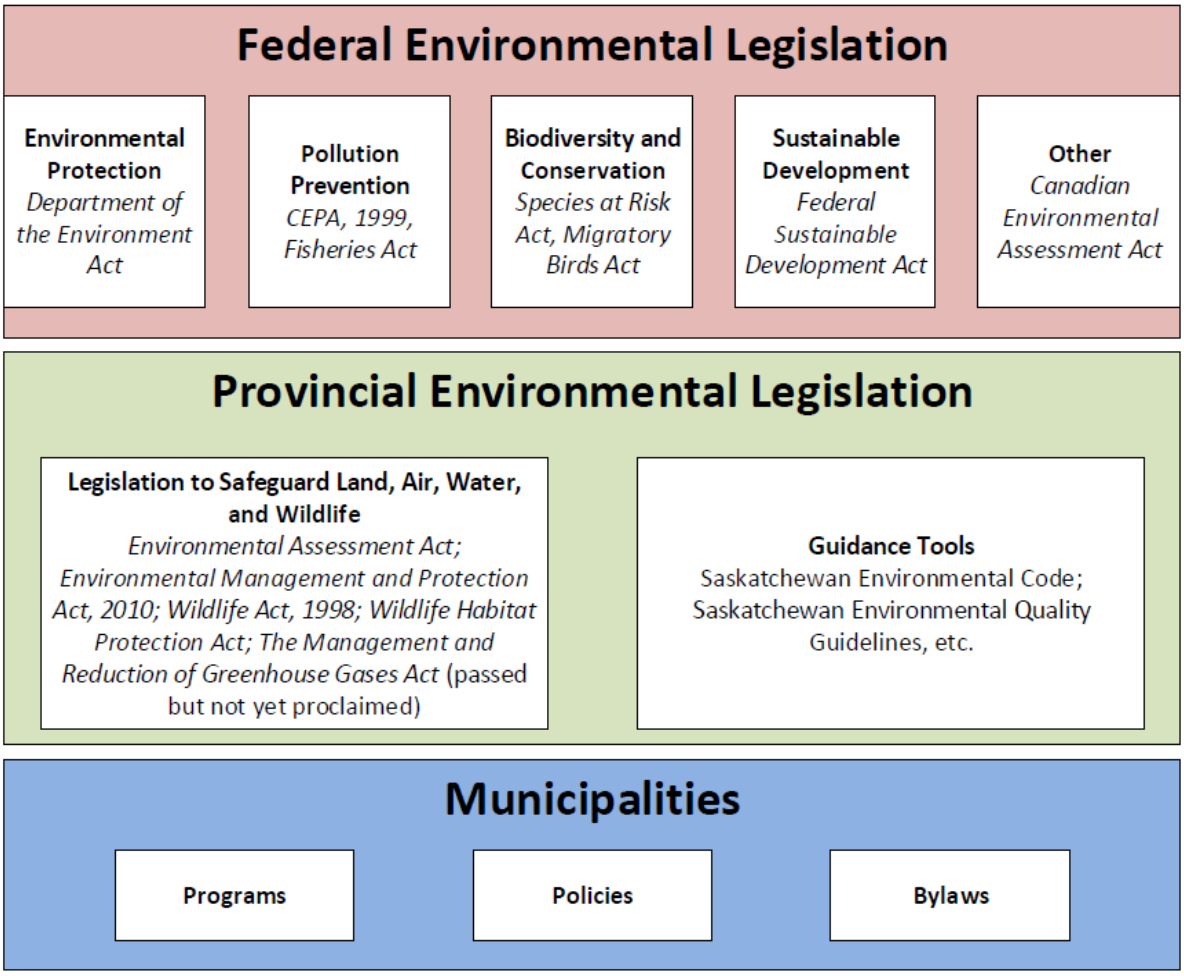
Environmental Protection is a shared responsibility and is led by the Environmental & Corporate Initiatives (ECI) Division with resourcing through the Environmental Health Business Line. Operational groups such as Parks, Water & Waste Stream (previously Public Works), the Fire Department, and the Utilities also protect natural assets, water, soil, and air quality in their daily operations and report environmental protection-related activities in various documents prepared by each operation.

The Environmental Protection Section includes a Manager, two Project Engineers, and one Environmental Protection Officer; supported by Business Administration and Communications staff.

Environmental Protection work is undertaken in a consultative, collaborative fashion. Environmental expertise is made available to all divisions, civic projects and operations through advisory services, liaising/coordinating with consultants and regulators, participation in steering or review committees, and some project management services.

2 Environmental Regulation in Canada

Environmental legislation in Canada is illustrated in the diagram below.



The *Canadian Environmental Protection Act, 1999* (CEPA) is the backbone of the federal legislative framework for protection of environmental and public health. CEPA focuses on the prevention and management of risks posed to water, soil, and air quality by harmful substances. The Minister of the Environment and the Minister of Health jointly administer the assessment of substances for toxicity and the subsequent development of risk management strategies.

Work carried out under CEPA is complemented by other acts that focus on protection of wildlife (e.g. fish, migratory birds, etc.) and natural assets that contribute to our overall well-being.

The *Environmental Management and Protection Act, 2010* (EMPA) is the main provincial legislation for protecting the water, land, and air resources of the province.

Other acts and regulations address protection of natural assets and sensitive environments. In particular:

Migratory Birds Convention - The Act and its regulations protect migratory birds and prohibit the disturbance or destruction of migratory bird nests and eggs in Canada. The legislation and regulations apply to all lands and waters in Canada, regardless of ownership. Environment and Climate Change Canada is responsible for administering the MBCA on behalf of the federal government.

Permits may be issued under the Migratory Birds Regulations with conditions for the husbandry, release, scaring, capture, killing or disposal of migratory birds, or any other matter concerning the conservation of migratory birds.

Species at Risk Act (SARA) - The purposes of the Act are to prevent Canadian indigenous species, subspecies, and distinct populations from becoming extirpated or extinct, to provide for the recovery of endangered or threatened species, and encourage the management of other species to prevent them from becoming at risk.

To ensure the protection of species at risk, SARA contains prohibitions that make it an offence to kill, harm, harass, capture, take, possess, collect, buy, sell or trade an individual of a species listed in Schedule 1 of SARA as endangered, threatened or extirpated. SARA also makes it an offence to damage or destroy the residence of one or more individuals of a species listed in Schedule 1 of SARA as endangered, threatened or extirpated (if a recovery strategy has recommended the reintroduction of that extirpated species).

On private land, these prohibitions apply only to listed aquatic species and listed migratory birds that are also listed in the *Migratory Birds Convention Act, 1994*. In some circumstances the prohibitions could also be applied, through an order, to other species listed as endangered, threatened or extirpated in Schedule 1 of SARA when found on private land if provincial / territorial legislation or voluntary measures do not adequately protect the species and its residence. Public consultation would first be sought in accordance with normal federal government regulatory procedure.

In addition to the protection of individuals, SARA also recognizes that protecting the habitat of species at risk is key to their conservation. Critical habitat is the habitat necessary for the survival or recovery of a species listed as endangered, threatened or extirpated on Schedule 1 of SARA. The intent of SARA is to protect critical habitat as much as possible through voluntary actions and stewardship measures.

On private land, SARA requires that the critical habitat of aquatic species be protected within six months after it has been identified in a finalised SARA recovery strategy or

action plan. SARA contains a prohibition against destroying any part of critical habitat, but also provides other options for protection. Critical habitat of these species must be protected by one of the following methods: the application of the SARA prohibition by ministerial order; other legal means under SARA such as a conservation agreement; or by other federal legislation.

For other, non-aquatic species found on private land, SARA sets out a variety of ways critical habitat is to be protected. In most situations, provincial laws will provide protection for critical habitat. Alternatively, the SARA prohibition can be applied by an order from the Governor in Council, or other provisions in, or measures under, federal legislation (including SARA) can be used. The Federal Government Regulatory Policy contains a commitment to consult the public on orders from the Governor in Council. SARA also sets out how critical habitat in a number of other specific cases, such as critical habitat found on private land which is located within a Migratory Bird Sanctuary, is to be protected.

Preventative measures and cooperative stewardship approaches are the first response to conserving species. Making landowners aware that they have a species at risk on their land and helping them to protect the species and its habitat are important first steps. It is anticipated that stewardship programs and voluntary actions will recover species and prevent prohibitions from being applied on private and provincial crown lands. If violations are identified, measures will be taken to ensure that they no longer occur. The law creates offences and sets penalties for committing these offences. A charge is most likely to be laid when a corporation or person intentionally ignores the law and compromises the survival of a species at risk.

Saskatchewan Wildlife Act - This Act contains provisions to designate and protect species at risk in Saskatchewan. There are currently 15 at-risk plants and animals identified in the Act. There are enforcement provisions in the act, and the Ministry publishes Activity Restriction Guidelines for Sensitive Species.

2.1 The Municipal Role in Environmental Regulation

Municipalities are responsible for adherence to both federal and provincial legislation. In some cases, expected activities are clearly outlined in a permit or in a template for reporting compliance-related activities. For example, all municipal wastewater treatment operations in Saskatchewan are closely monitored by the province via permit. Larger facilities are also required to report to Environment Canada under various federal regulations.

Adherence to provincial and federal legislation can create a challenge for municipalities where the behavior of individual residents and businesses affects the ability to comply. For example, the City is responsible to federal and provincial governments for the

quality of the liquids and solids that are released back into the environment via wastewater treatment operations. However, a lack of control over what substances are released into the sanitary sewer system represents a risk to the City. To manage this risk, the City is planning to communicate an expected standard of behavior to the users of the sanitary sewage system in the form of a bylaw and source control programs. The programs demonstrate the city's due diligence in enforcing the standard.

In summary, municipalities are regulated by the provincial and federal government. In all cases, this means developing internal processes to ensure compliance. In some cases, risks related to compliance must also be managed by developing policy and bylaw that defines a standard of behavior for residents and businesses.

In 2016, work began on a policy framework to identify ways in which the City might strengthen environmental protection measures for both civic operations and community behavior. Administration expects to report on the opportunities for the municipality to be more pro-active in its role in environmental regulation once this work is complete. Work on the framework is described in Section 4.2 of this report.

Wastewater Treatment Plant

2.2 The Canadian Council of Ministers of the Environment (CCME)

The CCME is an intergovernmental organization that includes environment ministers from the federal, provincial, and territorial governments. The Council seeks to achieve

positive environmental results by focusing on issues that are Canada-Wide in scope and that require collective attention by a number of governments. Based on broad outcomes defined by Ministers, working groups collaborate to achieve specific goals. These working groups include experts from relevant government departments and may also include expertise from the private sector, academia, aboriginal groups, and environmental and public health interest groups.

Current CCME strategic priorities are:

- Facilitate interjurisdictional cooperation on climate change mitigation and adaptation;
- Develop and implement an Air Quality Management System;
- Implement a vision for water to ensure that Canadians have access to clean, safe, and sufficient water to meet their needs in ways that also maintain the integrity of ecosystems;
- Develop tools, data, and best practices to help reduce and recycle waste; and
- Increase jurisdictional capacity to manage contaminated sites.

The guidelines established by CCME working groups are used by the City to inform decisions about environmental protection.

2.3 Taking Action

The Environmental Protection Section acts as a forward-looking conduit for corporate regulatory compliance and implementation of suitable management practices for soil, water, and air quality in the City of Saskatoon.

Projects and services delivered by Environmental Protection are relevant to all operations and projects within the corporation that deal with environmental issues regulated by other levels of government.

Environmental Protection services are provided via two main activities:

Support services are intended to provide the corporation with central access to specialized environmental knowledge and expertise. This increases corporate environmental knowledge, reduces corporate risk, promotes consistency in the city's approach to environmental issues, and reduces reliance on external consultants.

The intent of the **projects** developed and delivered by Environmental Protection staff is to promote integrated, coordinated, and up-to-date approaches to municipal operations that have an environmental component. As such, projects intentionally create opportunities for cross-corporate collaboration on environmental and public health issues.

2.4 Key Outcomes

Environmental protection initiatives are developed to achieve the following three key outcomes:

- Ensure the City of Saskatoon plans for regulatory compliance and avoids compliance orders.
- Minimize costs by maximizing coordination in the management of environmental risks/ due diligence.
- Build capacity of civic staff through education and collaboration.

3 Support Services

In 2016, Environmental Protection activities included the following support services:

- Civic Education and Training
- Civic Project Advisory and Review
- Civic Regulatory Reporting
- Environmental Records Search
- Landfill Soil Acceptance
- Spill Response
- Sanitary Sewer Use
- Public Enquiries and Complaints
- Civic Project Development

3.1 Civic Education and Training

Environmental Protection staff stay updated on environmental regulations and current environmental management practices and then share this knowledge with civic staff through training and information sessions on these topics. Currently available are:

- The Environmental Assessment Process (corporate-wide)
- Discharge and Discovery Reporting (corporate-wide)
- Spill Response (for fleet operations)
- Landfill Soil Acceptance (for landfill operations)

Service Provided	Metric	2014	2015	2016
Education and Training	Number of attendees	24	66	0

Service Status: In 2016, no training sessions were offered. The curriculum for two formal training sessions were developed and incorporated into the annual corporate training calendar, but due to resource constraints, no sessions were actually delivered.

3.2 Civic Advisory, Review, and Management

General environmental advisory services are available for document and report review, participation in steering or review committees, and liaison with consultants and regulators. Project advisory services have been provided for the following major initiatives:

- **Civic Environmental Liabilities**: Environmental Protection staff reviewed the environmental status of contaminated and potentially contaminated sites in order to determine financial liabilities. Site summaries and cost estimates were developed for each property.

- **Boychuk and McOrmond Interchanges:** Environmental Protection staff reviewed contract documents and submissions from contractors regarding general environmental requirements and provided advice on implementation of the Wetlands Policy for the planned work.
- **Lead Cell Decommissioning:** Full project management services were provided for the decommissioning and remediation of the lead cell area at the Saskatoon Landfill. A preliminary testing program of the cell contents indicated that the contaminated soil could be reused onsite as long as risk management principles were implemented during construction and for the soils final resting place. The soil was beneficially reused as the base for a new landfill access and haul road. Using an innovative approach to manage the contamination, the project saved the City approximately $2.5 million by avoiding the conventional “dig and dump” approach to remediation and gained a new access road that was otherwise unfunded.

Lead Cell Excavation

New Haul Road

- **Saskatoon Land**: Environmental requirements are common when dealing with land acquisition, sales, and transfers. Environmental Protection staff have provided environmental advisory and services to Saskatoon Land to facilitate these requirements. The main support that Environmental Protection staff provided in 2016 included assisting with procurement of an environmental consultant for the sale of a potentially impacted property, liaison with regulatory officials and property agents, data interpretation and, and advisory regarding liability transfer and contract wording.

Service Provided	Metric	2014	2015	2016
Project Advisory and Review	Number of projects	15	31	25
Project Management	Number of projects	0	1	1

Service Status: Services were previously provided to internal work groups 'free of charge' as funding support was available through the Soils Handling Strategy capital project. When capital funding ended, most services are now provided to civic projects on a cost recovery basis in order to maintain the in-house staff expertise (this staff person currently has temporary status).

3.3 City Regulatory Reporting

Environmental Protection staff act as the City's account administrator for federal and provincial web-based reporting:

Federal: Environment Canada's Single Window Information Management (SWIM)

- **Greenhouse Gas Reporting Program (GHGRP):** The GHGRP was also developed under CEPA to require operators of facilities that meet specified criteria to report greenhouse gas emissions based on their global warming potential. Reports are due annually; in 2016 the landfill reported to the GHGRP.
- **National Pollutant Release Inventory (NPRI):** The NPRI was established under *The Canadian Environmental Protection Act, 1999* (CEPA) which allows the Minister of Environment and Climate Change to require the reporting of substances released by industrial, institutional, and commercial sectors into the air, land, and water of their communities. In 2016 the landfill/ landfill gas facility started reporting to the NPRI; a total of four civic facilities now report annually under this legislation (water treatment plant, waste water treatment plant, biosolids handling facility, landfill/ landfill gas facility).
- **Wastewater Effluent System Effluent Regulations (WSER):** This is a federal wastewater regulation which came into effect in 2012 under *The Fisheries Act* to establish minimum effluent quality standards that can be achieved through secondary wastewater treatment. Requirements in the regulation include monitoring, record-keeping, reporting and toxicity testing. The wastewater treatment plant reports to the WSER quarterly.

Provincial: Ministry of Environment Online Portal

- The Saskatchewan Ministry of Environment has established an online service that includes a web portal. The portal makes it easier to provide information to the province in a digital format, and allows clients to apply on-line for permits, approvals, and track the progress of their applications. The account is mainly used for discharge and discovery reporting, environmental report submissions, and freedom of information requests to the Ministry.

Service Status: Reporting obligations for greenhouse gases are expected to change in the near future, requiring the City to report on more operations as the reporting threshold is reduced.

3.4 Landfill Soil Acceptance

The landfill accepts soil materials categorized as "clean fill" for use as daily and intermediate waste cover. Covering waste layers with soil is part of standard waste management operations and is a regulated activity under the Ministry of Environment.

Under the regulations and for operational efficiency and safety, the clean fill used for waste cover must meet a standard soil quality. Clean fill cannot contain any foreign

debris, and must have chemical concentrations of regulated substances below applicable provincial criteria.

In order to maintain this quality standard for soil that is delivered to the landfill, Environmental Protection staff review and approve commercial soil delivery applications as requested by landfill staff, and provide training as needed.

Service Provided	Metric	2014	2015	2016
Landfill Soil Acceptance	Number of applications	50	26	21

Saskatoon landfill operations.

Service Status: Demand for this service varies with the number of construction projects taking place during the year, and with the availability of alterative disposal options. In 2016 there were fewer applications for commercial soil delivery. In addition, landfill staff have received training and were able to process more applications without support from Environmental Protection staff.

3.5 Spill Response

Environmental Protection has taken a lead role in coordinating City departments to develop process for responding to spills that may impact sensitive environments and water bodies. The description of the Corporate Spill Response project, found later in this document, provides additional information on this initiative.

The Environmental Protection Officer is available to conduct site investigations and coordinate soil and water sampling when appropriate.

In addition, Environmental Protection staff are able to provide advice and training to internal staff on reporting spills appropriately, assistance with the development of spill response procedures, and assistance with procurement of spill response equipment.

Spill on Hwy 16

Service Provided	Metric	2014	2015	2016
Spills Advisory	Number reported to Section	24	21	5
Spills Investigation	Number of investigations	Not recorded	Not recorded	4

Service Status: A Task Force for Corporate Spill Response was formed at the end of 2014 to help coordinate response to spills that may impact sensitive environments and water bodies. The Task Force determined that the appropriate first contact for the public was either Saskatoon Fire (via 911) or Public Works Dispatch. As a result, the number of calls reported to the ECI Division has decreased significantly. ECI staff remain available on a temporary basis to respond to spill complaints where immediate response is not required.

3.6 Sanitary Sewer Use

Section staff oversee processes related to the existing sanitary sewer use bylaw including billing for the Industrial Monitoring Program, review, approval and monitoring of Special Discharge Permits, review and approval of Discharge Management Plans for mobile food trucks, and development of source control programs for the sanitary sewer. Staff also update the Wastewater Discharge Inventory annually in preparation for the implementation of a new bylaw and source control programs, and have started

responding to complaints from Water & Sewer about improper discharges to the sanitary sewer.

Service Provided	Metric	2014	2015	2016
Industrial Monitoring Program	Number of surcharges levied	10	10	10
Special Discharge Requests	Number of applications	7	7	11
Mobile Food Trucks	Number of applications	4	4	7
Wastewater Discharge Inventory	Number of businesses	NA	NA	240
Complaint Investigation	Number of complaints	NA	NA	7

Service Status: These services are provided by Environmental Protection staff on a temporary basis until the new Sewer Use Bylaw and associated Source Control Programs, which are discussed later in this document, are operationalized within the Community Standards Division.

3.7 Environmental Record Searches

Environmental Protection staff conduct searches of City environmental and property records at the request of external consultants and land owners. Most search requests are made as part of an Environmental Site Assessment process.

Historical site use at River Landing.

Service Provided	Metric	2014	2015	2016
Environmental Records Searches	Number of applications	24	37	36

Service Status: This service is currently provided free of charge to the public and to civic staff. The service provides a specific benefit to a specific user and would be a good candidate for a user fee.

3.8 Public Inquiries and Complaints

Private citizens and businesses make inquiries and complaints to the City about environmental protection matters that Section staff respond to.

Service Provided	Metric	2014	2015	2016
Public Inquiries (general environmental)	Number of inquiries (telephone, webmail, e-mail)	74	36	40

Service Status: Public inquiries about environmental protection matters are used to identify gaps in existing corporate environmental protection activities. Support services, and projects are then developed to help increase corporate capacity for environmental protection and to close the gap. The number of public inquiries is therefore expected to decrease over time. For example, the number of inquiries has decreased significantly since 2014 as operations capacity developed elsewhere, via education and training, and the provision of advisory services, to handle these types of inquiries. Public awareness and interest in environmental protection matters may also cause inquiries to increase.

4 Projects

Protection of the soil, water, and air quality within our watershed is key to the health of our environment and the quality of life of our citizens. Environmental Protection projects for 2016 are shown in the table below.

Water	Soil	Air
Storm Water Education	Soil Handling Strategy	Air Quality Management
Sewer Use Bylaw		
Source Control Programs for the Sanitary Sewer		
Water Quality Monitoring		
Corporate Spill Response		
Green Infrastructure Strategy		
Environmental Protection Regulatory Framework		
Watershed Protection		

Watershed
A watershed is an area of land that is linked by a common connection to one watercourse. All the storm runoff and snow melt in this area is carried or "shed" to this common watercourse. Water moving within the watershed is affected by everything it comes into contact with including soil, vegetation, wildlife, and people.

4.1 Watershed Protection

Goal: To engage in environmental protection on a watershed scale.

The South Saskatchewan River connects us to our up and downstream neighbours via our common concerns about the quantity and quality of water that is available to support and nourish our communities. The river is our source of drinking water as well as the recipient of our storm water and treated waste water.

Saskatoon participates in watershed protection initiatives through membership in a non-profit organization called the South Saskatchewan River Watershed Stewards Inc.

(SSRWSI). A City Councillor and the Manager of the Environmental Protection Section sit on the Board of the SSRWSI.

In 2016, projects that were participated in via SSRWSI membership included:

- Agriculture-Environmental Group Programs (AEGP) that provide cost-shared funding for agricultural producers who wish to enact best management practices for environmental protection and farm stewardship on their farms.
- Mussels on the Move: an education program to promote awareness of aquatic invasive mussels in our watershed. The province also donated four highway signs to the COS that were placed on strategic highways leading toward popular recreational boating sites.
- Source Water Protection Planning: an initial inventory and risk-based prioritization of all small drinking water systems in the watershed, plus a more detailed risk assessment for three of the highest risk communities.
- Love Your Lakes: shoreline health assessments for recreational lakes.
- Youth education, including participation in the Caring for Our Watersheds program, which is led by Partners FOR the Saskatchewan River Basin (PFSRA). SSRWSI staff provide advice to students on their projects, and Board members participate as judges for the program.
- Participation in the development of a province-wide Master Naturalist program, led by the provincial Native Plant Society (NPS). Two education modules; Citizen Science and Urban Ecology were developed and delivered in 2016.

Highway signage to support the provincial awareness campaign for invasive mussels

Status: Provincial funding was reduced by 20% to this organization in 2017, making the future of the organization uncertain. Overall, the Stewards received $210,000 in project funding in 2016, in addition to core funding from the province and membership fees. The City pays a $20,000 annual fee for membership in the SSRWSI.

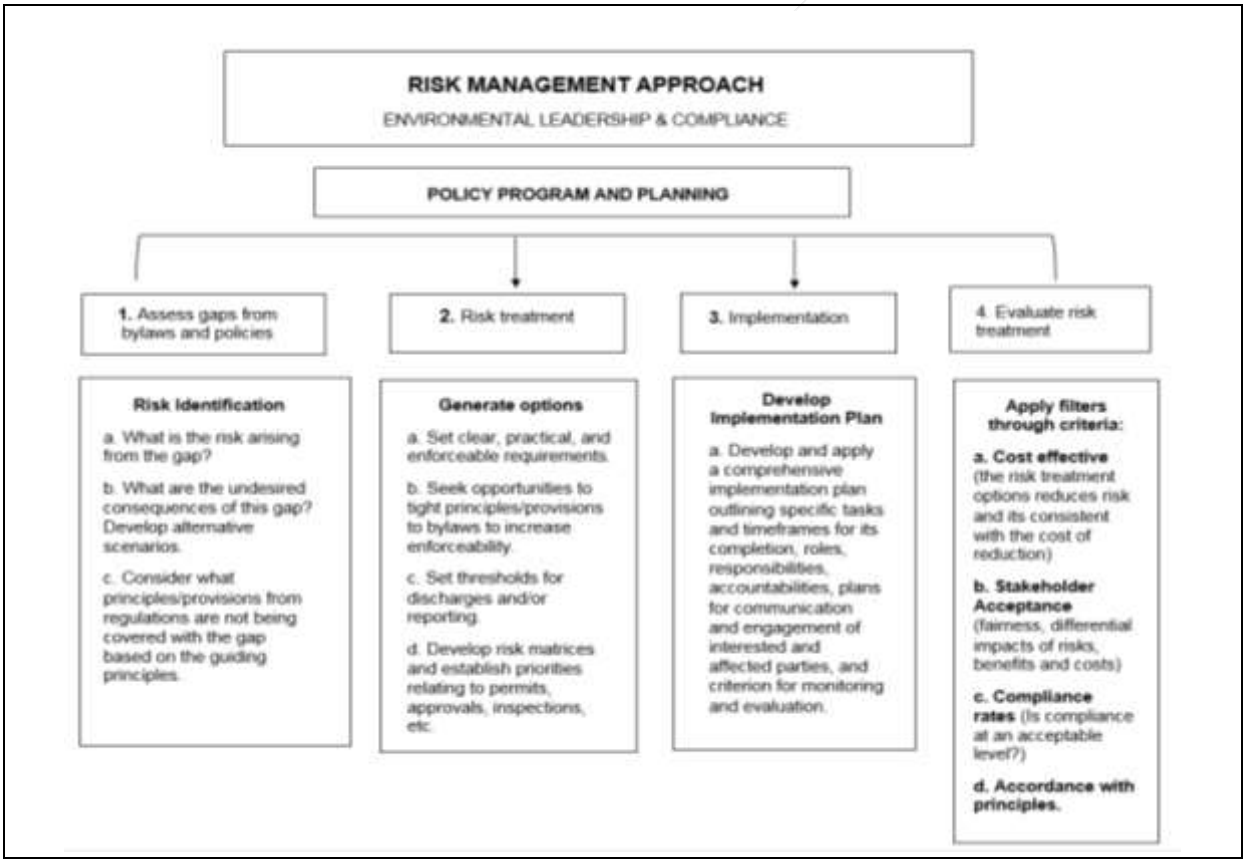
4.2 Environmental Protection Regulatory Framework

Goal: To develop a framework for harmonizing federal, provincial environmental protection legislation with Saskatoon's environmental policies and bylaws.

An intern from the Johnson-Shoyama Graduate School of Public Policy was engaged in 2016 to:

- Create an inventory of federal and provincial environmental protection legislation.
- Perform a gap analysis for our existing municipal policies and bylaws and policies.
- Survey other municipal approaches to environmental protection.

Recommendations from this study included the implementation of an Environmental Management System (EMS) for key civic operations and further development of a risk management approach to environmental protection.



Status: Further development of the regulatory framework is proceeding slowly as the demands on the Section staff are numerous. A report on the opportunities for the municipality to be more pro-active in its role in environmental regulation continues to be worked in 2017.

Water

Saskatoon is fortunate to be situated on the South Saskatchewan River. The river provides an abundant source of fresh water that originates in the Bow and Oldman rivers in Alberta. It flows through Lake Diefenbaker where the Gardiner Dam, one of the largest earth-filled dams in the world, regulates the river flow through Saskatoon. We benefit from a more consistent flow of water and an improved water quality, as nutrients and other suspended particles in the water can settle out.

Saskatoon is the largest city on the South Saskatchewan River, so how we use and treat water, as well as manage storm water and wetlands, will have an impact on our community health as well as that of our downstream neighbours.

4.3 Storm Water Education

Goal: To develop educational programming for the storm water utility.

The Storm Water Utility sought assistance with developing education programming in 2016.

Key Outcomes:

- Partnership with the Meewasin Valley Authority and Partners FOR the South Saskatchewan River Watershed to pilot the Yellow Fish Road™ Program. The program highlights the importance of keeping storm water clean because it goes straight to the river without treatment.
- The pilot resulted in distribution of educational materials to over 1200 classrooms and 25,000 students in the Greater Saskatoon Catholic and Saskatoon Public School systems.
- Twelve catch-basin painting events helped spread awareness in nine neighborhoods.
- Media advertisement for World Water Day in March, and a media event in September for World Rivers Day.

Educational poster

Catch basin painting event

Status: The success of the Yellow Fish Road™ Program has led to a three-year contract with the Meewasin Valley and Partners FOR the South Saskatchewan River Watershed. The annual value of the contract is $24,000.

4.4 Water Quality Monitoring

Goal: To assess and improve storm water and river water quality monitoring practices.

In 2016, Saskatoon Water and ECI partnered to purchase a laboratory information management system (LIMS) to improve corporate capacity to store, analyze, and report water quality data. ECI also began research into:

- The use of a Water Quality Index to communicate local water quality to the public.
- Storm water and river water monitoring program design and data analysis approaches in selected provinces and municipalities in Canada.

Status: The LIMS system was procured and installed, with implementation and testing continuing in 2017. Research into water quality monitoring approaches is ongoing.

4.5 Sewer Use Bylaw

Goal: To update the existing 1971 sanitary sewer use bylaw and integrate this municipal bylaw with the national Waste Water Effluent Strategy.

The new bylaw will focus on source control management to regulate waste water that presents a risk to the City's sanitary sewer system. Education for users of the sanitary sewer system is critical to the success of this management approach. In order to achieve compliance, there is a need for the City to clarify what substances can be released to the sewer and what behaviors are and are not acceptable. Education initiatives are intended to reduce the number of enforcement actions needed to achieve compliance.

Key Outcomes:

- Development of an updated enforcement approach for the new bylaw.
- Development of a communication plan for businesses that will likely be impacted by the new bylaw.

Status: A report went to Council in early 2017 to initiate bylaw updates. The new bylaw is anticipated to come into effect in early 2018.

4.6 Source Control Programs for the Sanitary Sewer

Goal: To develop an operational framework for implementation of a new sewer use bylaw.

A baseline wastewater discharge inventory was developed via site visits that were concluded in 2016. These site visits allowed the city to evaluate the actual risk related to the discharge by a variety of types of businesses. For each business, the level of risk was evaluated and the business was assigned to one or more of the source control programs for further follow up once the new bylaw comes into effect.

Nine (9) **source control programs** were identified; each program will focus on a particular class of substances, or a particular method of discharge, that presents a risk to the sanitary sewer system. Development of these programs continued throughout 2015 via consultations with operating groups that would be impacted by each program, development of an operations plan for implementation of the programs, and preparation of guidance documents for each program to support implementation of an updated Sewer Use Bylaw.

Program	Substance or Discharge Method of Concern
Limited and Prohibited Substances	All substances prohibited by the bylaw or allowed only in limited amounts.
Fats, Oils, and Grease	Cooking oils, salad dressings, etc. that solidify in pipes.
Grit	Sand, gravel, etc. that settles in pipes.
Dental Amalgam	Plaster, etc. that solidifies in pipes.
Surcharge	Treatable substances that are discharged in large volumes.
Trucked Liquid Waste	Wastewater that is delivered to the treatment system by trucks.
Mobile Food Trucks	Wastewater that is discharged by mobile food service businesses.
Septic Dumps	Wastewater that is discharged in unmonitored connections to the sanitary sewer system.
Special Discharges	Requests for temporary discharges to the sanitary sewer.

Civic services that will benefit from these programs include the sanitary sewer collection system, the wastewater treatment plant, and plumbing inspection services. The new risk-management approach that is embodied in these source control programs is anticipated to reduce annual operating costs by $150,000 from previous estimates.

Key Outcomes:

- Completion of the baseline wastewater discharge inventory, which included contacting and/or visiting approximately 1,600 businesses that may be affected by the new bylaw.
- Completion of guidance documents for each of the source control programs.
- Development of educational materials for individual programs.
- Development of an operations plan and budget for the initial implementation of the new sewer use bylaw, and for ongoing operations.

Educational material for FOG program

Status: Going forward, administration of the source control programs and enforcement of the new bylaw is intended to be brought under the new Community Standards Division.

Soil
The health of our soil impacts the quality of the groundwater and surface water that we rely on as a drinking water source and affects the safety of the food that we grow. Citizens expect that they are protected from exposure to hazardous substances in soil as they live, play, and work. The decisions we make today about how we manage our soil can last for generations.

4.7 Soil Handling Strategy

Goal: To develop a corporate-wide strategy for dealing with contaminated soils that are discovered on City property during operational activities and construction projects.

The Soil Handling Strategy has led to the development of tools to improve corporate-wide management practices for contaminated materials that is in compliance with the provincial Environmental Code.

Key Outcomes:

- Provision of free advisory services regarding risk management and regulatory compliance to all civic project managers and operations staff that encounter contaminated materials.
- Creation of a generic Environmental Protection Plan that will streamline regulatory compliance and reduce costs for smaller projects that encounter contaminated soils.
- Development of a digital mapping tool in the City's Geographic Information System identifying the potential location of contaminated sites in Saskatoon, as well as the probable risks associated with each site.

Impacted Sites Map
Color indicates probability of risk due to contamination
Red = high probability
Orange = medium probability
Yellow = low probability
There are over 450 potentially impacted sites in Saskatoon

Project Status: The project was closed in 2016. Ongoing support services and maintenance of the management tools developed under the strategy are not currently funded and therefore rely on cost recovery from operations and projects that use the

tools and services. This may have a negative impact on both service utilization and environmental implications. Implementation of the strategy is also currently reliant on temporary staff resources.

4.8 Corporate Spill Response

Goal: To develop a corporate wide approach to spills that may impact sensitive environments.

Under the *Discharge and Discovery Reporting Chapter* of the new *Environmental Code*, municipal employees are responsible, in the event of a spill, to ensure public safety and the protection of the environment.

The City already has robust response protocols for spills that are directly related to public safety; however there is less capacity to respond to spills that may have only environmental impacts. For example, spills can enter the river via storm water infrastructure. City operations do not currently have the equipment or training to respond to these spills and must focus on prevention measures and/or rely on third-party services.

Spill response is a service that is provided on demand by civic operations when a spill occurs on or is moving toward public property. The media profile of a spill, as well as the costs of containment and clean up, can be high. As such, it is beneficial for operating groups to cooperate in developing an integrated approach to spill response.

A Joint Task Force has been formed to clearly define levels of service for spill response, to evaluate the costs of spill response at the corporate level, and to develop measures to facilitate operational responses. ECI currently leads the activities of this Task Force.

Key Outcomes:

- Research into the spill response practices of other municipalities.
- Collection and analysis of data from Saskatoon Fire and Public Works on the number and costs associated with spill response.

Spill containment and clean-up

Status: This is a slow-moving project because of the low incidence of spills. Moving forward, there will be emphasis on developing policy that addresses the polluter pays principle for cost recovery.

4.9 Green Infrastructure Strategy

Goals: To develop a long-term corporate vision and plan for natural areas and urban land uses.

Natural areas are increasingly becoming integrated into the urban environment in Saskatoon. This is prompting concerns related to linkages between natural areas, interface between natural and built up (or developing) areas, management, public perception, and shared use with other facilities and infrastructure (e.g. parks, storm water, trails, etc.) Appropriate policy is required to address natural areas as an important system and guide interactions with all other systems that make up the city.

Key Outcomes:

- Integration of two projects: the Natural Areas Strategy with the Storm Water Management Plan.

Hyde Park wetland

Status: The project is ongoing. Key deliverables anticipated for 2017 include high level policy direction proposed for incorporation into Saskatoon's Official Community Plan and a framework for classifying green infrastructure.

Air
Air quality is important to our health and environment. Poor air quality can lead to a range of health issues, from eye and nose irritation to severe respiratory problems, as well as environmental issues such as smog and acid rain. Saskatchewan has many favourable features for good air quality; low humidity, a smaller population and few geographical features that trap and accumulate pollutants. However there are many sources of air pollution including power generation, transportation, industry and chemical pesticide applications which make ongoing monitoring important.

4.10 Air Quality Management

Goal: To engage in environmental protection at a regional scale (air zone).

Saskatoon belongs to the Western Yellowhead Air Management Zone (WYAMZ), a non-profit organization that represents public, industry, government, and non-government groups in the management of the air zone. Through WYAMZ, Saskatoon has a voice in the management of our air zone.

Monitoring stations are located in North Battleford, Meadow Lake, Unity, Kindersley, and Maidstone. Real-time and historic information is available for factors such as Nitric Oxide (NO), Nitrogen Dioxide (NO_2), Oxides of Nitrogen (NO_x), ground level ozone (O_3), and fine particulate matter ($PM_{2.5}$).

Saskatoon is required to track air pollutants emissions from several civic facilities, including the water treatment plant, the wastewater treatment plant, the biosolids dewatering facility, and the landfill/landfill gas facility. These emissions are reported to Environment Canada's National Pollutant Release Inventory (NPRI).

Landfill gas facility

Status: In 2015, the province of Saskatchewan carried out an urban air quality monitoring study in Saskatoon. Results of the study have not been released by the province. Real-time air quality monitoring data throughout our airshed is available on the WYAMZ website (www.wyamz.ca).

Civic Environmental Sustainability Program

Recommendation
That the report of the A/General Manager, Corporate Performance Department dated June 12, 2017, be received as information.

Topic and Purpose
The purpose of this report is to outline the services and program streams that Environmental and Corporate Initiatives offers as part of the Civic Environmental Sustainability Program.

Report Highlights
1. Environmental and Corporate Initiatives (ECI) serves as the City of Saskatoon's (City) internal environmental consultant and can help Divisions undertake new measures to improve environmental performance.
2. The intended purpose of the Civic Environmental Sustainability program is to deliver a number of program streams in a unified manner to facilitate environmental metric setting, tracking, and reporting. The five program streams are Sustainable Workplace, Sustainable Procurement, Environmental and Climate Change Business Planning, Sustainable Operations, and Environmental Protection.
3. This initiative will attempt to direct environment-related inquires to a single Division as a point of contact, further reducing redundancy and inefficiencies and potentially improving service delivery.

Strategic Goals
Improving environmental performance of civic operations directly aligns with the Strategic Goal of Environmental Leadership, including the 10-year target of 30% reduction in greenhouse gas emissions tied to City operations. Providing support for new initiatives to improve environmental performance and efficiencies contributes to the Strategic Goals of Continuous Improvement and Asset and Financial Sustainability.

Background
The City has existing programs, plans, and reports contributing to Civic Environmental Sustainability; including:

- *Our Environment* (The City's environmental leadership report) is an annual report that highlights the important role the City plays as a leader in improving energy and water efficiency, waste diversion and a thriving environment.
- *Saskatoon Strides (*Service, Savings and Sustainability Report*)* is an annual report that outlines and tracks current City initiatives that improve service delivery, savings and long-term sustainability.

- The *Environmental Protection* Annual Report describes activities led by ECI to ensure City operations maintain compliance with changing environmental standards, while managing environmental risks and ensuring environmental best practices are communicated.
- The *Integrated Waste Management* Annual Report provides a 'snap-shot' of the total civic waste management system, describing the City's efforts to maintain safe and environmentally-responsible management of waste and activities that promote waste diversion.

Report

The vision of ECI is for the City, as a corporation, to embed sustainability as part of daily practice throughout the entire corporation by identifying and implementing environmental best practices.

The Civic Environmental Sustainability Program incorporates existing initiatives into an overall strategy that aims to improve the environmental performance of the City. Environmental & Corporate Initiatives (ECI) can provide support and direction to Civic Divisions both on an employee and corporate level. ECI acts as a resource in environmental topics, promotes awareness around environmental issues, and can facilitate the incorporation of environmental sustainability into the work of other Divisions. The new program has been classified into a number of streams including:

<u>Sustainable Workplace</u>
Workplace environmental initiatives under the control of individual employees or groups of employees such as saving energy at one's desk, driving less, reducing paper use, and general environmental awareness for all employees.

<u>Environmental Planning - Sustainable Procurement</u>
In concert with anticipated changes to civic purchasing policies and procedures, enhancing the environmental requirements for products and services and supporting procurement planning through training.

<u>Environmental Planning – Environmental and Climate Change Business Planning</u>
Providing resources, facilitation support, and training for business planning and reporting at the Division level.

<u>Sustainable Operations</u>
Water and energy conservation through building improvements (outside the scope of the initiatives identified through Energy Performance Contracting) and the management of water and energy reporting, budgeting, planning and procurement for heating energy and vehicle fuel.

<u>Environmental Protection</u>
Providing support to various civic operations and services relating to soil, air and water quality protection and regulatory compliance.

Further details of what each program stream offers is outlined in Attachment 1.

Public and/or Stakeholder Involvement

As the Administration continues to develop tools to support civic operations toward improved environmental performance, consideration will be given to trends in sustainability, best practices in other municipalities and corporations, and input from the public and community organizations. ECI currently uses a collaborative approach to a variety of community education initiatives such as the Saskatchewan Environmental Society (Student Action for Sustainable Future) and the Saskatchewan Waste Reduction Council (Rolling Education Unit). A similar approach to the development and/or review of curriculum materials and delivery of occasional workshops is anticipated. Collaboration and/or consultation with partners is expected to help drive innovative solutions for the City.

Communication Plan

Communication with Divisions will be done through in-person meetings, e-mail, MyCity and other internal platforms. Successes identified through this program may be communicated to the public through the website, the Our Environment or *Saskatoon Strides Our Service, Savings and Sustainability* report or the media.

By creating a closer relationship between civic divisions and having a knowledgeable environmental group that is aware of the activities that are currently underway or planned by the City will improve communication of environmental initiatives and improve or develop new environmental mandates that lead to better civic environmental performance.

Environmental Implications

The City has committed to reducing greenhouse gas emissions tied to City operations by 30% and has set a community waste diversion target of 70%. Improving the environmental performance of the Corporation is important to achieving these targets, particularly from the perspective of leading by example.

Other Considerations/Implications

There are no policy, financial, privacy or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

Some initiatives of the Civic Environmental Sustainability program are currently underway and will continue to be reported on annually.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachment

1. Civic Environmental Sustainability Program Streams

Report Approval

Written by:	Moe Al-Mahdawe, Environmental Coordinator, Environmental and Corporate Initiatives
Reviewed by:	Amber Weckworth, Manager, Education and Environmental Performance, Environmental and Corporate Initiatives Brenda Wallace, Director of Environmental and Corporate Initiatives
Approved by:	Jeff Jorgenson, A/General Manager, Corporate Performance Department

Civic Environmental Sustainability.docx

Civic Environmental Sustainability Program Streams

Sustainable Workplace

- Employee-controllable water and energy use
- Vehicle idling
- Civic recycling
- Electronic and cellphone recycling
- Office asset re-use
- Employee transportation
- Paper reduction
- Environmental awareness training
- Environmental Implications Reporting (Council and Committee reports)

Environmental Planning

- Annual and/or Multi-Year Business planning
- Climate adaptation
- Sustainable procurement
- Policy development

Sustainable Operations

- Energy and water management (building or fleet-scale initiatives)
- Energy Performance Contracting (EPC)
- Civic asset re-use (not office furnishings or equipment, but buildings, large equipment, etc.)

Environmental Protection

- Spills
- Contaminated soil
- Water quality protection
- Air quality protection (future)
- Environmental regulations and reporting

Remai Modern Construction Update – June 2017

Recommendation
That the report of the A/General Manager, Corporate Performance Department, dated June 12, 2017, be received as information.

Topic and Purpose
The purpose of this report is to provide the Standing Policy Committee on Environment, Utilities and Corporate Services with an update on the construction of the Remai Modern.

Report Highlights
1. Substantial Completion of the EllisDon contract was achieved on March 22, 2017. Control of the building was handed over to the City on March 29, 2017.
2. All of the City of Saskatoon's (City) secondary contracts are underway and scheduled to be complete by the end of May 2017.
3. The Gallery is managing the contracts for the shell (Feature) gallery and restaurant fit-out. They are responsible for the move, transition, art preparation and the opening.
4. The Administration continues to do everything possible to prudently manage the contract with EllisDon and protect the City's interests.

Strategic Goals
This project supports the Quality of Life Strategic Goal, relating to the implementation of the Municipal Culture Plan. It supports the four-year priority to enhance the quality of life in Saskatoon by directing expenditures toward amenities in neighbourhoods to enhance and protect property values and encourage private investment.

Background
City Council approved the construction of a new art gallery in Saskatoon. Smith Carter Architects and Engineers Inc. (now Architecture 49) were hired in 2010 to design, tender, and manage construction. A construction contract was awarded in 2013 to EllisDon Corporation with a target for completion in 2016.

Report
EllisDon Contract Status

Substantial Completion of the EllisDon contract was certified by the architect on March 29, 2017. The formal date of Substantial Completion is retroactive to the date of application, which is March 22, 2017. Control of the building was handed over to the City on March 29, 2017.

Crews remain onsite working on final building finishes in certain portions of the building.

Secondary Contracts Status

Progress has been made on the secondary contracts for work outside of the EllisDon contract. Work on the parkade was completed in April and the parkade opened to the public on May 1, 2017.

The City, working with the Gallery's input, is also responsible for the tender and installation of the furniture and signage. Tender and delivery of the gallery exhibition lighting heads is also the responsibility of the City. All of the City's secondary contracts are underway and scheduled to be complete by the end of May 2017.

The catering services contract, restaurant fit-out, and Feature gallery fit-out are being led by the Gallery. Work is underway on the restaurant and Feature gallery fit-out, with a contract completion date of September 12, 2017.

Transition to Opening

The Administration has worked closely with the Gallery to create a transition plan that outlines and schedules their tenant improvements, move details, and their approach to the art installation. Planning included the art exhibition programs, public access to the building, and the building's opening reception.

Most art is sensitive to fluctuations in temperature and humidity, and a fixed period of stable climate readings (formally monitored and tracked) is required before art can be moved into the building. The purpose of this trending is to have confidence that the building can sustain stable conditions during very warm or very cold temperatures and high and low humidity exterior conditions within the spaces dedicated to art exhibition and handling. The City, the Gallery, and contractors continue to work together to achieve an opening date in Fall 2017. The Gallery staff have moved into the building in late May 2017.

Communication Plan

All public project reports and updates are being posted to the City's Website.

Financial Implications

Capital Project #1813 Remai Modern (formerly #1786) has been approved for funding in the amount of $84,634,160.

The funding is made up of the following components:

$22,095,160 – Remai Gallery Pre & Post 2013 Fundraising
$30,287,000 – City Contribution
$ 488,000 – Remai Board Loan from City for Kitchen Equipment
$ 4,093,000 – Provincial Funding – Building Communities
$12,651,000 – Provincial Funding – Building Canada
$13,020,000 – Federal Funding – Building Canada
$ 2,000,000 – Private Donation by the Ellen Remai Foundation for final fit out of the Shell Gallery and Main Floor Security Additions

$84,634,160 – Total

The cost projection at the time of this report estimates that the funding shortfall continues to be $2.5 to $4.5 million. This is presented as a range because there are a number of outstanding discussion points on cost and delay between the City and EllisDon, which have yet to be resolved and will impact the final status.

Environmental Implications

Construction and operation of the new Remai Modern will result in the consumption of non-renewable resources and the generation of greenhouse gas emissions.

Other Considerations/Implications

There are no public and/or stakeholder involvement, policy, privacy or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

There is not a need for any follow up report at this time.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Report Approval

Written by:	Dan Willems, Major Projects & Preservation
Approved by:	Jeff Jorgenson, A/General Manager, Corporate Performance Department

Saskatoon Water 2016 Annual Report

Recommendation
That the report of the General Manager, Transportation & Utilities Department dated June 12, 2017, be received as information.

Topic and Purpose
The purpose of this report is to present the Saskatoon Water 2016 Annual Report that outlines the performance and activities of the division in 2016, including a comparative analysis to previous years.

Report Highlights
1. Saskatoon Water oversees three self-funded public utilities: Water, Wastewater, and Storm Water.
2. In 2016, Saskatoon Water provided water and wastewater services to 262,900 Saskatoon residents and water to an additional 37,900 customers outside of Saskatoon through SaskWater. In 2016, Saskatoon's annual sales volume of 36.4 million cubic meters is slightly higher than the 10-year average, but lower than 2015 due to a wet spring reducing demand for irrigation.
3. Saskatoon water, wastewater, storm water, and infrastructure levy bills are the lowest of major cities in Alberta, Manitoba, and Saskatchewan based on average residential consumption.
4. $3.6 million was allocated to the Water and Wastewater Revenue Stabilization Reserve and to Capital Reserves.
5. Water and Wastewater Utilities provided $9.15 million in Grants-in-lieu of Taxes to the City.
6. Saskatoon Water experienced three lost-time incidents, resulting in a lost time frequency rate of 1.9, which is lower than the corporate average.
7. Saskatoon Water had 93 active capital projects as of December 31, 2016, budgeted at $212.5 million.

Strategic Goals
This report supports the Strategic Goal of Asset and Financial Sustainability by reducing the gap in funding required to rehabilitate and maintain City infrastructure, establishing levels of service for rehabilitation of assets, identifying supporting financial strategies, and developing funding strategies for expenses related to new capital expenditures.

This report also supports the Strategic Goal of Economic Diversity and Prosperity by planning and investing in infrastructure needed to attract and support new businesses and skilled workers to the city by ensuring fees and permits are competitive with other jurisdictions within and outside the province.

Background

Saskatoon Water provides safe and reliable, high-quality drinking water, wastewater treatment that meets health and environmental regulatory standards, and storm water management to minimize flooding.

Report

Saskatoon Water oversees three self-funded public utilities: Water, Wastewater, and Storm Water. The utilities fund all aspects of water services performed by Saskatoon Water and other divisions. Saskatoon Water is responsible for the operation and maintenance of the Water Treatment Plant (WTP), the Wastewater Treatment Plant (WWTP), 28 lift stations, the Meter Shop, and provides engineering and planning services. The utilities also fund other divisions to deliver day-to-day operation and maintenance of the water distribution, wastewater collection, storm water drainage systems, asset preservation and construction, and billing services.

The Saskatoon Water 2016 Annual Report (Attachment 1) highlights information relating to our: Customers, Finances, People, Work, Environment, and Challenges.

Our Customers

In 2016, Saskatoon Water provided water and wastewater services to 262,900 Saskatoon residents. In addition, Saskatoon Water sold potable water to SaskWater who re-distributed to 37,900 customers outside of Saskatoon.

Saskatoon's 2016 was the sixth wettest in the last 10 years, in terms of rainfall. This resulted in a slightly higher than average annual sales volume of 36.4 million cubic meters but lower than 2015 due to a wet spring reducing demand for irrigation.

Saskatoon citizens ranked water treatment and wastewater treatment as two of the most important civic services, with drinking water quality being the most important service in the annual 2016 Civic Services Satisfaction Study. In 2016, average citizen satisfaction for water quality was 8.2 and sewage treatment was 7.0 out of 10.

Our Finances

The average residential water, wastewater, and storm water Utility Bill for Saskatoon ($105.28/month) remains significantly lower than other major prairie cities. For example, the average bill in Winnipeg ($113.65/month), the second lowest utility, was 8.0% higher than Saskatoon, and Calgary's bill ($129.95/month) was 23.4% higher.

In 2016, the three utilities collected $139.1 million in total revenues and had $135.5 million in total expenses for a positive variance of $3.6 million, which was allocated to the Water and Wastewater Revenue Stabilization Reserve, Storm Water Stabilization Reserve, and to Capital Reserves.

City policy states that the Grants-in-lieu of Taxes will equal 9% of budgeted metered revenue. In 2016, this totalled $9.15 million. The utilities also transferred $4.0 million to

the Redevelopment Levy, $6.0 million to the Roadway Levy, and $6.16 million to Corporate Services.

Our People

Saskatoon Water had 163 employees as of December 2016. In 2016, Saskatoon Water continued to participate in diversity programs, such as Gabriel Dumont Institute Work Experience for Aboriginal People, Women in Trades – Grade XII Girls, and Open House for New Canadians.

In 2016, the division experienced three lost-time incidents resulting in a lost time frequency of 1.9, which is lower than the corporate wide average of 2.7. The lost-time incidents resulted in 110 lost-time days, which is above the division's five-year average of 69.2 days.

Our Work

The City's water and wastewater treatment, distribution, and collection systems are regulated by Permits to Operate issued by the Water Security Agency. In 2016, Saskatoon Water conducted a combined total of over 70,000 water quality tests at both treatment plants. The results of the tests showed that the quality of the drinking water and the wastewater effluent were well within the acceptable limits under the Permits to Operate.

Saskatoon Water had 93 active capital projects as of December 31, 2016, budgeted at more than $212.5 million. Major capital projects included Acadia Drive Reservoir capacity improvements, Advanced Metering Infrastructure, WTP filter upgrades, Spadina Lift Station expansion, WWTP odour abatement, 16th Street Slope remediation, upsized Fletcher Road force main, condition assessments of storm water collection system, and long-term master planning of water and sewer servicing to a population of one million.

Saskatoon Water remains committed to continuous improvement through improved customer service and implementing innovations. In 2016, some continuous improvement initiatives included various optimization initiatives for the water and wastewater treatment processes, infrastructure renewal utilizing new technologies, Advanced Metering Infrastructure, and improved storm water database of commercial property footprints.

Our Environment

Protecting the river and its surrounding watershed is vital to the long-term sustainability of the water supply. Saskatoon Water is a member of the South Saskatchewan Watershed Stewards Incorporated.

The WWTP consistently meets or exceeds all regulatory limits for effluent discharged to the river.

Saskatoon water rates are designed to encourage water conservation in order to defer the need for high capital intensive capacity projects. Saskatoon Water collaborates with Environmental & Corporate Initiatives in the "Be Water Wise" campaign to encourage and educate the public on water conservation initiatives.

Our Challenges

Saskatoon Water has been proactive in anticipating and managing ongoing challenges such as growth, infill development, aging infrastructure, climate change, bylaw enforcement, regulatory changes, alternative funding sources, and inflow/infiltration.

Communication Plan

A copy of the Saskatoon Water 2016 Annual Report will be posted on the City Website and shared with the staff.

Other Considerations/Implications

There are no options, public and/or stakeholder involvement, policy, financial, environmental, privacy, or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

This report is provided on an annual basis and no further follow-up is required at this time.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachment

1. Saskatoon Water 2016 Annual Report

Report Approval

Written by: Reid Corbett, Director of Saskatoon Water
Approved by: Angela Gardiner, Acting General Manager, Transportation & Utilities Department

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Saskatoon Water

2016 Annual Report

City of Saskatoon
Transportation & Utilities Department

Saskatoon Water 2016 Annual Report

MESSAGE FROM THE DIRECTOR

Saskatoon Water's management and staff are committed to providing exceptional quality water, wastewater, and storm water management services in the most reliable and cost-efficient way for the citizens of Saskatoon. I am pleased to present our results in the *Saskatoon Water 2016 Annual Report* on behalf of our division.

The report describes our contributions to achieving the City of Saskatoon's Strategic Plan. We take great pride in receiving the highest citizen satisfaction rating of any City service for the quality of our water. Several initiatives have been completed and more are underway that will further enhance service to citizens, increase efficiencies, reduce costs, and strengthen our environmental leadership.

Our financial statements show responsible stewardship of the resources that Saskatoon citizens have entrusted to us. We continue to provide excellent value to our citizens as we maintain the lowest average water, wastewater, and storm water Utility Bill among major Western Canadian cities. Our utility rates are designed to fund the needed capital and operating costs for current and future water and wastewater services.

Management and staff place a strong emphasis on safety. Our Lost Time Frequency Rate was lower than the City of Saskatoon's corporate average.

Saskatoon Water has been focused on addressing growing demands, changing expectations, regulatory changes, and aging infrastructure for water-related services. In 2016, Saskatoon Water had 93 active capital projects valued at $212.5 million. Saskatoon Water will continue to plan for the future and make needed infrastructure investments.

Reid Corbett

Director

SASKATOON WATER

Executive Summary

Saskatoon Water contributes to our city's quality of life by providing safe and reliable, high-quality drinking water, wastewater treatment that meets health and environmental regulatory standards, and storm water management to minimize flooding.

The division oversees three self-funded public utilities: Water, Wastewater, and Storm Water. The utilities fund all aspects of water services performed by Saskatoon Water and other divisions. Saskatoon Water's 163 employees operate the Water Treatment Plant, the Wastewater Treatment Plant, 28 lift stations, the Meter Shop, and provide engineering and planning services. The utilities also fund other divisions to deliver day-to-day operation and maintenance of the water distribution, wastewater collection, storm drainage systems, asset preservation and construction, and billing services.

Saskatoon Water provides water services to approximately 73,000 residential and commercial customers. The Water Treatment Plant supplies water to approximately 300,000 Saskatchewan residents. Average monthly residential water-related Utility Bills of $105.28 was the lowest among Western Canadian cities in 2016.

In 2016, the utilities collected $139.1 million in revenues, incurred $135.5 million in expenses, and contributed $3.6 million to stabilization and capital reserves. Compared to 2015, total revenues in 2016 increased by 7% as a result of growth and development, rate increases; and the phase-in of roadways, redevelopment levies, and a Return on Investment. A 9.5% annual increase in water and wastewater rates was approved for 2014 through 2016 to ensure that the utilities can meet needs of current and future citizens.

In 2016, almost half of Saskatoon Water's revenues, or $68.7 million, was allocated to capital to fund longer-term, water-related infrastructure projects. Significant capital projects in 2016 include Acadia Drive Reservoir capacity improvements, Advanced Metering Infrastructure, Water Treatment Plant filter upgrades, Spadina Lift Station expansion, Wastewater Treatment Plant odour abatement, 16th Street Slope remediation, upsized Fletcher Road force main, condition assessments of storm water collection system, and long-term master planning of water and sewer servicing to a population of one million.

SASKATOON WATER

1.0 OVERVIEW

1.1 Introduction

Saskatoon Water is a division that oversees three self-funded utilities: Water, Wastewater, and Storm Water that fund the planning, designing, operating, maintenance, and capital for all water, wastewater, and storm water services for existing and future citizens and businesses. The utilities have assets with a replacement value estimated at over $9.5 billion (2014 dollars) – see Appendix 1 for details.

The utilities also fund Roadways & Operations and Water & Waste Stream (formerly Public Works), which delivers the day-to-day operation and maintenance of the water distribution, collection, and drainage systems. Major Projects & Preservation and Construction & Design manage infrastructure assessment and construction projects. Corporate Revenue provides customer billing, meter reading, and collection services. The following summarizes the responsibilities of Saskatoon Water's five sections.

The **Water Treatment Plant** (WTP) supplies all consumers with safe and reliable, high-quality drinking water. Core functions include operating and maintaining the South Saskatchewan River Raw Water Intake, the WTP, and three potable water storage reservoirs with a capacity of 114 million litres.

The **Wastewater Treatment Plant** (WWTP) ensures that wastewater is treated to meet high provincial and federal regulatory standards before being returned to the South Saskatchewan River. The wastewater's system includes the WWTP, 28 lift stations, and the Biosolids Facility where solids from the treatment process are handled and disposed. Sales of the plant's slow-release fertilizer create additional revenues.

The **Meter Shop** is responsible for the purchase, installation, testing, repair, and replacement of water meters; the installation and termination of water services; as well as the installation and commissioning of Advanced Metering Infrastructure (AMI). The Meter Shop also operates the Cross Connection Control program to ensure that proper backflow prevention devices on multi-unit residential, commercial, industrial, and institutional service connections protect the City of Saskatoon's (City) potable water.

Engineering & Planning is responsible for the planning and design of water and sewer servicing for new land development, as well as capacity analysis and improvement within existing neighbourhoods. A city-wide network of sewer and rain gauge monitors are operated and maintained by the system modeling group to assist with water-related planning and design activities.

Engineering & Planning manages the Storm Water Utility and provides storm water engineering expertise. The section also monitors and mitigates damage to public property from riverbank settlement and instability due to high ground water levels.

Engineering Services provides capital planning and feasibility studies, and project management services for Saskatoon Water's capital expansions and asset replacements.

1.2 Strategic Linkages

The City's Strategic Plan 2013-2023 provides the direction that guides Saskatoon Water's activities. The following section outlines our Mission, Vision, and linkages to the Corporate Strategic Goals, Leadership Commitments, and Values.

Our Mission

Saskatoon Water delivers safe, reliable, and cost-effective water, wastewater, and storm water services that meet and exceed health and environmental regulatory standards.

Our Vision

Saskatoon citizens have exceptionally high-quality water, dependable wastewater handling, and effective storm water services that sustain people, property, and the environment.

Our Strategic Goals

Quality of Life: Provide citizens with affordable, reliable, and high-quality water, wastewater treatment, and storm water services.

Continuous Improvement: Increase workplace efficiencies and improve services through implementing innovative approaches that maximize value.

Asset and Financial Sustainability: Implement capital preservation and expansion plans that provide the most cost-effective, water-related infrastructure for current and future citizens and businesses.

Environmental Leadership: Implement leading-edge innovations for environmentally responsible water-related infrastructure and services.

Sustainable Growth: Work closely with other divisions to provide efficient and resilient designs for water, wastewater, and storm water infrastructure for new developments.

Moving Around: Collaborate with all stakeholders to minimize water-related transportation disruptions.

Economic Diversity and Prosperity: Provide competitively priced and reliable water-related services, and cost-effective water and sewer designs for new developments.

Our Leadership Commitments

Our employees support leadership commitments in our day-to-day work:

- Reliable and Responsible Service
- Strong Management and Fiscal Responsibility
- Effective Communication, Openness, and Accountability
- Innovation and Creativity

Our Corporate Values

Trust: We build trust with citizens and colleagues by providing accurate technical information, analysis, and responses in a timely manner.

Integrity: We lead by example, making the best decisions and striving to work beyond the scope of the position.

Respect: We build on each other's strengths; respectfully acknowledging individual beliefs.

Honesty: We are honest to each other, and encourage frank, honest discussions while being sincere, admitting mistakes, and learning from them.

Courage: We take smart risks, thinking through challenges, suggesting new approaches, and embracing change to enhance our level of service.

2.0 OUR CUSTOMERS

2.1 Number of Customers

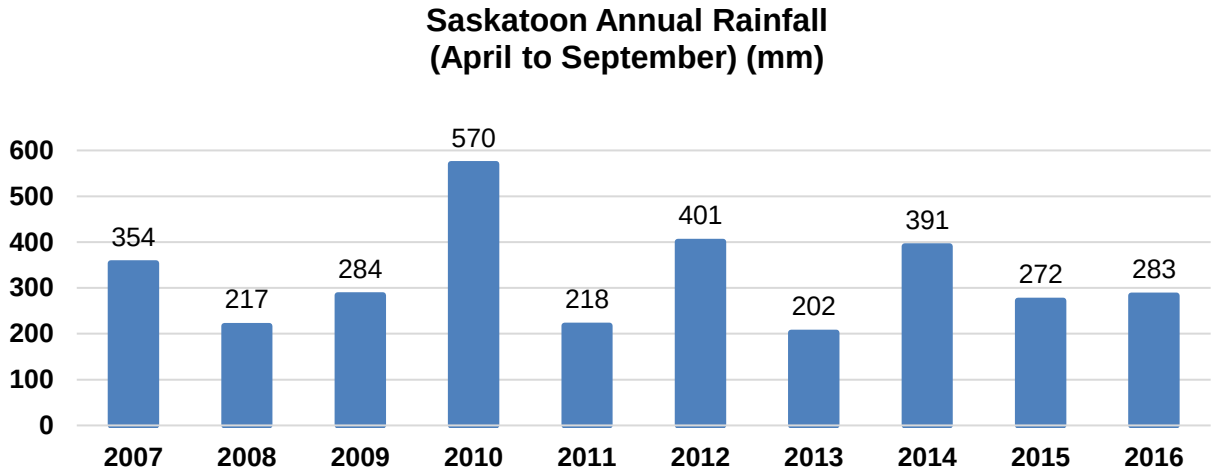
Water treatment and distribution, wastewater collection and treatment, and storm water management services are provided to Saskatoon's 262,900 citizens and to commercial, industrial, and institutional customers. Saskatoon Water also sells treated water to SaskWater, which receives this water at seven supply points around the city's perimeter and re-distributes it to 37,900 customers outside of Saskatoon.

In 2016, Saskatoon Water provided water services to approximately 73,000 residential and commercial water meters.

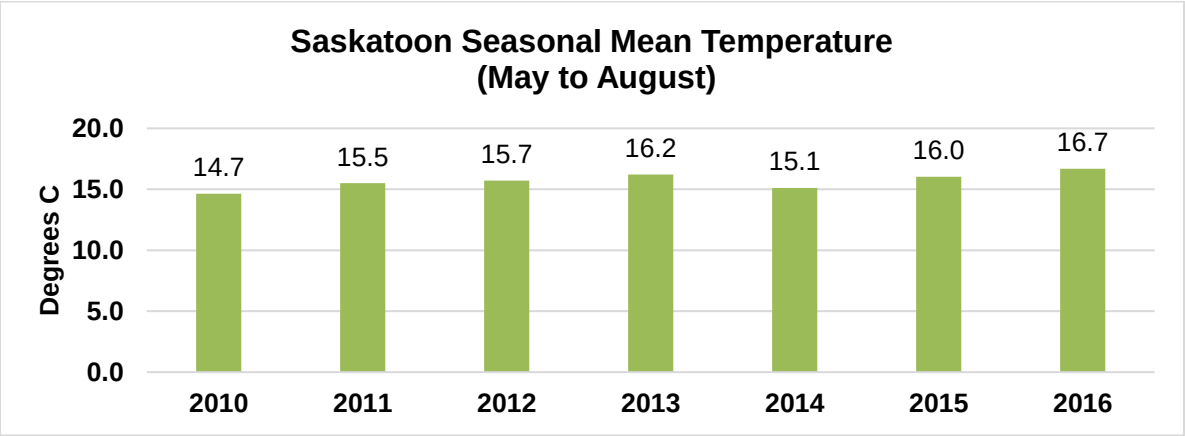
Storm water customers include residential properties with water meters and commercial, industrial, and institutional properties that generate storm water run-off. In 2016, storm water management charges were applied to over 70,000 total properties in the city. Agriculture-zoned property, roads, right-of-ways, and City-owned parks were exempted from storm water charges.

2.2 Rainfall and Temperature

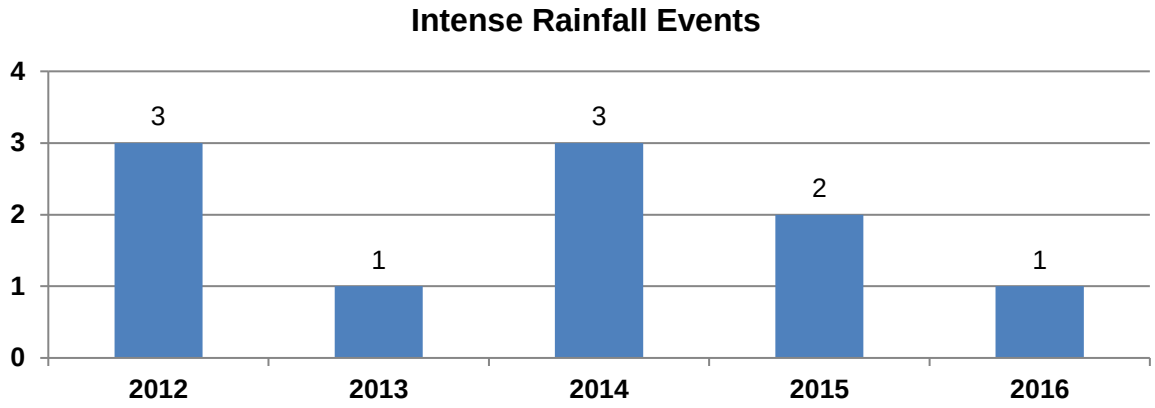
Variations in annual water sales correlate closely with summer rainfall and temperatures, which show irrigation is a significant portion of total sales volume. In 2016, Saskatoon registered 283 mm of rainfall, which is slightly lower than the 10-year average rainfall of 319 mm.



Average summer (May to August) temperatures in 2016 were 0.7º C warmer than historical summer averages. In 2015, summer monthly temperatures were an average 0.1 º C warmer than normal.

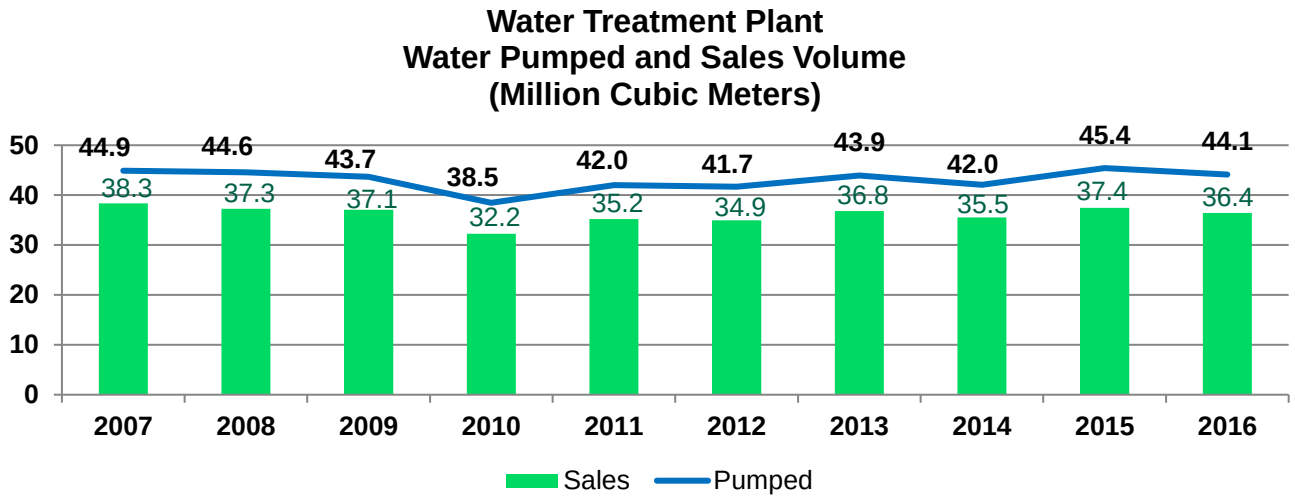


Intense rainfalls place demands on the storm water infrastructure. Since 2012, Saskatoon has operated eight rain gauges. In 2016, an average of one rain event (minimum two-year return period) per gauge was recorded. Saskatoon had a maximum 24-hour rainfall of 24 mm on August 3, 2016. In seven of the last ten years, Saskatoon experienced maximum 24-hour rainfall levels that were higher than the historical 116-year average (37 mm).



2.3 Water Treatment Plant Volumes

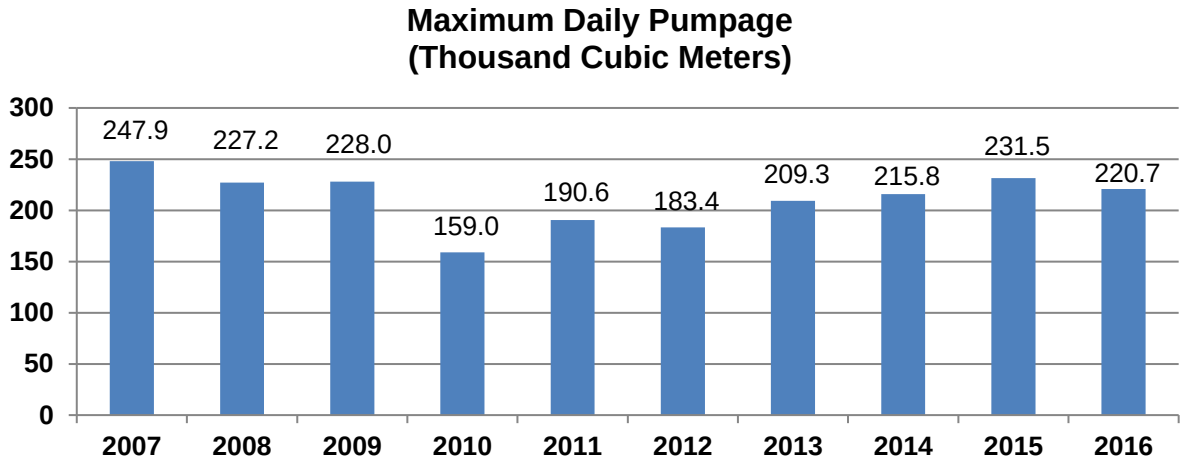
Based on customer meter readings, 36.4 million cubic meters of water were sold in 2016. The wet spring in 2016 resulted in a lower demand for irrigation, resulting in lower sales than 2015. Even with population growth, the volume of water sold in 2016 was lower than the volume sold in 2007. This can be attributed to lower consumption per capita due to low-flow faucets, toilets, and washing machines, and an increased water conservation awareness.



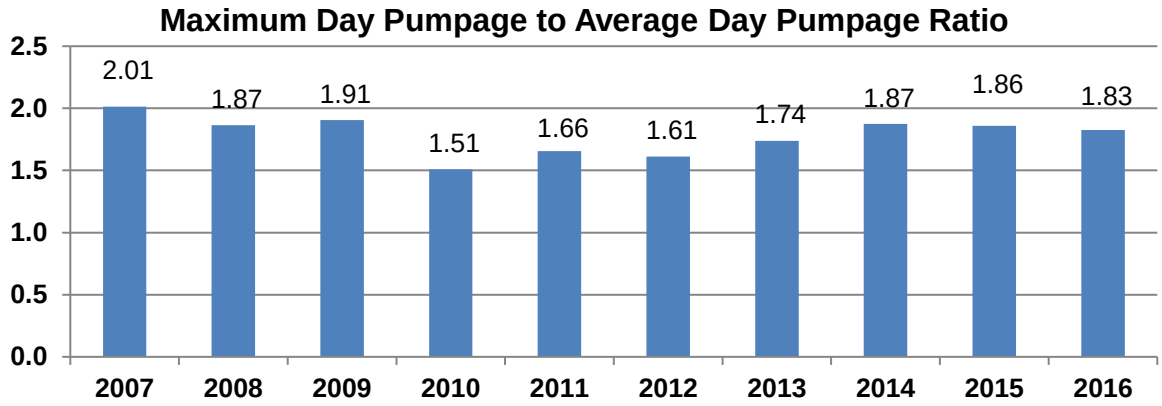
The above chart compares the annual volume of treated water pumped from the WTP into the distribution system and the volume of water sold. Due to a water meter failure, the pumpage was estimated from 2010 to 2013 based on an assumed water leakage rate of 16.2%. In 2016, unmetered water was 17.5% of total water pumpage. The difference between the volume of treated water pumped and sold was due to the following:

- Water loss through leaks
- Water main breaks
- Unauthorized water use
- Authorized but unmetered consumption (e.g. flushing water mains and fire flow)
- Estimated consumption and year-end unbilled volumes
- Water meter accuracy

Maintenance and investment in the water distribution system will reduce water loss and lower water treatment operating costs.



The WTP's capacity must be able to meet the maximum daily water demand, which is the average of four consecutive days of highest demand each year. Maximum daily pumpage has increased over three years from 2013 to 2015, with a maximum of 231,465 m^3 in June 2015. In June 2016, the maximum daily demand was 220,705 m^3. The City's population growth and weather conditions impact the maximum daily pumpage. Conservation initiatives have helped to reduce maximum daily pumpage from the levels seen in 2007, even with population growth.

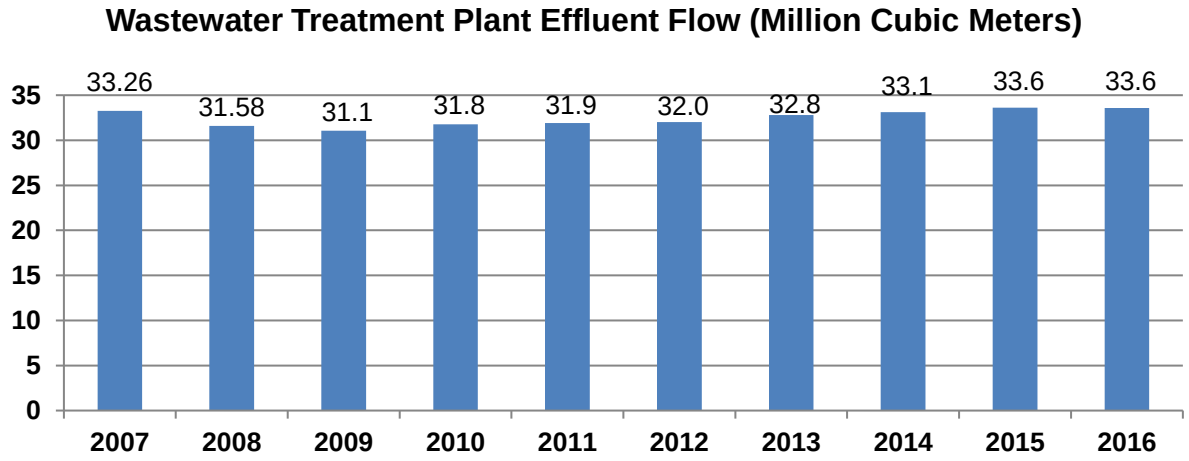


"Maximum Day Pumpage to Average Day Pumpage Ratio" reflects the extra capacity required for the maximum daily volume of water consumption at the height of summer irrigation relative to average daily water consumption throughout the entire year.

The 2016 "Maximum Day to Average Day Pumpage Ratio" of 1.83 was slightly lower than the ratio in 2015. This ratio is highly volatile as it is largely dependent upon weather in the summer. Hot, dry weather yields high ratios, while cool, wet weather yields low ratios.

Over the next decade, as demand approaches plant capacity, construction of a new WTP can be deferred by reducing the peaking caused by irrigation during periods of hot, dry weather. The ratio can be significantly reduced through peak demand management initiatives, such as implementing watering schedules.

2.4 Wastewater Treatment Plant Volumes



*2011 was estimated due to missing flow data. The monitoring instrumentation was replaced.

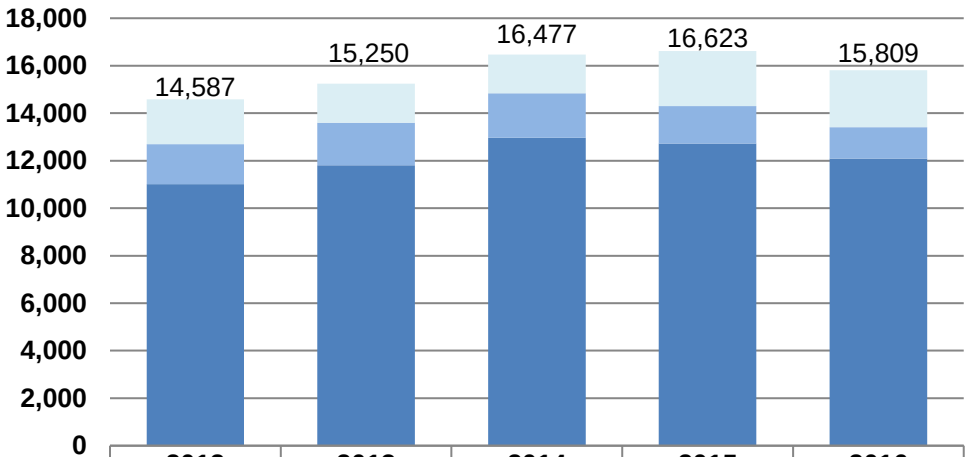
In 2016, WWTP effluent was the same as in 2015, which is the maximum over the last 10 years. WWTP effluent flow increases as the population grows and decreases when households install water-saving appliances, such as low-flush toilets. Wet weather or intense storm conditions also influence effluent flow due to inflow (e.g. weeping tiles) and infiltration (e.g. leaky pipe joints and manholes) into the wastewater collection system; therefore, less effluent is expected in dry years.

Waste Activated Sludge Stripping to Remove Internal Phosphorous (WASSTRIP) Tank with cover to reduce odour

2.5 Meter Shop Customers

In 2016, the Meter Shop undertook 15,809 total jobs, an increase of about 8.4% since 2012, with the same number of employees. Jobs included 2,398 meter replacements, 1,323 new meter installations, and 12,088 service calls, which result from work orders generated by Corporate Revenue to check malfunctioning meters or for cut-offs and reconnects. New meter installations were down due to decrease in growth, while the number of meter replacements increased by 3.4%.

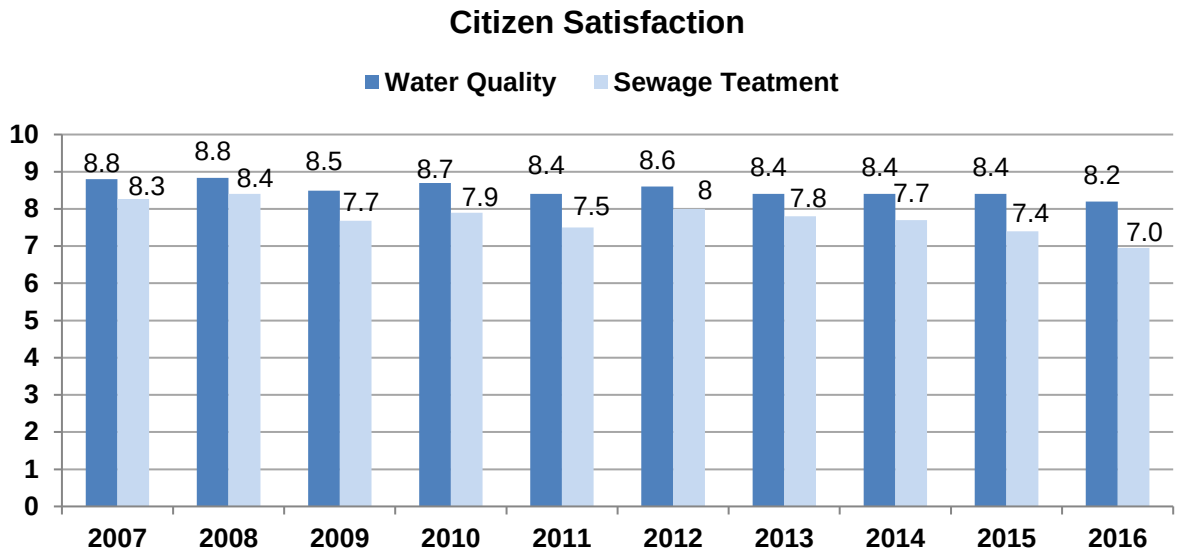
Meter Shop
Service Calls, New Meter Installations and Replacements



	2012	2013	2014	2015	2016
Replacements	1,888	1,656	1,637	2,320	2,398
New Installations	1,689	1,787	1,872	1,583	1,323
Service Calls	11,010	11,807	12,968	12,720	12,088

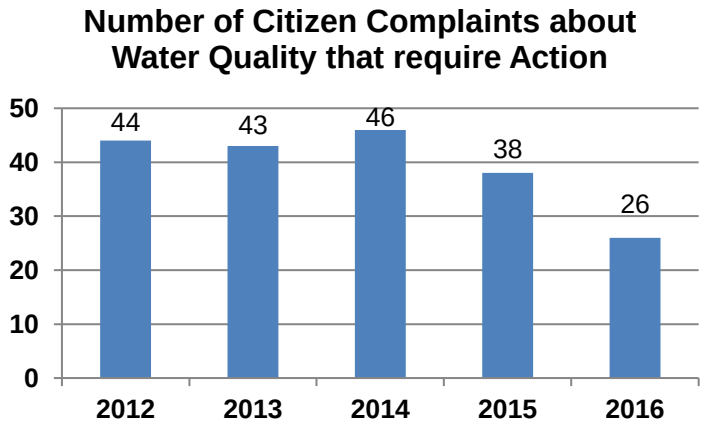
Presently, there are 7,835 active backflow prevention devices. In 2016, 991 new devices were installed and 95.1% of all devices were tested. Almost all of the 4.9% of devices not tested were inactive due to construction or City parks not completed on time.

2.6 Customer Satisfaction



Saskatoon citizens ranked water treatment and wastewater treatment as two of the most important civic services, with drinking water quality being the most important service in the annual 2016 Civic Services Satisfaction Study. A score of ten means "excellent" and five means "average". In 2016, the average citizen satisfaction for water quality was 8.2 and sewage treatment was 7.0 out of 10. **Water quality has consistently received the highest Saskatoon citizen satisfaction rating of all civic services**.

2.7 Citizen Calls



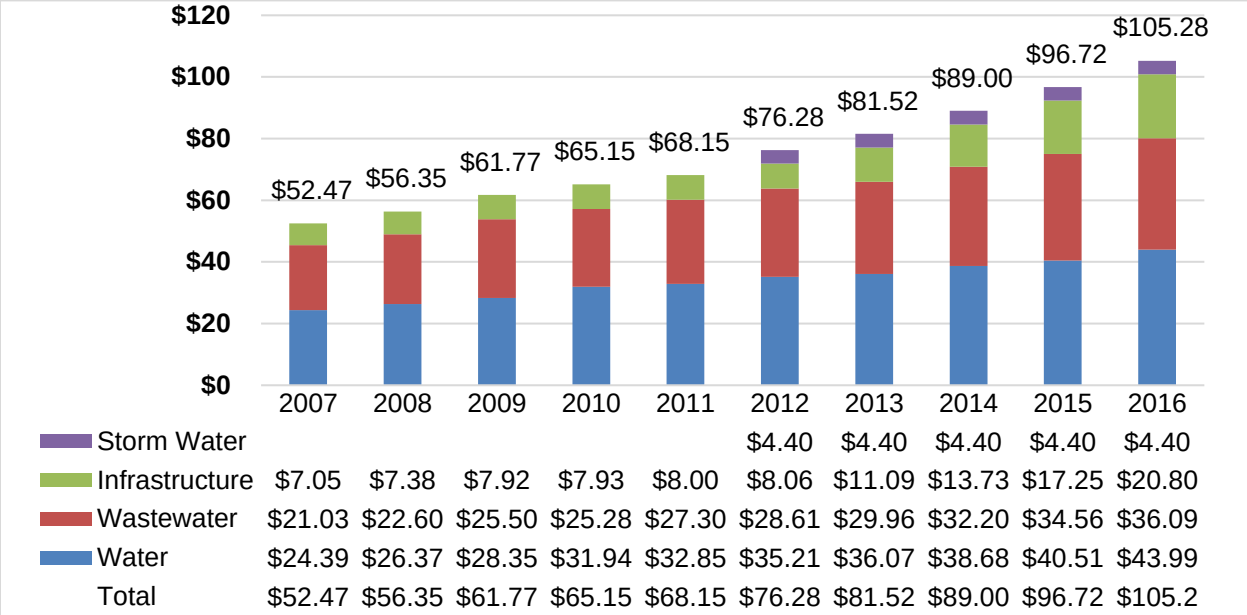
In 2016, citizen calls resulted in lab personnel making 26 on-site visits to conduct water quality testing for bacteria and inorganic material to ensure safe, high-quality water is maintained.

Three calls about WWTP odour were received in 2016, and all occurred during the commissioning of a capital project. No odour complaints were received during normal operations.

3.0 OUR FINANCES

3.1 Utility Bills

Average Residential Monthly Water-Related Utility Charges
3/4 inch meter and Volume of 900 ft3 / 25.5 m3)



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Storm Water						$4.40	$4.40	$4.40	$4.40	$4.40
Infrastructure	$7.05	$7.38	$7.92	$7.93	$8.00	$8.06	$11.09	$13.73	$17.25	$20.80
Wastewater	$21.03	$22.60	$25.50	$25.28	$27.30	$28.61	$29.96	$32.20	$34.56	$36.09
Water	$24.39	$26.37	$28.35	$31.94	$32.85	$35.21	$36.07	$38.68	$40.51	$43.99
Total	$52.47	$56.35	$61.77	$65.15	$68.15	$76.28	$81.52	$89.00	$96.72	$105.2

Total residential water-related utility charges were $105.28 per month in 2016 based on a standard 3/4 inch meter connection and a monthly water volume of 900 ft^3. Saskatoon residents with smaller 5/8 inch water meters, which are common in core neighbourhoods, pay $4.68 less per month on the fixed portion of their Utility Bill. In 2016, 55% of meters for single residential homes were 5/8 inch and 45% were 3/4 inch. All new homes are fitted with 3/4 inch meters, which meet citizen expectations for higher water demand, for example, watering larger lawns.

Infrastructure Levies include the Roadways Levy and Redevelopment Levy, which were phased in between 2014 and 2016, and its funding is split between the Water and Wastewater Utilities. See *Appendix 2: Understanding Your 2016 Water-Based Utility Bill* for more information about Utility Bill charges.

Saskatoon's total water, wastewater, and storm water Utility Bills remain significantly less than in other cities in Alberta, Manitoba, and Saskatchewan at average water volumes. Based on the standard water meter size and monthly water volume of 900 ft^3, water bills in Saskatoon were 8.0% less than in Regina, the second lowest utility.

2016 Water, Wastewater & Storm Water Monthly Charges by Utility (3/4 inch meter and Volume of 900 ft^3 / 25.5 m^3)

	Saskatoon	Winnipeg	Calgary	Edmonton	Regina
Storm	$4.40	$-	$13.05	$11.76	$15.21
Wastewater	$46.49	$60.00	$56.29	$62.71	$57.86
Water	$54.39	$53.65	$60.61	$60.08	$67.57
Total	$105.28	$113.65	$129.95	$134.55	$140.64

Under Saskatoon's inclining block rate system, water and wastewater rates increase at volumes of 600 ft^3 (17 m^3) and 1,200 ft^3 (34 m^3). Of the western benchmark cities, only Winnipeg has lower charges for water volume, less than 600 ft^3 (17 m^3) per month.

The 2014 *Storm Water Utility Program Comparison* report compared the City's storm water rates with 12 other cities for different property types on the basis of costs and "user-pay". Saskatoon residential properties paid the third lowest storm water utility rate and commercial properties paid the fourth highest rate.

The "user-pay" assessment considered the degree to which properties were charged proportionally for the amount of storm water run-off they generated, ranging from charges based on area size and imperviousness for all types of properties (most "user-pay") to a flat rate for all properties (least "user-pay"). Saskatoon is among the leading "user-pay" cities, ranking fourth among the 13 cities.

3.2 Financial Summary

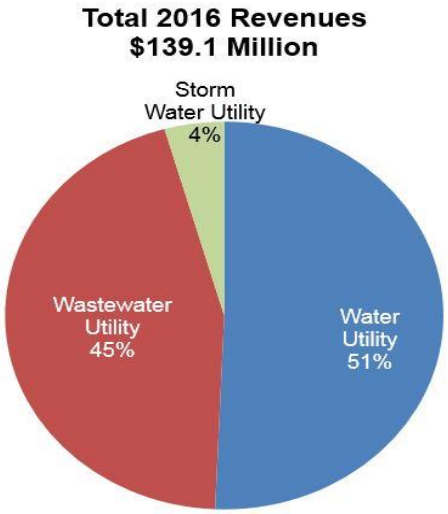
The Water, Wastewater and Storm Water Utilities are based on a user-pay principal and are fully funded through their rates. In 2016, the three utilities collected $139.1 million in total revenues and had $135.5 million in total expenses for a positive variance of $3.6 million.[1]

Water, Wastewater and Storm Water Utilities
Statement of Revenues and Expenditures
($1,000s)

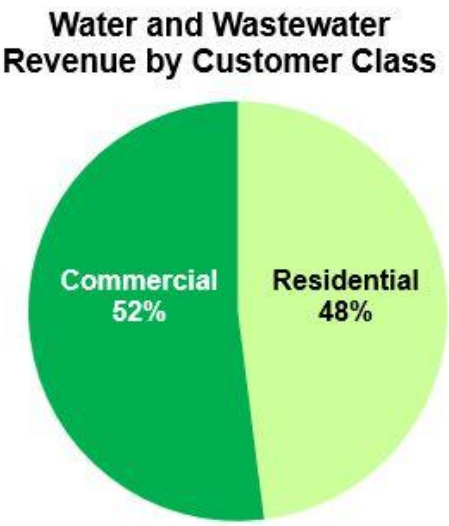
	Water Utility	Wastewater Utility	Storm Water Utility	Consolidated	Consolidated
	2016	2016	2016	2016	2015
Total Revenues	**$ 70,504**	**$ 62,518**	**$ 6,120**	**$ 139,142**	**$ 130,005**
Expenditures					
Utility Operations	$ 12,088	$ 10,573	$ 376	$ 23,037	$ 23,636
Public Works Operations	11,598	7,351	2,619	21,568	19,597
Administration & General	2,377	1,454	16	3,847	4,961
Corporate Services & Billing	3,638	2,345	179	6,163	4,766
Capital Charges	21,040	15,160	2,667	38,866	37,750
Flood Protection Charges		3,899		3,899	3,841
Infrastructure Services Capital Reserve	10,910	15,066		25,976	22,302
Grants-in-lieu of Taxes	5,291	3,862		9,153	8,479
Return on Investment	1,740	1,260		3,000	
Total Expenditures	**$ 68,682**	**$ 60,971**	**$ 5,856**	**$ 135,509**	**$ 125,332**
Revenues less Expenditures	**$ 1,823**	**$ 1,548**	**$ 263**	**$ 3,634**	**$ 4,672**
(To)/From Stabilization/Capital reserves	**$ (1,823)**	**$ (1,548)**	**$ (263)**	**$ (3,634)**	**$ (4,672)**

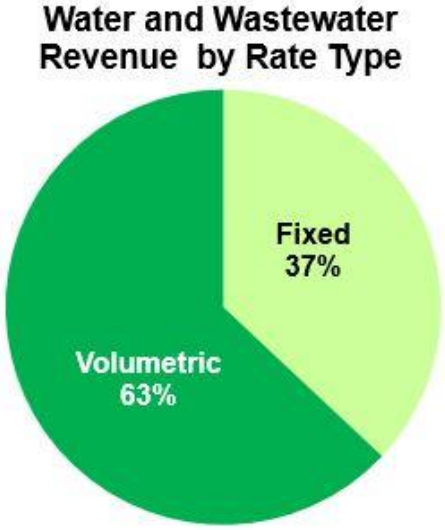
Total utility revenues increased by 7% in 2016 as a result of the infrastructure levy phase-in, rate increases, population growth, and increased other revenue, which offset the decrease in volumetric and fixed revenue.

The Water Utility accounts for 51%, Wastewater for 45%, and Storm Water for 4% of revenues.



[1] Positive Water and Wastewater variances fund the Water & Wastewater Revenue Stabilization Reserve which is utilized in years when there is an operating deficit. The Stabilization Reserve has a maximum balance of 5% of the current year's budgeted metered revenue and Infrastructure Levy. Any amount that exceeds the maximum is transferred to the Waterworks Capital Projects Reserve, the Sewage Treatment Capital Reserve, or the Infrastructure Replacement Reserve. The positive Storm Water Utility variance will be transferred to the Storm Water Stabilization Reserve.



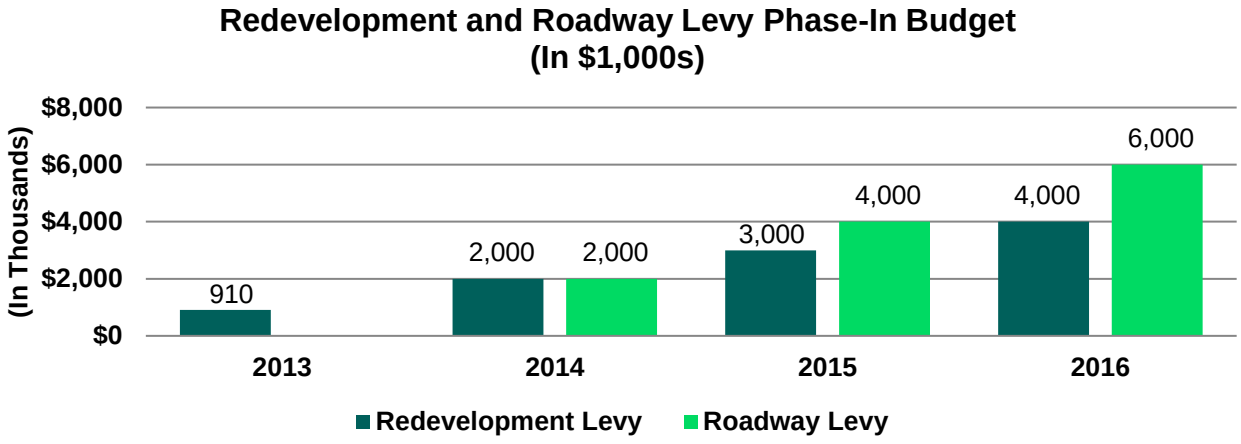


Commercial customers account for just over half of Water and Wastewater's total revenues.

About 63% of revenues are based on volumetric charges and 37% are from fixed charges.

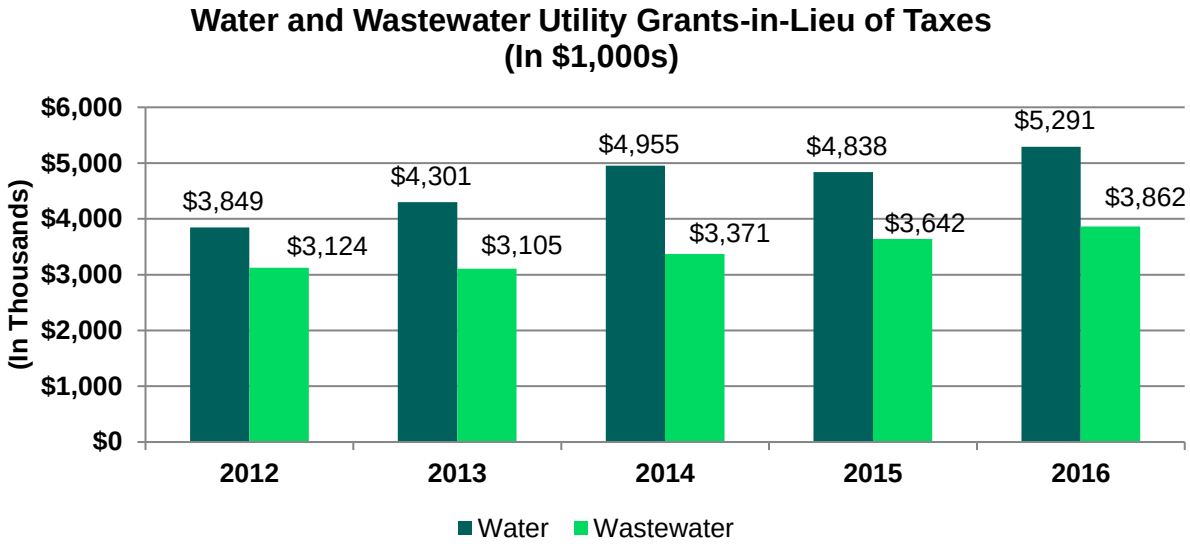
In 2016, total expenditures increased by 8.1% due to growth, inflation, additional water treatment processes to meet higher standards, and increased contributions to the Infrastructure Services Capital Reserve. Despite below budget revenues in 2016 due to cool, wet weather, the overall expenditures were below budget resulting in the positive balance of $3.6 million, which was allocated to the Water & Wastewater Revenue Stabilization Reserve and to Capital Reserves.

Funding to Roadways & Operations and Water & Waste Stream to deliver the day-to-day operation and maintenance of the water distribution, collection, and drainage systems accounted for 16% of total expenditures. Funding for the Infrastructure Services Capital Reserve accounted for another 19% of expenditures, and in 2016, Saskatoon Water paid $3 million (2%) Return on Investment (ROI). 2016 is the first year of a five-year phase-in plan to establish an ROI from Saskatoon Water on 10% of metered and fixed revenue.



The Infrastructure Levy was originally implemented to fund the Infrastructure Services Capital Reserve for water distribution and wastewater collection system rehabilitation and replacement projects needed to address aging infrastructure (e.g. eliminate the water main replacement backlog to meet current service levels). In 2013, a Redevelopment Levy was added to the Infrastructure Levy, with a four-year phase-in period to generate $4.0 million annually by 2016. In 2014, a Roadway Levy was added to the Infrastructure Levy with a three-year phase-in period to generate $6.0 million annually by 2016. The new levies accounted for $10.0 million in 2016, representing 82% of the 2016 increase in Infrastructure Levy revenue.

The Water and Wastewater Utilities paid $9.15 million in 2016 to the City as a Grant-in-lieu of Taxes.



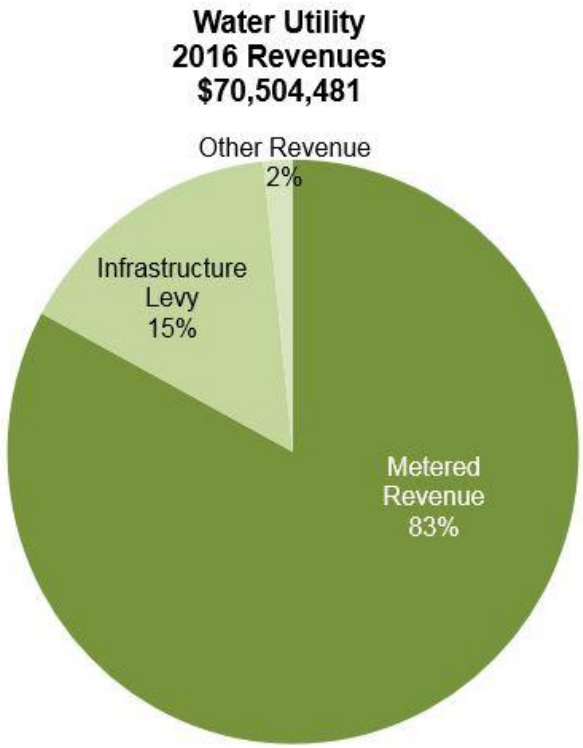
The Water and Wastewater Utilities had a positive variance of $3.6 million, of which, $791,158 was allocated to maximize the allowable balance in the Water and Wastewater Revenue Stabilization Reserve and the remainder was transferred to capital reserves to support capital projects and reduce debt requirements.

3.3 Water Utility

Revenues

The Water Utility's 2016 total revenues of $70.5 million were $153,000 or 0.2% less than budgeted. Total revenues were $5.3 million or 8.1% more in 2016 than in 2015. Infrastructure Levy revenues, a volumetric charge, increased by 16.5% in 2016.

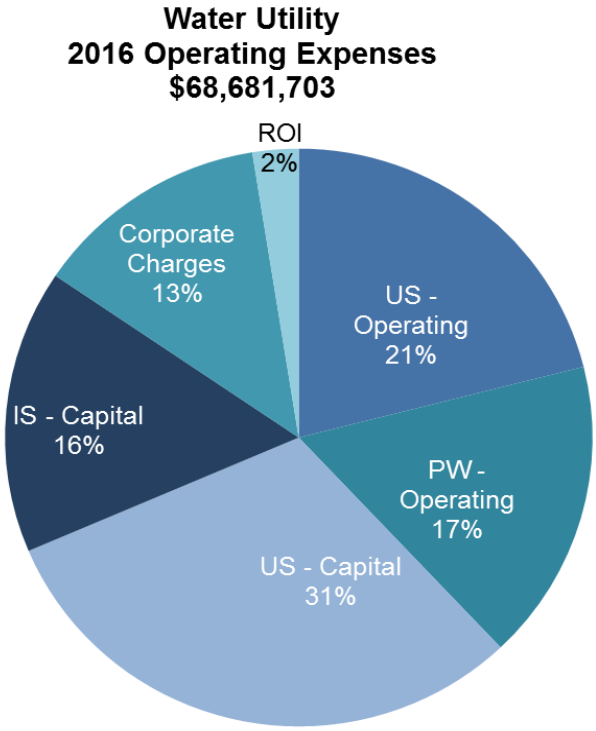
Other revenues included the fire protection charge, late payment penalties, and some miscellaneous revenue.



Expenses

The Water Utility's $68.6 million expenses in 2016 included the following:

- Utility Services (US) Operating expenses, of $14.4 million, include water treatment, pumping, storage, Meter Shop, administration, and general expenses incurred by Saskatoon Water.
- Public Works (PW) Operating expenses, of $11.6 million, include funding to Water & Waste Stream to operate and maintain the water distribution system.
- Utility Services (US) Capital, of $20 million, funds all capital work related to the WTP and reservoirs, including debt servicing costs.
- Infrastructure Services (IS) Capital, of $10.9 million (funded by the Infrastructure Levy), includes capital replacement of the water distribution systems, roadway damage associated with the utility, and water upgrades for core area developments.
- Corporate Charges, of $8.9 million, include the Grant-in-Lieu of taxes, cross-charges for customer billing and collections, and corporate administration.



- Return on Investment (ROI), of $1.7 million. 2016 is the first year of a five-year phase-in plan to establish an ROI from Water Utility based on 10% of metered and fixed revenue.

The Water Utility's 2016 total expenses were approximately as budgeted and were 8.0% more than in 2015, reflecting the 2015 discretionary spending order, inflation, higher costs for additional new treatments, increase in the volume of treated water, increased maintenance, and increased contribution to the Infrastructure Services Capital Reserve. The 2016 expenses, under the control of Saskatoon Water, were under budget by $1.8 million and were $1.1 million (7.3 %) less than in 2015.

Financial Statement

Water Utility
Operating Revenues and Expenses
($1000s)

	2016 Budget	2016 Actual	2015 Actual
Revenues			
Metered revenue	$ 58,786	$ 58,426	$ 54,676
Infrastructure Levy	10,863	10,910	9,367
Other revenue	1,009	1,168	1,156
Total Revenue	**$ 70,658**	**$ 70,504**	**$ 65,198**
Expenses			
Water Treatment, Pumping, Storage	$ 12,019	$ 10,481	$ 10,736
Water Meters	1,669	1,606	1,603
Water Administration & General	2,590	2,377	3,259
Corporate Services	3,599	3,638	2,752
Distribution (Public Works)	11,859	11,598	11,108
Capital Charges	21,029	21,040	19,927
Provision to Infrastructure Services Capital	10,863	10,910	9,367
Grants-in-lieu of Taxes	5,291	5,291	4,838
Return on Investment	1,740	1,740	
Total Expenses	**$ 70,658**	**$ 68,682**	**$ 63,589**
Revenues less Expenses	**$ -**	**$ (1,823)**	**$ (1,609)**
(To)/From Stabilization/Capital Reserves	**$ -**	**$ 1,823**	**$ 1,609**

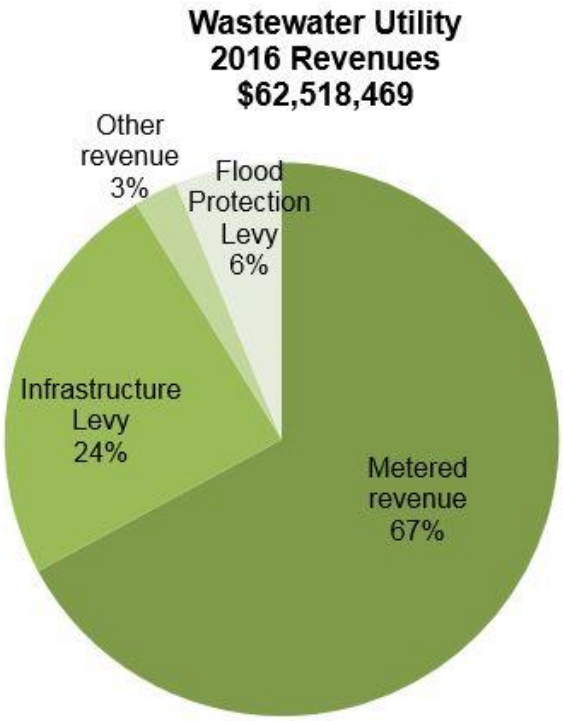
The positive balance of $1.8 million was allocated to the Water & Wastewater Revenue Stabilization Reserve and to Capital Reserves.

3.4 Wastewater Utility

Revenues

The Wastewater Utility's 2016 revenues, of $62.5 million, were about 0.5% less than budgeted.

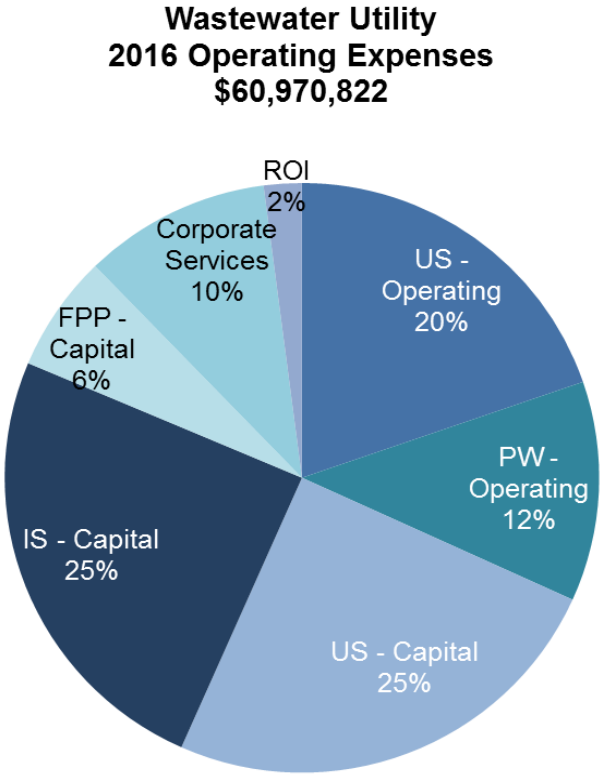
Revenues increased by 5.8% from 2015 due to rate increases including the Roadways and Redevelopment Levies, and the higher demand. The plant also received more revenues from liquid waste haulers, which are increasingly bringing septic waste to the plant in anticipation of provincial regulatory changes restricting land spreading of septic tank waste after 2017.



Expenses

The Wastewater Utility's 2016 expenses of $60.9 million included the following:

- Utility Services (US) Operating expenses, of $12 million, include wastewater treatment, pumping, sludge handling and disposal, administration, and general expenses incurred by Saskatoon Water.
- Public Works (PW) Operating expenses, of $7.3 million, include funding to Water & Waste Stream to operate and maintain the wastewater collection system.
- Utility Services (US) Capital, of $15.1 million, funds capital work related to the WWTP.
- Flood Protection Program (FPP) Capital, of $3.9 million, funds projects that reduce sewer back-ups during major storms.
- Infrastructure Services (IS) Capital Reserve, of $15 million, funds capital replacement of the wastewater collection systems, roadway damage associated with the utility, and wastewater upgrades for core areas.
- Corporate Charges, of $6.2 million, include the Grant-in-lieu of Taxes, cross-charges for customer billing and collections, and corporate administration.



- Return on investment (ROI), of $1.2 million. 2016 is the first year of a five-year phase-in plan to establish an ROI from Wastewater Utility based on 10% of metered and fixed revenue.

The Wastewater Utility's 2016 expenses were 3.0% less than budgeted and about 9.0% more than in 2015, which reflected the 2015 discretionary spending order, the increase to the Infrastructure Services Capital Reserve, inflation, and increased volume. The 2016 expenses, under control of Saskatoon Water, were under budget by $0.9 million and were $0.5 million (4.3%) less than in 2015.

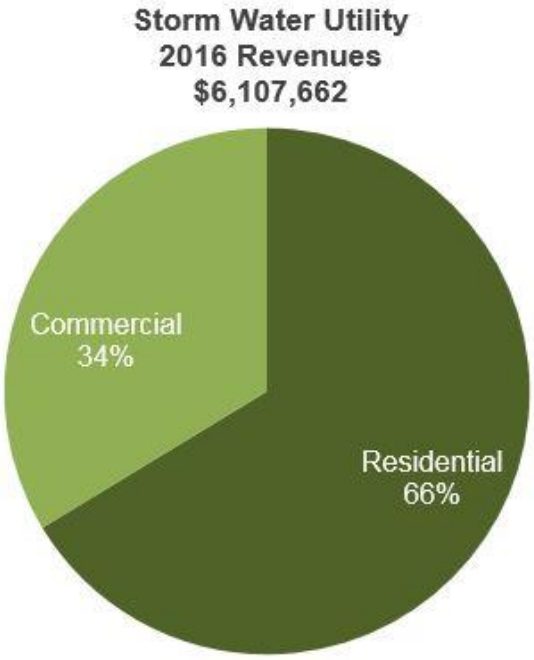
Financial Statement

Wastewater Utility
Operating Revenues and Expenses
($1000s)

	2016 Budget	2016 Actual	2015 Actual
Revenues			
Metered revenue	$ 42,911	$ 41,948	$ 40,566
Infrastructure Levy	15,001	15,066	12,935
Other revenue	1,008	1,605	1,723
Flood Protection Levy	3,921	3,899	3,841
Total Revenues	**$ 62,840**	**$ 62,518**	**$ 59,065**
Expenses			
Wastewater Treatment	$ 7,595	$ 7,262	$ 7,418
Wastewater Lift Stations	1,742	1,522	1,750
Wastewater Sludge Handling & Disposal	1,960	1,789	1,710
Wastewater Administration & General	1,655	1,454	1,688
Corporate Services	2,321	2,345	1,843
Collection (Public Works)	8,377	7,351	6,370
Capital Charges	15,148	15,160	14,902
Flood Protection Program	3,921	3,899	3,841
Provision to Infrastructure Services Capital	15,001	15,066	12,935
Grants-in-lieu of Taxes	3,862	3,862	3,642
Return on Investment	1,260	1,260	-
Total Expenses	**$ 62,840**	**$ 60,971**	**$ 56,099**
Revenues less Expenses	**$ -**	**$ 1,548**	**$ 2,967**
(To)/From Stabilization/Capital Reserves	**$ -**	**$ (1,548)**	**$ (2,967)**

The positive balance of $1.55 million was allocated to the Water & Wastewater Revenue Stabilization Reserve and to Capital Reserves.

3.5 Storm Water Utility



Revenues

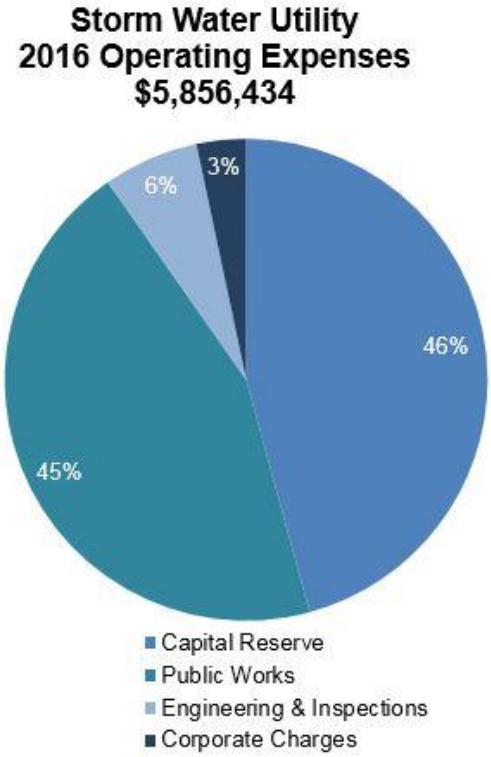
The Storm Water Utility's revenues include single-family residential charges ($52.80 per year), multi-residential, commercial, industrial, and institutional charges, which are proportional to the storm water generated based on property size and surface imperviousness. A seven-year phase-in of commercial rates started in 2012, with a maximum annual charge of $3,696 per property in 2016.

The Storm Water Utility's revenues in 2016 were $6.11 million, an increase of 6.60% from 2015. Residential customers accounted for about two thirds of revenues while commercial customers accounted for one third of revenues.

The Storm Water Utility's revenues were higher by 1.79% than the budgeted amount of $6.0 million. This increase is mainly due to re-assessment of run-off charges for commercial and multi-residential properties in order to capture all new developments.

Expenses

The Storm Water Utility's 2016 operating expenditures were $5.8 million, which was higher by 3.75% than 2015 expenses of $5.64 million. Operating expenditures in 2016 were 2.57% lower than budgeted because of no major storm events and staff vacancies.



- Engineering and inspections, of $0.38 million, included drainage inspections and overall utility management by Saskatoon Water.
- Provisions to Capital expenditures, of $2.69 million, are related to annual funding allocation to capital investments. In 2016, almost half of total expenditures was allocated to Storm Capital Reserve to fund storm water infrastructure rehabilitation.
- Public Works Operating expenses, of $2.62 million, include funding to Roadways & Operations and Water & Waste Stream to operate and maintain the storm water collection system including surface drainage.
- Corporate Charges, of $0.17 million, included billing services by Corporate Revenue and financial and administration services from Business Administration, Transportation & Utilities Department.

The Storm Water Utility's positive variance of $.026 million was allocated to the Stabilization Reserve, which the utility can draw on in years when there is a negative annual operating balance. The Stabilization Reserve balance was $1.46 million at the end of 2016.

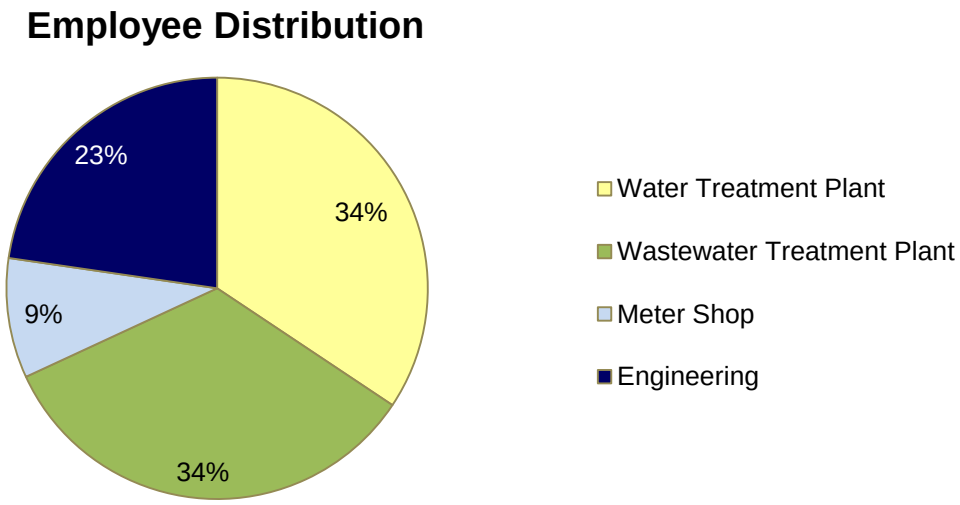
Financial Statement

Storm Water Utility Operating Revenues and Expenses ($1000s)	2016 Budget	2016 Actual	2015 Actual
Revenues			
Storm Water Charges	$ 6,000	$ 6,108	$ 5,729
Late Charges	11	12	12
Total Revenues	**$ 6,011**	**$ 6,120**	**$ 5,741**
Expenses			
Engineering & Inspections Operations	$ 417	$ 376	$ 418
Maintenance (Public Works)	1,858	1,805	1,449
Drainage (Public Works)	879	814	671
Customer Billing	123	127	122
Corporate Services	52	52	50
Licenses & Insurance	16	16	14
Interest Expense/(Revenue)	(25)	(25)	(35)
Provision to Capital Reserve	2,691	2,691	2,957
Total Operating Expenses	**$ 6,011**	**$ 5,856**	**$ 5,644**
Revenues Less Expenses	**$ -**	**$ 263**	**$ 97**
(To)/From Stabilization/Capital Reserves	**$ -**	**$ (263)**	**$ (97)**

4.0 OUR PEOPLE

4.1 Number of Employees

Saskatoon Water had 163 employees as of December 2016. The graph shows the distribution in major areas. (Engineering includes Engineering Services and Engineering & Planning sections.)



4.2 Representative Workforce

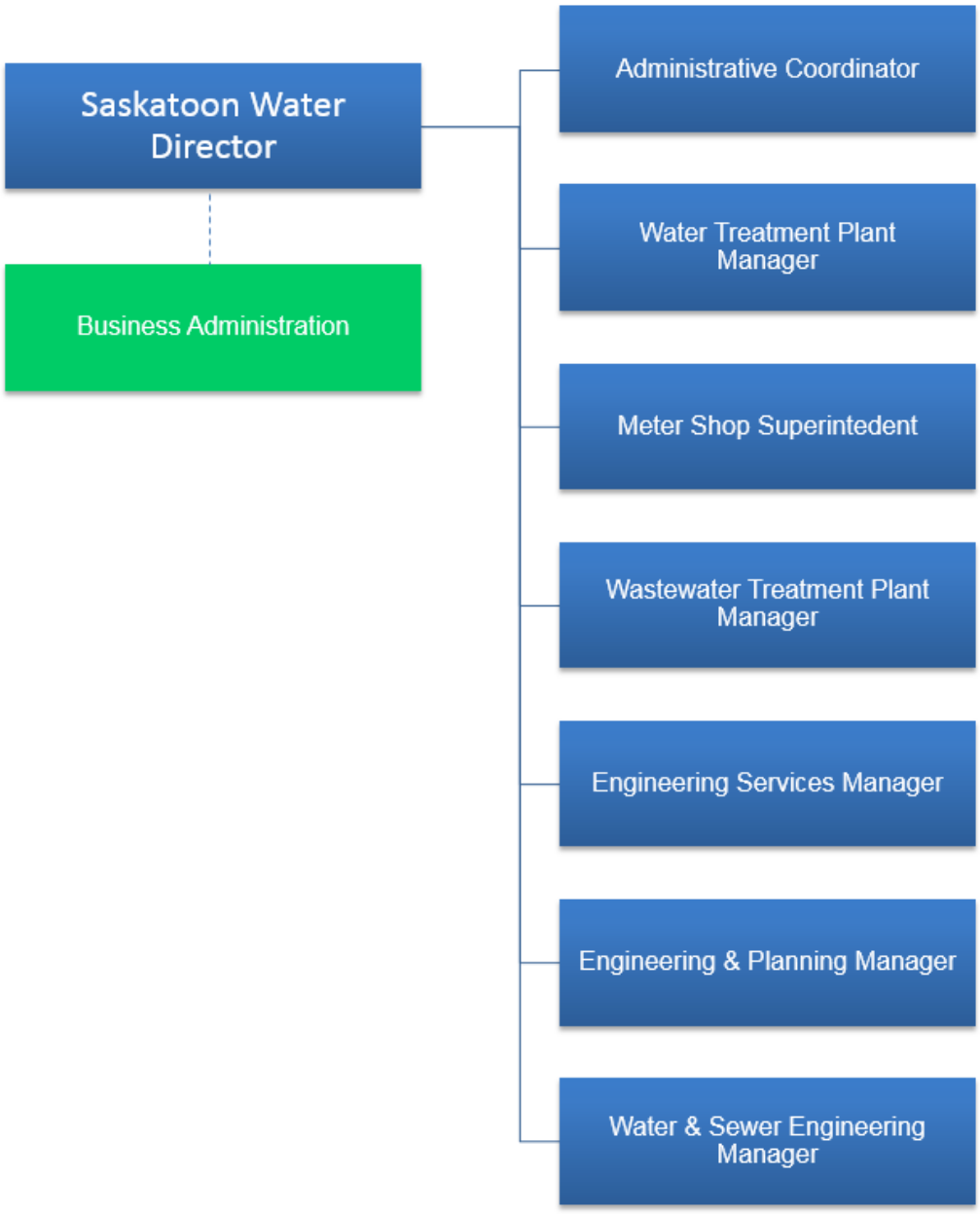
Saskatoon Water participated in diversity programs with Human Resources and other organizations to increase awareness among under-represented groups of career opportunities with Saskatoon Water. Examples of programs include Gabriel Dumont Institute Work Experience for Aboriginal People, Women in Trades - Grade XII Girls, and Open House for New Canadians.

Relative to goals set in 2014 by the Saskatchewan Human Rights Commission (SHRC) and adopted as corporate targets by the City, Saskatoon Water had a higher proportion of self-declared visibility minority employees and lower proportions of employees who self-declared as Aboriginal, female, or with a disability as of December 2016.

Percentage of Employees Self-Declared as an Equity Group Member December, 2016			
Equity Group	**Saskatoon Water**	**City of Saskatoon**	**SHRC Goal**
Self-Declared as Aboriginal Ancestry	5.0%	7.2%	14.0%
Self-Declared as Visible Minority	15.6%	10.6%	11.0%
Self-Declared as Person with Disability	1.9%	3.8%	12.4%
Self-Declared as Female	20.6%	38.0%	46.0%

4.3 Organizational Chart

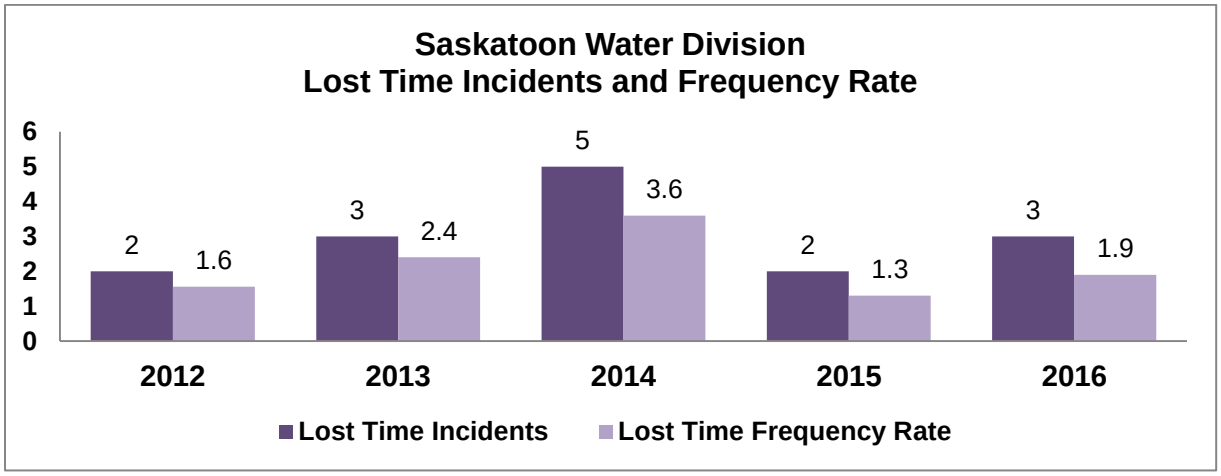
The organizational chart provides a high level overview of how Saskatoon Water is organized and key positions in 2016.

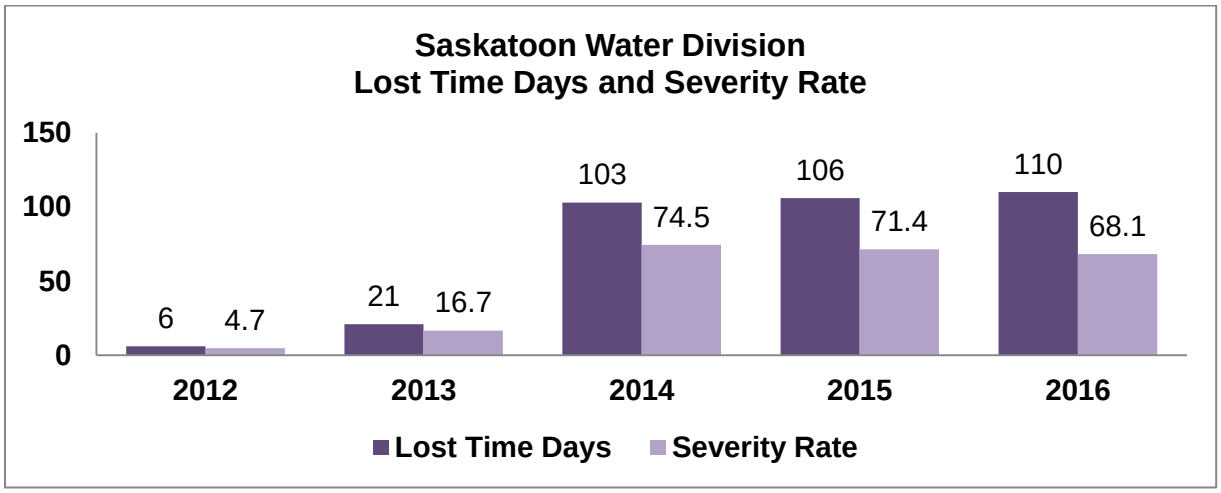


4.4 Employee Safety

Management and staff place a strong emphasis on safety in the workplace to strive to meet the corporate target of zero lost-time injuries. Saskatoon Water is currently implementing recommendations from a 2014 safety audit through engagement from management and staff, with the goal of eliminating work-place incidents/injuries.

Saskatoon Water employees' Lost Time Frequency Rate of 1.9 in 2016 was lower than the 2.7 average for all City employees. Our employees had three lost-time incidents in 2016, compared to two incidents in 2015. Saskatoon Water will continue to follow the Health Management Program and Disability Assistance Program to support employees from the first day of injury or illness to their pre-injury job or an accommodation.





5.0 OUR WORK

5.1 Community Awareness and Engagement

Water Quality Reporting: The Water Security Agency (WSA) requires that at least once each year, Saskatoon Water provide notification to consumers of the quality of water produced and supplied, as well as information on the performance of the waterworks in submitting samples as required by a Minister's Order or Permit to Operate a Waterworks. In compliance with this order, Saskatoon Water produces the Drinking Water Quality and Compliance report annually.

For general information on water quality, water and wastewater treatment processes, environment, major capital projects, and water conservation, Saskatoon Water posts Saskatoon Water's Annual Water Quality Report on the City's website.

Guided Tours of Water Treatment and Wastewater Treatment Plants: Guided tours are available to the public, ages 16 and older, to increase awareness of how the utilities operate in providing safe, reliable water and in returning quality effluent to the South Saskatchewan River. In 2016, the WTP had 315 people booked on 23 tours and the WWTP recorded 227 participants on 19 tours.

Water Week: Saskatoon's Water Week, March 21 to 27, 2016, was themed "Freshwater Leadership". Communication and engagement activities to increase water awareness included a Water Week website, Facebook Water Week Question of the Day, Twitter, YouTube videos about the WTP and the WWTP, and media interviews.

Drinking Water Quality – Lead Pipes: Each year, Saskatoon Water mails drinking water safety information to all homes known to have lead water service pipes. A new brochure was developed with instructions for reducing exposure to lead in drinking water and an outline of the City's new accelerated lead pipe replacement program. Beginning in 2017, the City is committed to replace all 4,900 remaining lead water service pipes within 10 years. This is made possible by the Federal Clean Water and Wastewater Fund; details can be found on the City's website.

Launch of Advanced Metering Infrastructure System: Water meters will have a communication module added to improve billing for customers with remote meter reading and monthly billing based on current usage, not estimates. About 62,000 water meters, newer than 1994, will have the black circular scan pad on the outside of the home replaced with a communication module. Once the communication module is in place, the wiring system that currently links the scan pad to the water meter will be attached to the new communication module. Installations are occurring by neighbourhood and citizens can book an appointment online once they receive a notification letter.

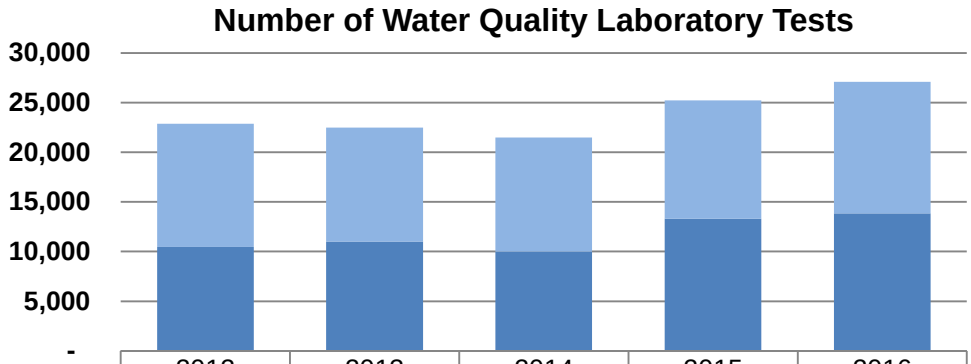
16th Street Slope Remediation Project: Engineering & Planning had an open house, six flyers, and created a website page to keep local citizens updated about the 16th Street Slope Remediation Project.

The Yellow Fish Road Program: This program communicates that water entering storm drains goes directly into the river untreated so materials like used oil, pesticides, fertilizer, and soap should not enter catch basins. The program targeted Saskatoon Public and Catholic School students. Each teacher received a double-sided poster containing information about the program and all students received a two-sided bookmark. Main Yellow Fish Road™ activities included volunteer groups painting storm drains with "yellow fish" symbols and the words "rainwater only" beside storm drains, and distributing door hangers to local residents.

5.2 Operating Highlights

Water Quality: The City's water treatment and distribution systems are regulated by a "Permit to Operate a Waterworks" issued by the WSA. Our drinking water quality is further regulated by Health Canada's *Guidelines for Canadian Drinking Water Quality* and Saskatchewan Environment's *The Water Regulations, 2002.* Water quality is closely monitored 24 hours a day, 365 days a year.

The WTP's comprehensive Maintenance and Equipment Inspection Program meets the highest standard in North America. In 2016, a total of 13,863 water treatment quality tests and 13,237 distribution water quality tests were conducted by our WTP Laboratory accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA). Additional quality tests were conducted at every step of the treatment process for a total of over 50,000 tests.



	2012	2013	2014	2015	2016
Distribution Water Quality Tests	12,389	11,473	11,511	11,945	13,237
Water Treatment Quality Tests	10,476	11,017	9,968	13,293	13,863

The following table shows the results of some of the many types of testing completed by the WTP, which are well within acceptable limits under the Permit to Operate.

Water Distribution System Values						
	2012	2013	2014	2015	2016	Allowable Values
Yearly Total Chlorine Median (mg/L)	1.83	1.8	1.78	1.83	2.00	> 0.5
Yearly Turbidity Median (NTU)[2]	0.16	0.12	0.14	0.18	0.13	< 1.0
Total Coliforms >0 (CFU/100mL)[3]	0	0	0	0	0	0

In addition to the *Drinking Water Quality and Compliance* report, the *2016 Waterworks System Assessment* was completed to meet the WSA's requirements for a thorough five-year reporting of the WTP and distribution system.

Wastewater Quality: The City's wastewater collection and treatment systems are regulated by a "Permit to Operate a Sewage Works" issued by the WSA. Our final effluent water quality is further regulated by Saskatchewan Environment's *Sewage Works Regulations, 2010, Saskatchewan Environmental Code, 2015*, and the *Federal Wastewater System Effluent Regulation, 2012*. Final effluent water quality is closely monitored 365 days a year.

The WWTP's comprehensive Maintenance and Equipment Inspection Program meets the highest standard in North America. In 2016, a total of 6,370 final effluent quality tests and over 20,000 water quality tests of other samples, including groundwater, ponds, storm water outfalls, industries, and the river were conducted by the WWTP CALA-accredited Environmental Laboratory. Over 40,000 tests were conducted throughout the treatment process.

The following table shows the results of some of the many types of testing completed by Saskatoon Water, which are well below the maximum allowable values under the Permit to Operate.

Wastewater Distribution System Values						
	2012	2013	2014	2015	2016	Wastewater Effluent Standard
Yearly Median CBOD[4]	4.9	4.6	4.3	3.9	3.4	<25 mg/L
Yearly Median TSS[5]	10.7	8.8	10	8	7.2	<25 mg/L
Yearly Median Total Phosphorous (TP)	0.15	0.26	0.24	0.2	0.247	<0.75 mg/L
Yearly Median E.coli[6]	<10	<10	<10	<10	<10	<200 mpn/100mL

[2] Nephelometric Turbidity Units (NTU) is a measure of scattered light. A high turbidity level is caused by organic matter which can promote the growth of pathogens as well as being aesthetically unappealing.
[3] Colony Forming Unit (CFU) is a measure of viable bacterial cells.
[4] Measures the oxidation of carbons in water
[5] Total Suspended Solids
[6] E.coli is a common indicator of fecal contamination and is quantified using the Most Probable Number (MPN) method. MPN is a probabilistic test which assumes coliform bacteria meet certain criteria.

Drainage Inspections: The Storm Water Utility helps developers and citizens ensure that drainage is meeting Saskatoon's Drainage Bylaw. The drainage inspector responded to over 400 citizen drainage issues in 2016.

Rainfall Reporting: Eight rainfall gauges were regularly monitored and protocol for reporting was implemented that informed the City of flood potential and assessed past storms. The 2016 Annual Rainfall Report provides a summary of Saskatoon's 2016 rainfall season.

City of Saskatoon Intensity-Duration-Frequency Curves Variations under Different Climate Change Scenarios: Engineering & Planning is working to integrate climate change patterns into the City design standards. Climate change impact on the City's existing storm system will also be investigated.

5.3 Capital Projects

Saskatoon Water had 93 active capital projects as of December 31, 2016, budgeted at $212.5 million, of which, $80.5 million is unspent. The following table summarizes the active capital projects by section:

Saskatoon Water Active Capital Projects as of December 31, 2016			
Section	**# of Active Projects**	**Approved Funding**	**Unspent Funding**
Water Treatment	32	$132,597,000	$36,189,708
Wastewater Treatment	42	$ 71,760,000	$40,948,264
Storm Water	19	$ 8,099,000	$ 3,350,665
Total	93	$212,456,000	$80,488,637

The following section describes some of the major capital projects funded by the water-related utilities.

Clarifier Upgrades: The upgrades to Clarifier #2 and Clarifier #4 were completed in 2014 and 2015, respectively. The planned upgrade to Clarifier #3 in 2016 was delayed as a structural analysis determined the clarifier mechanism could not support the addition of tube settlers. Funding of $9.0 million is in the Capital Plan for 2019 for the structural upgrades and tube settlers for Clarifier #3.

Water Treatment Plant Transfer Pumping and Electrical Upgrades: A Request for Proposal to procure engineering design and construction services was issued in December 2016. Design work on the $26.5 million project is scheduled to commence in May 2017 with design and construction scheduled to take three years.

Water Treatment Plant Filer Plant Upgrade: Procurement of design services and construction contract was completed in 2016. The $2.7 million project will replace corroded material and include aesthetic upgrades to the plant filter banks.

Acadia Drive Capacity Improvements: Work to enable pumping capacity improvements at the Acadia Drive Reservoir and Pumphouse was completed in May 2016 at a capital cost of $2.3 million. The work included installation of a new draw line and upgrades to the process piping. This lays the groundwork for replacement of the existing pumps in 2018.

Construction on Acadia Drive Reservoir and Pumphouse

Advanced Metering Infrastructure: AMI is used to transmit electrical and water consumption data directly from individual meters to the utilities. The most immediate benefit to consumers is their monthly bill is based on actual consumption as opposed to estimates. The water portion of the project is currently funded at $11.7 million and is 6.25% complete as of 2016 year-end.

Wastewater Odour Abatement Project: Work on the $8.8 million construction phase continued in 2016, with work 90% complete by year-end. The project will reduce approximately 76% of all odour emissions during normal operations.

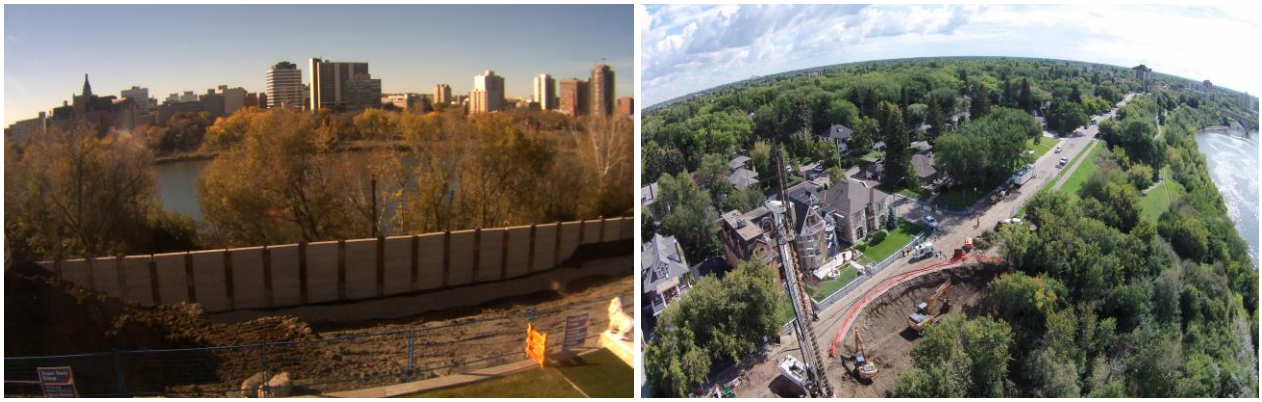
Wastewater Treatment Plant Digester: An analysis of options identified a conventional digester as the preferred technology for a fourth WWTP digester required to meet demands of growth and increase treatment reliability. The new digester is expected to be operational by 2018.

Sanitary Lift Station Upgrades: This is an ongoing project for the upgrades and refurbishment of the 28 lift stations in the city. In 2016, the Spadina Lift Station Permanent Bypass was completed. This will allow 2017 work to take place at the original station to correct structural deficiencies and upgrade pumps.

Spadina Lift Station

Fletcher Road Force Main Design: Capacity constraints were identified within the existing sanitary system on Fletcher Road. Design was completed to twin the sanitary sewer and upsize the sanitary force main on Fletcher Road. The design included a new 300 mm sanitary sewer and 300 mm shallow bury force main with insulation.

16th Street Slope Remediation: The east riverbank slope was stabilized with regrading, new sub-drainage, and construction of an H-pile and concrete lagging retaining wall at 16th Street. The lower Meewasin Trail and Saskatchewan Crescent were restored and re-opened in fall 2016.



Construction of the retaining wall for 16th Street Slope Remediation

Long Term Capital Development and Expansion Planning: Master planning work for the water distribution system, fill mains, and reservoirs within city limits, as well as for the region was completed in 2016. Sanitary and storm planning for regional growth continued in 2016.

Nodes and Corridors Capacity Study (Growth Plan): A water and sewer capacity analysis was completed for the major nodes and corridors within the Growth Plan. The locations with potential risks due to land use intensification have been identified and plans have been made to install flow monitors at strategic locations for further investigation and conceptual design.

Camera Inspection of storm water pipe showing partial blockage

Storm Sewer Closed Circuit Television and Cleaning Contract: In 2016, flushing/cleaning and Closed Circuit Television (CCTV) inspections and assessments were completed for 12.5 km of storm sewers. The inspections identified issues such as pipe separations and offset joint repairs, as well as high levels of sediment, concrete and rocks, and other debris built up in the pipes.

5.4 Continuous Improvement Initiatives

Saskatoon Water is committed to Continuous Improvement (CI) through improved customer service and continually implementing innovations to improve efficiencies and reduce costs. In addition to the operating and capital projects described above, Saskatoon Water has undertaken the following CI initiatives:

Odour Abatement Project – First Fermenter Upgrade: The sludge density was thickened from 1% to 3%, which improved the process in the digesters.

Heavy Grit Facility Operation: The WWTP staff assumed operation of the Heavy Grit Facility from the Landfill and made improvements to the prcess. This improved Customer Service by providing a one-stop facility for liquid and solid wastes. It reduced the impact on the Landfill by consistently providing dewatered solids that can be used for Landfill cover.

Digester Gas Exercise: A procedure was developed and drilled for a Digester Gas Leak Exercise. This enhanced emergency response planning, creating a positive safety culture.

Lighting Motion Sensors: To reduce energy use, the WTP staff replaced light switches with motion sensors and low power LEDs in five major plant areas.

Filter Runtime Increases: The WTP increased filter runs to reduce wasted water from backwashing and reduce energy usage. This reduced Operator time to backwash filters and had an approximate 50% reduction of water consumption for backwashing.

Paper Use Reduction: The Meter Shop has equipped six Small Meter Installers with laptops so work orders and maps are available digitally. The installers now have access to Map Guide for locating curb stops and process work orders on site, leaving more time for the Customer Service Coordinator to schedule appointments. Cross Connection Control pictures and filing are now all done electronically, saving paper and time.

Advanced Metering Infrastructure Saturday Shift: A Wednesday to Saturday shift was added to gain more access to customers by giving more options. On average, they are completing 35 appointments on a Saturday.

Stage 1 of Primary Basin Electrical Replacement: The electrical was upgraded in one of the oldest areas in the WWTP. This improved safety standards by installing electrical to modern-day code.

Odour Abatement – Installed Air Blower: The air blower draws foul air off the first fermenter and sends it to the bioreactors for processing, rather than emitting into atmosphere.

Aspen Ridge Lift Station Commissioned: The new sewage lift station will help the City grow into the northeast by providing reliable wastewater conveyance

Storm Water Utility: Storm Water Charges for Commercial Property Development: The process was completed to identify accurate Equivalent Runoff Unit (ERU) ratings associated with changes to commercial properties. The process resulted in a more up-to-date database of commercial property footprints. Annual bills in 2016 more accurately reflected ERUs and Storm Water Management charges. The new process resulted in approximately $200,000 in utility revenue that would not otherwise have been collected.

6.0 OUR ENVIRONMENT

6.1 Stewardship

Protecting the river and its surrounding watershed is vital to the long-term sustainability of our water supply. The public expects, and Saskatoon Water is committed to, responsible watershed management and stewardship. Saskatoon Water is a member of the South Saskatchewan Watershed Stewards Incorporated, a community-based organization that was formed to implement the South Saskatchewan River Watershed Source Water Protection Plan.

The WWTP consistently meets or exceeds all regulatory limits for effluent discharged to the river under WSA's "Permit to Operate a Sewage Works". Phosphorous is the key nutrient the WWTP removes because of its negative impacts on the South Saskatchewan River. The implementation of the Ultraviolet Disinfection Facility, to replace chlorine disinfection, has improved the quality of the final effluent being discharged to the South Saskatchewan River.

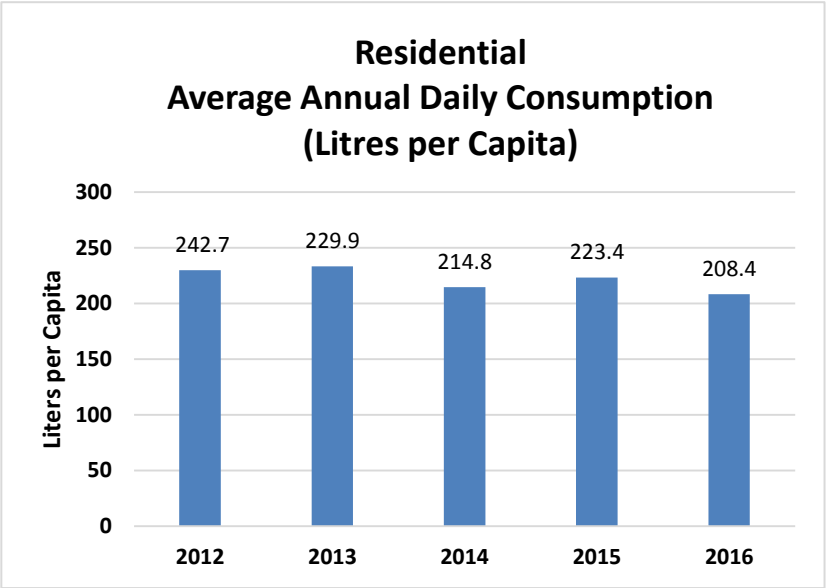
ISO/IEC 17025:2005 accreditation from CALA was maintained at both the WWTP Environmental Laboratory and the WTP Laboratory.

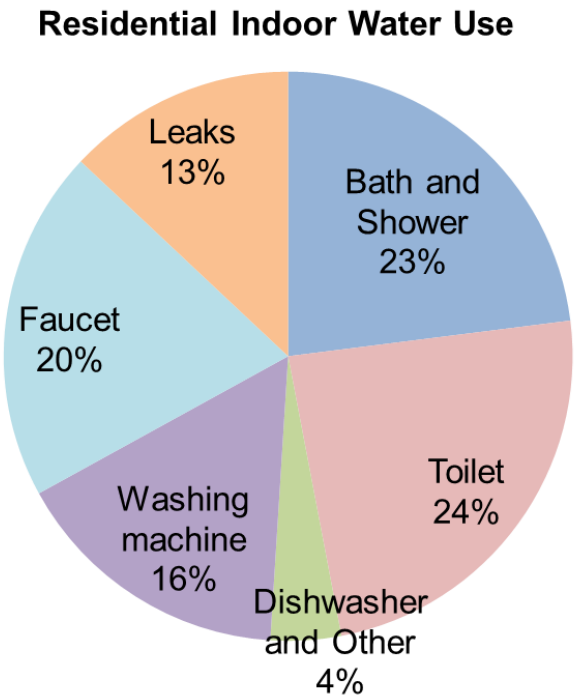
Saskatoon Water supports the Provincial Operator Certification Program, for both the Water and Wastewater Treatment Plants, which helps protect both the public and the environment.

6.2 Conservation

Saskatoon water rates are designed to encourage water conservation in order to defer the need for high capital intensive capacity projects. Customer education to reduce the summer maximum day volume (peak demand management) can also assist in deferring some capital expenditures.

Due to fluctuating seasonal irrigation demands, Saskatoon's total average annual daily consumption varies significantly from year to year.





Source: Water Research Foundation, April 2016

A recent study conducted by the Water Research Foundation shows that indoor household water use in a single family home has decreased by 22% from 1999 to 2016. The City of Saskatoon has experienced a similar downward trend as citizens implement low-flow fixtures.

The chart provides an indication of how indoor water is consumed in average residential homes in Canada and the United States.

7.0 OUR CHALLENGES

Saskatoon Water has been proactive in anticipating and managing the following ongoing challenges it faces:

Keeping Up with Growth: Saskatoon's growth in population and development has required additions to water infrastructure with large up-front capital expenditures. Construction costs have been higher because of the strong competing demands for contractor services. The division coordinated multiple capital projects, trained staff for new facilities, and identified ways to defer capital expenditures.

Infill Development: Cumulative impacts of infill development are placing higher demands on the carrying capacity of existing water and sewer infrastructure. More infill reduces greenspace and increases surface runoff so appropriate policies are needed to minimize surface flooding.

Age and Condition of Existing Infrastructure: Aging infrastructure has entered into a "replacement era" where asset sustainability and reliability will be at risk if not properly managed. Some of the infrastructure is over 100 years old and does not meet design standards for new development areas. Monitoring and assessing the physical condition and capacity of the infrastructure has been initiated as a foundation for an asset management program to better maintain our assets, prolong life, and increase resiliency.

Climate Change and Rainfall: Changing rainfall patterns impact demand for water, with high peak demands during dry stretches. Wet weather conditions also have created drainage issues throughout the city. High groundwater levels have impacted neighbourhood drainage and resulted in east riverbank slumping and slope failure that damaged infrastructure.

Drainage Bylaw Enforcement: Neighbourhood storm water drainage is impacted by properties, which are developed contrary to approved design standards or drainage paths that are not maintained, resulting in flooding for homeowners and their neighbours. Appropriate tools and resources are necessary for inspections when development occurs to minimize future problems.

Regulatory Requirements: The provincial Permit to Operate impacts the required processes and standards for the WTP and WWTP. Further evolving federal and provincial regulations have the potential to impact discharges to the river. Saskatoon Water will continue to monitor regulatory trends and opportunities to be a leader in protecting our watershed.

Inflow & Infiltration: Identifying and removing the amount of inflow and infiltration entering the sanitary sewer system will help to protect the environment, reduce sewer back-ups, and reduce costs for collection and treatment. Partial treatment of high flows,

which are mostly rain or groundwater, will be considered as the WWTP reaches capacity.

Growth Pays for Growth: As Saskatoon continues to grow, Saskatoon Water continues to explore alternate sources of funding. One such initiative, is "Growth Pays for Growth" in response to the Financial Growth Study. This initiative assigns capital costs that can be directly attributed to the off-site levies paid by developers. Obtaining appropriate funding for infill development, where off-site levies do not apply, will be a challenge for future nodes and corridor growth.

8.0 CONCLUSION

The WTP and the WWTP have long-term strategic capital development and expansion plans. Through its approved 2016 Operating Budget and the approved five-year Capital Plan, Saskatoon Water was able to maintain operations and fund capital projects related to treated water and wastewater quality, city growth, and regulatory matters.

The success of Saskatoon Water is dependent on the dedication and skills of our employees, and their efforts are greatly appreciated. Our competent team of plant operators, tradespersons, maintenance staff, engineers, technologists, technicians, chemists, and administrators play a crucial role. The guidance and support of the General Manager, City Manager, and City Council is appreciated.

The staff of Saskatoon Water look forward to the challenges and the opportunities that the future will provide.

9.0 APPENDICES

Appendix One: Water, Wastewater and Storm Water Infrastructure

In 2014, the replacement value of all water, wastewater, and storm water infrastructure was estimated at over $9.5 billion.

The Water Treatment Plant (WTP) and assets associated with water distribution have an estimated value of $3.4 billion. An update to the valuation of the WTP, water intakes, and reservoirs is planned for 2016.

The Wastewater Treatment Plant and assets associated with the sanitary sewer collection system has an estimated replacement value of $4.0 billion.

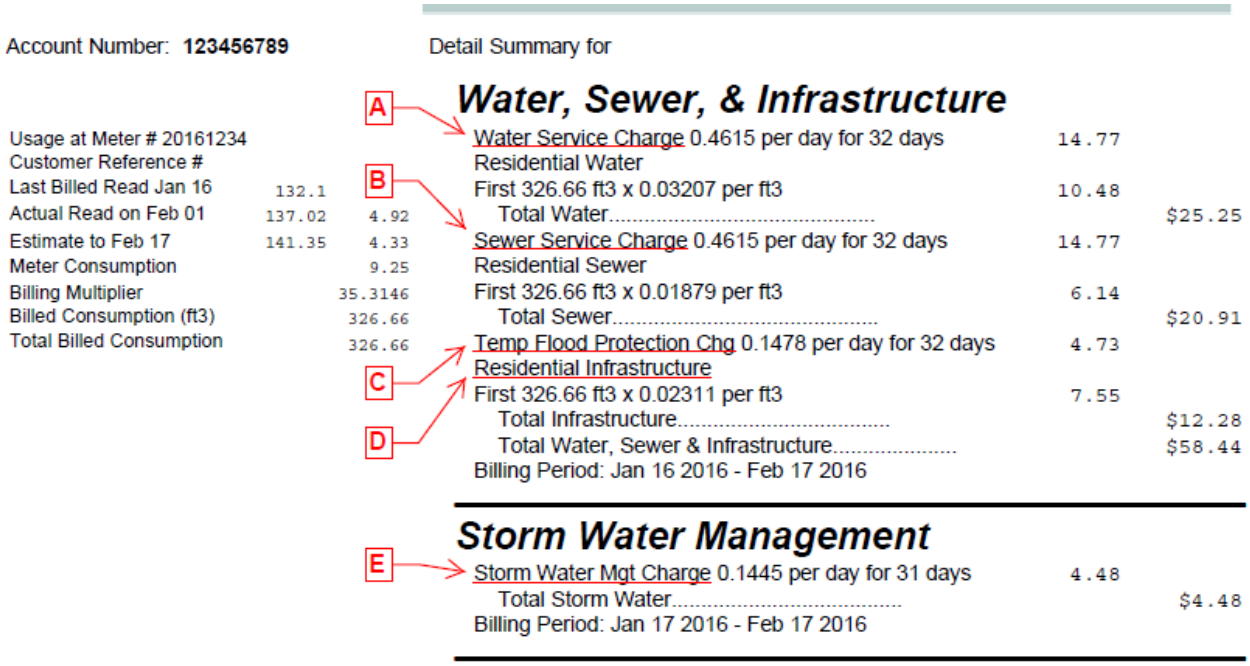
Saskatoon's storm water infrastructure has a replacement value of over $2.0 billion.

Water Utility Assets		
Asset	**2014 Inventory**	**Replacement Value ($M)**
Water Treatment Plant, Water Intakes and three Reservoirs		$ 600
Water Pipes	1,132 km	2,073
Valves	13,964	175
Hydrants	7,063	76
Service Connections	71,096	519
Total		**$ 3,443**

Wastewater Utility Assets		
Asset	**2014 Inventory**	**Replacement Value ($M)**
Wastewater Treatment Plant		$ 500
Lift Stations	28	154
Wastewater Pipes	1,030 km	2,686
Manholes	11,298	208
Forcemains	44 km	98
Service Connections	69,635	393
Total		**$ 4,039**

Storm Water Utility Assets		
Asset	**2014 Inventory**	**Replacement Value ($M)**
Storm Water Pipes	702 km	$ 1,797
Manholes	8,710	136
Catch Basins	11,758	44
Leads	136 km	34
Service Connections	2,971	17
Wet Ponds	20	16
Dry Ponds	8	2
Culverts	5 km	2
Water Outfalls	92	6
Total		**$ 2,053**

Appendix Two: Understanding Your 2016 Residential Water-Based Utility



Account Number: **123456789**

Detail Summary for

Usage at Meter # 20161234		
Customer Reference #		
Last Billed Read Jan 16	132.1	
Actual Read on Feb 01	137.02	4.92
Estimate to Feb 17	141.35	4.33
Meter Consumption		9.25
Billing Multiplier		35.3146
Billed Consumption (ft3)		326.66
Total Billed Consumption		326.66

Water, Sewer, & Infrastructure

A — Water Service Charge 0.4615 per day for 32 days	14.77	
Residential Water		
B — First 326.66 ft3 x 0.03207 per ft3	10.48	
Total Water		$25.25
Sewer Service Charge 0.4615 per day for 32 days	14.77	
Residential Sewer		
First 326.66 ft3 x 0.01879 per ft3	6.14	
Total Sewer		$20.91
C — Temp Flood Protection Chg 0.1478 per day for 32 days	4.73	
Residential Infrastructure		
D — First 326.66 ft3 x 0.02311 per ft3	7.55	
Total Infrastructure		$12.28
Total Water, Sewer & Infrastructure		$58.44

Billing Period: Jan 16 2016 - Feb 17 2016

Storm Water Management

E — Storm Water Mgt Charge 0.1445 per day for 31 days	4.48	
Total Storm Water		$4.48

Billing Period: Jan 17 2016 - Feb 17 2016

Bill

A. Water Service Charge: The fixed monthly charge for a 5/8 inch water meter is $9.36, and for a 3/4 inch meter is $14.04. The fee is prorated by the number of days in the month

A second water service charge is based on water usage (volumetric): $3.207 per 100 ft^3 for the first 600 ft^3, $3.57 per 100 ft^3 for the second 600 ft^3 and $4.70 per 100 ft^3 for over 1,200 ft^3. The water service charges are used to fund water utility operations and capital projects.

B. Sewer Service Charge: The fixed monthly sewer service charge is based on the size of the water meter and is the same amount as the fixed water service charge.

The sewer volumetric charge is 58.6% of the water volumetric charge. Rates are set on a cost recovery basis and recognize that not all water returns to the sanitary sewer: $1.879 per 100 ft^3 for the first 600 ft^3, $2.092 per 100 ft^3 for the second 600 ft^3 and $2.754 per 100 ft^3 for over 1,200 ft^3. Sewer service charges fund wastewater operations and capital projects.

C. Temporary Flood Protection Charge: The charge is a fixed fee of $4.50 per month, prorated by the number of days in the month. The fee is charged on each water meter until December 2018. The charge is used to upgrade the sanitary sewer system to reduce the risk of sewer back-ups during severe rain events.

D. Residential Infrastructure: The fee is $2.311 per 100 ft^3 of water usage. This fee is used for the capital replacement and upgrade of the water distribution and wastewater collection systems. The Redevelopment Levy to increase capacity of existing infrastructure to accommodate infill developments and the Roadways Levy that funds remediation of roadway damage associated with the utilities are included in the charge.

E. Storm Water Management Charge: The monthly charge for residential properties is a fixed amount of $4.40 prorated by the number of days in the month. This fee is used to fund operations and capital projects for storm water and for stabilizing riverbank slumping.

Appendix Three: Abbreviations

AMI – Advanced Metering Infrastructure

CALA – Canadian Association for Laboratory Accreditation Inc.

CBOD - Carbonaceous Biochemical Oxygen Demand

CCTV – Closed Circuit Television

CFU – Colony Forming Unit

CI – Continuous Improvement

City – City of Saskatoon

ERU – Equivalent Runoff Unit

IEC – the International Electrotechnical Commission

IS – Infrastructure Services

ISO – the International Organization for Standardization

MPN – Most Probable Number

NTU - Nephelometric Turbidity Units

PW – Public Works

TP - Total Phosphorous

US – Utility Services

WSA – Water Security Agency

WTP – Water Treatment Plant

WWTP – Wastewater Treatment Plant

Appendix Four: Glossary

Abatement: To reduce the amount or lessen the effect of.

Backflow Prevention Device: A backwater valve is a device that prevents sewage from backing up into basements.

Biosolids: Organic matter recycled from sewage.

Capital Reserve: Funding that is reserved for long-term infrastructure projects to be undertaken in the future.

Clarifier: A settling tank used to remove solids in the water treatment process.

Colony Forming Unit (CFU): A measure of viable bacterial cells.

Commercial customers: For this report, refers to all non-residential customers and includes retail, wholesale, industrial, and institutional customers.

Cross Connection Control Program: A cross connection is any link between the water supply and potentially contaminated sources. The Cross Connection Control Program ensures that proper backflow prevention devices are installed to prevent foreign substances from entering the water distribution system.

Digester: One step of the wastewater treatment process used to decrease the amount of organic matter present.

Effluent: Treated water discharged back into the river.

Ferric: Iron-containing materials or compounds.

Grant-In-Lieu of Taxes: Money paid by the Water and Wastewater Utilities in place of taxes.

Imperviousness: Ability of a material (e.g. soil, concrete) to not allow fluid to pass through.

Infill (Development): Development of land within already developed areas.

Infiltration: Groundwater seeping into sanitary sewers through cracks and crevices, such as defective pipe joints and broken pipes.

Inflow: Water flowing into the sanitary sewer through large openings, such as cross connections and weeping tile.

Irrigation: Artificial application of water typically due to low amounts of rainfall.

Lift Station: Facility designed to move wastewater or storm water from lower to higher elevations with pumps.

Low-Flow Fixture: Fixtures that use water efficiently to reduce overall water usage.

Nephelometric Turbidity Units (NTU): A measure of scattered light. A high turbidity level is caused by organic matter that can promote the growth of pathogens, as well as being aesthetically unappealing.

Potable: Safe to drink.

Procurement: The process of obtaining or purchasing.

Residual Handling Facility: Removes chlorine and solids, mostly consisting of sand and inert ferric material, from the Water Treatment Plant effluent that is discharged to the South Saskatchewan River.

Return Period: The estimate of the likelihood of a rainfall event. A two-year rain event would have a 50% likelihood of occurring in any given year. A five-year rain event would have a 20% likelihood of occurring in any year.

Stabilization Reserve: Water utility revenues fluctuate due to rainfall and demand for irrigation. Annual operating surpluses, which are more likely during drier years, are allocated to the Stabilization Reserve that can be used in years with an operating deficit. The Stabilization Reserve is capped at 5% of the current year's budgeted metered revenue, and any additional surplus is allocated to the Capital Reserve.

Sub-drainage System: Typically perforated pipe used to drain groundwater and seepage.

Surface Runoff: Rainfall flowing overland and into the storm sewer without being absorbed into the ground.

Turbidity: The cloudiness or haziness of a fluid caused by a large number of individual particles that are generally invisible to the naked eye.

Saskatoon Light & Power 2016 Annual Report

Recommendation
That the report of the General Manager, Transportation & Utilities Department dated June 12, 2017, be received as information.

Topic and Purpose
The purpose of this report is to present the Saskatoon Light & Power Annual Report that outlines the performance and activities of the division in 2016, including a comparative analysis to previous years.

Report Highlights
1. Our Customers – The utility continued to provide reliable service in comparison with the Urban Average reported by member utilities in the Canadian Electricity Association (CEA).
2. Our Finances – Saskatoon Light & Power provided a Return on Investment of $23,059,700 and paid Grants-in-Lieu of Taxes in the amount of $21,101,449, for a total financial benefit to the City of Saskatoon (City) of $44,161,149. The provision to capital reserves decreased by $403,000 to $13,148,000.
3. Our People – There were no lost time injuries in 2016.
4. Our Work – The Automated Metering Infrastructure (AMI) system was activated in July and customers with smart meters began receiving bills based on actual monthly reads.
5. Our Environment – An Environmental Management System was implemented, a Solar Power Demonstration Site was developed, and work began with the Saskatoon Health Region to study developing a Combined Heat and Power plant at St. Paul's Hospital.
6. Our Challenges – Saskatoon Light & Power will focus on asset renewal in 2017 and provide an asset management report to City Council.

Strategic Goals
This report supports the Strategic Goal of Asset and Financial Sustainability by reducing the gap in funding required to rehabilitate and maintain City infrastructure, establishing levels of service for rehabilitation of assets, identifying supporting financial strategies, and developing funding strategies for expenses related to new capital expenditures.

This report also supports the Strategic Goal of Economic Diversity and Prosperity by planning and investing in infrastructures needed to attract and support new businesses and skilled workers to the city.

Background
Saskatoon Light & Power's mandate is to provide safe, reliable, and cost effective electricity in an environmentally responsible way. The utility strives to minimize the

number and duration of customer outages with a focus on system maintenance, staff training and safety.

Report

The 2016 Annual Report for Saskatoon Light & Power (Attachment 1) highlights information relating to our: Customers, Finances, People, Work, Environment, and Challenges.

Our Customers

Saskatoon Light & Power's customers rated electrical service reliability in the top three key strengths of civic services. In 2017, the Index of Reliability was 0.9998, which met the Urban Average reported by member utilities in the CEA. The ten year average for outage duration was 62 minutes, which compared against the Canadian Urban Average of 87 minutes.

Our Finances

Saskatoon Light & Power provided a Return on Investment of $23,059,700 in 2016. In addition, a Grant-in-Lieu of Taxes in the amount of $21,101,449 was provided for a total benefit to the City of $44,161,149. Without these stable sources of income, the City would need to find revenue from other sources to meet its requirements. If property taxes were increased to cover these amounts, taxes would need to increase by 23.4%.

Our People

There were no lost time incidents in 2016. Saskatoon Light & Power's five year safety record is close to the CEA average for similar sized companies and is significantly better than the Corporate average.

Our Work

Saskatoon Light & Power provided funding to 30 capital projects in 2016. A highlight for the year included the activation in July of the AMI system for billing purposes. This was a multi-year project completed in collaboration with Saskatoon Water and Corporate Revenue divisions. By the end of 2016, 73% of electrical customers had been provided smart meters connected to the AMI system and full deployment is scheduled for completion by the end of 2017.

Our Environment

In 2016, Saskatoon Light & Power implemented an Environmental Management System meeting international standards; the first of its kind within the organization. Operation of the Landfill Gas Power Generating Station continued to provide environmental benefits, and a new Solar Photovoltaic Demonstration project was installed with a number of participating partners. Work also continued on the planning for a hydropower project at the weir, and an agreement was reached with the Saskatoon Health Region to study the feasibility of a Combined Heat and Power plant at St. Paul's Hospital.

Our Challenges

Electrical utilities across Canada have identified that funding for renewal projects has not kept pace with the requirements to maintain the system. The result is that the average age of infrastructure is increasing. Asset sustainability and reliability will be at risk if not adequately funded. Preparation of an asset management report began in 2016, and will be made available to City Council in mid-2017 to identify the overall condition of the utility's assets and determine the level of funding required annually to address both renewal and growth issues.

Communication Plan

A copy of the Saskatoon Light & Power 2016 Annual Report will be posted on the City's website and shared with staff.

Other Considerations/Implications

There are no options, public and/or stakeholder involvement, policy, financial, environmental, privacy, or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

This report is provided on an annual basis and no further follow-up is required at this time.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachment

1. Saskatoon Light & Power 2016 Annual Report

Report Approval

Written by: Trevor Bell, Director of Saskatoon Light & Power
Approved by: Angela Gardiner, Acting General Manager, Transportation & Utilities Department

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Saskatoon Light & Power

2016 Annual Report

City of Saskatoon
Transportation & Utilities Department

Table of Contents

1.0 EXECUTIVE SUMMARY

Saskatoon Light & Power is proud to serve its customers with an electrical distribution system that meets or exceeds national averages for reliability. Customer feedback obtained through the Civic Services Survey indicated that satisfaction levels regarding electrical distribution reliability remained high over the past five years and is one of the top three key strengths of the City of Saskatoon (City) (high importance and high satisfaction).

The most important performance indicator for the utility is its ability to work safely. Staff worked in excess of 229,000 hours in 2016 and recorded no lost time injuries. Their dedication to working safely and making continuous improvements to our safety program is recognized and appreciated.

The utility continues to provide a very high financial return to the City offsetting the reliance on property taxes. The total net financial benefit increased by over $618,000 in 2016 to $44.16 million. The provision to capital reserves for the utility decreased by $403,000 to $13.1 million. Increased attention will need to be spent in future years on capital spending to ensure the system is maintained at an acceptable level to ensure continued success.

Saskatoon Light & Power achieved a significant milestone in 2016 with its smart meter and Automated Metering Infrastructure (AMI) project. By the end of the year, smart meters had been provided to 73% of customers (44,500 meters). By July, the communication and computer infrastructure was in-place and the AMI system was activated. Customers with smart meters began receiving bills based on actual monthly reads eliminating the need for estimates. Installation of the remaining smart meters will be completed in 2017.

Saskatoon Light & Power continued to demonstrate a commitment to environmental stewardship by implementing an Environmental Management System meeting international standards; the first of its kind within the organization. Operation of the Landfill Gas Power Generating Station continued and a new Solar Photovoltaic (PV) Demonstration project was installed on the adjacent land. The solar project was developed in partnership with SES Solar Co-operative Ltd., Saskatchewan Polytechnic, and the Saskatchewan Environmental Society (SES). Planning for a hydropower project at the weir also continued, and an agreement was reached with the Saskatoon Health Region to study the feasibility of a Combined Heat and Power (CHP) plant at St. Paul's Hospital. Installation of energy efficient LED lighting also continued in new development areas.

Challenges exist for the utility in the future, but strategic plans are being made to address those concerns.

2.0 OVERVIEW – SASKATOON LIGHT & POWER

Saskatoon Light & Power is a municipally owned electrical utility that provides a number of services to the citizens of Saskatoon, including:

- Generation of electricity from environmentally responsible sources;
- Purchase of bulk electricity from SaskPower;
- Distribution of electricity to customers;
- Provision of fibre-optic communication connectivity for other divisions; and
- Provision of street lighting services.

2.1 Mission Statement

Saskatoon Light & Power's mandate is to provide safe, reliable, and cost effective electricity in an environmentally responsible way. We strive to minimize the number and duration of customer outages with a focus on system maintenance, staff training and safety.

2.2 Our Values

Trust
Our customers trust that we will provide them with reliable service and respond as quickly as possible to any service interruption. We earn that trust by carefully planning our work and undertaking renewal projects when needed.

Integrity
We are accountable for our actions. We publish reliability statistics and compare against other Canadian utilities when available. We respond to customer inquiries quickly and work to resolve issues.

Respect
We respect our customer's privacy by following established legislation. We work together as a multi-disciplinary team to provide a wide array of services. We rely on the technical expertise of our staff to operate a complex utility. We put safety first in everything we do, keeping in mind that our staff have families and friends that rely on them.

Honesty
We admit our mistakes and take necessary steps to prevent similar issues. We are open and honest with our customers, City Council, and the media. We listen to our customers.

Courage
Although we are a relatively small electrical utility, we take on big, complex and innovative projects. We invest our time and resources on smart projects and strive to continuously improve our services.

2.3 Our Leadership Commitments

Reliable and Responsive Service
Through the use of sound long-range planning principles, services are designed to meet future needs. Through the application of asset management principles, existing assets are maintained to meet reliability requirements. Through emergency preparedness planning, we will be ready to respond to issues when they arise.

Strong Management and Fiscal Responsibility
Saskatoon Light & Power's strategic plan aligns with the City of Saskatoon's (City) corporate strategies. Key performance indicators are measured and tracked, and meaningful, measurable and achievable goals are set.

Effective Communication, Openness and Accountability
We prepare annual reports and make them available to our customers, City Council, and our staff. We communicate with staff regularly to build and strengthen relationships and provide key information in a timely manner.

Innovation and Creativity
We work on major initiatives using a collaborative approach, often using joint committees to resolve staffing-related issues. We focus on productivity while maintaining high quality standards and never compromising safety.

2.4 Our Strategic Goals

The work of Saskatoon Light & Power aligns with the following corporate strategic goals and strategies for the long term (10 years):

Continuous Improvement

- Provide a coordinated approach to customer service with quick and accurate responses.
- Make health and safety a top priority in all that we do.
- Provide ongoing skills training and professional development opportunities for staff.
- Increase productivity by being more efficient in the way we do business.

- Leverage technology and emerging trends to reach our goals, serve citizens and connect meaningfully with our stakeholders.

Asset and Financial Sustainability

- Increase revenue sources and reduce reliance on residential property taxes.
- Reduce the gap in the funding required to rehabilitate and maintain our infrastructure.
- Adopt and implement a corporate-wide asset management and rehabilitation philosophy.

Environmental Leadership

- Create new sources of green energy where feasible.
- Reduce greenhouse gas (GHG) emissions tied to City operations.

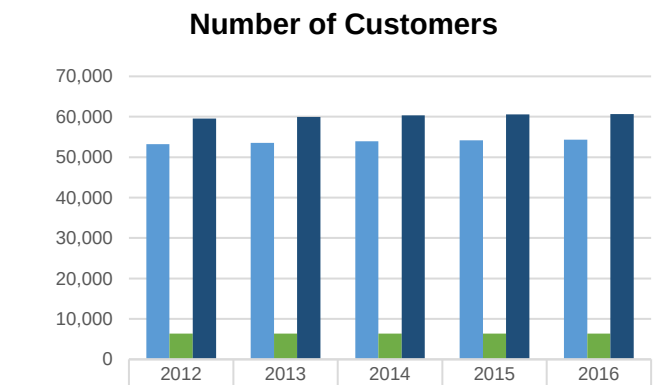
Economic Diversity and Prosperity

- Plan and invest in infrastructure needed to attract and support new businesses and skilled workers to the city.

3.0 OUR CUSTOMERS

3.1 Number of Customers

The number of customers served by Saskatoon Light & Power has grown over the past five years (1.9%), primarily due to residential growth in the Evergreen neighbourhood, which falls partially within the Saskatoon Light & Power franchise boundary. Infill development has also occurred within established neighbourhoods.



	2012	2013	2014	2015	2016
Residential	53,201	53,574	53,970	54,163	54,309
Commercial	6,371	6,360	6,375	6,391	6,386
Total	59,572	59,934	60,345	60,554	60,694

The average number of customers served in 2016 was 60,694, consisting of 54,309 residential customers (89.5%) and 6,386 commercial customers (10.5%).

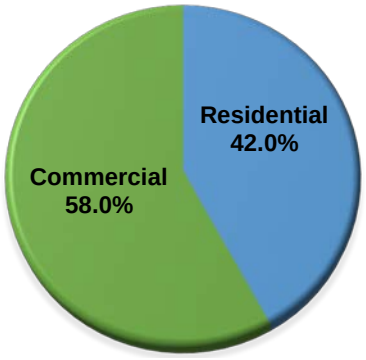
Since the utility's franchise boundaries are fixed, the majority of Saskatoon Light & Power's anticipated growth in the future will come from increased densification of the downtown core and existing neighbourhoods.

3.2 Revenue by Customer Type

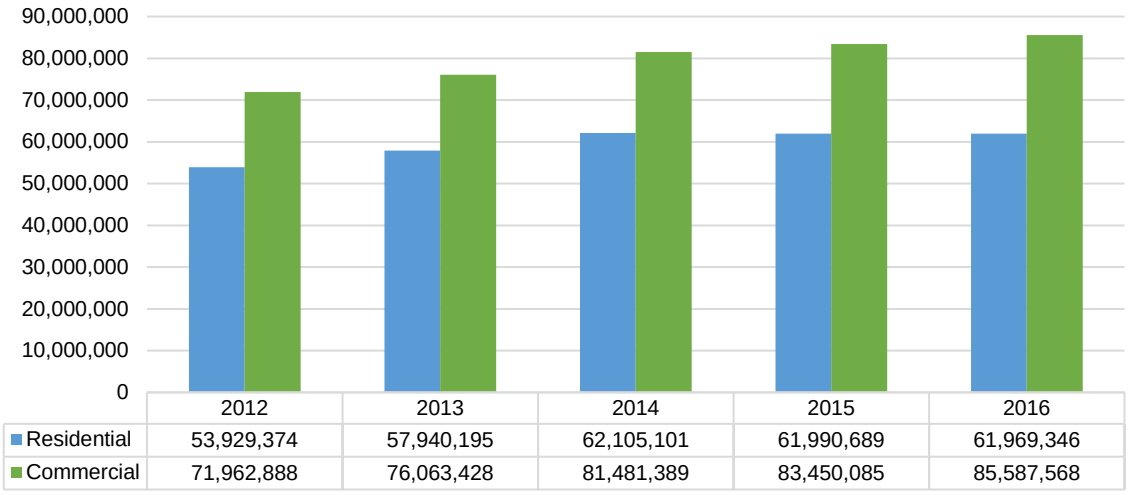
Although the number of commercial customers is much lower than the number of residential customers, consumption by commercial customers is much higher; therefore, accounts for a higher percentage of the utility's revenues.

The total amount of revenue collected from residential customers in 2016 was $61,969,346 (42%). Revenue collected from commercial customers totalled $85,587,568 (58%).

Revenue by Customer Type



Revenue by Customer Type

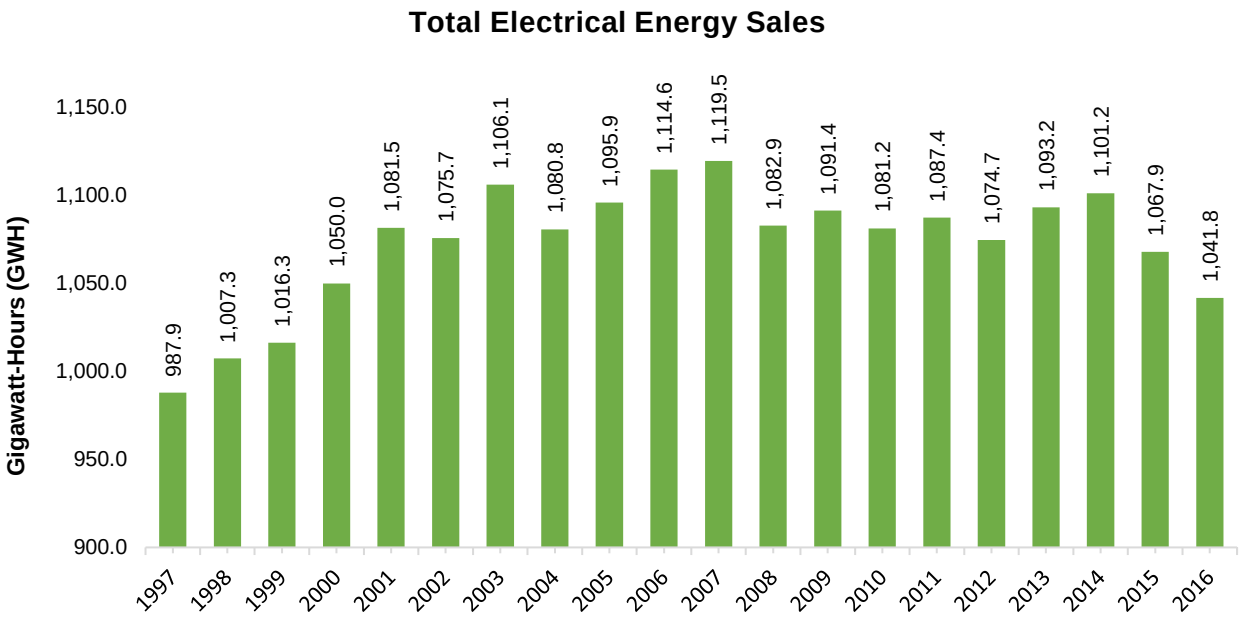


	2012	2013	2014	2015	2016
Residential	53,929,374	57,940,195	62,105,101	61,990,689	61,969,346
Commercial	71,962,888	76,063,428	81,481,389	83,450,085	85,587,568

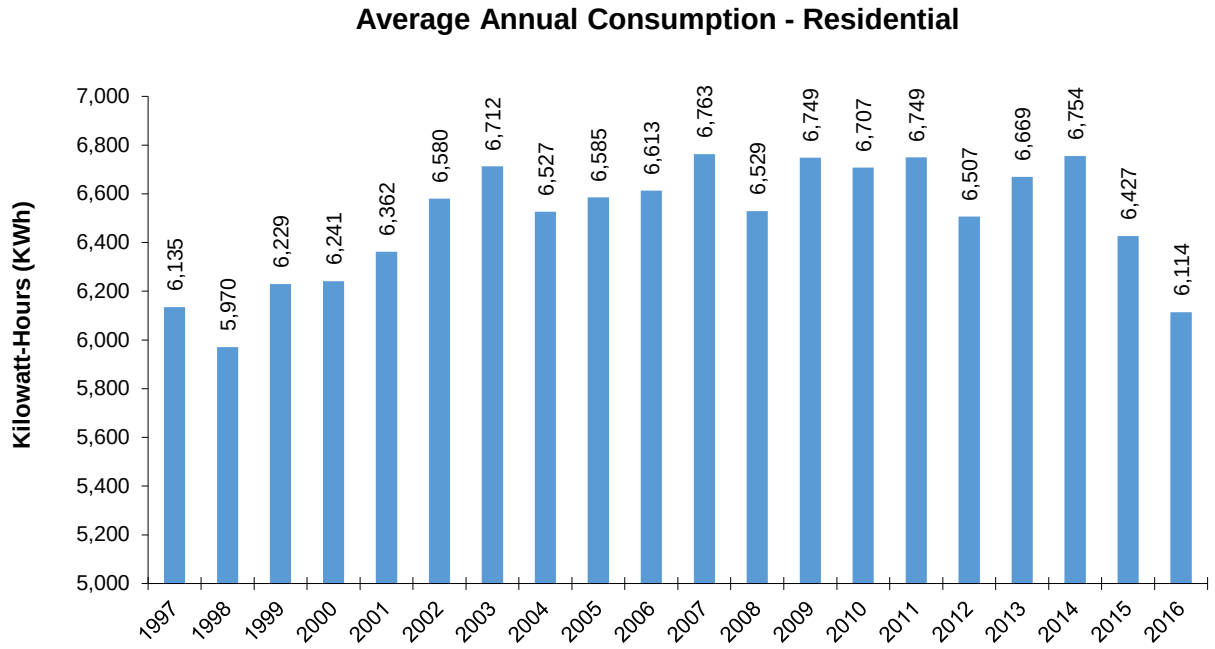
Revenue has continued to grow over the past five years primarily due to rate increases implemented by SaskPower and matched by Saskatoon Light & Power.

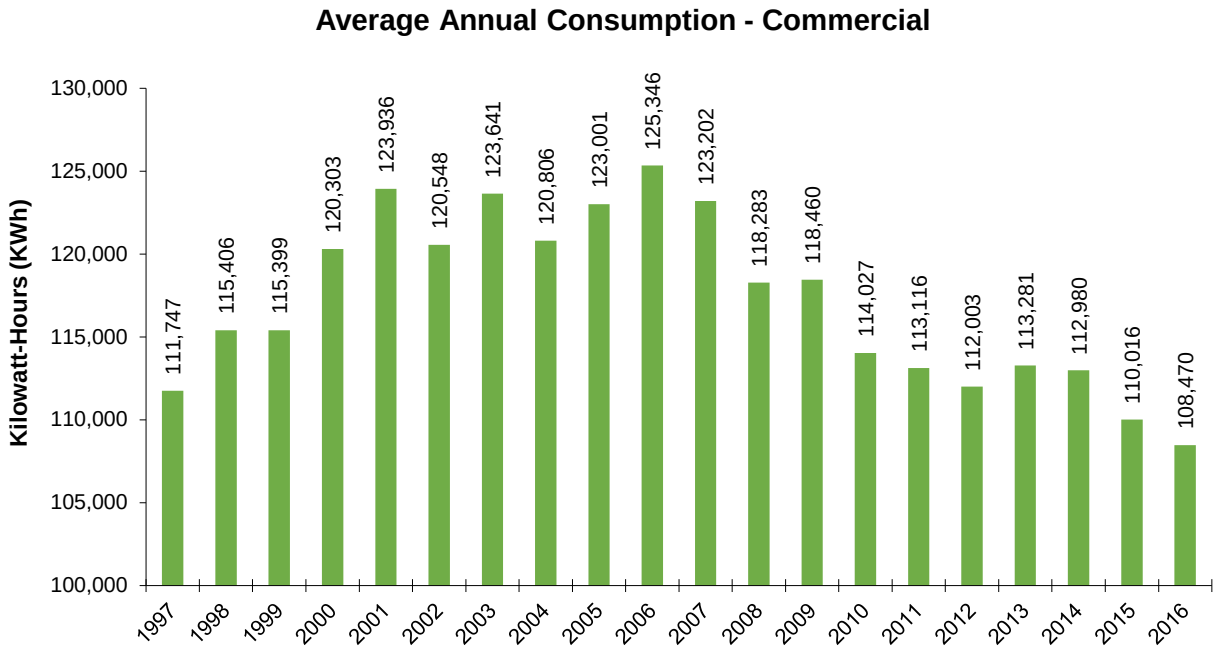
3.3 Energy Consumption and Demand

The following chart shows the 20 year history for total energy sales to all types of customers. Energy consumption has not increased over the past decade even though the number of customers have increased. Conservation may account for this slight decrease. Annual fluctuations can also be created by seasonal weather patterns.



The next two charts show the amount of energy consumed by the average residential and commercial customer. Over the past 20 years, the average residential customer has used approximately the same amount of energy each year, while there has been a noticeable decrease (13%) in usage by commercial customers over the past 10 years.

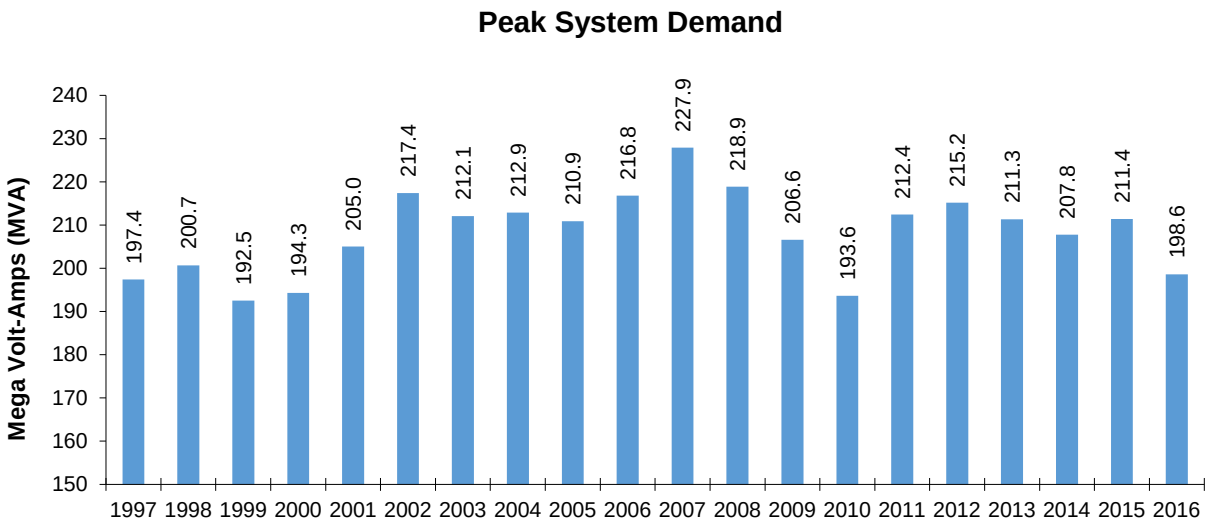




The next chart shows the peak system demand for the past 20 years. SaskPower charges Saskatoon Light & Power for bulk power based on three criteria:

- Electrical Energy (GWh)
- Demand Charge (MVA)
- Monthly Service Charge

The demand charge is intended to relate to costs associated with transmitting the electricity from the generating stations to the service area. If Saskatoon Light & Power's customers use power at the same point in time, the transmission system needs to be sized accordingly to handle that quantity of electricity and SaskPower, therefore, charges more. The peak system demand indicates the highest level observed during the year. This typically occurs on one of the hottest days in the summer.



This chart shows that there has been a 17.7% fluctuation in peak system demand between the high experienced in 2007 and one of the recent lows experienced three years later in 2010. This fluctuation can lead to annual bulk power cost variances from budget.

3.4 System Reliability

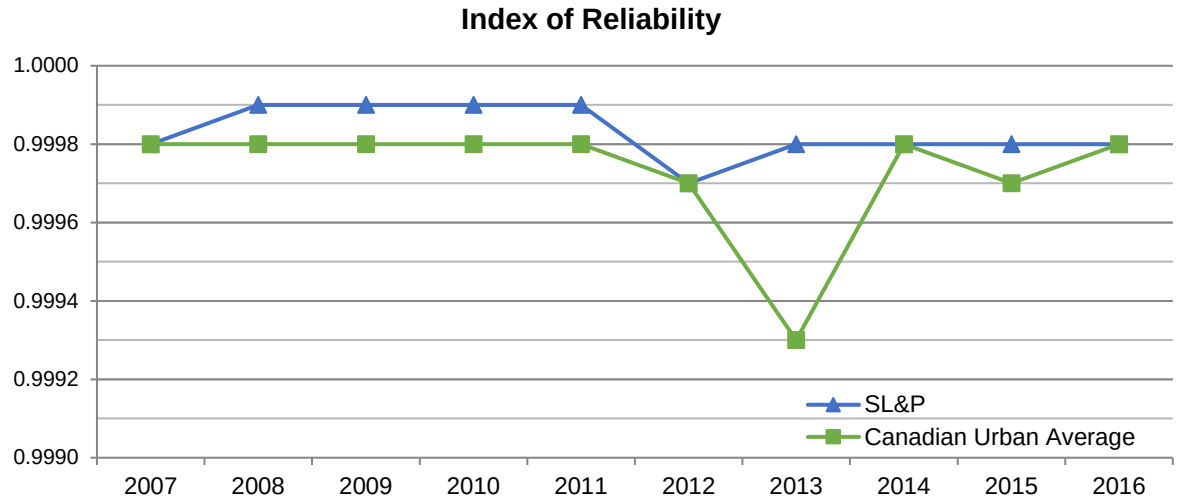
Saskatoon Light & Power is a member of the Canadian Electricity Association (CEA). The CEA collects reliability statistics on behalf of its member companies and reports the averages for comparative purposes.

The CEA reports on urban utility statistics separate from rural utilities in order to provide a better basis for comparison. Urban utilities generally have better reliability.

Saskatoon Light & Power has set a goal of meeting or exceeding the system reliability performance based on the Canadian Urban Average.

Index of Reliability

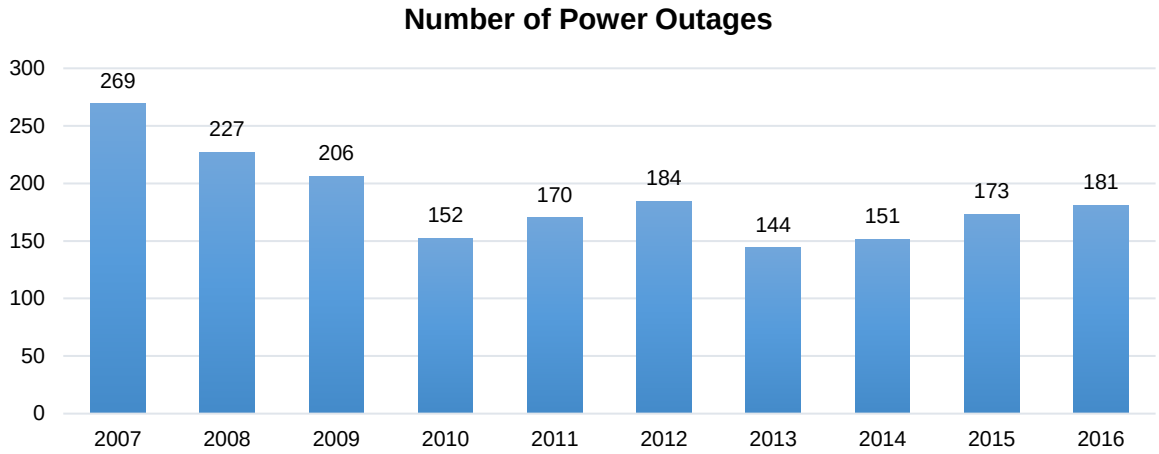
The following chart shows the Index of Reliability (IOR) for Saskatoon Light & Power in comparison to the Canadian Urban Average. This index measures the availability of service to customers on an annual basis. For example, an IOR of 0.9998 would mean that electrical service is provided 99.98% of the time over a one year period.



This chart shows that Saskatoon Light & Power has been consistently meeting its goals and performing as well as, or better than, the Canadian Urban Average. This is a key metric for utilities since both the number of outages as well as the duration have an effect on the IOR.

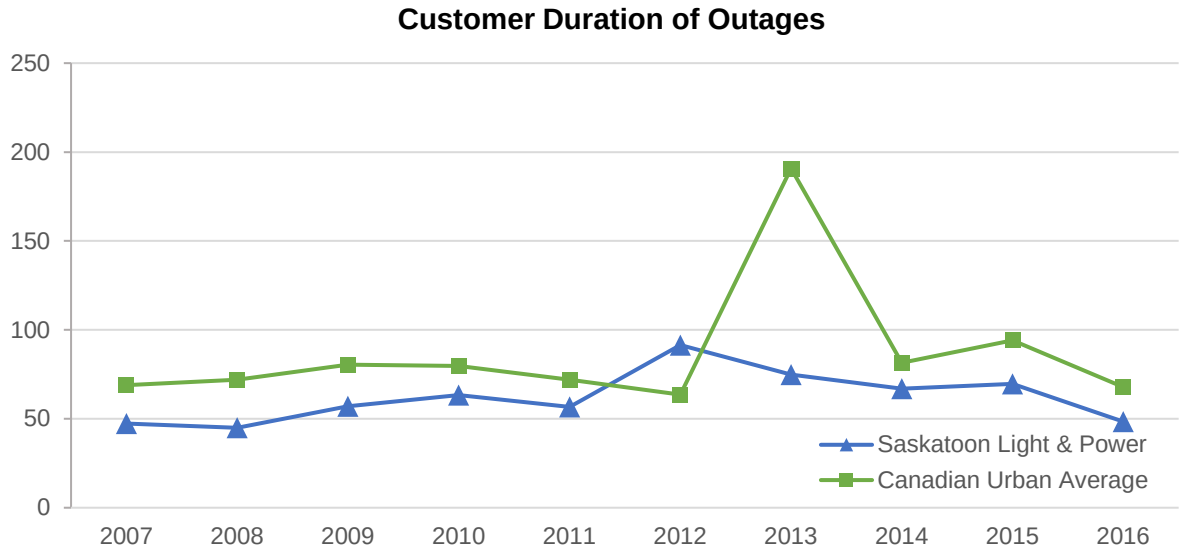
Number of Power Outages

Saskatoon Light & Power also tracks the number of outages that are experienced annually and compares against its own performance from previous years. The following chart shows that the number of outages has remained relatively consistent over the past seven years (2010 to 2016) and was slightly higher in the previous three years (2007 to 2009).



Duration of Power Outages

The following chart shows the average time for restoring power to customers who experienced an outage during the year. The 10-year average for Saskatoon Light & Power was 62 minutes. The Canadian Urban Average was 87 minutes. Saskatoon Light & Power performed better than the Canadian Urban Average in every year except 2012.



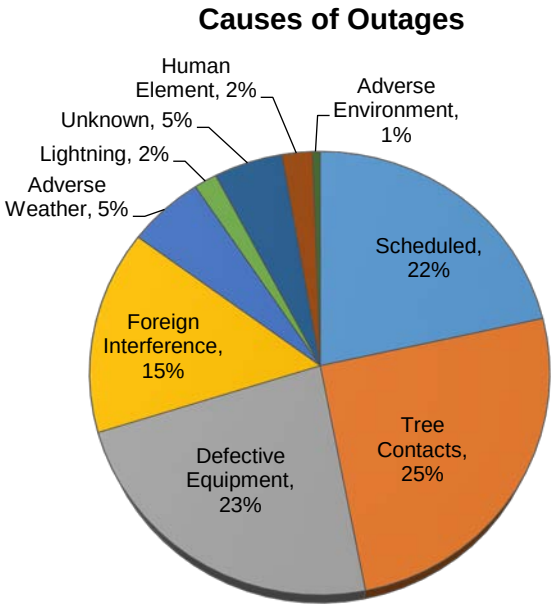
Cause of Outages in 2016
The four primary causes of power outages in 2016 were:

1) Tree contacting overhead power lines (25%);

2) Defective equipment (23%);

3) Scheduled outages for maintenance work (22%);

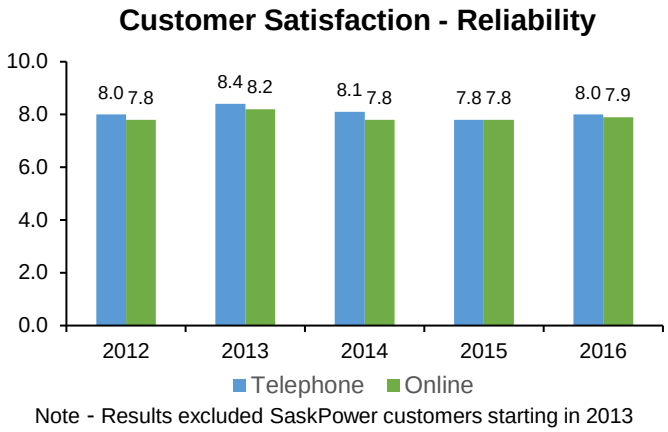
4) Interference by a third party (such as damage from a vehicle collision, bird contacts with overhead power lines, contractor dig-ins with underground cables, etc.) (15%).



3.5 Customer Satisfaction

"Saskatoon Light & Power is committed to timely, friendly and professional service. Our customers are treated in a fair and equitable manner."

The City conducts an annual Civic Services Survey. One of the questions asks customers to rate the reliability of their electricity provider. Satisfaction levels have remained high over the past five years and was the second highest among all civic services surveyed.

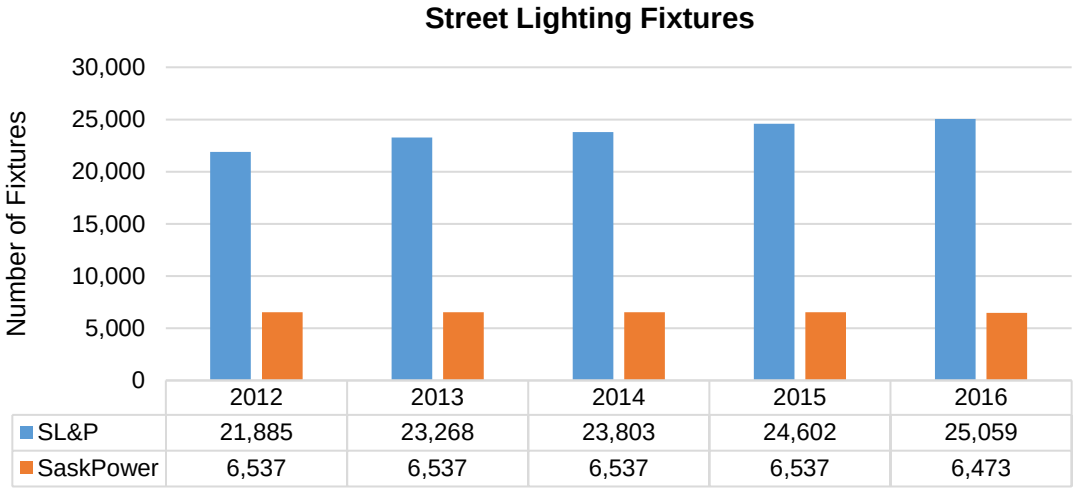


Note - Results excluded SaskPower customers starting in 2013

Based on the importance of the service (taken from the 2014 survey) and satisfaction (from 2016), electrical service reliability provided by Saskatoon Light & Power ranks as the third highest key strength among civic services (high importance and high satisfaction).

3.6 Street Lighting

Saskatoon Light & Power maintains 79% of the 31,532 lighting fixtures in Saskatoon and SaskPower maintains the remaining 21%.

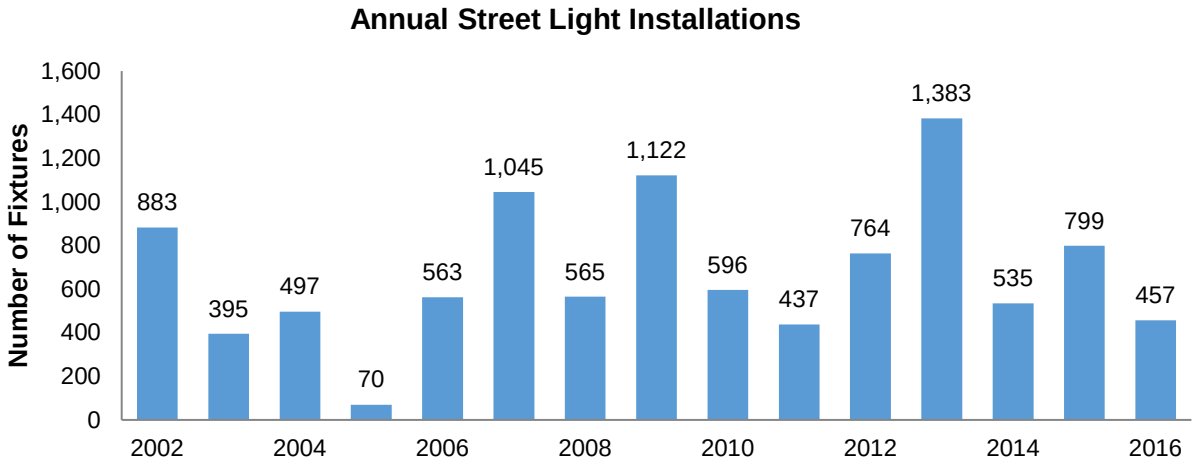


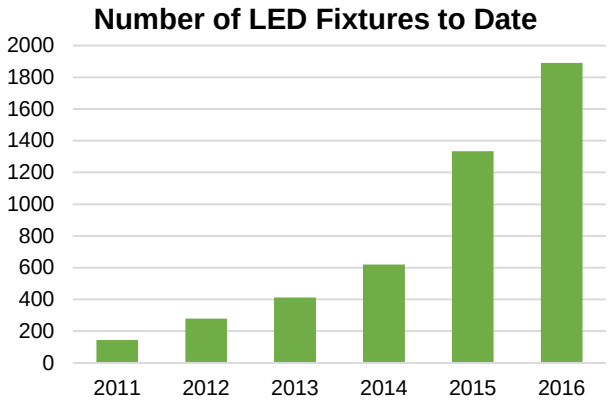
	2012	2013	2014	2015	2016
SL&P	21,885	23,268	23,803	24,602	25,059
SaskPower	6,537	6,537	6,537	6,537	6,473

Responsibility for street lighting does not follow electrical franchise boundaries. In 2004, City Council directed Saskatoon Light & Power to take responsibility for all new street lighting projects in the city. Prior to 2004, SaskPower had been installing the street lights in new growth areas outside of our franchise area.

The increase in land development activity over the past decade has been significant and has increased the number of lights installed annually. Typically, 500 to 600 lights are installed each year in residential and industrial areas and additional lights are installed when major roadway projects are undertaken.

The ten-year average for installations is 770 lights per year.





Saskatoon Light & Power has also been leading the way with the implementation of Light Emitting Diode (LED) lighting. LED lights use significantly less energy to produce the same amount of light. City Council approved a recommendation in 2014 to make LED lights the standard for all new installations.

By the end of 2016, a total of 1,890 LED lights had been installed comprising 7.5% of all lights owned by Saskatoon Light & Power.

3.7 Seasonal Decorations and Banners

Saskatoon Light & Power provides 487 seasonal decorations including both illuminated and non-illuminated displays as well as seasonal banners. These decorations are installed in the downtown core as well as along Central Avenue, 33rd Street West, 8th Street East, and on 22nd Street West.

A total of 379 banners were also installed in various business districts throughout the year as part of the City's Banner Program. Installing banners helps to promote local events and provide a sense of arrival into the area.

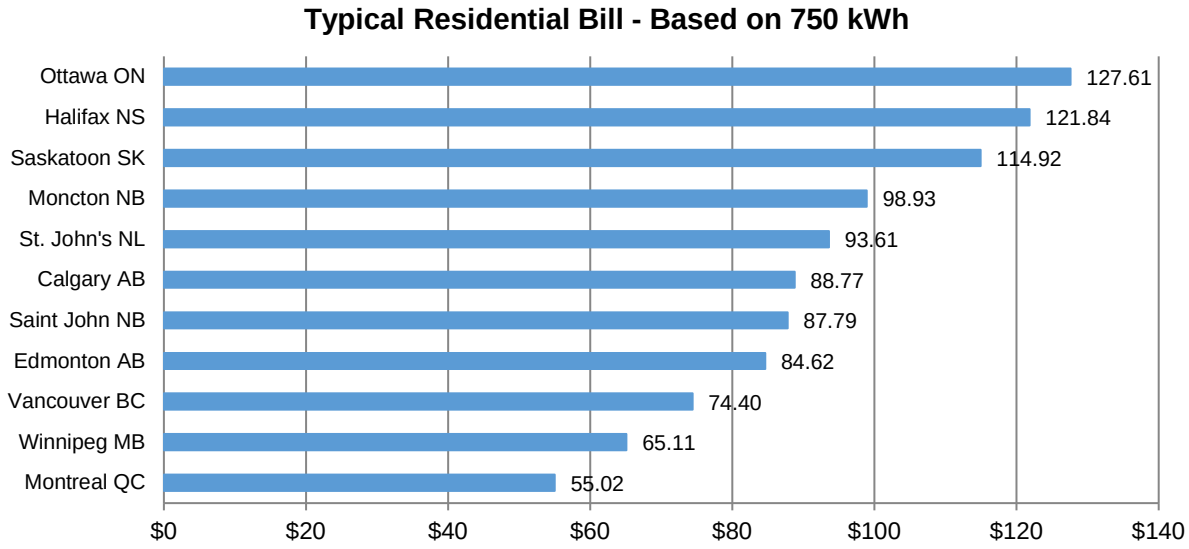
4.0 OUR FINANCES

4.1 Competitive Rates

Saskatoon Light & Power rates for electricity are regulated by City Council through bylaw and have generally been set the same as SaskPower rates for similar customer classes.

The province has established the Saskatchewan Rate Review Panel which reviews applications made by the crown utilities and receives feedback from customers prior to making their recommendation to the province.

The following chart provides a comparison of electricity rates in provinces across the country. Rates in Saskatchewan are relatively high, due in large part to a lack of hydropower resources in the province. Provinces with an abundance of hydropower (including British Columbia, Manitoba and Quebec) tend to have lower energy costs.



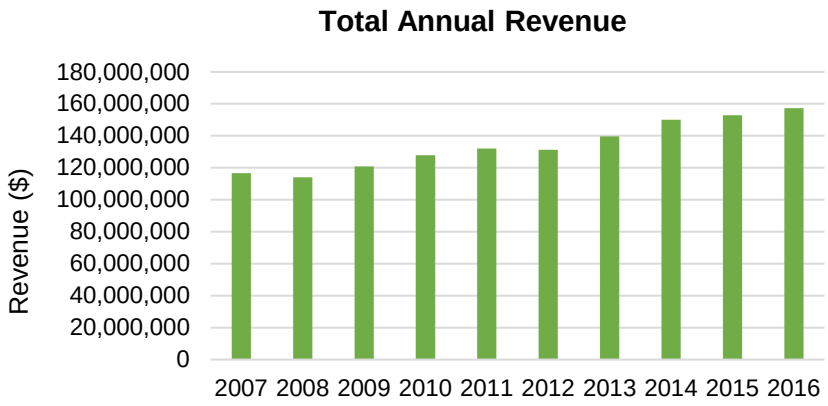
Source - Manitoba Hydro May 2016 Electricity Bill Survey. Rates do not include municipal surcharges.

4.2 Summary of Revenues

Over the past 10 years, total annual revenues have increased from $116.7 million in 2007 to $157.2 million in 2016. The average annual increase in revenue has been 3.37%, which accounts for both rate increases over time as well as any increases or decreases in sales quantities. The total overall increase over the past 10 years was 34.7%.

During the same time period, overall consumption by Saskatoon Light & Power's customers decreased by 7.5%.

Therefore, the increase in total annual revenues can be primarily attributed to rate increases to customers.

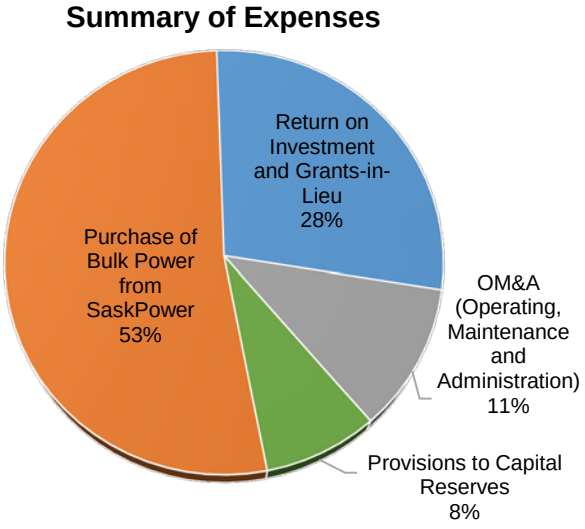


4.3 Summary of Expenses

Saskatoon Light & Power's expenses can be summarized into four main categories.

The largest cost to the utility was the cost of purchasing bulk power from SaskPower. In 2016, bulk power totalled $82.55 million, which represented 53% of total expenses.

The second largest category was the combination of the Return on Investment (ROI) ($23.06 million) and Grants-in-Lieu (GIL) of taxes ($21.1 million) provided to the City. Together, these two items provided a net benefit of $44.16 million and represented 28% of the utility's expenses.



The third largest cost was the Operating, Maintenance and Administration expenses (OM&A). These items totalled $17.57 million and represented 11% of the utility's total expenses. Included in this category was a cross-charge to Corporate Revenue to provide meter reading and billing services.

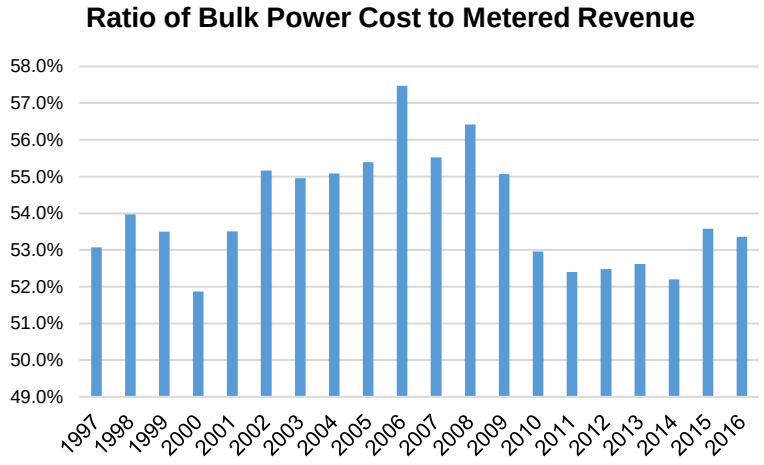
The final category was the provision to capital reserves. In 2016, $13.1 million was allocated to the utility's reserves to pay for both renewal and expansion of the distribution system (8% of expenses).

4.4 Ratio of Bulk Power Cost to Metered Revenue

Saskatoon Light & Power monitors the ratio of bulk power costs as compared against total metered revenue. Both of these rates are effectively set by SaskPower since City Council in the past has given direction to Saskatoon Light & Power to match SaskPower's retail rates.

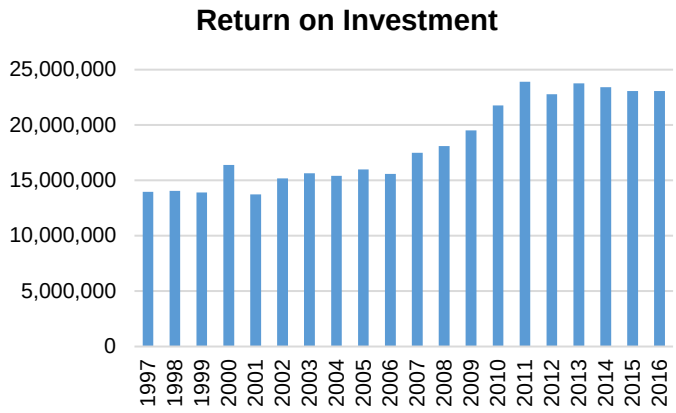
When the increase to the bulk power cost exceeds the increase in retail rates, it is difficult for the utility to deal with inflationary cost increases for both operating and capital expenses.

An increase in this ratio of 1% would have a $1.5 million negative impact on Saskatoon Light & Power's finances.



4.5 Financial Return to the City of Saskatoon

Saskatoon Light & Power provides a significant financial benefit to the City by providing both an ROI as well as a GIL of taxes. These funds are made available from the utility for the City to use for general operations. This is an important source of revenue for the City, which reduces the pressure on property taxes.

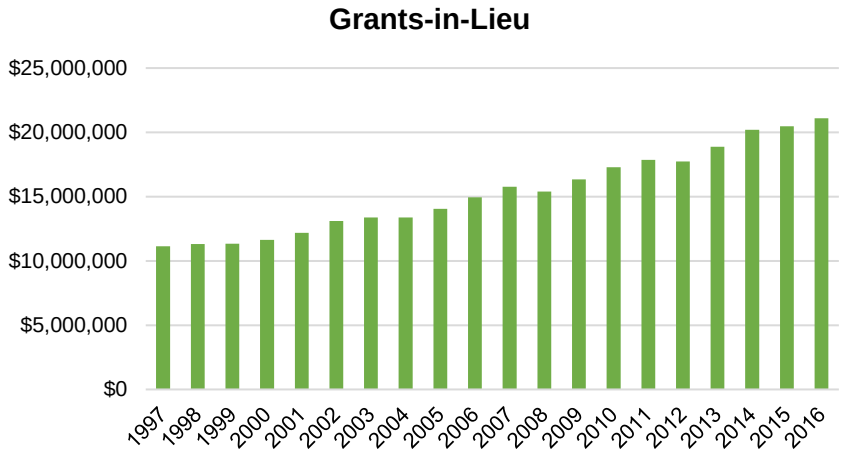


Significant increases were made to the ROI between 2006 and 2011. The ROI increased from $15,581,531 to $23,907,400 during that time (an increase of 53%).

The utility has been able to sustain the ROI between 2011 and 2016 with minor annual fluctuations. In 2016, the ROI was $23,059,700. ROI now represents 14.7% of the utility's total gross revenue, which is very high within the industry.

Saskatoon Light & Power also provides GIL. This amount is formula driven each year based on total revenues. As electricity rates increase, or sales volumes increase or decrease, GIL is adjusted accordingly.

Over the past 10 years, GIL increased from $15,769,175 in 2007 to $21,101,449 in 2016 (an increase of 34%).



Combining ROI and GIL, the total net financial benefit from Saskatoon Light & Power to the City in 2016 was $44,161,149.

Without these stable sources of income, the City would need to find revenue from other sources to meet its requirements. If property taxes were increased to cover these amounts, taxes would need to increase by 23.4%.

4.6 Year-End Operating Budget Variance

Saskatoon Light & Power had a positive variance at the end of 2016 of $1,293,500 (0.82% of total revenue).

Sales volumes were below budget as a result of milder than average weather, both in the summer and winter, resulting in fewer cooling and heating days. A 5% rate increase announced by SaskPower mid-year increased revenue and helped to offset the lower sales volumes. The result was slightly higher than budgeted revenue ($347,000).

Bulk power costs were below budget ($762,300) as a result of the decreased sales volumes and administration and general expenses were below budget by $328,500.

2016 Operating Budget Variance ($000)

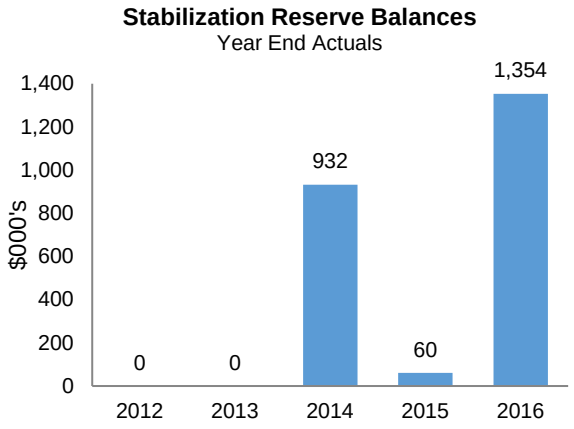
	Budget	Actual	Variance	%
Revenue				
Metered revenue	$141,533.5	$139,468.4	($2,065.1)	-1.46%
Municipal surcharge	14,020.2	14,063.9	43.7	0.31%
Unbilled revenue	0.0	2,445.4	2,445.4	
Other revenue	1,311.5	1,234.5	(77.0)	-5.87%
Total revenue	$156,865.2	$157,212.2	$347.0	0.22%

Expenses				
Bulk power	$83,307.7	$82,545.5	($762.3)	-0.91%
Grants-in-lieu of taxes	21,035.8	21,101.4	65.6	0.31%
Distribution	7,627.2	7,687.8	60.6	0.79%
Street lighting maintenance	1,323.6	1,341.6	18.0	1.36%
Admin & general	7,571.1	7,242.6	(328.5)	-4.34%
Provision to EDRR	7,005.0	7,005.0	0.0	0.00%
Provision to EDER	5,935.1	5,935.1	0.0	0.00%
Total expense	$133,805.5	$132,859.0	($946.5)	-0.71%
Revenue less expense	$23,059.7	$24,353.2	$1,293.5	5.61%
(To)/From Stabilization reserve	$0.0	($1,293.5)		
Return on Investment	$23,059.7	$23,059.7	$0.0	0.00%

Saskatoon Light & Power was able to balance the final year-end variance by transferring $1,293,500 to its operating stabilization reserve.

4.7 Operating Stabilization Reserve

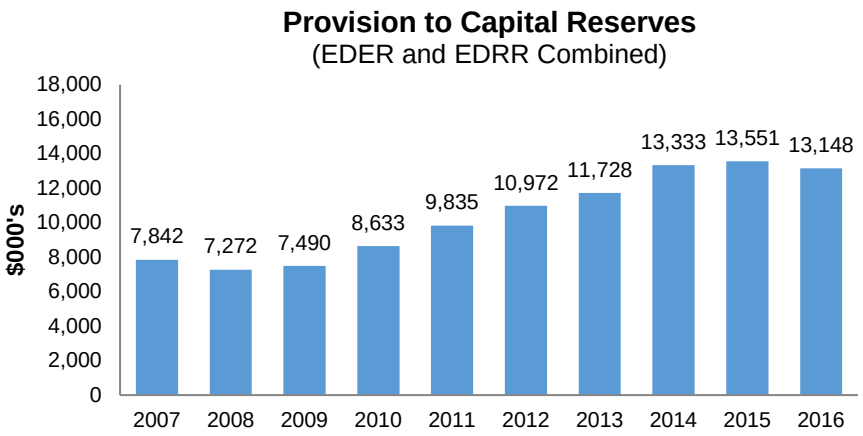
A stabilization reserve has been created by Saskatoon Light & Power to address any positive or negative variances that may occur each year within the operating budget. The source of funds for this reserve comes from previous year surpluses. In years when a negative variance occurs, funds are withdrawn from this reserve. Use of this reserve allows the utility to meet its ROI levels without the variances having an impact on the City's general accounts.



At the end of 2016, there was $1,354,000 remaining in the reserve, which is equivalent to 0.86% of total revenue.

4.8 Capital Spending and Capital Reserves

Saskatoon Light & Power funds the extension and replacement of its infrastructure through the use of capital reserves: the Electrical Distribution Extension Reserve (EDER); and the Electrical Distribution Replacement Reserve (EDRR). These reserves receive annual provisions from the utility's operating budget. A review of the sufficiency of these reserves is completed annually to ensure that they will meet the capital expenditures planned in the next five years.

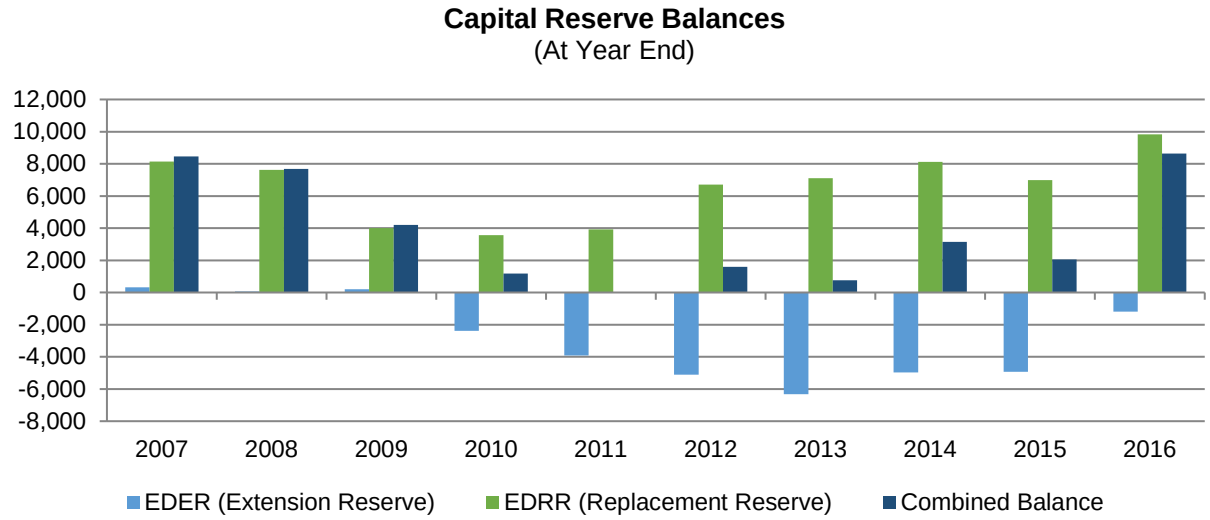


The adjacent chart shows the amount of funds provided to EDER and EDRR over the past 10 years.

Beginning in 2011, there was a concerted effort to increase the provisions to these reserves. Redevelopment within the downtown core and in suburban centres necessitated the upgrading of electrical infrastructure to handle the increased capacity. At the same time, it was recognized that renewal of the existing infrastructure was an increasing priority.

The provision to capital reserves leveled off over the past three years, largely due to unfavourable rates established by SaskPower that caused the cost of bulk power to increase faster than increases in revenue. In order to maintain the ROI and address inflationary pressures, it was necessary to postpone further increases to the capital provisions.

An asset management report will be presented to City Council in 2017 providing a target for future provisions to capital reserves.



Also shown are the capital reserve balances for EDER and EDRR as well as the combined value of the two reserves. By policy, the utility may run a deficit in one reserve as long as the combined value of the two reserves remains positive.

In 2007, the combined value of the reserves was $8,460,000. Between 2010 and 2015, the balance varied between $0 and $3,151,000. At the end of 2016, the balance was

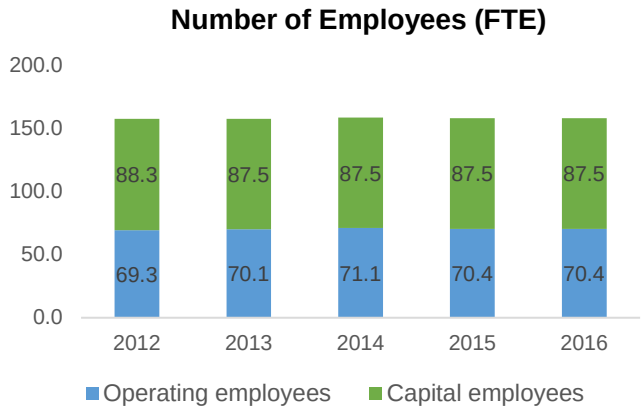
$8,637,000. Saskatoon Light & Power has intentionally left a positive balance to ensure there is sufficient funding if a failure occurs on the system that requires immediate attention. There are also some large capital projects that the utility is preparing to undertake in the future.

5.0 OUR PEOPLE

5.1 Number of Employees

Saskatoon Light & Power had 157.9 Full-Time Equivalent (FTE) employees as of December 31, 2016.

These employees were engaged in administration, system planning, engineering design, construction, maintenance, and system operations.



Saskatoon Light & Power has an extensive operating budget to maintain and operate the existing distribution system as well as a significant capital budget to complete major upgrades and installations. The utility's staff, therefore, work on both operating and capital projects throughout the year. Staffing levels have remained relatively constant over the past five years despite increasing workload.

5.2 Representative Workforce

Saskatoon Light & Power believes that its workforce should be representative of the public it serves.

The following chart shows that while the utility has a higher percentage of staff with aboriginal ancestry than employed by the City as a whole, it is still significantly below the Saskatchewan Human Rights Commission's (SHRC) goals set in 2014.

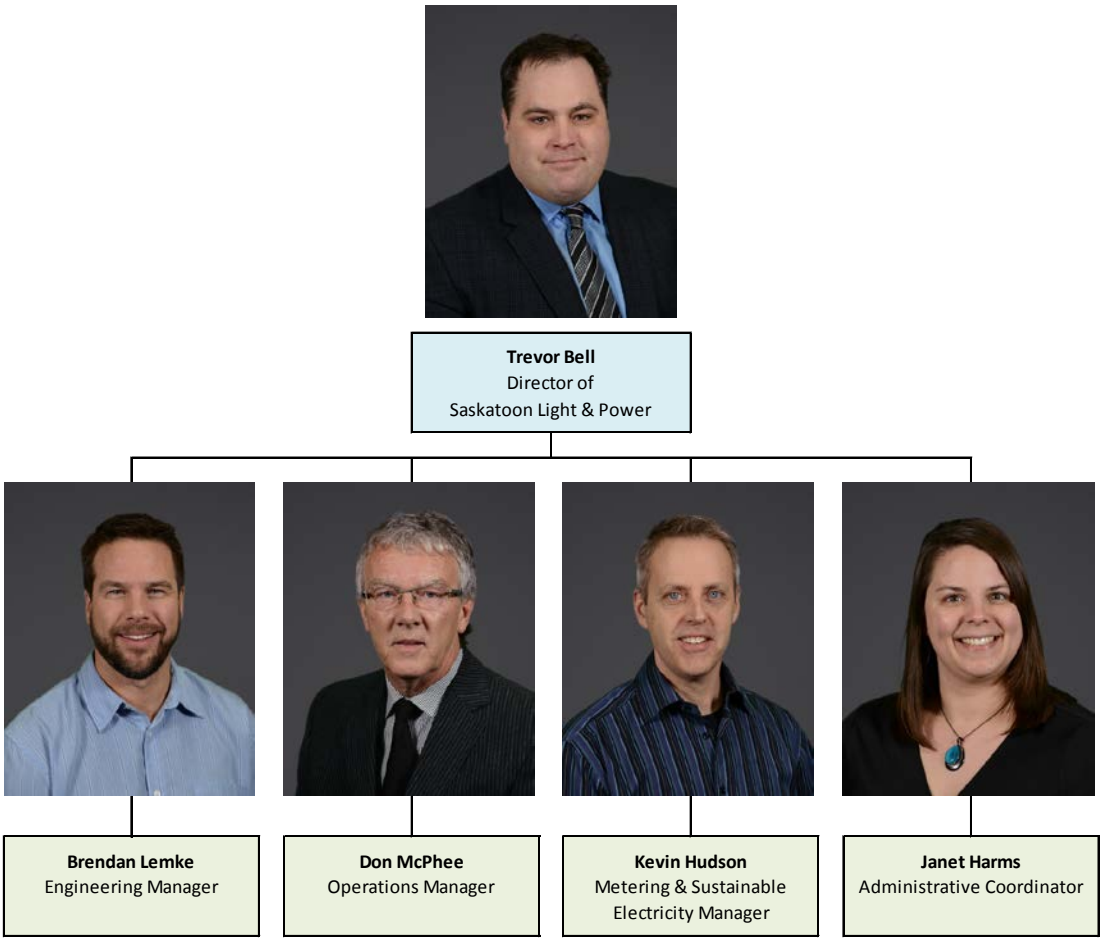
The other equity groups (visible minorities, people with disabilities, and females) are also underrepresented within the utility. This varies significantly within the different sections of the utility though, with some sections exceeding the SHRC's goals for visible minorities and females.

Percentage of Employees Self-Declared as an Equity Group Member
December, 2016

Equity Group	Saskatoon Light & Power	City of Saskatoon	SHRC Goals
Self-Declared as Aboriginal Ancestry	9.7%	7.2%	14.0%
Self-Declared as Visible Minority	9.7%	10.6%	11.0%
Self-Declared as Person with Disability	3.7%	3.8%	12.4%
Self-Declared as Female	8.2%	38.0%	46.0%

5.3 Organizational Structure

The organizational chart provides a high level overview of how Saskatoon Light & Power is organized and key positions in 2016.



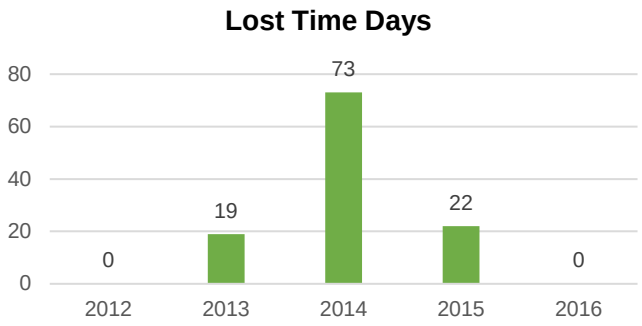
Accounting services for the utility are provided by the Business Administration division. The Corporate Revenue division of the Asset & Financial Management Department provides utility meter reading, billing and collection services common to the electrical, water and sewer utilities.

5.4 Employee Safety

Employee safety is paramount at Saskatoon Light & Power.

The utility has a mature Safety Performance Management System and participates in benchmarking studies with the Canadian Electrical Association (CEA) in a group of similar sized utilities (Group 3: under 300 employees).

The following two graphs show the number of lost time injuries that occurred at Saskatoon Light & Power over the past five years and the resulting number of days away from work.

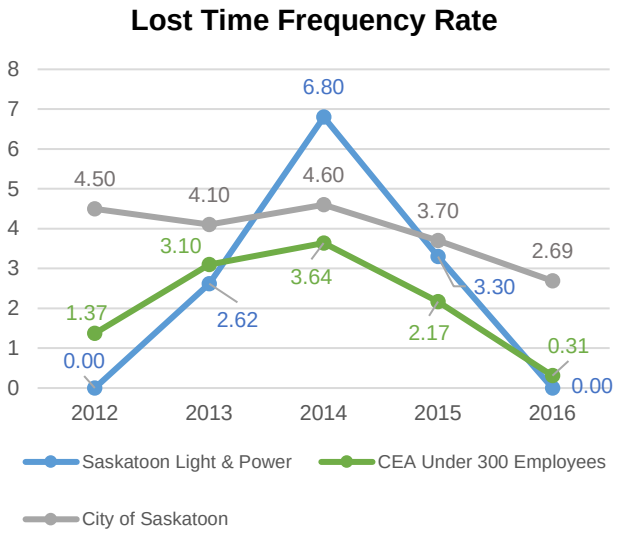


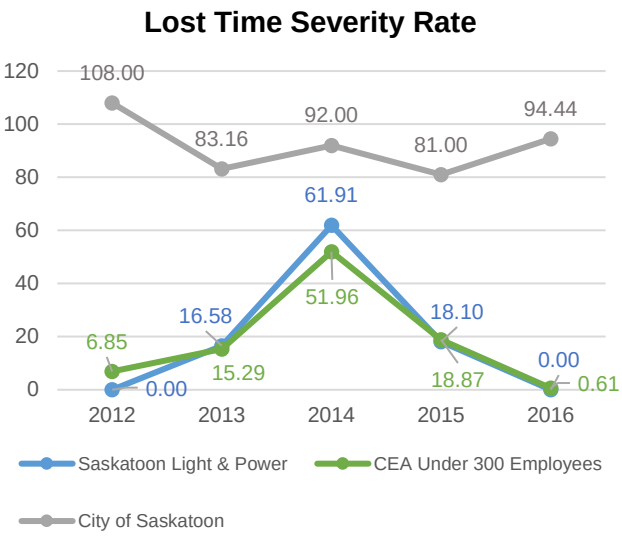
In 2016, Saskatoon Light & Power is very proud to report that there were no lost time incidents. This is a significant achievement given that staff worked in excess of 229,000 hours. Their dedication to working safely and making continuous improvements to our safety program is recognized.

When the same result was achieved in 2012, the CEA presented Saskatoon Light & Power with the Vice President's Award for Safety Excellence.

In order to compare results against the CEA member companies and against the City's overall average, the number of lost time incidents is expressed as the Lost Time Frequency Rate. Over the past five years, the resulting average rate for Saskatoon Light & Power was 2.54. This is close to the CEA member companies' rate of 2.12, but is significantly lower than the City average of 3.92.

Severity is a measure of the number of days missed from work as a result of an injury. For comparative purposes, the number of days missed from work is expressed as the Lost Time Severity Rate. Over the past five years, the resulting average rate for Saskatoon Light & Power was 19.32. This is very close to the CEA member companies' rate of 18.72, but is significantly lower than the City average of 91.72.



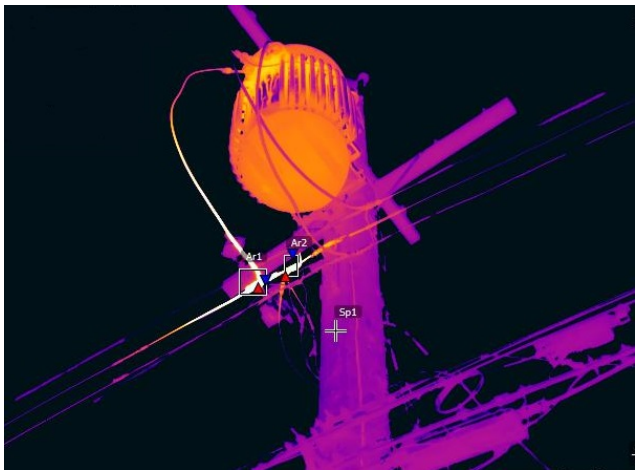


6.0 OUR WORK

6.1 Operating Highlights

Comprehensive Testing

Work continued in 2016 to conduct comprehensive tests on key infrastructure equipment.



Annual thermographic inspections are completed each winter to look for "hot spots" within the distribution system. As electrical components begin to fail, they often generate an increased amount of heat. An infrared camera is used to detect the heat and determine where preventative maintenance is required. For example, in the adjacent image the power lines appear white near the pole. This is not normal and indicates an area of concern. In 2016, 32 critical locations were found using this technique and an additional 158 locations of significant, but not critical, concern were found.

Comprehensive testing was also conducted on all high voltage substation transformers. These tests were conducted in 2015 and will be repeated again in 2017 as part of a

three year testing program. This diagnostic test determined which transformers were starting to show signs of aging and may need additional maintenance. Saskatoon Light & Power has 20 of these transformers and each is worth approximately $1 million; therefore, regular monitoring of this equipment is critical.

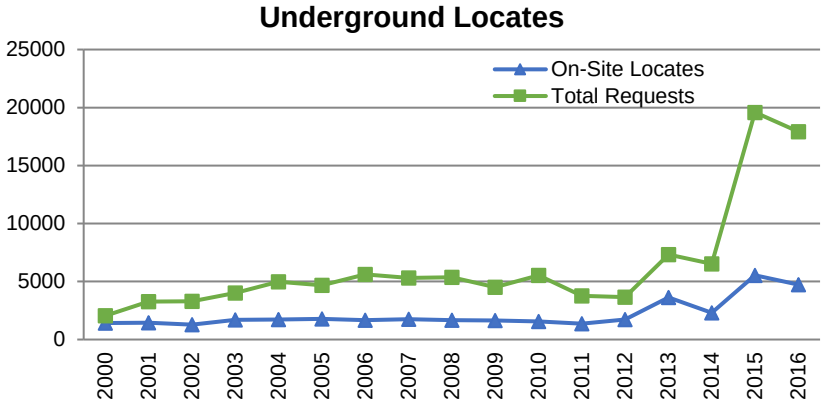
Tree Trimming

Each year, overgrown trees come in contact with power lines causing service interruptions. Saskatoon Light & Power, therefore, has a tree trimming program aimed at cutting back tree branches to remove this hazard.

Underground Locates

It was once again a very busy year for underground locates in 2016. In 2015, the utility made the decision to join the Sask 1st Call system. The main benefit of the system was to eliminate the need for contractors and residents to contact Saskatoon Light & Power separately from all other utilities. Being part of a province-wide one-call system was aimed at reducing the number of underground lines hit by contractors, improve worker safety, and protect the integrity of the electrical system's assets.

In 2016, Saskatoon Light & Power received 17,916 underground locate requests through the Sask 1st Call dispatch service. This was down slightly from the 19,587 locate requests in 2015, but was still significantly above the average from 2000 to 2014 of 4,660 requests.



Many of these requests could be cleared over the phone with the customer, but 4,731 on-site field locates were necessary in 2016. This was down from a high of 5,540 in 2015 and significantly above the previous average from 2000 to 2014 of 1,778.

Street Light Pole Inspection
A street light pole inspection program was launched in 2015 to prioritize the replacement of poles. A total of 1,429 poles were inspected in high priority locations including the downtown and along major roadways.

Work on this initiative continued in 2016 with 1,386 poles being inspected. A total of 142 poles were replaced based on these inspections.

6.2 Capital Projects

Saskatoon Light & Power provided funding to 30 capital projects in 2016.

The adjacent chart provides a summary of the spending by infrastructure category. This information does not include any carry-over funding from previous years, but does include customer contributions.

Total funding provided to capital projects in 2016 was $17,008,000.

2016 Capital Budget	
Category	**2016 New Funding**
Substations	$960,000
Communication & Control	$710,000
Transmission	$100,000
Distribution	$6,275,000
Network	$1,610,000
Alternative Energy	$200,000
Metering	$2,050,000
Lighting	$4,118,000
General	$985,000
Total	**$17,008,000**

6.2.1 Smart Meters & Automated Metering Infrastructure

Saskatoon Light & Power hit an important milestone in 2016 with its smart meter and Automated Metering Infrastructure (AMI) project.

Beginning in 2008, a change was made to begin implementing electronic smart meters instead of the electro-mechanical meters that had previously been used. Switching to the new meters was the first step toward implementing an AMI system. By the end of 2016, smart meters had been provided to 73% of the utility's customers (44,500 meters). The target is to complete this deployment by the end of 2017.

By July 2016, the communication and computer infrastructure was in place for those meters to be read remotely and the system was activated. Customers with smart meters began receiving bills based on actual monthly reads, eliminating the need for estimates.

Funding in 2016 totalled $2.05 million.

This project was a collaborative effort between Saskatoon Light & Power, Saskatoon Water, and Corporate Revenue to implement a single system for both electricity and water meters.

6.2.2 Customer Connections (New and Upgrades)

One of the largest regularly occurring capital projects is for upgrades and extensions of the electrical distribution system due to customer demand for new electrical service or electrical load growth.

There were 133 residential service work orders completed in 2016. Residential projects included line relocations, electrical services to new builds and infill developments, and burying overhead services underground. In addition, there were 45 commercial upgrades completed in 2016.

A total of $2.24 million was spent in 2016, including $1.2 million that was collected from customers for their portion of the work.

6.2.3 Street Lighting

Saskatoon Light & Power currently provides street lighting for 79% of the city and provides lighting in all new development areas.

In 2016, $4.118 million was budgeted for the installation of new street lights. The vast majority of this funding comes from land developers, with a smaller portion coming from other civic transportation projects. Saskatoon Light & Power invests $300 per light, matching the long-standing program offered by SaskPower.

The budget included $60,000 to respond to isolated areas that needed street lighting improvements. An additional $900,000 was budgeted to repair street lights that have either been damaged in car accidents or to replace those that were at the end of their lifespan. Saskatoon Light & Power recovers costs from insurance companies whenever possible.

6.2.4 Feeder Upgrades & Replacement

Each year, Saskatoon Light & Power targets key distribution feeders for upgrades or replacement. In some cases, these upgrades are the result of increased demand on the system in that local area, and the lines need to be upgraded to provide more capacity. In other locations, the condition of the distribution system may have led to problems and the infrastructure needs to be replaced.

In 2016, $2.125 million was budgeted to undertake this type of renewal.

6.2.5 New North Supply Point

Saskatoon Light & Power receives all of its bulk power from SaskPower at the Queen Elizabeth Switching Station near the Saskatoon Landfill.

In 2015, a new capital project was created to begin making plans for a new supply point coming from the north. SaskPower had recently installed a new transmission system which ties to different generating stations and provides an independent source of power from the Queen Elizabeth station.

Saskatoon Light & Power provided $800,000 to undertake the first stages of functional design. Work on this project progressed in 2016 and several alignments were considered to bring this power into the city limits and connect to Saskatoon Light & Power's substation near Warman Road south of Circle Drive.

Construction of this new line will be subject to City Council approval in the future.

6.3 Continuous Improvement Initiatives

Upgraded Phone System

Saskatoon Light & Power implemented an upgraded telephone system in 2016. The primary purpose of the new system was to improve communication with citizens during service disruptions but other benefits were also realized.

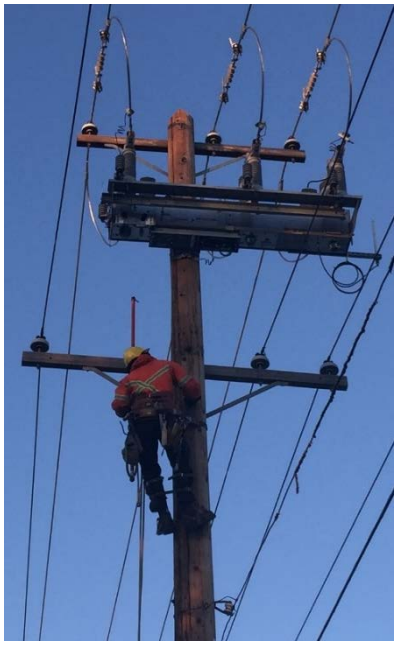
The selected system built on the hosted contact centre previously implemented in 2014 by the Customer Service Centre, Roadways & Operations division.

With the new system in place, Saskatoon Light & Power improved daytime service levels by increasing the number of customers that can be served concurrently. Customers are now efficiently directed to appropriate queues for prompt responses. A change was also made to increase the number of staff answering phones from four to six without increasing existing staffing levels.

An increase to after-hour service levels was also made. Customers now hear a recorded message providing regularly updated information on any service disruptions and then are able to connect with the Customer Service Centre for live responses.

By working together, Saskatoon Light & Power has improved its level of customer service by increasing capacity and efficiency.

Intellirupter
New technology was implemented for the first time by Saskatoon Light & Power on the service provided for the city's Water Treatment Plant. Restoring service to this customer is a high priority following a power outage.



By installing the Intellirupters, it is now possible to automatically redirect which electrical substation provides service to the plant. If a power outage is affecting one substation, the Intellirupters switch the service to another substation within seconds. These devices provide superior electrical service reliability to the Water Treatment Plant.

The Intelliruptors contain modern protection devices similar to those found in substations that detect a fault quickly to reduce the damage that can occur to the electrical distribution system by the mechanical forces caused by the fault. Additionally, because the devices automatically switch between sources, restoration efforts can be focused on other areas that may be affected during a storm or other event, thereby restoring power to other customers more quickly.

This pilot project is currently being evaluated, but early performance has met expectations. Additional units may be installed in other key locations in the future.

Composite Cross Arms
Electrical utilities have used wooden cross arms at the top of power poles for over a century. These cross arms are in close proximity to very high voltage electricity and can sometimes catch on fire if hit by lightning or come in contact with the energized lines. When this happens, a power outage occurs. Replacing the damaged arm takes time, which can extend the amount of time required to restore service.

To improve its reliability and responsiveness, Saskatoon Light & Power has begun using composite material for the cross arms. Benefits include: reduced maintenance costs; extended life spans; fire resistance; and improved electrical insulation. The cross arms are also half the weight of the wooden alternatives, which make them easier to install.

6.4 Community Awareness and Engagement

School Tour Program
Saskatoon Light & Power hosted 28 school tours in 2016 (850 students). The school tour program is designed to complement the grade 6 and grade 9 curriculums. Students learn what electricity is and how to be safe around it. They learn about the environment, social and economic impacts of electricity use in Saskatchewan, and ways to reduce those impacts. They also learn about career opportunities in the electricity industry.

Student Action for a Sustainable Future
Student Action for a Sustainable Future (SASF) is an action and inquiry project for grades 5 through 8 students in Saskatoon. Led by the City, partners include the Saskatchewan Environmental Society, Greater Saskatoon Catholic Schools, Saskatoon Public Schools, Saskatoon Light & Power, and the Sustainability Education Research Institute at the University of Saskatchewan. Supported by the partners, students from several schools develop, implement, and showcase inquiry and actions, which focus on six areas: waste, water, energy, food, transportation, and biodiversity that reduce greenhouse gas emissions in Saskatoon and around Saskatchewan.

The program has been internationally recognized by the Global Partnership for Environmental Education (GEEP) as a Case Study for best practices in environmental education.

7.0 OUR ENVIRONMENT

7.1 Stewardship

As a division of the City and a member of the CEA, Saskatoon Light & Power is committed to environmental stewardship. The following subsections provide information about specific actions the utility has taken in 2016.

Environmental Management System
Saskatoon Light & Power has implemented an Environmental Management System (EMS) across the division. The EMS is a structured framework to manage the utility's environmental performance and minimize its environmental impact.

The EMS was developed using the ISO 14001: International Standard for Environmental Management Systems. The ISO requires a continual cycle of planning,

implementing, reviewing, and improving the actions undertaken by the utility to meet its environmental obligations. The utility is the first division in the City to have an EMS consistent with ISO 14001.

Removal of Transformers Containing PCBs
Manufacturers no longer use polychlorinated biphenyl (PCB) in transformers, but when Saskatoon Light & Power's distribution system was developed in the 20th century, the use of PCB was common.

The utility, along with other utilities across the nation, has a program to remove and decommission all transformers containing PCB above the limit established by the federal government. Saskatoon Light & Power currently has 362 transformers containing more than 5 ppm of PCB out of a total of 4,544 transformers owned by the utility. This work is being scheduled to comply with the required deadline of 2024.

LED Street Lighting
Saskatoon Light & Power has been a leader in the implementation of LED lighting in Saskatchewan. After a successful pilot project in the Evergreen neighbourhood, City Council adopted a recommendation from the utility in January 2015 to implement energy efficient LED lighting for all new developments.

By the end of 2016, the utility had installed 1,890 LED lights (7.5% of the utility's total number of lights). These lights reduced total energy consumption by an estimated 728,747 kilowatt-hours annually. This decreased greenhouse gas emissions by 320 tonnes of carbon-dioxide equivalent (CO_2e), which is the equivalent of removing 64 cars from our roads annually. These benefits will continue to grow as more LED lights are installed in the future.

7.2 Clean Energy Projects

Saskatoon Light & Power has set a target to generate 10% of the utility's annual energy requirements from local, renewable resources. Achieving this ambitious target will take a number of years, but the utility has already constructed one generating station with others currently being planned.

Landfill Gas Power Generation Facility
The Landfill Gas Power Generation Facility has been generating electricity since 2014. In 2016, it generated 12,088 MWh of electricity and reduced emissions in Saskatoon by over 50,000 tonnes of carbon-dioxide equivalent (CO_2e) by combusting 6 million cubic metres of landfill gas. This is equivalent to removing over 10,000 cars from the road annually, while powering roughly 1,200 homes.

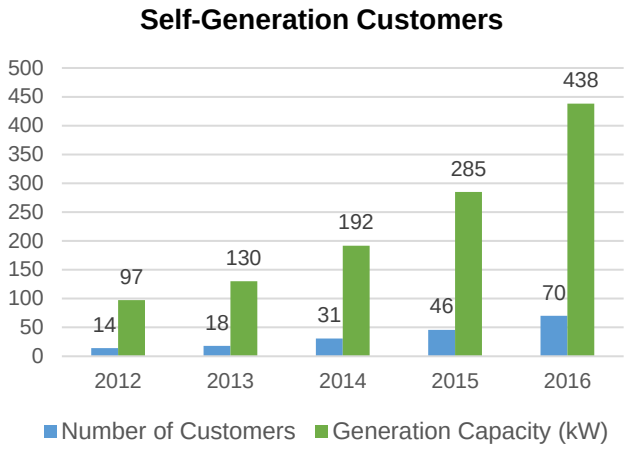
Customer Self-Generation Programs

The Customer Self-Generation Programs allow customers to generate a portion of their own electricity using solar panels, thereby offsetting their power costs. In 2016, Saskatoon Light & Power added a Net Metering Program to its customer self-generation options. Through the program, customers receive credits for generating more power than they need during the day, which they use at nighttime or when they are using more electricity than they can generate on their own.

In 2016, the number of customers taking advantage of these programs increased from 46 to 70, with an average system size of 5.0 kW for residential systems and 13.8 kW for commercial systems.

Combined, all of the solar panels interconnected with Saskatoon Light & Power's grid produce about 530 MWh each year (about 0.04% of the annual electricity sold to customers). This amount of electricity powers roughly 50 homes.

While this accounts for only a small fraction of the electricity used in Saskatoon, the number of connected customers is doubling in size every two years.



Solar Power Demonstration Site

Saskatoon Light & Power is operating the largest solar power plant in Saskatoon. The Solar Power Demonstration Site has 92 solar panels, for a total of 30.66 kW generation capacity, on four ground-mount arrays.

The site is located at the Landfill Gas Power Generation Facility, and electricity generated by the solar panels will provide 40% of the electricity needed to run the facility.

The Solar Power Demonstration Site is a partnership between Saskatoon Light & Power, Saskatchewan Polytechnic, the Saskatchewan Environmental Society (SES), and the SES Solar Co-operative. Saskatoon Light & Power and the SES Solar Co-operative co-own a fixed angle ground-mount array and a manually adjustable ground-mount array. Saskatchewan Polytechnic provided two sun-tracking arrays on a

long-term loan. The Saskatchewan Environmental Society provided seed funding to the SES Solar Co-operative.

The site compares different solar collection systems, in our local climate conditions, to analyze their cost and performance to inform future deployment. The site also, creates a source of solar power generation for the SES Solar Co-operative, and supports Saskatchewan Polytechnic's Green Energy Laboratory.

Combined Heat and Power Plant at St. Paul's Hospital
Saskatoon Light & Power and the Saskatoon Health Region are studying the feasibility of a Combined Heat and Power (CHP) Plant at St. Paul's Hospital. A CHP Plant produces both thermal and electrical energy at the same time, and does this more efficiently than producing each separately. The thermal energy would be used in the hospital for its heating requirements, and the electrical energy would go to the utility's electrical distribution system.

Hydropower Project at the Weir
Work has also progressed on the development of a hydropower project located at the Saskatoon Weir. Saskatoon Light & Power met with several groups interested in partnering on the project, and confirmed with City Council that it wishes the utility to explore this opportunity further.

If constructed, and depending on the various options being explored, this generating station could provide clean energy for up to 3,500 homes and reduce greenhouse gas emissions by 21,000 tonnes of CO_2e.

8.0 OUR CHALLENGES

While the overall performance of Saskatoon Light & Power has remained very strong, there are a number of challenges facing the utility.

Age and Condition of Existing Infrastructure
A significant portion of the utility's assets were installed during periods of significant land development and urban growth in the 1950's to 1980's. These assets are now 30 to 60 years old and are needing to be replaced.

Electrical utilities across Canada have identified that funding for renewal projects has not kept pace with the requirements to maintain the system. The result is that the average age of infrastructure is increasing. Asset sustainability and reliability will be at risk if not properly managed.

To address this concern, Saskatoon Light & Power has been working to implement asset management principles into its decision making processes. Work has also begun to establish service levels and key performance indicators.

Preparation of an asset management report began in 2016 and will be made available to City Council in mid-2017. The report will identify the overall condition of the utility's assets and will determine the level of capital spending required annually to address both renewal and growth issues.

Distributed Generation and Rates

Installation of distributed generation systems, such as solar panels on the roofs of homes and businesses, can provide customers with a clean source of energy. However, the existing utility rate structure does not take this growing trend into account, and does not adequately address the costs incurred by the utility to provide a backup power distribution system for these customers.

Distributed generation systems typically do not meet the full needs of the customer, so customers still rely on the utility for a portion of their power and for a backup supply when their system fails. The reduced amounts collected from these customers do not provide sufficient funding to maintain the extensive distribution system that is necessary to serve all customers.

Saskatoon Light & Power will continue to explore solutions to this issue in collaboration with SaskPower.

9.0 CONCLUSION

The overall performance of Saskatoon Light & Power remained strong in 2016. The utility is debt-free and provides a significant return on investment to the City. Reliability statistics show that the utility meets or exceeds the CEA Urban Average and is able to restore power faster than average when the power does go out.

Saskatoon Light & Power is fortunate to have a dedicated and skilled group of employees. The success of the utility is a direct result of their efforts over the past year. The guidance and support of the Transportation & Utilities Department General Manager, City Manager and City Council are also greatly appreciated.

10.0 APPENDIX

10.1 History of Saskatoon Light & Power

The municipal electric utility was started in 1906, with a small generating plant of 225 kilowatts located on the riverbank at Avenue H and 11th Street. Initially, service was provided at night time only for lighting purposes, but by 1908, 24-hour service was available.

By 1911, the extremely rapid growth in demand for electricity forced the City to construct a new coal-fired thermal generating plant on Avenue A south of 19th Street (A.L. Cole generating plant). Plant expansions brought the generating capacity to 10,000 kilowatts by 1919.

In 1928, the City sold its power plant to the Saskatchewan Power Commission, which began selling electricity in bulk to the City for distribution to its customers. The plant was the single source of supply for Saskatoon at the time.

The Queen Elizabeth Power Station was constructed by SaskPower in 1959 and is still generating power at its location just south of the Saskatoon Landfill. In the early 1980's, the A.L. Cole plant was then retired.

In the early 1960's, SaskPower continued its expansion and took over many of the municipal utilities in the province, including the City of Regina's utility in 1965. At that time, the City of Saskatoon decided not to sell its electric utility and opted to continue operating to provide electrical services to businesses and residents.

The franchise boundary for the utility was set by provincial legislation based on the 1958 municipal boundaries. The franchise area has not changed significantly with the expansion of the city, and SaskPower serves the portion of Saskatoon outside of this area.

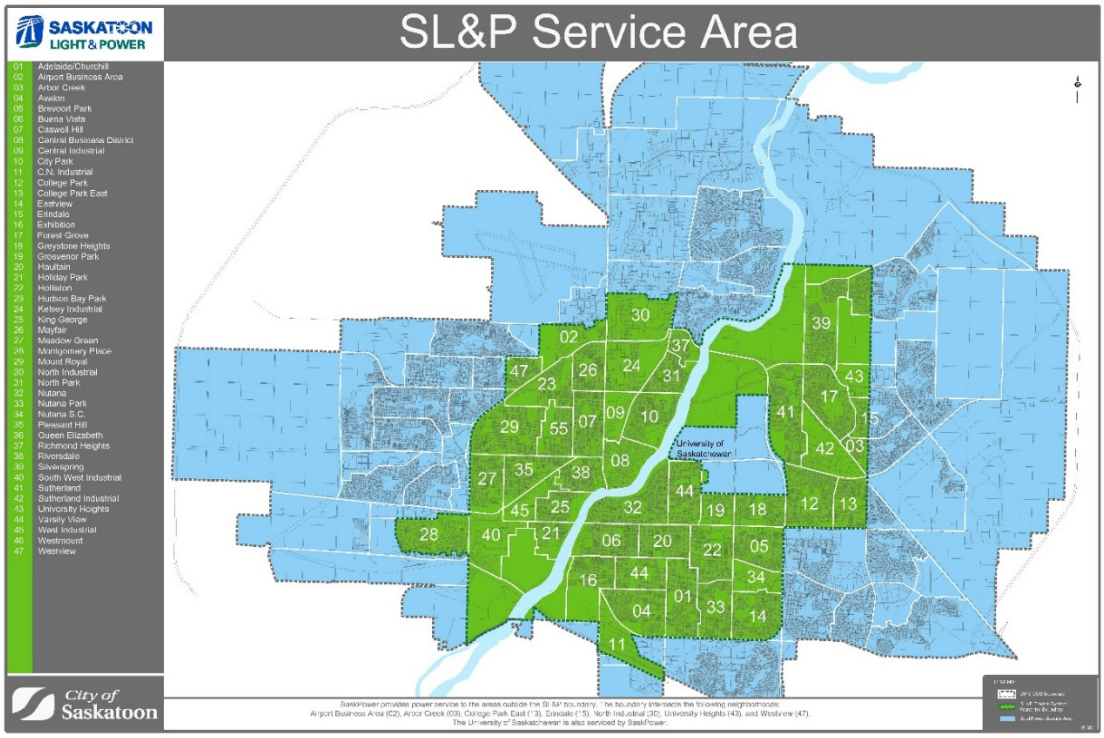
In December 2004, City Council approved Saskatoon Light & Power as the new name for the City's electric utility.

Saskatoon Light & Power is the largest municipal utility in the province and is SaskPower's largest single customer.

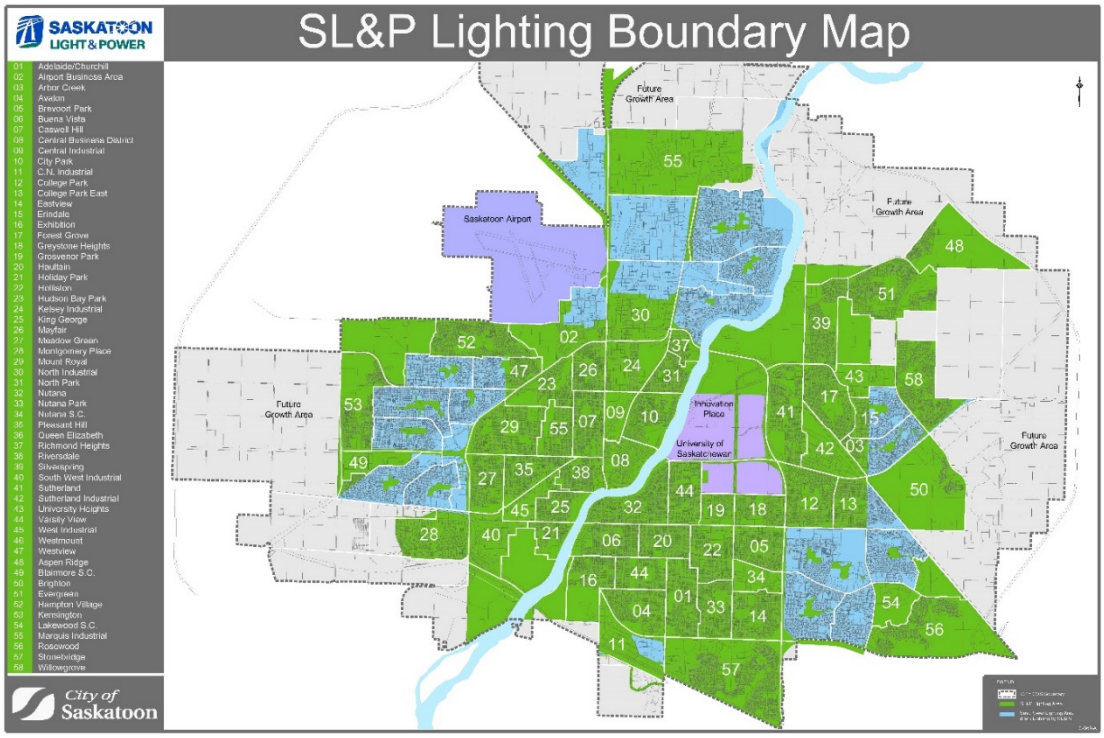
In March 2014, Saskatoon Light & Power once again began generating electricity by commissioning the Landfill Gas Generating Station. The 1.63 Megawatt facility produces enough electricity each year to power 1,200 homes. Annual greenhouse gas

emissions from the landfill were reduced by over 50,000 tonnes (the equivalent of removing 10,000 vehicles from Saskatoon's roadways.

10.2 Franchise Boundary



10.3 Lighting Boundary



South Saskatchewan River Watershed Stewards – 2017 Membership

Recommendation
That the Standing Policy Committee on Environment, Utilities, and Corporate Services recommend to City Council:

That the City of Saskatoon membership with the South Saskatchewan River Watershed Stewards Incorporated be renewed for 2017.

Topic and Purpose
The Administration recommends continuing membership with the South Saskatchewan River Watershed Stewards Incorporated (SSRWSI), a non-profit organization that delivers targeted programs to protect our watershed and the source of our drinking water.

Report Highlights
1. The SSRWSI leads the implementation of the Source Water Protection Plan for the South Saskatchewan River watershed and contributes to local initiatives that support the 25-Year Water Security Plan for the Province of Saskatchewan.
2. Membership in the SSRWSI promotes initiatives that have a direct and beneficial impact on the City of Saskatoon's (City's) source of drinking water.

Strategic Goal
Continued membership with the SSRWSI supports the strategic goal of Environmental Leadership. Specifically, membership supports the 10-year strategy of improving the quality and reducing the quantity of storm water run-off.

Background
The City joined the SSRWSI as a founding member in 2007 and is engaged in watershed protection initiatives via this organization. There are two City representatives on the SSRWSI Board of Directors: one City Councillor and one member from the Administration.

Report
Watershed Initiatives

Membership in the SSRWSI benefits the City economically, environmentally, and socially. Socially, membership enables the City to establish positive relationships with other communities in our watershed and with community organizations with an interest in watershed protection.

Working together to protect water quality and quantity for the health and welfare of our citizens results in environmental and economic benefits, such as: raising awareness of watershed issues and promoting behavior that benefits water quality. Being able to collectively identify threats to our common drinking water source enables us to leverage funding and resources to develop and implement projects to protect this important resource.

Watershed initiatives undertaken by SSRWSI in 2016 are described in Attachment 1.

Benefits to Drinking Water Quality

Projects that have a direct and beneficial impact on the City's source of drinking water include groundwater well decommissioning, fish habitat assessment, shoreline assessments, invasive species awareness and monitoring, and source water protection planning.

Options to the Recommendation

City Council may choose to not renew membership with SSRWSI as membership is voluntary.

Public and/or Stakeholder Involvement

The SSRWSI has developed partnerships with other organizations with an interest in watershed protection, and has a membership base from across the entire watershed. Page 4 of Attachment 1 lists members and partners of the organization.

Communication Plan

Updates on the activities of the SSRWSI will be provided to City Council annually when membership fees are due.

Financial Implications

Provincial funding was reduced by 20% to this organization in 2017, making the future of the organization uncertain. Overall, the Stewards received $210,000 in project funding in 2016, in addition to core funding from the province and membership fees. The annual membership fee for the City to participate in the SSRWSI is $20,000. Funds have been allocated in the 2017 operating budget for this expenditure. Participation in watershed protection efforts through SSRWSI allows the City to leverage its efforts and resources.

Environmental Implications

Continued membership in the SSRWSI enables the City to participate in initiatives that protect the overall health of our watershed and our source of drinking water.

Other Considerations/Implications

There are no policy, privacy or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

An update to City Council will be provided in May 2018.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, *Public Notice Policy*, is not required.

Attachment

1. Watershed Protection

Report Approval

Written by:	Twyla Yobb, Watershed Protection Manager
Reviewed by:	Brenda Wallace, Director of Environmental and Corporate Initiatives
Approved by:	Jeff Jorgenson, A/General Manager, Corporate Performance Department

SSRWSI – 2017 Membership.docx

Watershed Protection

Photos and map courtesy of the South Saskatchewan River Watershed Stewards, Inc.

Overview

The South Saskatchewan River is central to the community, culture, and heritage of Saskatoon. Citizens live, work, and play in and around the river, which also supplies our drinking water and receives storm water and treated waste water.

The river is part of a larger ecological entity called the South Saskatchewan River Watershed that connects us to our neighbours up and downstream of Saskatoon. Because the river is so vital to our citizens, it is important that we take part in protection of this resource.

Saskatoon is engaged in watershed protection initiatives through membership in a non-profit organization that delivers targeted programs to protect the quality and quantity of water in the watershed; the South Saskatchewan River Watershed Stewards Inc. (Stewards).

What is a Watershed?

A watershed is an area of land that is linked by a common connection to one watercourse. All the storm runoff and snow melt in this area is carried or “shed” to this common watercourse. Water moving within the watershed is affected by everything it comes into contact with including soil, vegetation, wildlife, and people. The activities that we do on the land have impacts on the water quality that is available to others downstream. Likewise, the water quality that is available to Saskatoon is impacted by the activities of those who live upstream.

The South SK River Watershed

The South Saskatchewan River is the single largest supplier of water for drinking, irrigation, industry, and recreation in the province. Approximately 45% of the provincial population relies on the river for their daily water needs.

The river begins in the Rocky Mountains in Alberta. The Oldman River, Bow River, and Red Deer River all combine to form the South Saskatchewan River just after crossing the Alberta-SK border.

In Saskatchewan, the River travels northeast to Lake Diefenbaker, where Gardiner Dam controls flow moving toward Saskatoon. Downstream of the city, the South and North Saskatchewan Rivers join to form the Saskatchewan River. The river continues to the Delta near the Manitoba-SK border, then through Lake Winnipeg and Nelson River into the Hudson Bay.

The upstream boundary of the South SK River Watershed is the Alberta-SK border. The downstream boundary is in the northeast where the South SK and North SK Rivers join.

Source Water Protection Planning

The Province initiated watershed planning for the South Saskatchewan River in 2004. Watershed residents and leaders participated in the creation of a work plan, called the Source Water Protection Plan, to protect our common water resources.

The Stewards were formed in 2007, with Saskatoon as one of the founding members, to implement the resulting Source Water Protection Plan.

Map courtesy of the Province of Saskatchewan

Why is Saskatoon a Member?

Membership with the Stewards supports the strategic goal of Environmental Leadership. The ten year strategy of improving the quality and reducing the quantity of storm water run-off is specifically supported.

Initiatives implemented by the Stewards that support the City's long term goals include:

- General education and awareness of watershed issues.
- Shoreline health assessments for lake front properties
- Awareness and monitoring for aquatic invasive mussels.
- Programs to raise awareness of issues related to agriculture. Funding is available for producers who wish to implement beneficial management practices for watershed protection.
- Source water protection planning for rural communities and First Nations.

Benefits of Membership

1. Economic Benefits to the City

- Leverage additional funding for watershed protection projects. The Stewards are able to use the City's contributions to leverage additional funds and resources from other partners and funding agencies.
- Identify future threats to water quality and quantity, develop projects, and identify funding sources to address issues.

2. Environmental Benefits

- Raise awareness of watershed issues and promote behavior that benefits water quality.
- Initiate projects that implement best management practices for the protection of water quality and quantity.
- Improved understanding of terrestrial and aquatic ecology in the watershed.
- Improved ability to monitor the watershed for issues, such as invasive species, and take measures to reduce environmental and financial impacts.
- Improved understanding of watershed hydrology.

3. Social Benefits

- Protect water quality and quantity in the River for the health and welfare of our citizens.
- Better relationships with other communities that live upstream and downstream of Saskatoon.
- Productive relationships with community organizations with an interest in watershed protection.

What Are the Consequences of Not Doing this Work?

- Saskatoon would not have access to the provincial Source Water Protection Planning initiative and related projects.
- Saskatoon would not take advantage of an opportunity to develop better relationships with communities up and downstream on the South Saskatchewan River.
- The City would not be able to easily demonstrate involvement with protection of water quality and quantity for the health and welfare of our citizens.

What is the Timing of the Project?

Ongoing membership with the Stewards is dependent upon Council approval on an annual basis.

2016 Activities

Watershed initiatives undertaken in 2016 included:

- Mussels on the Move Outreach Project
  - $8,500 Fish and Wildlife Development
  - 15 presentations and monitoring sites
  - 8 signs posted to increase awareness

- Source Water Protection Planning
  - $18,000, Water Security Agency
  - Risk-based prioritization of all small drinking water systems in the watershed;
  - Basic risk assessment for 3 of the highest risk communities.
  - $99,000 grant (2 year), Eco Action Fund for Beardy's and Okemasis First Nation.

- Agri-Environmental Group Plans
  - $100,000, Ministry of Agriculture funding
  - Assistance with over 30 applications to implement agricultural best management practices.
  - Invasive weed workshops/ field tours.
  - Promotion of agricultural best management practices throughout the watershed.

- Shoreline Health Assessments
  - $12,000, Watershed Canada, Canadian Wildlife Federation, Eco Action.
  - Conducted shoreline health assessments at Pike Lake and Blackstrap.

2017 Activities and Deliverables

Projects in the 2017 SSRWSI Business Plan that will directly benefit Saskatoon include:

- Continued promotion and assistance with implementation of agricultural best management practices.
- Continued awareness and monitoring for aquatic invasive species.
- Continued source water protection planning initiatives.
- Continued riparian health assessment projects for lakeside resort communities.
- Promoting development of an allocation strategy for the South Saskatchewan River.

Who Are The Sponsors?

Council

- Councillor Zach Jeffries

Corporate Performance

Environmental & Corporate Initiatives:

- Brenda Wallace, Director
- Twyla Yobb, Land & Water Section

Who Are The Stakeholders?

Corporate Performance:
Environmental and Corporate Initiatives
- Education & Environmental Performance
- Environmental Protection Section

Community Services
Parks:
- Maintenance NW District
- Maintenance SE District

Transportation and Utilities
Saskatoon Water:
- Water Treatment
- Wastewater Treatment
- Storm Water Utility

Partnerships

Partnerships that are available to Saskatoon via the SSRWSI include:
- Saskatchewan Association of Watersheds (members include 10 other provincial watershed groups)
- Meewasin Valley Authority
- Native Plant Society of Saskatchewan
- Saskatoon Nature Society
- Saskatchewan Environmental Society
- Saskatchewan Invasive Species Council
- Saskatchewan Wildlife Federation
- Nature Saskatchewan
- Swale Watchers
- Wild About Saskatoon
- Pike Lake Cottage and Watershed Association
- North Saskatchewan River Basin Council
- PARTNERS for the Saskatchewan River Basin
- Ducks Unlimited Canada
- Global Water Security Institute
- National Hydrology Research Centre
- School of Environment and Sustainability
- Environment Canada
- Fisheries and Oceans Canada
- SK Ministry of Environment
- SK Ministry of Agriculture
- Watersheds Canada
- Canadian Wildlife Federation
- Nature Conservancy of Canada

2016 Members

Urban:
- City of Saskatoon
- City of Martensville
- Town of Cabri
- Town of Cudworth
- Town of Kindersley
- Town of Leader
- Town of Osler
- Town of Rosthern
- Village of Alvena
- Village of Riverhurst
- Resort Village of Shields

Rural
- R.M of Chesterfield #261
- R.M. of Corman Park #344
- R.M. of Deer Forks #232
- R.M. of Duck Lake #463
- R.M. of Excelsior #166
- R.M of Fertile Valley #285
- R.M of Fish Creek #402
- R.M of Happyland #231
- R.M. of Kindersley #290
- R.M. of Loreburn #254
- R.M of Lacadena #228
- R.M. of Miry Creek #229
- R.M. of Montrose #315
- R.M. of Newcombe #260
- R.M of Prince Albert #461
- RM of Rosthern #403
- R.M. of Rudy #284
- R.M. of Saskatchewan Landing #167
- R.M. of Snipe Lake #259
- R.M. of Vanscoy #345
- R.M. of Victory #226

Special Interest
- Meewasin Valley Authority
- Pike Lake Cottage and Watershed Assoc.

Photo courtesy of the SSRWSI

Saskatoon Greenhouse Gas Emissions Targets

Recommendation

That the Standing Policy Committee on Environment, Utilities and Corporate Services recommend to City Council:

1. That the greenhouse gas emissions reduction target for the City of Saskatoon (corporate) be adjusted to utilize 2014 as the base year, specifically, a reduction of 40% below 2014 levels by 2023;
2. That the recommended reduction targets for the community proposed by the Saskatoon Environmental Advisory Committee be adopted; and
3. That the Administration apply to the Federation of Canadian Municipalities (FCM) Municipalities for Climate Change Innovation Program to develop a Climate Change Mitigation Business Plan to achieve these targets.

Topic and Purpose

The purpose of this report is to summarize the implications of greenhouse gas emissions targets for the City of Saskatoon (City) and to adopt appropriate targets for emissions reduction.

Report Highlights

1. Under the Covenant of Mayors commitment to climate change, Saskatoon must set emissions reduction targets. Nationally, Canada has adopted a short-term reduction target of 30% by 2030 and as an industrialized nation is required to achieve an 80% reduction in Canadian emissions by 2050.
2. The City has a corporate target to achieve a 30% reduction by 2023 from the 2006 baseline. The Administration recommends adjusting the corporate target to utilize 2014 as the base year; the new resulting target would be a 40% reduction by 2023.
3. Reductions in emissions in the energy consumption and transportation sectors can reduce carbon price liability expected to be implemented in 2018.
4. The Saskatoon Environmental Advisory Committee (SEAC), at its May 11, 2017, meeting passed a motion to recommend community-wide GHG targets of:

    - 15% emissions reductions below 2014 levels by 2023; and
    - 80% emissions reductions below 2014 levels by 2050.

    The Administration supports these targets as both attainable and ambitious.

Strategic Goals

This report supports the strategic goal of Environmental Leadership and the corporate performance target of reducing corporate greenhouse gas emissions by 30% below 2006 levels by 2023. The report also supports the strategy of creating new sources of green energy where feasible and the priorities of:

- Considering mitigation strategies for the impact of severe weather events on the City's infrastructure;
- Eliminating the need for a new landfill by eliminating waste and/or diverting waste for re-use in other projects;
- Promoting and facilitating city-wide composting and recycling to reduce the rate and volume of waste sent to the landfill;
- Communicating the financial benefit of environmental initiatives;
- Identifying opportunities to replace conventional energy sources with green energy technologies and finding alternate ways of generating capacity to support operations; and
- Continuing to implement the Energy and Greenhouse Gas Reduction Plan.

The report also supports the Asset and Financial Sustainability strategic goal by mitigating the effects of the carbon price mechanism that will be implemented in 2018 either by the provincial or federal government.

Background

In 2015, the Saskatoon Environmental Advisory Committee (SEAC) recommended that the City complete a greenhouse gas emissions inventory and set reduction targets for the community. The Saskatchewan Environmental Society (SES) also submitted a letter to City Council that listed 21 recommendations for reducing emissions in Saskatoon with the first step being the completion of a community emissions inventory and target-setting exercise.

In November 2015, the City became a signatory to the Compact of Mayors, now the Covenant of Mayors for Climate and Energy, committing to address climate change by reducing greenhouse gas emissions.

In 2016, the Administration completed a Saskatoon Greenhouse Gas Emissions Inventory for the 2014 fiscal year. This was the first step in complying with the Covenant of Mayors for Climate and Energy agreement.

At its May 11, 2017, meeting, the Saskatoon Environmental Advisory Committee (SEAC) passed a motion recommending that the City support community-wide GHG targets of:

- 15% emissions reductions below 2014 levels by 2023; and
- 80% emissions reductions below 2014 levels by 2050.

Report

Local Context

Emissions reduction targets for Saskatoon were last set by City Council in 2009 and were based on the Kyoto Accord using 1990 as the reference year. The 2014 Greenhouse Gas Emissions Inventory released by the City of Saskatoon in 2016 reported a 12.6% increase in community-wide emissions from the most recent 2003 Emissions Inventory, completed in advance of the 2009 target. Attachment 1 shows the calculated and estimated emissions produced in Saskatoon since 1990. The highest emitting sectors were realized in stationary (building) energy consumption and transportation, at 89.7% of total emissions.

Canadian and International Context

Internationally, it has been determined that in order to limit global temperature to an increase of no more than 2 degrees Celsius from pre-industrial standards, as agreed in the United Nations COP21 Paris Agreement, greenhouse gas emissions in industrialized nations have to decline by approximately 80% by 2050. The Canadian federal government has so far adopted a target to reduce emissions at the national level by 30% below 2005 levels by 2030.

Canadian provinces and municipalities have set similar targets to support the obligation. Attachment 2 summarizes the targets set by some municipalities, as compared to the target required to keep global temperature below 2 degrees above pre-industrial levels.

The federal government announced a plan to implement a price for carbon effective in 2018. The price will set an estimated $10 per tonne of CO2e on corporate emissions. The Price mechanism is expected to affect both Saskatoon's stationary (building) energy consumption and transportation sectors.

Establishing Community-Wide Targets for Saskatoon

If the City were to follow the global commitment on reduction targets, the target of 80% reduction would have to be realized by 2050. The last 10% of reduction will be more difficult to achieve than the initial reduction, and mitigation initiatives take a period of time for the effects to be realized. Consequently, as shown in Attachment 2, many regions are opting to have higher mitigation targets at the beginning of the timeline to account for the time and effort lag at the end of the timeline.

The Administration supports the Saskatoon Environmental Advisory Committee (SEAC) recommendations for community-wide GHG targets as both attainable and ambitious:

- 15% emissions reductions below 2014 levels by 2023; and
- 80% emissions reductions below 2014 levels by 2050.

When compared to the last emissions targets established for Saskatoon, these new community targets are equivalent to a 23% increase and 69% decrease, respectively,

from 1990 levels.

Setting targets for community emissions is the first step in providing support to the community to engage in mitigation activities that will contribute to the emissions reductions committed to by the Federal government, and decrease the carbon price obligation that will be implemented in 2018. If the community is able to reduce emissions by 15% by 2023, the carbon price obligation for the community might be decreased by $2.5M.

Re-establishing a Baseline Corporate Target for the City of Saskatoon
The City's (corporate) target was adopted in 2015 and requires a 30% reduction by 2030 from 2006 levels. This is the equivalent of a 10% reduction from 1990 levels.

The Administration notes SEAC is recommending basing targets using the 2014 Inventory as the baseline. This is a more transparent and reliable base year to use for targets because the methodology and inventory are the most robust the City has produced and should provide a solid foundation for future mitigation efforts. The Administration, therefore, recommends adjusting the corporate target to utilize 2014 as the base year. The new resulting target is 40% by 2023.

Implications of Reducing Emissions
There are additional implications to the City by implementing emissions reductions initiatives. Some additional benefits include improved land use, lower consumer and commercial utility bills, and improvements on individual and public health. Attachment 3 identifies some benefits of reducing emissions, as well as some risks to achieving reduction targets.

The Saskatoon community will realize positive effects to reducing emissions from a Carbon Pricing perspective. The Canadian Federal government released a Technical Paper on the Federal Carbon Pricing Backstop report in May 2017, to be applied in jurisdictions that have not developed and implemented a specific carbon pricing system (such as Saskatchewan). A summary of the report can be found in Attachment 4. Reduction of fossil fuel consumption in the community may reduce the effects of carbon price in Saskatoon.

Achieving Targets for Saskatoon
To establish a context for the recommended community-wide targets, Administration has prepared a list of emissions reduction initiatives that are currently underway or could be readily initiated. A summary of this list is provided in Attachment 5 and highlights an opportunity to reduce total community emissions by 15% below 2014 levels by 2023.

Options to the Recommendation

City Council may choose to maintain the current corporate target and/or adopt a

different set of targets for the community. To remain compliant with the Global Covenant of Mayors for Climate and Energy agreement, a target must be set in 2017.

City Council may also choose to abandon target-setting and drop out of the Covenant of Mayors.

Public and/or Stakeholder Involvement

Based on the commitments under the Covenant of Mayors on Climate and Energy, the role of the City is to set the targets for the community and then establish a plan to achieve these targets. The Administration recommends engaging the community at multiple levels and in multiple sectors. Engagement will utilize a variety of tactics to identify constraints and opportunities, establish the anticipated role of the City in facilitating emissions reductions, garner community support, and build a sense of shared-responsibility by residents, businesses and other stakeholders to take action to meet Saskatoon's community-wide targets.

The Waste Diversion Communications and Engagement Administrative Report, submitted in June 2017, requests approval for an Engagement Consultant, who will be overseeing the engagement for the Waste Diversion Plan, the Greenhouse Gas Mitigation Plan, the Green Infrastructure Strategy, and the Growth Plan where possible. Details on the engagement plan for Greenhouse Gas Emissions Mitigation will be provided in August.

Communication Plan

A Communications Plan will be prepared in order to build a sense of shared responsibility on addressing climate change, showcase a vision for the future, and highlight how and why to take action to reduce greenhouse gas emissions. Results of the 2014 Greenhouse Gas Emissions Inventory and the next steps required to achieve Saskatoon's community-wide emissions reduction targets will also be communicated. Target audiences will include residents and stakeholders from the Industrial, Commercial and Institutional (ICI) sector.

The Administration is currently preparing a Communications Plan with activities set to begin as early as summer 2017.

Financial Implications

The Administration intends to apply to the FCM Municipalities for Climate Change Innovation Program to develop a Climate Change Mitigation Business Plan to achieve the targets outlined in this report. There is currently $100,000 remaining in Capital Project 2183, which would be sufficient to cover the City's 20% share of the costs to complete the Business Plan as well as the 20% share of the costs for the Natural Capital Asset valuation and Climate Adaptation Strategy (the other major requirement under the City's commitment to the Covenant of Mayors).

There is no source of funding for the Natural Capital Asset valuation and Climate Adaptation Strategy unless the City can leverage its existing capital funding as suggested here. Administration plans to apply for the Natural Capital Asset Valuation and Climate Mitigation Business Plan projects immediately and then apply for the Adaptation Strategy project in the fall once it knows whether these are approved.

Environmental Implications

A 15% reduction in community emissions is estimated at approximately 580,000 tonnes of CO2e (total) or an average of 64,500 tonnes annually until 2023. This is equivalent to every person in Saskatoon reducing their emissions by over 2.3 tonnes each annually, assuming no increase to population or emissions activity. Attachment 6 provides examples of activities and corresponding emissions reductions that can be adopted by residents to put these reductions into perspective.

Other Considerations/Implications

There are no policy, privacy or CPTED implications or considerations

Due Date for Follow-up and/or Project Completion

To fulfill the next steps under the Covenant of Mayors commitments, Administration is preparing the following reports for the Standing Policy Committee on Environment, Utilities and Corporate Services:

- Engagement Plan – August
- An update on the Climate Change Mitigation Business Plan, including whether the City was successful in its application to FCM Municipalities for Climate Change Innovation Program – October

Public Notice

Public Notice, pursuant to Section 3 of Public Notice Policy No. C01-021, is not required.

Attachments

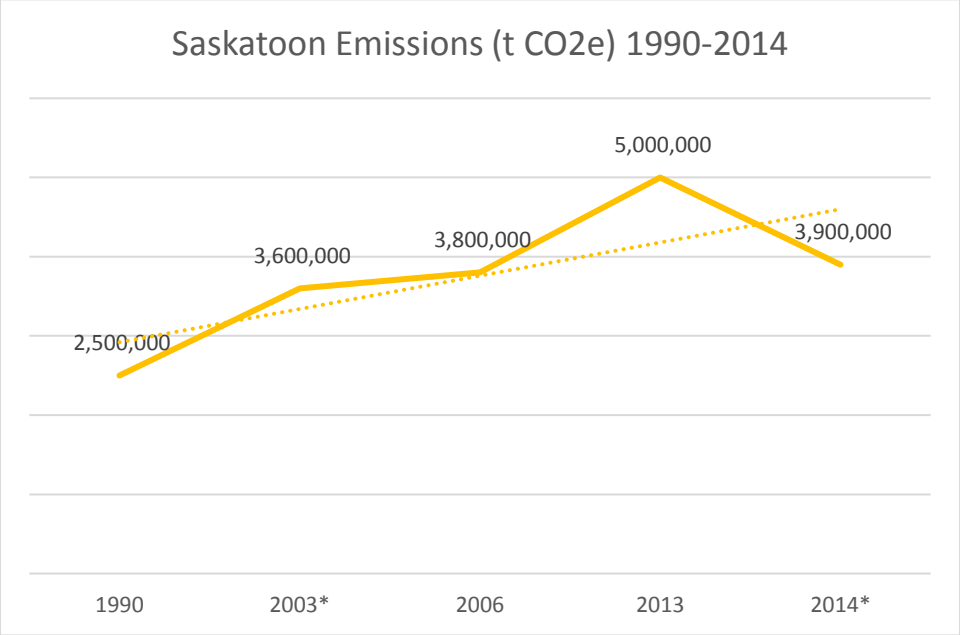
1. City of Saskatoon Community-Wide Emissions: 1990-2014
2. Emissions Targets for Canadian Municipalities
3. Implications of Emissions Reduction
4. Federal Carbon Pricing Backstop
5. Emissions Reduction Initiatives in the Community
6. Options for Residents to Reduce Emissions

Report Approval

Written by:	Nasha Spence, Environmental Accounting Manager Shannon Dyck, Environmental Coordinator
Reviewed by:	Brenda Wallace, Director of Environmental and Corporate Initiatives
Approved by:	Jeff Jorgenson, Acting General Manager, Corporate Performance Department

Saskatoon Greenhouse Gas Emissions Targets.docx

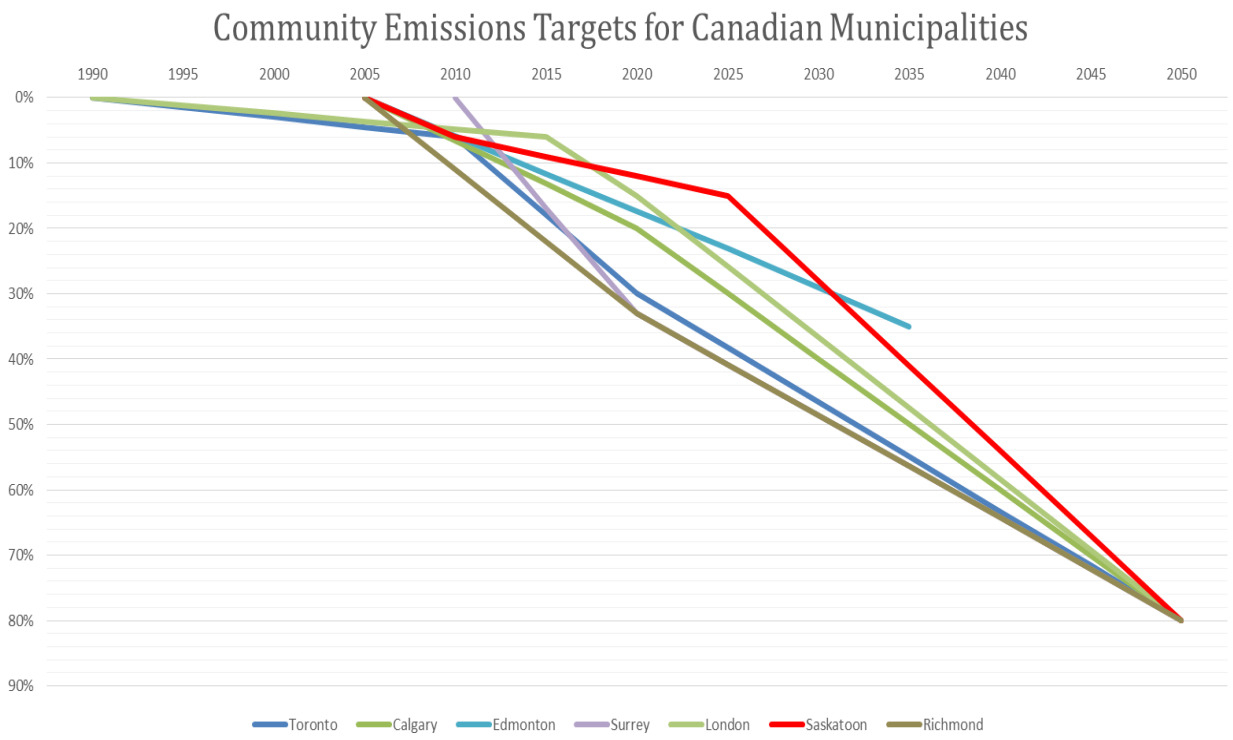
City of Saskatoon City-Wide Emissions 1990-2014



* denotes an inventory, all other emissions reports produced have been estimates

The 2006 and 2013 results were estimates based on activities and growth at the City of Saskatoon. The 2013 result was particularly conservative, based on the carbon footprint analysis conducted that year. Improvements to the methodology from the 2003 inventory produced a more reliable report. Reporting emissions from additional sectors in the future will also produce an inventory that becomes more comprehensive. If the 2003 Inventory utilized the methodology of the 2014 Inventory, and if all the years present included all sectors that produce emissions, the graph would likely depict a more linear and sharper increase.

Emissions Targets for Canadian Municipalities



*80% emissions reductions are required to meet the global target of no more than 2 degrees (Celsius) temperature increase above pre-industrial levels.

City	Community Target
Burnaby	5% below 2007 levels
Calgary	"new" target of 20% below 2005 by 2020; 50% below 2005 by 2036; 80% below 2005 by 2050.
Edmonton	6% below 1990 by 2010; "new" target of 35% below 2005 by 2035
Gatineau	6% below 2009 by 2020
Halifax	20% below 2002 by 2012
Hamilton	10% below 2006 by 2012; 20% below 2006 by 2020
Kitchener	6% below 2010 by 2020
London	6% below 1990 by 2014; 15% below 1990 by 2020; 80% below 1990 by 2050
Longueuil	7.3% by 2020
Markham	net zero emissions by 2050
Montréal	30% below 1990 by 2020
Ottawa	20% below 1990 by 2012

City	Community Target
Regina	6% below 1990 by 2012
Richmond	33% below 2007 by 2020; 80% below 2007 by 2050
Saskatoon	6% below 1990 by 2013;* 15% below 2014 by 2023 (proposed); 80% below 2014 by 2050 (proposed)
Surrey	33% below 2007 by 2020; 80% below 2007 by 2050 (per capita)
Toronto	6% below 1990 by 2012; 30% below 1990 by 2020; 80% below 1990 by 2050
Vancouver	33% below 2007 levels by 2020
Vaughan	10% below 2011 by 2020 (per capita)
Winnipeg	6% below 1998 by 2019

*target not met

Implications of Emissions Reduction

Benefits of taking action to reduce GHG emissions

Solutions to reduce greenhouse gas emissions have been shown to produce a number of societal, economic, cultural, and environmental co-benefits, including:

- Improved land-use planning and development patterns
- Improvements to individual and public health
- Economic development
- Increases in innovation
- Lower consumer and commercial utility bills
- Enhanced social capital and community cohesiveness
- Smaller ecological footprint
- Increased equity and quality of life benefits
- A safer, healthier, and more accessible city
- Strategic regional planning
- Quieter environment
- More access to natural, recreational, cultural, and educational spaces
- Improved protection and enhancement of natural and naturalized areas
- Decreased the burden on future generations

Opportunities to link climate mitigation to local and global strategies

The co-benefits of pursuing initiatives to reduce greenhouse gas emissions opens up many opportunities to link climate action to our community's social, economic, cultural, and environmental priorities. In addition, but by positioning GHG reduction priorities and initiatives within a broader sustainability framework, City Council priority areas and the United Nations Sustainable Development Goals[1] are supported. Taking a more holistic perspective has been documented to reveal opportunities that would not exist when considering GHG mitigation, economic development, land-use, transportation or other strategic actions on their own.

As the Administration works on a Climate Change Mitigation Business Plan to achieve the proposed emissions reduction targets, co-benefits will be used as a lens for prioritizing recommendations.

Challenges to Achieve Emission Reduction Targets

There are a number of factors that could make it challenging to achieve GHG targets and climate action goals, the implications of which could undermine the efforts of the City and community and reduce the beneficial impacts of our actions. Plans will need to identify these potential barriers so that "negative impacts can be mitigated or reversed by policy design that considers not only GHG emissions but also health and equity impacts."[2]

[1] https://sustainabledevelopment.un.org/

[2] City of Toronto, Sustainability Solutions Group, whatIf? Technologies (2017). *TransformTO: Climate Action for a Healthy, Equitable, Prosperous Toronto.*

Climate change risks expected to impact Saskatoon

Climate change is increasing the severity and number of naturally occurring events. As a result, Saskatoon could experience: more extreme weather events; property and infrastructure damage; loss of habitat and biodiversity; increases in pests and invasive species; exacerbated issues of poverty, hunger, and health; and poorer water, air, and soil quality; amongst others.

In addition to the Climate Change Mitigation Business Plan, Administration continues to work on an Adaptation Strategy to address climate change risks.

Federal Carbon Pricing Backstop

The Canadian Federal Government released a report in October, 2016, that committed to implementing a carbon price for all provinces and territories in Canada. This carbon price commitment is effective in 2018, and provides all provincial governments to determine a carbon price program that best suits their geographical area and economy. The carbon price is meant to influence high emitting activities, and encourage efficiency, innovation and reduced consumption to reach an emission target that meets global standards for emissions reduction.

The Canadian Government released a supplementary report in May, 2017, for all jurisdictions that did not create a carbon price program for their province/ territory.[1] The Technical Paper on The Federal Carbon Pricing Backstop reports a general guideline for a "carbon pricing levy" for these jurisdictions, of which Saskatchewan is one.

The levy will be applied on liquid, gaseous and solid fossil fuel consumption at a rate of $10/ tonne in 2018 and increasing annually to $50/ tonne in 2022. The levy applies to all registered fuel distributors, registered fuel importers, registered fuel users, and output based industrial consumers (i.e., those that produce a level of emissions that are over a certain threshold). Some exceptions to application of the levy will be recognized, such as consumption of gasoline and diesel for certain farming activities, and some fuels used in manufacturing with specific guidelines.

Based on the intent of the carbon pricing initiative, corporations and large users are expected to pass on the additional cost of operating onto the consumer. For example, if a large fuel provider is required to pay the carbon levy for gasoline sales at the retail level, the additional cost of providing service is expected to be passed on to the consumer (i.e., the driver). Personal vehicle usage, then, will simultaneously decrease an individual residents' personal expenses and decrease emissions for the community.

[1] https://www.canada.ca/content/dam/eccc/documents/pdf/20170518-1-en.pdf

Emissions Reduction Initiatives in the Community

The following emissions reduction initiatives listed by sector are initiatives that are being implanted, initiatives that are in the planning phase, and initiatives that have yet to receive funding. These are not the only emissions reducing initiatives in the corporation, but provide a general overview to the potential for reduction based on current discussion at the Committee and Council level.

Sector	Affect on emissions (tonnes CO2e)	% Reduction on community emissions
Energy (e.g., energy performance contracting, landfill gas expansion project)	326,000	-8.5%
Waste (e.g., recycling programs, organics programs)	89,000	-2.3%
Transportation (e.g., alternative transportation programs)	70,000	-1.8%
Asset management (e.g., land use strategies, natural asset strategies)	17,000	-0.4%
TOTAL	**502,000**	**-13.0%**

Options for Residents to Reduce Emissions

Activity	Tonnes of emissions reduced	Description
Water Conservation	3,000	Total tonnes of reduction if each home used 50% rainwater for their outside water use, and all homes built prior to 1980 converted toilets to high efficiency.
Personal vehicle travel	218,000	Tonnes of emissions reduced if 50% of commuters found alternate modes of transportation (i.e., carpool, public transit, bike, and walk)
Waste reduction	151,000	Tonnes of emissions reduced by appropriately disposing of recycling and organics at single unit residential homes and multi-unit residential buildings.
Energy conservation	10,000	The tonnes of emissions reduced by every resident turning off the lights in a room for one hour per day in one year.
Planting trees	20,000	Total emissions sequestered when tree reaches maturity if each resident plants 2 trees per year.

Additional Options	Description
Use energy efficient lightbulbs	Energy efficient lightbulbs decrease energy usage per kWh, decreasing the need for electricity.
Install a programmable thermostat	Programmable thermostats can be set to reduce power consumption while residents are away from the home.
Use cold water to wash clothing	Cold water eliminates the need for power consumption to heat the water.
Unplug appliances that are not being used	Even appliances that are turned off consume a small amount of energy.
Drink tap water	Eliminates waste and energy usage in production.
Buy local and seasonal foods	Buying local and seasonal foods reduces the cost of transportation for shipping.

Growth Plan to Half a Million – Brownfield Renewal Strategy

Recommendation
That the Standing Policy on Environment, Utilities and Corporate Services recommend to City Council:

That the proposed change in scope to Capital Project 2541 – Growth Plan to Half a Million be approved to facilitate use of an anticipated FCM Green Municipal Fund grant on a citywide Brownfield Renewal Strategy as described in this report.

Topic and Purpose

The purpose of this report is to update the scope and budget of the Growth Plan to Half a Million Capital Project to enable the City of Saskatoon (City) to leverage a grant opportunity that supports the plan, in principle.

Report Highlights

1. Funds ($150,000) in Capital Project 2541 – Growth Plan to Half a Million have been allocated to finding solutions for financial and other barriers linked to contamination or perception of contamination along the planned BRT routes.
2. The divisions of Environmental and Corporate Initiatives and Planning and Development are partnering to carry out this initiative.
3. Based on the requirements of the Public Transit Infrastructure Fund (PTIF) which supports Growth Plan implementation, an environmental consultant will be hired to carry out some of the work related to the environmental assessments and review of financial barriers.
4. The City will seek to leverage the Growth Plan funds already allocated to obtain additional funding through the Federation of Canadian Municipalities Green Municipal Fund, estimated to be approximately $90,000.
5. Administration has developed a more detailed scope of work specific to addressing potential barriers to Corridor development along BRT routes. As an update to the original scope of the Growth Plan to Half a Million Capital Project, the first phase of the Brownfield Renewal Strategy will include broadening the City's knowledge of applicable brownfield strategies and conducting environmental assessments of key Corridor locations. This information will eventually be expanded into a Brownfield Renewal Strategy that applies citywide.

Strategic Goals

The Brownfield Renewal Strategy is a multifaceted project that has touch points on several strategic goals. The successful implementation of the project will support the following key goals:

- The long-term strategy of increasing revenue sources under the Strategic Goal of Asset and Financial Sustainability by increasing tax revenue as a result of increased property assessment valuation following the redevelopment and improvement of brownfields;

- The long-term strategy of addressing soil quality issues on City-owned properties under the Strategic Goal of Environmental Leadership by promoting and incentivizing the remediation and/or active risk management of contaminated brownfields; and,
- The long-term strategy of increasing and encouraging infill development and corridors under the Strategic Goal of Sustainable Growth.

Background

The Growth Plan was approved in principle by City Council on April 25, 2016. The Growth Plan identified Corridor Growth and Infill Development as key themes to support successful City growth. Corridor Growth based on Transit-Oriented Development principles is, in turn, key to achieving a successful BRT system. The Council Report "Comparing Infill and Greenfield Development – Scope of Work" that was approved on December 12, 2016, identified several impediments to infill redevelopment including soil contamination and clear incentives.

The Soils Handling Strategy Project Results Report, approved by City Council on January 23, 2017, outlined that the presence or perception of contamination on many of these corridor and infill sites acts as a current impediment to growth and development inside the City. This report outlined that the creation of a Brownfield Renewal Strategy would enable and facilitate infill development to achieve the goals of the Growth Plan to Half a Million. The first step to achieving the goals of the Brownfield Renewal Strategy was to join the Federation of Canadian Municipalities' Leadership in Brownfield Renewal (LiBRe) program, as approved within the aforementioned report.

The City of Saskatoon currently has the Redeveloping Brownfields in Saskatoon Guidebook available on the City website. This document was developed in order to facilitate the Municipal Enterprise Zone brownfield incentive program. The content of the guidebook references incentive programs and environmental regulations that no longer exist. Updates to this document are necessary and will be included as part of this project.

Report

Many of the strategic corridor locations, such as those along the proposed Red BRT lines, as well as potential future transit station locations, contain brownfield sites in the form of actual or potentially impacted properties, vacant sites, and underutilized parcels of land. The Brownfield Renewal Strategy has been included within the Growth Plan's Ten-year Action Plan. Funds ($150,000) in Capital Project 2541 – Growth Plan to Half a Million have been allocated to reviewing financial and other barriers linked to contamination or perception of contamination along the planned transit routes.

Scope of Work

The divisions of Environmental and Corporate Initiatives and Planning and Development are partnering to carry out the work required to develop a strategy to overcome environmental and financial barriers to the redevelopment of properties along planned transit corridors.

The Brownfield Renewal Strategy project will be composed of three key items that will support and benefit the Corridor Growth Program.

1. **A comprehensive inventory of brownfield sites and their interaction with the Growth Plan.** Phase 1 of the Corridor Planning Program will consist of a review of land use, intensification opportunities and streetscape design of the proposed BRT Red Line. The brownfield inventory will assist in the review deliberations and may influence the outcomes of further development phases.

2. **A "state of the industry" report outlining and describing various brownfield programs from across the country and their applicability to the Saskatoon and Saskatchewan setting.** Reviewing financial and environmental barriers is a component of the Corridor Growth Program. Lessons learned and insight from across the country regarding brownfield revitalization will provide information on how to overcome these barriers, as well as be the basis for the creation of a City incentive program.

3. **Environmental Site Assessments (ESA) at targeted corridor redevelopment and/or potential transit station locations, including subsequent contamination management plans.** Phase 2 of the Corridor Planning Program will consist of detailed zoning and development potential work. The results and information created out of the ESA investigations will directly influence how corridor properties are zoned and redeveloped. The management of contaminations and its risk will play a key role in ensuring that the corridors are kept safe to the public.

Role of the Environmental Consultant

An external environmental consultant will be required to carry out the identified scope of work, as well as to meet project team prerequisites to qualify for Green Municipal Funding. The consultant will be sought for skills, efficiencies, and competencies in regard to brownfield redevelopment experience, inventory compilation and risk assessment, familiarity to brownfield programs and their applicability to Saskatchewan, and execution of environmental site assessments. They will also act as a Qualified Person for any regulatory obligations. Attachment 1 outlines the factors that were considered when deciding the need for an external consultant.

The consultant will be procured through a request for proposal (RFP) process. Due to funding eligibility requirements, the RFP will require the Province's review and approval prior to public release.

Brownfield Renewal Strategy

The City of Saskatoon has committed to FCM's Leadership in Brownfield Renewal (LiBRe) Program. As a participant and contributor, the City has committed to working toward accomplishing the Seven Step LiBRe framework. The scope of work outlined has a priority to facilitate the goals of the Corridor Growth Initiative. Through program

implementation and lessons learned, it is expected that the programs and plans developed through the Brownfield Renewal Strategy will be transferable and be applied more broadly across the whole City. This would include using the information gathered to update the current City of Saskatoon Redeveloping Brownfields Guidebook. The work proposed will achieve the first four steps of the LiBRe program. Operational work on the final product will achieve the remaining three steps. Further information and deliverable details of the Strategy are included in Attachment 2.

FCM Green Municipal Fund

The Administration will submit an application for Green Municipal Fund support for this project. Based on the principal amount, the potential rebate of $90,000 would be available for Capital Project 2541 – Growth Plan to Half a Million. The Administration is recommending an amendment to the budget and description for this capital project in order to make use of rebate funds to support the expansion of the Brownfield Renewal Strategy from the Corridor Growth initiative to apply city wide. The expanded work will include: the development of a framework for a brownfield redevelopment incentive program; a contaminated sites management guidance document to help Saskatoon property owners navigate the impacted sites process; and an update to the Redeveloping Brownfields in Saskatoon Guidebook.

Options to the Recommendation

An option to the recommendation would be to not hire an external consultant. This would limit the scope of the project and eliminate our ability to apply for Green Municipal Funding.

Public and/or Stakeholder Involvement

Public and/or stakeholder engagement regarding brownfield renewal and barriers to development will be addressed in conjunction with the Corridor Growth Program.

Communication Plan

Any communication plans required to support the project will be aligned with Corridor Growth communications initiatives and the objectives and approach outlined in the Growth Plan Engagement Handbook.

Financial Implications

The updated total budget for the project is $240,000. Brownfield Renewal Strategy initiatives in support of Corridor Growth will comprise $150,000 of this amount, funded from Capital Project 2541 – Growth Plan to Half a Million, which is partially funded through PTIF. Sufficient funds are available in the capital project budget and have been budgeted for this purpose. The remainder of the total ($90,000) represents the potential grant amount through the FCM Green Municipal Fund, assuming all expenditures are eligible.

Federation of Canadian Municipalities rules allow federal funds (in this case, PTIF) to be used to leverage GMF funding. Also, since GMF funds are considered as municipal

funds, they do not affect the City's eligibility for PTIF funds which limit the federal contribution to a maximum of 50% of the total project value.

Environmental Implications

The project will promote and facilitate responsible, efficient, and sustainable land use by revitalizing and redeveloping otherwise underutilized or impacted properties within strategic infill and corridor growth areas. Positive impacts are anticipated to include:

- Reduction and/or active risk management of contamination within city public and private lands;
- Increased transit and active transportation focused development along high traffic and populated areas; and,
- Maximizing infill areas and reducing outwards greenfield development.

Other Considerations/Implications

There are no policy, privacy or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

A request to award consulting services report is anticipated to be included on the August 15, 2017, Standing Policy Committee on Environment, Utilities and Corporate Services agenda.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachments

1. Factors in Determining External Contracted Services
2. Brownfield Renewal Strategy Details

Report Approval

Written by:	Miguel Gaudet, Project Engineer, Environmental Protection
Reviewed by:	Twyla Yobb, Watershed Protection Manager Jim Charlebois, Senior Planner, Corridor Planning/Long Range Planning Chris Schulz, Growth Plan Manager Christopher Anquist, Communications Consultant Brenda Wallace, Director of Environmental and Corporate Initiatives
Approved by:	Jeff Jorgenson, A/General Manager, Corporate Performance Department

Factors in Determining External Contracted Services

The following factors were considered when determining alternative delivery methods:

Capacity of Existing Staff to Perform the Work
Environmental and Corporate Initiatives staff are fully allocated and therefore extra staff would be required to carry out the work. In addition, the external consultant will provide specialized information and data for the development of the Strategy.

Expertise of Existing Staff to Perform the Work/Requirement of Specialized Services
As per the Saskatchewan Environmental Management and Protection Act, a Qualified Person (QP) meeting specific competencies, skills and experience, is required to conduct site assessments and produce corrective action plans and risk management plans, according to the relevant Environmental Code chapter. There are currently no staff members that meet the full range of QP competencies required for the delivery of the Brownfield Renewal Strategy deliverables.

The up-to-date professional training and experience of the external consultant will ensure that the brownfield inventory of the corridors is accurate and complete. This is imperative for the success of corridor revitalization and the implementation of environmental safe transit stations.

Expected Timeline of Delivery
The deadline to use or allocate the PTIF funding is March 31, 2018. This leaves less than a year to substantially complete the project's deliverables. Hiring an external consultant makes the most efficient use of time and resources as the work essential for the delivery of the project requires specialty services.

Transfer of Risk
Opinions and specialized advice will be required as a result of the environmental site assessment and corrective action planning work. There will be a transfer of risk from the Administration to the external consultant (specifically the Qualified Person) in regards to the statements made in regards to the potential land use of the various assessed properties.

Cost of Expected Scope of Work
GMF funding only reimburses 50% of eligible costs, and up to 10% of the total eligible costs for in-kind support. Eligible costs are external expenditures; consultants and contractors being the main expenses. Strategic spending on a consultant will additionally maximize the potential grant income, and could earn up to $90,000 in rebates to expand the project scope citywide.

Regulated or Legislated Requirements of the Work
The rules for eligible expenditures under the PTIF program state that the City must conduct a competitive tendering process for all projects and/or portions of projects exceeding $100,000 in eligible expenditures unless otherwise agreed to by the

Government of Saskatchewan. Some internal staff time may be considered to be eligible expenditures under the program; however, the rules, as the Administration understands them, do not generally support the completion of the PTIF projects using internal resources.

Brownfield Renewal Strategy Details

Brownfield Definition

For the purposes of this project, the definition of "brownfield" will be the one used by Federation of Canadian Municipalities (FCM) for its Leadership in Brownfield Renewal (LiBRe) program. It describes a brownfield as: "*abandoned, vacant, derelict, or underutilized commercial or industrial properties where past actions have resulted in actual or perceived contamination, and where there is an active potential for redevelopment*." This is consistent with the defined term used for the Growth Plan work. It is important to have a clear definition of brownfields that is all encompassing in order to minimize any confusion when relating to other internal projects. Other sites having potential for redevelopment will be referred to more simply as infill sites.

Purpose and Objective

A program is required to facilitate and encourage brownfield renewal in order to achieve corporate goals and targets in regards to corridor revitalization and infill redevelopment. The purpose of the Brownfield Renewal Strategy is to develop a program that will incentivize, encourage, and facilitate the redevelopment of brownfields. The program will include an environmental component that will aim at minimizing the environmental stigma associated with brownfields, as well as a financial component, which will present a framework for a proposed incentive program that can be implemented when the appropriate operational funding is available.

The Brownfield Renewal Strategy will include a suite of tools, guidance manuals, and incentive programs designed to assist prospective developers and property owners with the environmental requirements associated with impacted and potentially impacted brownfields, as well as lay out incentives to encourage and facilitate brownfield redevelopment.

LiBRe Framework and Project Deliverables

The City of Saskatoon (City) is a member of the Federation of Canadian Municipalities' (FCM) Leadership in Brownfield Renewal (LiBRe) program. As a participant and contributor, the City has committed to working towards and accomplishing the Seven Step LiBRe framework. This framework will be the foundation for the overall project deliverables. The project will be split into two phases. Phase 1 will include work that will be funded with the current allocation, as described in the Financial Implications section. Phase 2 covers the aspects of the project that expand beyond the Corridor Program and can be applied to the City more broadly. It will also include the operational and ongoing management of the Brownfield Renewal Strategy; however, these details are to be determined. Table 1 illustrates the project's deliverables and corresponding funding sources.

The Brownfield Renewal Strategy will also benefit from a Construction and Design initiative looking at improving the process for right-of-way subsurface investigation permitting. Subsurface investigations or bore hole drilling, within City roadways, sidewalks, and boulevards is a common practice, and at times a regulatory requirement

for impacted and potentially impacted properties. The improved permitting system will ensure that the City is aware of contaminated properties within its jurisdiction, and will further the reliability of the brownfield inventory. This will directly influence the way the corridors are revitalized and how the future BRT transit system is implemented.

FCM Green Municipal Fund

The Green Municipal Fund (GMF), administered by FCM, offer grants to qualifying municipalities for the development of a Community Brownfield Action Plan (CBAP). The proposed Brownfield Renewal Strategy meets the definition of a CBAP and as such, an application will be submitted to receive funding. If approved, the GMF will reimburse 50% of eligible costs and provide in-kind support totaling 10% of the eligible costs up to a maximum of $175,000. The eligible costs that apply to the proposed project include external consultant expenditures. This means that strategically leveraging the allocated $150,000 from the Growth Plan can equate to a total project value of $240,000. The $90,000 in rebates will be used for the expansion of scope to apply more broadly across the City. There is no application deadline as FCM offers these grants to qualifying projects on a continual basis.

Table 1 – Project Deliverables and Funding Summary

	Phase 1	Phase 2
Funding	$150,000 funded from Capital Project 2541 – Growth Plan to Half a Million (50 percent City; 50 percent federal through PTIF)	Up to $90,000 in rebates funded from FCM GMF (counts as a municipal source for federal funding purposes)
Deliverables	• Inventory of brownfield sites along the major corridors and their interaction with the Corridor Planning Program. • "State of the Industry" report outlining and describing various brownfield programs from across the country and their applicability to the Saskatoon and Saskatchewan setting • Environmental Site Assessments at targeted corridor redevelopment and/or potential transit station locations, including subsequent contamination management plans.	• A contaminated sites management guidance document focusing on the Saskatoon setting for the purpose of facilitating impacted site remediation and mitigation. • A framework for a brownfield redevelopment incentive program. • An updated Redeveloping Brownfields in Saskatoon Guidebook.

Project Execution and Timelines

The project delivery will be completed with a combination of internal and external expertise and staff. The internal work will be a collaboration between Environmental

and Corporate Initiatives and Planning and Development. This will provide the interdisciplinary view that is required for a project of this breadth. The external consultant will be procured through a Request For Proposals process. An external party will be sought for skills, efficiencies, and competencies in regard to brownfield redevelopment experience, inventory compilation and risk assessment, familiarity with brownfield programs and their applicability to Saskatchewan, and execution of environmental site assessments. They will also act as a Qualified Person for any regulatory obligations.

Vehicle Idling Bylaw Implications

Recommendation
That the report of the General Manager, Corporate Performance Department, dated June 12, 2017, be forwarded to City Council for information.

Topic and Purpose
The purpose of this report is to provide information on policy options that could reduce vehicle idling in Saskatoon.

Report Highlights
1. Pursuant to subsection 8(1) of *The Cities Act*, the City of Saskatoon (the "City") has jurisdiction to enact a bylaw addressing unnecessary idling of vehicles within the city's limits and has bylaws today that indirectly relate to certain aspects of vehicle idling in the community.
2. A vehicle idling bylaw would involve considerable resources and be difficult and costly to enforce. As a practice, the City does not enact bylaws that cannot be enforced.
3. Other jurisdictions in Canada have vehicle idling bylaws, with varying approaches to enforcement including no enforcement.
4. Education and signage have been effective in other jurisdictions and could be an option for reducing idling in Saskatoon.
5. The idling of vehicles, through the combustion of fossil fuels, contributes directly to air pollution locally and climate change globally. Fuel combustion associated with transportation also contributes significantly to the community's Ecological Footprint.

Strategic Goals
This report supports the strategic goals of Asset and Financial Sustainability, Environmental Leadership, and Moving Around. Specifically, reductions in fossil fuel combustion by vehicles related directly to the long term priorities of reducing the gap in funding required to maintain the City's infrastructure and reducing greenhouse gas ("GHG") emissions tied to City operations.

Background
On May 23, 2006, City Council received an enquiry from Councillor T. Alm, requesting a report on anti-idling programs in other Canadian municipalities and to bring forward recommendations to implement a vehicle idling program in Saskatoon. In response, a report from Administration was considered by City Council on July 16, 2007, outlining the City's current initiatives relating to vehicle idling and proposing specific stages for "idle-free" implementation. A bylaw on vehicle idling did not proceed at that time due to identified issues related to enforcement of a vehicle idling bylaw. However, the City did introduce idling guidelines relating to all owned or leased municipal vehicles and

equipment to its own policy on October 1, 2008 (Administrative Policy #A07-020: Civic Vehicles – Operating Protocol).

On January 25, 2016, City Council received a response to a letter from the Saskatchewan Environmental Society ("SES") that included 21 recommendations to reduce GHG emissions in the community; the SES letter included a recommendation to adopt an idle-free bylaw which read:

> "Many cities in eastern Canada have adopted bylaws to limit vehicle idling. Idling is typically not allowed for more than 3 minutes on private property, municipal property or while parked on the side of the road within city limits. Exemptions are usually provided for police, fire or ambulance vehicles or any other vehicles responding to an emergency situation. There are usually several other categories of exemptions such as armoured vehicles, vehicles that need to preserve cargo onboard with heating or refrigeration, and vehicles where idling is required in order to service the engine, conduct repairs or refuel. The Saskatchewan Environmental Society urges the City of Saskatoon to adopt an idle-free bylaw that will apply in the spring, summer and fall months (when temperatures are above freezing), and that will limit vehicle idling to no more than 3 minutes."

The response from the Administration highlighted the City policy for restricting idling on civic vehicles, but that no restrictions are placed on private vehicles. At this meeting, an enquiry from Mr. Gary McCallum was also received. City Council resolved:

> "That the letter from Mr. Gary McCallum be referred to the Administration and that the Administration report on the implications of idling bylaw enforcement of private vehicles."

Report

Jurisdiction to Enact a Vehicle Idling Bylaw

Arguably, the City has jurisdiction under *The Cities Act* to enact a bylaw relating to idling of private vehicles; however, this does not mean that this bylaw cannot be challenged as being beyond the power of a municipal government. In order for the City to validly enact a bylaw, the bylaw must address a municipal purpose or a municipal issue, such as the health, welfare or protection of citizens. While case law has held that every level of government has a role to play in addressing environmental issues, the idling of vehicles is often seen as a significant contributor to air pollution and climate change, which, by their nature, have local and global implications.

Enforcement Implications

The majority of the City's bylaws are enforced on a complaint basis. A vehicle idling bylaw would be similar to the City's *Noise Bylaw No. 8244* in that a more proactive approach would be required to catch offenders "in the act". This might include monitoring or "staking out" specific areas where complaints have been received.

Should time limits be introduced into a bylaw respecting idling, timing offenders to prove the offense would also be required. This approach would be resource intensive and may not even result in successful enforcement.

Typically the City has not enacted a bylaw that it has no intention to enforce or cannot be enforced.

Vehicle Idling Bylaws in Other Communities

Municipalities across Canada have addressed vehicle idling in a variety of ways.

The City of Calgary does not have a bylaw specific to anti-idling, but they do have a bylaw (Bylaw #5M2004) targeting trucks idling in residential areas, similar to our local *Noise Bylaw No. 8244*. Idling reduction has resulted from "No Idling" signs posted in target areas, with complaints of vehicles idling dropping by approximately 80% in response to the signs, even though these signs have no means of being enforced.

The City of Edmonton has a vehicle idling bylaw but the municipal prosecutor has not prosecuted a ticket to date, and would not prosecute a ticket unless the times and detailed notes of the idling infraction were provided by an enforcement officer.

The City of Brampton enforces its vehicle idling bylaw and has prosecuted a small number of tickets. Enforcement officers are required to time the idling vehicle for 5-6 minutes (bylaw specifies three minutes) and document details including the times the enforcement officers arrive and leave the scene. Violators typically plead down for a lesser fine and do not proceed to trial. The City of Saskatoon's bylaws set out legislative fines and, as such, do not allow for a reduction in the fine amount like Brampton's bylaw.

Options for Reducing Idling in Saskatoon

In 2011, the SES produced a report entitled 'Clearing the Air' (see Attachment 1). The findings of this report indicate that education and outreach, in the form of Community-Based Social Marketing, is a best practice approach to reducing idling in communities. A combination of education (awareness campaigns) and signage ("No Idling" signs) could be effective for reducing idling in Saskatoon as has been seen in other municipalities. Signage could be placed in target areas such as school zones and near hospitals.

City of Saskatoon Vehicle Idling Policy

The development of an anti-idling program and potential bylaw were identified in the City's Energy & Greenhouse Gas Management Plan, as recommended actions to reduce community-scale greenhouse gas emissions. Initiatives to reduce emissions have been implemented at the corporate and community levels, with an idling policy relating to civic vehicles and anti-idling messaging relating to select school zones. At the corporate level, new employees are introduced to the policy at Corporate Orientation, and Directors have been reminded to discuss the policy with their staff. At the community level, anti-idling campaigns have been piloted by several public

elementary schools; however, it is not a division-wide policy and it is unclear if the participating schools are still monitoring idling in their respective school zones.

The *Noise Bylaw No. 8244* already addresses circumstances associated with vehicle idling. Subsection 6(c) of the *Noise Bylaw* states the following as a prohibited noise: "Idling Trucks: In residential districts, the idling of any truck or power unit or the operation of any motor, "reefer" or similar device on a semi-trailer for more than twenty (20) minutes."

Environmental Impacts of Vehicle Idling

According to Natural Resources Canada's Office of Energy Efficiency, the average car produces about 2.3 kilograms of carbon dioxide for every litre of gasoline consumed. There were 256,737 vehicles registered in Saskatoon in 2014 (all body types), and GHG emissions resulting from the transportation sector represented 31% of total community emissions – the largest increase in tonnes of emissions compared to the 2003 emissions inventory. GHG emissions from private vehicles represent 86% of the transportation sector total, followed by emissions from the aviation, public transit (Saskatoon Transit), public service (City of Saskatoon), rail, and waterborne sectors.

Combustion of fossil fuels by private vehicles results in air and noise pollution locally and in associated impacts with climate change globally. Opportunities to reduce emissions associated with private vehicle use will be an important part of plans for GHG reduction and climate change mitigation as it is a significant contributor to Saskatoon's environmental footprint.

Public and/or Stakeholder Involvement

A preliminary engagement of residents and primary stakeholders – Saskatoon Health Region, Saskatoon Public Schools and Greater Saskatoon Catholic Schools – may be required to gauge initial impressions and feedback on any proposed private vehicle idling initiatives.

Communication Plan

The first stage of a vehicle idling bylaw involves stakeholder engagements. If the City proceeded with a bylaw program, communications could include direct mail to stakeholders, open houses, an online survey, and print and social advertising to communicate the stakeholder opportunities.

Administration is increasing its efforts to ensure the civic policy is broadly understood and complied with by City staff. Communications will include e-mail messages, posters and face-to-face reminders (i.e., safety meetings).

Policy Implications

City Solicitor's Office has identified that a vehicle idling bylaw is possible under *The Cities Act*; but may be subject to challenges.

Financial Implications

In order to enact a bylaw, education, engagement and enforcement costs would be incurred. Initial resources and costs would include an Environmental Coordinator to develop and deliver educational materials and a communications/engagement plan ($50,000), communications/engagement materials ($80,000) and applicable signage ($45,000). Additional resources and costs would include a Bylaw Inspector or Environmental Protection Officer ($90,000 per year) and ongoing education and communications components of the campaign ($10,000 to $40,000 per year).

An education and signage program alone (i.e., no enforcement) would not come without its costs. It would cost approximately $205 per sign, $10,000 to $40,000 per year for educational materials and campaigns, and $20,000 for an Environmental Coordinator (0.2 FTE). For example, if the City were to place two signs each in the 3 hospital zones and 107 school zones, it would cost roughly $45,000. On top of this, citizen complaints may lead to further sign installation in other areas of the City.

The incorporation of a Community-Based Social Marketing strategy – for either of the approaches outlined above – would require additional resources that have not yet been identified.

Financial Benefits to Citizens

According to the Office of Energy Efficiency, if all Canadian drivers reduced unnecessary idling by just three minutes a day, they would save more than $630 million annually (assuming an average fuel cost of $1/litre). For an individual driver, this is about $33 a year attributable to three minutes of idling.

Environmental Implications

If an anti-idling program were developed to reduce idling by as little as ten minutes each week, 0.72 kg of GHG emissions could be saved per vehicle or approximately 7,500 tonnes per year for every 200,000 vehicles. This is the equivalent of removing 1,585 vehicles from our roadways and would begin to address community GHG emissions resulting from the transportation sector, which represented 31% of total community emissions in 2014.

Other Considerations/Implications

There are no privacy or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

No follow-up report has been identified at this time.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachment

1. Clearing the Air

Report Approval

Written by:	Matthew Regier, Environmental Coordinator
Reviewed by:	Amber Weckworth, Manager of Education and Environmental Performance
	Brenda Wallace, Director of Environmental & Corporate Initiatives
Approved by:	Jeff Jorgenson, A/General Manager, Corporate Performance Department

Vehicle Idling Bylaw Implications – June 12.docx

Clearing the Air:

Using Community Based Social Marketing strategies to foster an Idle-Free Saskatoon

Thilina Bandara

Saskatchewan Environmental Society
July, 2011

TABLE OF CONTENTS

APPENDICES

*** For all province/municipal-specific program facts in text refer to Appendix B unless otherwise referenced.**

1.) Introduction:

Vehicle idling is a problem that is on the rise across Canada. As a contributor to air pollution and climate change, idling is a considerable target to address in the effort to reduce the human impact on the environment and to remedy public health concerns around air pollution. In a time where sustainable living is gaining precedence in the public mind-share, many jurisdictions in Canada are implementing policy strategies to reduce vehicle idling using evidence-based indicators and sound research. Although vehicle idling reduction is a relatively recent policy target, Natural Resources Canada provides a robust resource hub that outlines the most recent policy developments in this arena. What is most evident in their reports is the importance of employing Community-Based Social Marketing (CBSM) techniques to change idling behaviours across the large and varied Canadian vehicle operating demographic. This paper will outline these strategies and other components of idle-free policies across North America and provide recommendations to make Saskatoon idle-free.

2.) Why do Canadians Idle?

The most common reason for Canadians to idle is the warm-up and cool-down of the vehicle. Other reasons include: Waiting for passengers, stopping at railway crossings, waiting to park, running quick errands, drive-thru lanes, waiting to refuel or for car-wash bays, stopping to interact with someone, or preparing to leave the house. Fundamentally, vehicle idling is a wasteful *behaviour* that is influenced by two factors: Temperature and vehicle-wear myths. The latter refers to the commonly held belief that start-up is more damaging and more expensive than idling. This has proven to be untrue, as the engine wear is minimal as a result of starting; only amounting to $10 a year in repair costs on the battery or starter, for example – a cost made up several times over by the fuel cost savings of not idling. Idling can actually damage engine parts, as idling does not allow the engine to run at its peak temperature. This consequently leads to incomplete combustion of fuel, allowing for harmful fuel condensation on cylinders and deposition on spark plugs. (NRCan 2009) Idling can also cause water vapours to condense in the exhaust, causing corrosion and degradation of the exhaust system (LeaP 2011).

Demographic survey indicators show that idling duration is proportional to number of people in a household and inversely proportional to age (NRCan 2002). It is also more prevalent in rural areas than in urban centres, and nationally, idling is lowest in British Columbia. On average, in the peak winter season, each vehicle idles about 8 minutes per day. Nationally this translates into: 75 million minutes, 2.2 million litres of fuel, and 5 million kg of greenhouse gases per day (NRCan 2009).

3.) Why is it a problem?

Vehicle idling wastes fuel and money: Two point two million liters of fuel wasted roughly translates to 630 million dollars of potential savings for Canadians. Cost-savings is a valuable marketing vector in the effort to change idling behaviors and is considered largely in the literature.

Idling depletes a non-renewable resource: With the increased awareness of the finite supply of fossil fuels, responsibility in resource management is imperative going forward.

Needlessly increases greenhouse gases: Because greenhouse gases accelerate global warming, reducing purposeless emission will slow the anthropogenic contribution.

Health concerns: Vehicle emissions have short-term and long-term health consequences. Immediate symptoms associated with air pollution include burning eyes, lung pains, breathing difficulties, wheezing, coughing, headache, and an irritated breathing tract (Friss 2007). As illustrated in Figure 1, idling one's vehicle close to children (at a school for example) allows these substances to be inhaled into an immature respiratory system, which is more susceptible to damage. Overall, vehicle emissions contribute to air pollution, and consequently the following major health effects:

Lung cancer, the number one cause of death due to cancer in Canada, is associated with chronic air pollution (Lung Association 2010). A Swedish study reported that vehicle emission specifically may increase the risk of lung cancer. Vehicle emissions release polyaromatic hydrocarbons, a known family of carcinogens (Tsia et al 2004), as well as many other components of overall air pollution - many of which have also shown statistically significant association with lung cancer.

Asthma is one of the most substantial public health concerns in the world due to its high prevalence. Symptoms of asthma include shortness of breath and tightness of the chest caused by both aggravated airway muscle contractions and mucous build up. Susceptibility to childhood asthma is largely dictated by pollution exposure during the fetal stage and throughout the first three to five years of life (PHAC 2008). Epidemiological studies also correlate high concentrations of particulate matter and nitrogen dioxide – both byproducts from vehicle exhausts - with asthma occurrence (Friss 2007).

Coronary Heart Disease is often an overlooked serious illness associated with air pollution. Those with ischemic heart disease, with heart arrhythmias or coronary heart failure may be more sensitive to motor vehicle emissions, and aggravation is synergized in extreme temperatures. Carbon monoxide, a common substance emitted by vehicles, is an ambient

pollutant molecule often associated with heart problems where outdoor-working, urban populations are most at risk. (Friss 2007)

These illnesses are potentiated by the long-term impact of climate change. Carbon dioxide largely makes up the 27% of the total GHGs contributed by the transportation sector (NRCan 2009). Along with other catastrophic effects on health like severe weather and environmental degradation, the creation of smog is accelerated by rising temperatures. Smog refers to a mixture of pollutants, of which is largely the result of burning petroleum-based fuels. It reduces visibility and adversely affects overall respiratory health by triggering asthma attacks, cardiovascular aggravation and contains nasal-cavity and skin irritating pollutants (Friss 2007). Smog often limits the ability to leave ones house for exercise purposes, leading to more vehicle operation and contributing to a sedentary life style, which in itself adversely effects health.

Figure 1: Natural Resource Canada Idle-Free street sign (Appendix B)

4.) What is Community Based Social Marketing?

Community Based Social Marketing (CBSM) is a framework with which behaviour-changing programs are designed, predicated on the assumptions that "behaviour change is most effectively achieved through initiatives delivered at the community level which focus on removing barriers to an activity while simultaneously enhancing the activities benefits." (CBSM workshop handout – Appendix A) As outlined by Dr. McKenzie, the current forefront advocate for CBSM, there are explicit steps (in detail in Appendix A) to successfully changing behaviour using CBSM.

The steps are best illustrated through exploring a case study of a recent idle-free policy in British Columbia. In November 2008, the British Columbia and Washington State governments collaborated in the *Greening the Border* initiative, where work was done to reduce idling at the Peace Arch Canada/U.S. border crossing. The resulting initiative involved an awareness campaign conducted by volunteer Idle-Free Ambassadors, as well as a new traffic light pilot project. (B.C. Ministry of Transportation and Infrastructure 2010) This targeted campaign serves as a microcosm for idle-free policy implemented in the spirit of CBSM.

1) Identifying the barriers and benefits to an activity:
In the case of idle-free policy, one would look for the barriers involved with *not* turning off the vehicle. These barriers vary between locations. As mentioned before, the two most common barriers are temperature and vehicle-wear myths, but as shown in B.C. example, specific locations can yield specific barriers. B.C.'s Youth Climate Leadership Alliance members conducted baseline surveys and observations, where they found the main barrier for drivers to not turning off their engine was 'traffic creeping' at the border. Based off of this preliminary data, they installed a carefully positioned traffic light that allows driver to turnoff their engines as blocks of vehicles cross the border. A sign reminding drivers to turn off their engines was also installed beside the newly erected traffic lights. (Figure 2) By identifying the specialize barriers with baseline surveying, they addressed the appropriate target. This initiative is projected to eliminate 639 000 kilograms (kg) of greenhouse gas (GHG) emissions per year.

Figure 2: Peace Arch Traffic signage (B.C. Ministry of Transportation and Infrastructure 2010)

2.) Developing a strategy that utilizes "tools" that have been shown to be effective in changing behavior:

Tools largely fall into four categories: Commitments, prompts, norms, and communication. At the Peace Arch Border, along with brochures and surveys (communication), the sign at the traffic light served as a useful prompt for those waiting to cross the border at the light.

3.) Piloting the strategy:

The traffic light project was a pilot project, meaning it was relatively small-scale. The purpose of a pilot project is to test whether extrapolating the scale would be effective.

4) Evaluating the strategy once it has been implemented across a community:

Published in April 2010, a review of the Peace Arch project uncovers the benefits of conducting a sound evaluation. As compared to baseline data, post-program observational data showed an 83% reduction in idling and a 45% reduction in greenhouse gases overall. However, it was only through a careful evaluation that they uncovered that poor sign visibility caused low compliance numbers among those farthest from the light. These indicators educated future recommendations, including increasing the number of signs as well over-sizing them to increase readability (Deogan 2010).

From a social marketing perspective, the engagement of drivers was ostensibly made easier by the installation of the new traffic light and signage. The employment of CBSM principles allowed the program to first recognize the primary barrier - traffic-creep, remedy the structural barrier, and carryout traditional education and awareness techniques. It is through sound evaluation that programs gaps can be recognized and repaired for future implementation.

Translating behavior-change into workable policy involves necessary engagement with those to whom a policy is being targeted. CBSM emphasizes that there is no one solution to any behavior change issues and that considerations emerge from active participation with the community. Pulling back the scope to a municipal level uncovers how CBSM fits into a larger scale context.

5.) Methods for municipal intervention:

In 2005, Lura Consulting separated current anti-idling strategies into three categories: Voluntary approaches, regulatory approaches, and a combination of both voluntary and regulatory (Lura 2005). The following are summaries of these strategies:

Voluntary:

Idling is largely a behaviour change issue and empowering citizens allows for change to occur without the need for legal intrusion. This vector is primarily driven by community-based social marketing initiatives where persuasive information is distributed to the citizens and/or staff of an organization, in an effort to normalize healthy behaviours. At an operational level, the voluntary approach can be implemented through many methods including education, incentivization, and organizational policy.

Voluntary-based idle-free policies are commonly implemented through partnerships between governmental, non-governmental, and private organizations. As voluntary citizen commitment is an important goal in behaviour change, it is essential that the partners demonstrate leadership to the community by instituting their own internal idle-free policy. Better Environmentally Sound Transportation (BEST) and the Jack Bell Foundation launched a campaign in the Greater Vancouver Area to specifically target *employees* in an effort to reduce business-fleet idle emissions. Along with media advertising, and on-site campaigning, the task force of volunteers incentivized business to come on-board by providing them with custom estimates on fuel savings. Employees at participating companies were given lunch-and-learn presentations as well as idle-free stickers and commitment forms (CBSM tools). While fleet-owning businesses were the primary target, the media advertising also reached over 1 million citizens in the Greater Vancouver Area. The voluntary method is used to ultimately help foster

sustainable behaviour choices into the public mindset, and by setting an example at an organizational level, idle-free practice can successfully be normalized (Appendix B).

Though not resulting in a municipality-wide idle-free control bylaw for either Edmonton or Calgary, Alberta's voluntary method-based educational program in 2003 is largely cited as particularly well-implemented, large-scale idle-free programs in Canada. The *Alberta Reduce Vehicle Idling Campaign*'s formal goal was: "…to reduce engine idling by raising public awareness on the negative impact of idling and the benefits of idling less. The campaign highlighted the links between vehicle engine idling, greenhouse gas emissions, poor air quality and health problems." (Appendix B) Through key partnership between many governmental, non-governmental and private parties, a council was formed to coordinate a month-long educational blitz. Along with media promotion, the voluntary method - using the principles of CBSM – was employed in 3 categories of locations:

- Nine **schools** in Calgary; 7 in Edmonton
- Eleven **gas stations**
- Four **municipal/regional organizations**: City of Calgary, City of Edmonton, Alberta Transport, and Calgary Health Region.

Brochures, presentations, surveys, website information and displays were used for educational purposes, delivered one-on-one or in a group setting by ambassadors. Indicators tracked before and after the month blitz uncovered the following:

- More than 100 drivers were reached using community-based social marketing events at 27 sites during the campaign.
- There were statistically significant changes in behaviour at six individual school sites.
- The transit bus advertising campaign reached more than 85% of drivers in four communities.
- There was generous and favourable media coverage in Edmonton and Calgary.
- Awareness of the campaign increased from 16% to 27% overall. In Calgary, 39% of respondents were aware of the campaign, while in Edmonton 14% of respondents were aware of it.

Results in terms of awareness were considered modest, while the largest gains were made in the formation of key partnerships in the initiative. Upon a program evaluation, Climate Change Central's Paul Hunt outlined specific lessons learned and recommendations regarding the voluntary method including:

- Increasing the use of Community-Based Social Marketing: Although results were modest, the use of CBSM was recommended to be expanded, especially at schools, gas stations and other idling hot-spots.
- Including more schools and gas stations in outreach: The role of these very willing partners was crucial to the scope of the outreach, and increasing the gains from these partnerships will provide more of an impact.

- Recruiting more ambassadors: Increase the number and time commitment of volunteers and possibly paid ambassadors.
- Explicitly outlining a long-term strategy: Be mindful of raising awareness before proposing a bylaw.
- Taking political timing into consideration: Implementing a bylaw soon after a smoking bylaw hindered regulatory progress.
- The use of clear communications: More emphasis must be placed on communicating child health concerns to parents idling at schools.

Regulatory:

Presently in Canada idle-free bylaws are implemented at the municipal level, differing from the United States and European jurisdictions, which are handled at the state-level and national level, respectively. Legal prohibition and regulations exist either as stand-alone idle-free bylaws, as part of bylaws concerning more general transportation laws including air pollution (London, Ontario) or overall danger-avoidance policy (Germany tied it with cell-phone driving policy) (Lazlo 2003).

Toronto was the first municipality in Canada to enact an idle-free bylaw. Starting from a 3 minute permitted idling time in 1996, the City of Toronto has since amended their bylaw in 2010 (Bylaw 775-2010) to only allow 1-minute of idling within a 60-minute interval. It also lists exemption circumstances, including idling of emergency vehicles, mobile workshops, and police. Violators face a $120 fine and court summons for repeat offenders. Before the amendment, Toronto's *The Star* described the bylaw as "'toothless'… with an average of only 76 tickets a year being written for idling longer than three minutes" It is clearly outlined in the proposal for the amendment in 2010 that the City of Toronto recognized the need to educate the public on the matter as a part of ultimately reducing idling. Data on enforcement since the amendment is forthcoming. With low enforcement numbers, the board members behind the program stressed that regulation alone is not particularly effective by itself, and they hope to increase the intensity of educational programs and enforcement 'blitzes' at idling hot spots. (The Star 2010) One such blitz organized in 2003 in tandem with a month-long media promotion/community-based social marketing campaign yielded 120 tickets, 195 warnings and 3 summonses. (Appendix B)

Regulations are very well outlined in New York's Idle-Free policy where a recent 2009 Bylaw 40-A granted ticket enforcement rights to employees of the Department of Park & Recreation, Department of Sanitation, on top of the Department of Environmental Protection and the Police. Along with this expansion of enforcement, bylaw 631-A reduced permitted idling time from 3 minutes to 1 minute, as well as requiring annual reports on the number of violations by the Environmental Control Board & the Department of Finance. Repercussions are most severe in California, where fines range from $300-$10,000 dollars, with jail time for repeat offenders. (Global Climate Law 2009)

A review of idle-free regulations consistently reveals that timing of regulation is critical to its successful implementation. Abruptly proposing idle-free bylaws to a population who have not yet normalized idle-free behaviour can lead to its immediate rejection. The City of Calgary introduced a bylaw too quickly after their voluntary campaign, as well as too closely to their anti-smoking bylaw. Both factors contributed to the stagnation of the bylaw, as public support was not yet attained.

Combining Voluntary and Regulatory Approaches:

Municipal bylaws are formed democratically, and as such, citizen involvement is an essential variable to consider when attempting to regulate a new norm. It has been shown that a successful voluntary campaign must firstly be put in place to create a social environment conducive to the acceptance of regulation, and to mobilize citizens to formalize the new norm. Returning to the Calgary example, a review of their history on idle-free policies shows that implementing bylaws before voluntary educational programs resulted in the following:

a.) A lack of public understanding of the issue
b.) No time for public discussion on the formation of a bylaw
c.) No chance to address barriers to reducing engine idling (stigma, transportation alternatives, ignorance on idling practices, etc.). (Appendix B)

Having a strong voluntary method in conjunction with regulatory action is essential to changing behaviours, and consequently in the formation of successful idle-free policy.

6.) How does all of this fit into developing an Idle-Free Saskatoon?

According to Statistics Canada, Saskatoon was the fastest growing municipality in all of Canada in 2009-2010, with the 2011 estimate at over 265,000 persons (City of Saskatoon 2011). At the same time, the number of vehicles in Saskatoon has eclipsed the number of people: in 2010, as the population was at 220,000, the number of vehicles registered in the city was almost 229,000 (The StarPhoenix 2010). With early action against idling, the City of Saskatoon can greatly delay smog creation and general air pollution hazards. As seen in the Calgary example, organizations and businesses must also come on-board if large-scale idling initiatives are to be successful. The following are some example of initiatives that are either in place, or have been conducted in Saskatoon:

i.) As work is being done on developing their formal Campus Sustainability Policy, the University of Saskatchewan has embarked on a few environmental initiatives, one involving idle-free zone implementation. So far, the campaign has involved only signage in specific locations, but next year they will be increasing the number of zones on campus. There has yet to be any formal impact evaluation, though anecdotally, there has been progress. Once the overarching policy is complete, a solid anti-idling initiative with enforcement elements can be enacted.

ii.) In 2008, the City of Saskatoon instated a formal policy restricting idling of their fleet to 3 minutes. Exceptions to the policy include emergency vehicles, vehicles being maintained, and for temperatures above 27 ^{o}C and below 5 ^{o}C.

iii.) At the provincial level, the Government of Saskatchewan, as part of their *goGreen* initiative, encourages schools, health facilities, recreation & community centres, municipal offices, and governmental facilities to apply for free street signs through their website. The website also highlights idle-free success stories, with the following being the only school initiative in Saskatoon, to date:
In spring 2006, The Saskatchewan Environmental Society (SES), funded by SaskEnergy, organized an educational program with students of Silverwood Heights School and Sister O'Brien School on idling and climate related information. The students of the school then educated 46 parents outside the school at the end of the school day about the benefits of not idling. Education was used in conjunction with anti-idling signage, posters, newsletter inserts and presentations between students. Based on comparisons of pre and post-program data, there was a 51% reduction in total idling time among parents waiting for their children outside of the schools (SES 2006).

7.) Recommendations:

#1: Create partnerships between many organizations:

A diverse, inter-disciplinary partnership between governmental, non-governmental and private groups will provide a clear unified vision for a large-scale idle-free initiative. A representative council can craft a formalized *commitment* for all partners to 'go idle-free'. Every partner will be a part of a large initiative, spearheaded by the City of Saskatoon. It would be up to the city as to how large of a scope an idle-free initiative would be. The scale of the initiative would depend on resources and ambition of the City and the organizations involved. An initiative can be specific to idling (*Idle-Free BC*), overall air quality (*Clean Air Partnership Toronto*), or a part of a larger 'green' initiative involving other environmentally friendly activities (*Green Calgary*). A discussion on which of these branding scopes of an idle-free campaign to use would wholly depend on the perceived marketability of each to the Saskatoon public specifically.

Strategic partnerships with those organizations most associated with idling hot-spots in Saskatoon would provide the most impact. Particularity high-impact partners include: City Saskatoon, Saskatoon Health Region, Saskatoon Public and Catholic School Divisions, Time Horton's, and drive-thru banks. Survey work must be done to quantitatively find where exactly in the city there are idling hotspots.
These partners can contribute in two ways:

1. They can create policies for their own fleet and employees, thus becoming "Idle-Free" themselves.
2. And/or allow for signage, and even idle-free information to be distributed by volunteer ambassadors at their locales.

Saskatoon already hosts many environmentally conscious parties that can be leveraged in an idle-free initiative. Examples include: RoadMap 2020 Saskatoon, Climate Change Saskatchewan (Gov. of Sask.), Saskatchewan Environmental Society, and The Lung Association.

#2. Use Natural Resource Canada's Idle-Free Zone information and Toolkit to design a voluntary-based campaign:

Anti-Idling initiatives have been so successful and reproducible across Canada that Natural Resource Canada created a resource hub, the *Idle-Free Zone,* providing information, case studies, and recommendations for every level of intervention: Individuals, businesses, and community/government. They provide ready-to-use tool-kits for idle-free campaigning at the work place, as well as tools to use for the general public. The tools provided by Natural Resources Canada are low cost methods of operationalizing community-based social marketing principles in the idle-free context.

It is important to consider that every organization, at each level, must carry out a barrier/benefit analysis (Appendix A) before committing a large amount of resources into any one tool. Pragmatic use of the tools provided will lower costs and take less time. This pre-program activity involves asking the target population (employees, customers, etc.) why it is they do not turn off their vehicles once at rest. This would be done with volunteer ambassadors using the simple surveying materials provided in the toolkit (NRCan 2007). The collection of this data will ensure that appropriate tools will be employed in a suitable manner.

#3. Conduct a robust evaluation of the voluntary-program:

A citywide idle-free program must have a built-in evaluation plan. As idling will not be completely eliminated by any one program, especially in a city growing as quickly as Saskatoon, inevitable future initiatives will benefit greatly by having in–depth, summative data and lessons learned from past programs. Compliance and surveying materials are provided in the tool-kit, as well as a timeline for baseline, midterm and final compliance measures in *Section 3 Program Scheduling and Budgeting* (NRCan 2007).

The NRCan toolkit specifically recommends internal ambassadors at every organization, but the principles behind it have been adapted to a larger scale. In B.C., the Ministry of Environment's Youth Climate Leadership Alliance program created 10 positions for ambassadors, who were then dispatched to deliver the materials to organizations. The difference in Saskatoon's (and Saskatchewan's) case is that there is no formal large air quality initiative for which these ambassadors would represent. This can be addressed by creating a cohesive vision when forming a collaborative partnership across many organizations (Recommendation 1). The forms and surveys to be used by ambassadors are provided in the toolkit. The results must be collected and submitted into a final report.

#4. Upon evaluation, draft a formalized City-wide Idle-Free bylaw, with regulatory elements:

An anti-idling bylaw can be a particularly powerful tool in reducing vehicle idling at a citywide level and must be the last step in a successful idle-free campaign. It is clear through the literature that idling regulation is time sensitive. The target population must first be convinced that idling is a substantial issue *before* being presented a bylaw. The evaluation of the voluntary program must have survey data indicating the level of anti-idling sentiment among the community. If significant acceptance is present, then bylaw formation should be pursued.

Vehicle idling is a harmful activity to both citizen health and the environment. Confronting the issue at a large scale is an important step in cleaning up the air and proliferating the public's environmental conscience. The reproducibility of community-based social marketing techniques in idle-reduction initiatives have allowed for a large breadth of resources to be

available to program planners and policy maker. Applying these tools in a Saskatoon context will take strong partnerships, committed volunteers, careful planning and sound evaluation. As exhibited across the country, actions against idling have been successful, giving communities the opportunity to directly contribute to the betterment of the environment. Saskatoon's organizations and citizens are long overdue to commit to the same goal.

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Expanding the Waste Services Utility – Key Considerations

Recommendation
That the Standing Policy Committee on Environment, Utilities and Corporate Services recommend to City Council:

1. That the Administration investigate a new business model for waste services that includes a waste utility; and
2. That the Administration report in August 2017 on a potential design for expanding the Waste Services Utility in Saskatoon.

Topic and Purpose
The purpose of this report is to provide a high-level overview of the benefits and implications of an expanded solid waste utility and how it could align with the principles approved by City Council for the delivery of waste services.

Report Highlights
1. Charging more waste management costs through utility fees responds to the principles City Council adopted for the delivery of Waste Services.
2. Environmental benefits of an expanded waste utility include waste reduction, increased waste diversion, and user accountability.
3. Social benefits can be achieved, such as improved convenience and user-friendliness, safety, and environmental compliance. Fairness resulting from increased alignment of user and payer is also achieved.
4. Financial benefits are achieved such as improved transparency and greater security and sustainability for the municipality.
5. A waste utility may result in a higher cost to the average residential property due to the transfer of funding contributions from commercial to residential properties to better align with user benefit. Also, the cost for solid waste services would no longer be determined by property values, which makes it less responsive to the resident's ability to pay.

Strategic Goals
This report supports the Strategic Goal of Environmental Leadership including the four-year priority to promote and facilitate city-wide composting and recycling and the long-term strategy to eliminate the need for a new landfill; It also supports the Strategic Goal of Asset and Financial Sustainability by reducing reliance on residential property taxes and setting long term sustainable rates.

Background
On November 28, 2011, City Council resolved:

> "1) That the Administration be instructed to take the first step toward the development of a waste utility for Saskatoon by adding the cost of the enhanced curbside recycling service to a utility bill;

2) That the Administration collect subscription fees to the Leaves & Grass Program through this utility billing; and

3) That the Administration continue to develop the future phases of a waste utility for Saskatoon based on the concepts described in this report."

Since then Recycling and Leaves and Grass (now called Green Cart for Food and Yard Waste) have been established as utilities with funding through the Utility Bill for recycling and through direct subscription fees for the Green Cart.

In January 2017, the Administration brought a report to Committee outlining that the waste services business model was not environmentally or financially sustainable. The report outlined that the Administration was developing a Waste Management Master Plan and that a list of values (environmental, social, financial) would be used to assess potential future business models. Funding options (i.e. property taxes, utility charges and user fees) are a significant component in alternative business models currently being explored by the Administration. At that meeting Council resolved:

"1) That the information regarding the state of waste be received;

2) That the values to be used in preparing options for a new Waste Management business model, including the ability to pay in terms of future cost allocations for fairness and equity, be approved; and

3) That the Administration be directed to report back at the next stage of the Waste Management Master Plan."

Report

Considerations for Expanding the Waste Services utility

Expansion of the waste utility responds to the Council-approved principles for delivery of Waste Services in Saskatoon.

Environmental - Landfill life, waste diversion, climate change impact, and soil and water quality impacts:

- Citizens pay directly for the services they use resulting in increased awareness and responsibility for the quantity and types of waste they are generating.
- Variable fees based on type and quantity of waste give the citizen control of their costs and provides an incentive for reducing or diverting more waste from the landfill.
- A utility-type model may not have the same environmental benefits for waste diversion in multi-unit properties as it does for single-family. Multi-unit properties have waste and recycling collected in communal bins; individual residents do not have direct control over and are, therefore, not held accountable for their waste generation and diversion.

Social - Employee and public safety, regulatory compliance, public image, convenience of services, and regionalization:

- Funding security for the municipality ensures that all aspects including safety, environmental compliance, education, and service convenience to the customer are fully considered. For instance, a surcharge specific to environmental compliance can be included as part of the utility charge.

Financial - Life cycle costs, generational rate equity (or equity between generations of citizens), immediate and long-term cost impact, and ability to pay:

- Life cycle costs, as well as immediate and long-term costs, are considered when setting rates to ensure financial sustainability now and for future generations.
- Increases financial transparency and certainty for the municipality as funding can be more closely aligned with costs.
- Users pay directly for the services that they benefit from, unlike the current model where non-residential (commercial & industrial) users are supporting residential services through property taxes and user fees (such as at the landfill). This is a benefit from a 'user equity' perspective but may result in increased costs to residents:
    - The 2017 non-residential share of total property taxes is 31% while the residential share is 69%; even though non-residential properties do not utilize all the services (exceptions include bylaw enforcement, recycling depots, compost depots, among others). Commercial property owners pay $27.89 for every $100,000 of assessed value each year while residential customers pay $17.53 per $100,000 of assessed value.
    - At the landfill, commercial customers are charged the full cost of landfilling while residents self-hauling loads less than 150 kg are only charged the entrance fee.
    - The cost of landfilling is not included in the cost of residential garbage collection services provided by the City even though more than 60% of the waste brought to the landfill is from City trucks providing residential garbage collection. As a result, commercial and self-haul customers are subsidizing the cost of waste disposal for residential households by approximately $3.8M. Accounting for the costs of landfilling correctly would reduce the burden on landfill customers and reduce reliance on property tax funding for the landfill.
- Property taxes are based on property value, and therefore may have some relation to income or ability to pay (although not an exact correlation). Currently:
    - properties valued at $253,700 (10th percentile) pay $44 per year ($3.67/month);
    - properties valued at $385,000 (average) pay $68 per year ($5.67/month); and
    - properties valued at $534,500 (90th percentile) pay $94 ($7.83/month).
- Utility fees are independent of property value, they are based on waste generated, which allows lower income residents to control their fees through a reduction in the amount and type of waste they generate.

Attachment 1 provides a more detailed analysis of the ways in which waste management services fit within the spectrum of being:

- a pure public good (a service that once provided, benefits all at no extra cost);
- a private good (a service that when provided to one person cannot also be provided to another without incurring extra cost and a service from which someone can be excluded from); or
- a common/merit good (having properties of both).

The findings of the research discussed in Attachment 2 further confirm that a utility model for (at least some aspects of) waste services provides the following benefits:

- Protect solid waste finances from budget challenges because utilities are usually self-financing through user fees or flat-rate charges to consumers. The programs are somewhat protected from budget cuts caused by shortfalls in other areas or by economic downturns.
- Increase public awareness of waste costs as a utility's rates are visible to the resident/consumer as opposed to services financed by the tax base. Cost awareness is key to waste reduction as the latter activities can be tied directly to cost savings.
- Can induce higher levels of waste diversion.

<u>Financial status of Waste Services</u>

In 2016, the waste management program was funded through a variety of sources:

- $9.47M, or 47%, was funded by property taxes through the mill rate. Of this, $6.53M came from residential properties and $2.94M was from non-residential properties. This is the net cost and includes $4.37M in revenues from landfill fees and commercial garbage collection.
- User fees of $5.73M were charged through the Waste Services Utility for residential recycling and green cart collection.
- The Multi-Material Recycling Program (MMRP) provided $1.2M; most of this subsidized the multi-unit recycling program but also went toward recycling depots and the green cart program.

After costs and revenues associated with the Waste Services Utility are added, there is a significant funding gap. The total cost of the waste management program in Saskatoon is greater than $20M. The full costs for waste management services are shown in Attachment 2.

As previously reported, commercial and other chargeable landfill tonnages have begun to decline over the past number of years due to increases competition in the region. Due to these recent shortfalls in revenue and funding for the waste management program, the Landfill Replacement Reserve (LRR) contributions have been deferred in order to make up the deficit. For example, in 2016 $2.51 million was budgeted to be transferred to reserve, while only $1.78 million was actually transferred due to budgetary pressures.

This is not a sustainable approach, as the LRR contributions are required for the closure and decommissioning of the existing landfill and for establishment of a new landfill. In 2017, the estimated annual requirement for this reserve is $3.5 million.

Considerations for Utility Design

If supported by City Council, the design options for an expanded Waste Services Utility will be explored in the coming months and will consider affordability to residents. Not all components of the waste management program need to be funded through a utility; instead the right mix of utility and property tax fuding must be explored in the design. As noted above, there are several financial considerations that may cause a full utility to be higher cost to residents than the current property tax model:

- The cost of the waste management program is currently subsidized by the commercial sector through property taxes, landfill fees, and garbage collection fees;
- There is a gap of more than $3 million between amount of funding through the mill rate and the actual costs of the waste management program.

Options to the Recommendation

City Council may choose to defer or discontinue research on this initiative.

Public and/or Stakeholder Involvement

Waste as a utility is one component of a larger waste diversion plan. Many of the topics within the waste diversion plan will require community conversations and engagement. As a result, the Administration is developing a Waste Diversion Engagement Strategy and Framework to guide implementation and to ensure interactions with the community are meaningful, consistent, relevant, and effective.

This engagement strategy and framework could include the establishment of numerous stakeholder-focused working groups and include activities such as a series of workshops/forums, surveying and online and in-person discussions. The goal of waste diversion engagement is to help residents and businesses understand waste management challenges and provide input into potential solutions. The output from waste diversion engagement will be a comprehensive report which outlines Saskatoon's waste diversion options for Council's future consideration. Public outreach and education will continue through the design phase if City Council chooses to advance toward implementation. A report on the development of the Engagement Strategy and Framework has been prepared by Administration and a separate report has been tabled with Committee today.

Communication Plan

If Administration is instructed to continue to the design phase of an expanded waste utility, it is critical that the public are informed and have the opportunity to learn about design options for the utility. As a result, a comprehensive communications plan will be developed to support public outreach and education. A set of Frequently Asked Questions has been prepared and are provided in Attachment 3.

For the larger waste diversion plan, Administration is developing a Communications Strategy that will focus on building public awareness and participation in future waste diversion engagement activities, strengthening stakeholder relationships, promoting new programs, and ongoing communication about the reduction of solid waste in Saskatoon. Tactics could include the development of a community waste challenge; a waste diversion focused web page; social media; advertising and email. The goal is to ensure stakeholders are not surprised by proposed changes and that they understand waste diversion issues, including how they can provide input into the development of potential solutions. The Communications Strategy is further discussed in a separate report.

Policy Implications

An initial review of the policy and bylaw changes required to move to an expanded utility model will be explored and presented in the August report.

Financial Implications

The financial implications of expanding the waste services utility in Saskatoon will be reported to Committee in August 2017.

Environmental Implications

Research conducted by the US Environmental Protection Agency (2013) of waste programs in Canada and the United States found that waste utility models may improve waste diversion rates by between 6% and 40% (depending on the recovery rate for recyclables in the community prior to implementing the pricing model). In addition, communities reported a reduction in the amount of waste disposed of between 8% and 38%.

Other Considerations/Implications

There are no privacy or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

If approved, the Administration will report to the Standing Policy Committee on Environment, Utilities and Corporate Services in August on a potential design for an expanded utility for waste services.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachments

1. Using the Right Instruments to Pay for the Right Services (discussion paper)
2. Full Costs for Waste Management Services
3. Frequently Asked Questions

Report Approval

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Expanding the Waste Services Utility – Key Considerations.docx

USING THE RIGHT INSTRUMENTS TO PAY FOR THE RIGHT SERVICES:

PRINCIPLES, CONCEPTS AND IDEAS ON HOW THE CITY OF SASKATOON SHOULD DELIVER AND PAY FOR THE COLLECTION AND DISPOSAL OF SOLID WASTE

A Discussion Paper

Prepared by Mike Jordan

Director of Government Relations

May 1, 2017

INTRODUCTION:

In 2013, Saskatoon City Council adopted a 10 year target to divert 70 percent of solid waste from the Saskatoon Landfill, by the year 2023. The goal of this target is to ensure that more of the waste generated in Saskatoon will be recycled, reused, or composted instead of ending up in the landfill.

However, according to the most recent data, the City of Saskatoon's waste diversion rate was 21.8 percent in 2016, up slightly from 21 percent in 2015, but down from the 2013 peak of 22.7 percent. This is below the 2012 national average of 25.2 percent and well off of Saskatoon's 70 percent target.

Saskatoon's, waste diversion rate has increased by a cumulative total of 6.8 percent since 2009— an annual average of 0.85 percent. Thus, in order to achieve its stated target, the City of Saskatoon would have to increase its average annual waste diversion rate by 6.9 percent per year over the next 7 years. This achievement seems daunting under Saskatoon's existing approach to solid waste management. Simply, reforms are needed.

Empirical research and practical applications suggest that by utilizing appropriate policy instruments, the City of Saskatoon could come close to reaching its diversion target. There are five broad instruments that the City could use to help reach its diversion targets: (1) education; (2) program expansions; (3) investment in technologies; (4) command and control regulations; and (5) pricing. These instruments alone will not achieve waste diversion targets and other environmental goals, but together, they provide a strong public policy response to addressing the environmental (and financial) sustainability issues confronting the City of Saskatoon in 2017.

Nonetheless, the focus of this paper is on one of these five instruments: pricing. There is a large body of evidence, particularly in the economic literature, which underscores the importance of using (efficient) pricing to change behaviours.[1] And when it comes to solid waste services, evidence shows that putting an appropriate (or efficient) price on solid waste is a very effective solution. In fact, a study by the C.D. Howe Institute found that the implementation of user-based pricing mechanisms for solid waste resulted in the disposal of residential waste by 38 percent.[2]

A growing a number of local governments in North America have implemented some form of efficient pricing for solid waste by charging fees directly to households. This requires consumers to pay the full cost of their waste management services and permitting them to see exactly what the service costs are.

In Canada, solid waste services are funded by local governments in various ways. Many still use property taxes, some use flat rate fees, some use a blend of taxes and fees, while others use volumetric pricing (or utility charges) based on weight or the size of the cart. Given these

[1] See for example the literature produced by Canada's EcoFiscal Commission at https://ecofiscal.ca/
[2] See Maria Keller, Janet Robins, and John Dixie, "Taking Out the Trash: How to Allocate the Costs Fairly," in the Urban Papers (Toronto: C.D. Howe Institute) No 213, July 2005.

different approaches, the question that emerges is: what is the appropriate or optimal way to pay for solid waste services?

Well, the answer can be found in the public finance literature. Economists have designed a framework to evaluate how local public services should be paid for and this framework can easily be applied to solid waste services.[3]

For instance, the framework broadly suggests that services that have certain characteristics and provide collective benefits to the community should be paid for by general taxes—such as the property tax. On the other hand, those services that provide benefits to individuals should be paid for by some type of fee or charge that represents the costs of delivering the service. This would apply to most solid waste collection and disposal services.

Thus, based on the benefits received model of local public finance, appropriately designed user fees are the most efficient and fair way to pay for many—not all—City services. Indeed, user fees are not a panacea for financing city expenditures, but "for some services, user fees are not only feasible," they are "…economically desirable because they help to allocate resources to maximize the satisfaction we receive from those resources."[4] This would be applicable to solid waste services.

While the economic literature provides a valuable framework for analysis, policy decisions ultimately rest with the values and objectives of a particular jurisdiction and the elected officials who represent the people of that jurisdiction. That said, the economic literature can provide important evaluation criteria in which weigh various policy options.

Therefore, in order to address these issues in a more specific context, and to generate discussion and debate about how the City of Saskatoon could use pricing mechanisms to improve waste diversion and other environmental outcomes, this paper is organized as follows:

- Section two provides a framework for analysis that distinguishes between the different types of services that the City delivers. This framework is applied solid waste services.
- Section three builds on the concepts and analysis in section two and focuses on how services that elicit specific characteristic should be paid for.
- Section four addresses the various financial and waste service delivery models that are used in various jurisdictions throughout North America. The section also provides a brief evaluation of those models.
- Finally, section five offers a summary and some concluding observations and potential opportunities that the City may wish to consider in order to improve the environmental and financial sustainability of its solid waste service bundle.

[3] See for example, Harry Kitchen, "Financing City Services, Part 1: Operating Expenditures," (Calgary: Manning Foundation for Democratic Education) October 10, 2013; obtained from http://manningfoundation.org/Docs/Operating-Expenses.pdf

[4] Donald N. Dewees, "Pricing Municipal Services: The Economic of User Fees," in Canadian Tax Journal Vol 50, No 2 (Toronto; Canadian Tax Foundation, 2002) 586.

[2] WHAT ARE THE CHARACTERSITICS OF CITY SERVICES AND HOW DO THEY APPLY TO SOLID WASTE COLLECTION AND DISPOSAL?

The City of Saskatoon provides over 70 services that people use on a daily basis. For example, the City maintains roads and parks, operates public transit, provides water and wastewater, and offers solid waste collection and recycling services. In addition it supports arts, culture and recreation opportunities and is responsible for public safety through the delivery of police and fire services, and so on. The City has direct local control over these services and is thus responsible for establishing their service levels, the amount of money that is spent on them, and how they are paid for.

Thus, the purpose of this section is to provide a framework to help draw distinctions between the City services. This section will then apply this framework in a general way to solid waste services. This distinction is important because each of these general types of City services require different sources of funding to satisfy the principles of public finance.

2.1 Distinguishing Characteristics of City Services

While the services that the City delivers are "public" services in the sense that they are delivered by an order of government to people living within its jurisdiction, this does not mean that all of the services that it delivers are what economists call "public goods". In other words, economists are less concerned by who delivers the service—private industry or government—and are more concerned with who benefits from the service, individuals or the collective community. That said, public goods are delivered by government because they represent a "market failure"[5].

To that end, economists have developed a framework, or a continuum, that categorizes the different types of local services based on the benefits that they confer to individuals and the broader community.[6] Table 2.1 provides an overview of this continuum.

Table 2.1
A Continuum of Municipal Services

Pubic Goods	Common/ Merit Goods	Private Goods
Parks	**Public Transit**	**Water**
Local Streets & Roads	**Recreation**	**Waste Water**
Police & Fire Protection	**Libraries**	**Solid Waste Collection**
Street Lighting		

As the table shows, at one end of the continuum lies those services that have "public good" characteristics, such public parks and police and fire protection. At the other end of the

[5] Public goods are an example of a market failure because the private sector would be unable to supply them for a profit. Some common goods also can represent a market failure (e.g., swimming pools) because the marginal social cost greatly exceeds the marginal social benefit.
[6] For more details on these concepts, see Harvey S. Rosen, Paul Boothe, Bev Dahlby, and Roger S. Smith, *Public Finance in Canada, First Canadian Edition*. (Toronto: McGraw Hill Ryerson, 1999).

continuum, by contrast, are those services that have "private good" characteristics, such as water, wastewater and solid waste collection. In the middle of the continuum are those services that have a blend of both public and private good characteristics, often called common or merit goods. These services include public transit and public recreation facilities. Although they are delivered by an order government, what distinguishes these different types of services from one another?

The main distinction is that services that have public good characteristics are opposite to those that have private good characteristics. This is determined by the degree of excludability and rivalry.[7] This paper addresses these concepts in turn.

Excludability refers to the ability to restrict a person from consuming the service. For example, if a resident does not pay his or her water bill, the City can restrict water service to that resident. On the other hand, if a person does not pay his or her property tax bill, the City cannot restrict that person from receiving police services, or using a public park. In this case, the service is non-excludable as there is no affordable mechanism for the City to restrict a person from consuming the service. In other words, the benefits derived from pure public goods cannot be confined solely to those who have paid for it. Indeed non-payers can enjoy the benefits of consumption at no financial cost.

A service is considered to be rival if consumption by one person prevents it from being available to others. For example, one of the primary inputs into providing a municipal service is staff time. If staff is providing a service to one person, say in the case of providing building permits, or collecting solid waste at the curb, they are unable to use that time to provide a service to another person. Thus, the service is said to be rival.

Conversely, a service is considered to be non-rival if one person's consumption does not reduce the availability of others to consume that service. In other words the marginal cost of supplying a public good to an extra person is zero. Simply, if it is supplied to one person, it is available to all.

An excellent example of a local non-rival service is street lighting. Once street lighting is provided, more than one person can consume the service without reducing the availability for others to consume it at the same time, or increasing the cost of that service.

To summarize, if a service is non-rival and non-excludable then it can be said that the service has "pure public good" characteristics. By contrast, if a service is rival and excludable then it is said that the service has "private good" characteristics.

Of course, there are services that the City provides that do not easily fit into these categories. Some services, for example, are restricted (excludable) but one person's consumption does not limit the availability to others (up to a certain point). A good example of this is public transit. If a

[7] For a broader discussion on these concepts, see Catherine Althaus and Lindsay M. Tedds, "User Fees in Canada: A Municipal Implementation Guide", Paper presented at the University of Waterloo Tax Symposium, June 19, 2014.

person does not pay the transit fare, the City has the ability to restrict that person from using the service. These are often called common or merit goods.

It is important to note that some of the services that the City provides are not considered to be goods or services in the sense identified above. Instead these services represent "permissions" for property owners to undertake certain activities on their property.[8] In other words, these permissions reflect the regulatory framework of the City to limit or restrict certain activities. They implicitly recognize that certain unregulated activities have negative implications on the community and therefore, require a regulatory framework that captures the external costs associated with such activities.

So how does this framework apply to solid waste services?

2.2 Application to Solid Waste Services

As noted in table 2.1, solid waste collection and disposal services are considered to have private good characteristics. This is because people can be excluded from using the service and the cost of doing so is negligible. For example, if a resident puts unauthorized material in his or her garbage bin, the municipality can refuse to empty the garbage bin, thus excluding that person from receiving the service.

Rivalry is also present in the sense that if one household is receiving the service at a particular time, another household cannot without increasing the marginal cost of the service. In other words, I cannot consume the garbage collection service at the same time as my neighbour, unless the municipality sends another truck to do so. But in so doing, this increases the marginal cost of the service.

Of course, there are several ancillary or support services and programs in the solid waste collection disposal service umbrella that can provide collective benefits to the community. These would include bylaw enforcement, and perhaps recycling and compost depots. However, since these services support the overall solid waste management system, they could easily be included in the total cost of solid waste services.

Given these distinctions, the obvious question that emerges is how the City should pay for them? The next section of this paper will address the most appropriate ways to pay for City services that have public and private good characteristics.

[8] For a discussion on this concept, see City of Calgary, "Underlying Principles Guiding User Fees & Subsidies Review," Revised Discussion Paper, March 2007. Obtained from http://www.calgary.ca/CA/fs/Pages/Policies/User-Fees-and-Subsidies-Policy-Review/User-Fees-and-Subsidies-Policy-Review.aspx

[3] HOW SHOULD THE CITY PAY FOR DIFFERENT TYPES OF SERVICES AND HOW DOES THIS APPLY TO SOLID WASTE SERVICES?

Given the discussion in the preceding section, and particularly the distinction between the different types of services, the purpose of this section is to provide an overview of the most optimal ways in which the City should pay for services, including solid waste services. Specifically, this section focuses on the choice between using property taxes or user fees and ignores external revenue sources, such as government transfers. But before this section addresses these issue, it first begins by providing an overview of some important public finance principles and criteria that helps to evaluate the use of various revenue instruments.

3.1 Public Finance Principles

To fund the services that it delivers, cities primarily rely on property taxes and user fees. These are important funding instruments and if structured properly they satisfy several important principles of public finance, especially at the local level: efficiency, fairness, accountability/ transparency, stability/predictability, and ease of administration. Moreover, these principles are best addressed in reference to the "benefits received" model of public finance.[9] The benefits received model maintains simply that those who benefit from public services should pay for those services. In terms of local government finance, the benefits received model is most appropriate.[10]

3.1.1 Efficiency (economic or allocative): in economics, efficiency is concerned with the allocation of resources. Generally, efficiency is achieved when the tax per unit, charge or use fee equals the extra cost of the last unit consumed, known as the price equals marginal cost[11]. The main economic reason for imposing appropriately designed charges or fees on those who benefit from public services is to provide the public sector with incentives for using resources in the most efficient manner possible.

3.1.2 Fairness (equity): under the benefits model of public model finance, equity is achieved when those who use public services pay for them. Obviously, this may lead to concerns about the burden on low-income individuals. Ideally, this issue should be addressed through income transfers from provincial and federal governments and perhaps tax deferral programs targeted to those in need.[12]

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[9] Economists typically have two models of public finance: the benefits model and the "ability to pay" model. The ability to pay model maintains that taxes should be distributed according to some measure of a taxpayer's ability to pay. Its main goal is to satisfy horizontal and vertical equity concerns. This model is more appropriate in a federal and provincial context and when dealing with taxation matters.
[10] Much of the proceeding discussion is based on Harry Kitchen, "No Seniors' Special: Financing Municipal Services in Aging Communities," IRPP Study, (Montreal: Institute for Research on Public Policy, No 51, February 2015) 24.
[11] Supra Note 4.
[12] For example, see Robin W. Boadway and Harry M. Kitchen, *Canadian Tax Policy, 3rd edition, Tax Paper No 10*3 (Toronto: Canadian Tax Foundation, 1999).

3.1.3 Accountability/Transparency: while this principle is relatively straight forward, accountability is improved when the purpose of a tax or user fee is clear to those required to pay for the service. Accountability is further enhanced when there is close link between the beneficiaries of a service and the payment for that service. Transparency is achieved when residents or beneficiaries of a service have access to information on how the price or charge is set and how expenditures are made.

3.1.4 Stability and Predictability: this criterion suggests that the revenue source should be stable and predictable and avoid any volatile swings so that it can meet the ongoing operating costs of government. Revenues should be able to sufficiently cover the costs of the service.

3.1.5 Ease of Administration: the implementation of any revenue instrument or expenditure should be economical to operate and simple for taxpayers or users to understand and comply with. In other words, the resources allocated to administering the tax or fee should be minimized.

While this above criteria is very useful in evaluating the appropriate revenue instrument, it is important to note that not all City revenue policies will be able to achieve each of these objectives simultaneously. For example, a policy that aims to achieve economic efficiency may do so at the expense of equity, or fairness. Similarly, a policy that attempts to achieve predictable and stable revenues may also be difficult or expensive to administer, such as the property tax. Ultimately, value judgments and choices will need to be made.[13]

3.2 WHAT SERVICES SHOULD BE PAID FOR FROM THE PROPERTY TAX?

Ideally, economists argue that the local property tax should be used for funding local public services where specific beneficiaries cannot be identified and where consumption of the service by one person or resident does not reduce the ability of another person (or resident) to consume that service.[14] For example, local parks, police protection, roads, and sidewalks are used by most, if not all, citizens in the municipality. Identifying a single beneficiary so as to determine an individual's tax liability is impossible. Generally, property taxes are used to finance what economists call "pure" public goods.[15]

To review the discussion in section 2, a pure public good refers to public services that are non-excludable and non-rival in consumption. This means that once the service is provided there is no additional resource cost of excluding individuals from using the service or another individual from consuming it. The property tax then distributes the cost of financing such goods and

[13] David N. Hyman and John C. Strick, *Public Finance in Canada: A Contemporary Application of Theory and Policy* (Toronto: Harcourt, Brace and Company, 1995) 320.
[14] Harry Kitchen: "Property Taxation Issues in Implementation," *Working Paper*. (Kingston, ON: Institute of Intergovernmental Affairs, Queen's University, 2005) 4 and Richard M. Bird, "User Charges in Local Government Finance," in Richard Stren and Maria Emilia Freire, eds., *The Challenge of Urban Government* (Washington: World Bank Institute, 2001).
[15] For a discussion of pure public goods see Rosen, et.al *supra note* 6, 131-149.

services among taxpayers based on the assessed value of the property.[16] However, when it comes to providing goods and services that have private characteristics then user fees are a more appropriate financing choice. The subsequent analysis explains why.

3.3 WHAT SERVICES SHOULD BE PAID FOR BY USER FEES?

The economic literature strongly supports the use of user fees to fund some—not all—City services, particularly, those services that have private good characteristics.[17] To recall, the discussion in section 2, services that have private good characteristics are those where the beneficiary of the service can be identified, the consumption of the service is rival and persons can be excluded from using the service. In other words, user fees uphold the principle that those who benefit from a service should pay for the service.

Depending on the municipality or City, user fees sometimes fund all or a portion of the costs associated with the delivery of water and wastewater systems, the collection of garbage and recycling, access to libraries and recreation facilities, and public transit operations. The City of Saskatoon, currently charges full user fees for golf courses and recycling collection, to name a couple of services, and charges partial user fees for public transit and access to recreation facilities. However, the City of Saskatoon does not charge a user fee for garbage collection, despite the fact that more and more cities in Canada have moved in this direction.[18]

In addition, user fees are often structured in different ways, ranging from a flat or fixed charge, unrelated to consumption (e.g., recycling), to fees or charges that vary with consumption (e.g., water rates). Occasionally, they will have a mix of fixed or variable charges (e.g., wastewater). City departments will also charge user fees to recover the costs of providing certain programs and services to citizens. Typically, user fees are used to pay for a Utility model of service delivery.

As a City revenue source, user fees, if priced appropriately, can be more predictable than other sources and are better aligned with changes in the economy. With user fees, the City may observe market activities, forecast demand and make pricing adjustments to reflect a change in the economy.

However, despite the revenue raising ability of user fees, it has the potential to serve other important functions with respect to the provision of some City services. Primarily, user fees should be structured so that they generate an efficient use of municipal services.[19] This is achieved when the fee per unit of output equals the extra cost of producing the last unit; that is, price equals marginal cost. In other words, user fees can help to "constrain the demand for

[16] The consumption of a public good may also be non-excludable, meaning that it would be very expensive or impossible to prevent an individual from consuming the good or service. A good example is a sidewalk.
[17] See for example, David G. Duff, "Benefit Taxes and User Fees in Theory and Practice," in University of Toronto Law Journal, 54:4, (2004) 391-447 and Richard M. Bird and Thomas Tsiopoulous, "User Charges for Public Services: Potentials and Problems in Canadian Tax Journal, 45:1 (1997) 25-86.
[18] For example, the cities of Edmonton, Vancouver, Toronto charge a user fee for garbage collection, as opposed to paying for this service from property taxes. See the next section for more.
[19] See Kitchen, supra note 3 at 26.

services, allocate scarce resources, and signal when the value of the service is such that new investment is required."[20]

3.4 HOW SHOULD USER FEES BE APPLIED TO SOLID WASTE SERVICES?

According to the benefits received model of public finance and in consideration of the economic principles described earlier in this section, user fees are an efficient, equitable, accountable and transparent way to pay for City services. If priced correctly, user fees provide consumers of the service with the ability to choose how much of the service they wish to consume in order to derive a benefit from that service.

For solid waste collection, user fees in the form of a specific charge per bag/container are preferred to flat rates on efficiency grounds. Container size (or bag) fees provide an incentive to reduce waste and over-use and lead to lower capacity requirements for landfill sites.

Several studies have examined the effects of user-pay system in municipalities in Canada and the U.S. Most studies compared property tax supported garbage pickup with a per-bag fee. In general, the studies concluded that where variable user fee pricing was implemented, there were measurable reductions in solid waste tonnage and household waste generation. This is because consumers modified behaviors by increasing the use of complimentary programs to such as recycling and composting.[21]

Overall, the pricing-based literature does show a positive relationships between the concepts of pricing and waste diversion. In fact, one study shows that the most efficient way to charge households for waste management services is to charge directly for each and every unit of waste produced. It found that people, when faced with immediate and frequent fees for garbage disposal, will produce less waste.[22]

Given the strong arguments in favour of using pricing mechanisms, specifically variable rate user fees, to change behaviours regarding waste generation, what approaches are cities using today? The next will address this issue.

[20] See Dewees, supra note 4 at 598.
[21] See Kelleher, et al, supra note 1.
[22] George L. Van Houtven and Glenn E. Morris, "Household Behaviour under Alternative Pay-asYou-Throw Systems for Solid Waste Disposal," Land Economics 75, no, 1 (1999): 515-6; Don Fullerton and Thomas C. Kinnaman, "Household Responses to Pricing Garbage by the Bag," in the American Economic Review 86, no.4: 971-984.

[4] WHAT ARE THE APPROACHES TO SOLID WASTE MANAGEMENT?

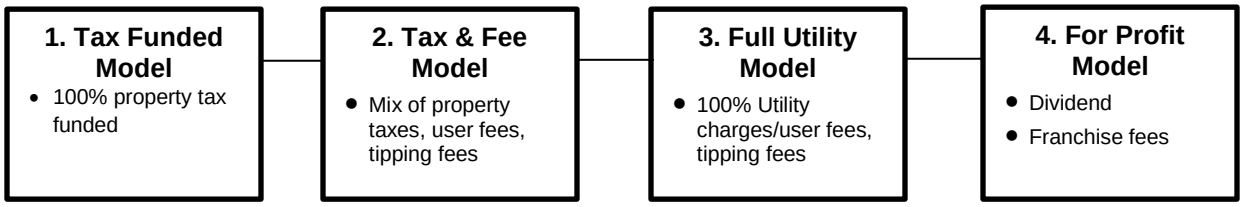
The purpose of this section is to provide an overview of different approaches for solid waste management. To set the appropriate context, the section will begin by providing an overview of the most common types of financial models to deliver solid waste management services. It will then proceed to provide an overview of where these models are used, including how Saskatoon fits into this framework.

4.1 What are the Most Common Ways to Deliver Solid Waste Management Services?

In 2015, the City of Calgary hired an external consultant to review that City's financial approach to delivering solid waste services. More specifically, the purpose of this review was to perform a "financial model review, cost of service study, and develop a new funding and rate model to support the 2019 cycle."[23] The consultant produced a very useful report that illustrates the different financial models or approaches to delivering and paying for solid waste services in North America. Such models range from full tax support to privatization of the service whereby the municipality receives a dividend and franchise fees.

Figure 4.1 offers a brief summary of these common financial models. Subsection 4.2 will provide a brief overview of these models including where they are used. An evaluation of the models is provided in subsection 4.3.

Figure 4.1:
Financial Models for Delivering/Paying for Waste Services



One of the key findings of the Calgary-commissioned report is that historically, municipalities have often funded waste management services from property taxes (and general infrastructure grants for capital programs). However, "there is an increase trend towards financial self-sustainability."[24] Among the reasons for this, the authors note that:

- municipal waste management services can become self-reliant through their own funding mechanisms;
- the use of user fees is appropriate, as customers can tangibly see the value of the specific services they receive (and in some cases can choose higher or lower service levels); and,
- achieves equity in the sense that those who incur the cost, or benefit from the service, pay for the service. This avoids cross subsidization.

[23] Stack'd Consulting, "Financial Model Review," City of Calgary Waste and Recycling Services." (Calgary: February 24, 2016) 3.
[24] Ibid., 5.

4.2 What Models are used in Various Jurisdictions?

The purpose in this subsection is to provide an overview of what municipalities use the models addressed in preceding subsection. The objective is to select various municipalities that represent the full spectrum of these models.

4.2.1 Tax Funded Model:

- Full tax funded models for solid waste management services are becoming less common in North America, especially with respect to larger cities.
- In this model, all solid waste services are paid for by property taxes. Capital investments are tax supported and receive additional funding from infrastructure grants.
- The Region of Peel in Ontario (which includes the Cities of Brampton and Mississauga) uses this model.

4.2.2 Tax and Fee Model:

- Tax and fee models are quite common in Canada. A portion of the solid waste services are paid for from property taxes (e.g., garbage collection) while the other portion is covered by flat rate user (or utility) fees. Tipping fees are also included.
- This model is used in Saskatoon, Winnipeg, and Calgary, although Calgary is seriously contemplating shifting to a full utility model.
- Calgary is unique in that it charges a flat monthly fee to all households for landfill purposes.
- Saskatoon's approach, for example, is as follows:
    - Garbage collection (summer weekly, winter biweekly in a 360 L cart) is funded through property taxes, residents do not see this charge.
    - Compost depots are funded primarily through property taxes (nominal user fees from commercial customers)
    - Recycling depots are funded through property taxes
    - Single-family residential recycling is charged a flat fee of $5.39/month for biweekly collection of a 360 L cart.
    - Multi-family residential recycling is charged a flat fee of $2.81/month for recycling collection in a communal bin
    - An optional curbside organics program is available to single family households and is funded through user fees (flat fee of $55/season for biweekly collection of a 360 L cart)
- In Winnipeg, a $57/year Waste Diversion Fee covers waste diversion programs such as organics, recycling, other improvements (i.e. automated collection), and future waste diversion opportunities. Garbage is funded through property taxes.

4.2.3 Full Utility Model

- Several jurisdictions in North America have moved to self-sustaining utility model.
- These models can be delivered in various ways but the common features of these models are that they: (a) eliminate municipal tax base funding and fully rely use fees (flat or volumetric) and tipping fees to fund the service; and (b) sustainably funds all required costs of for solid waste management, including capital costs and future obligations.
- This approach is used in Edmonton, the City of Vancouver, Metro Vancouver, Toronto, and Seattle to name a few.
- Edmonton operates with a flat rate fee, while Toronto and Vancouver use volume pricing mechanisms to incentivize those who generate less waste.

4.2.4 Private for Profit Model:

- Few jurisdictions in North America use a private for profit model, with the most notable being the City of San Francisco and the City of Grande Prairie, Alberta.
- Grande Prairie has created a wholly owned municipal corporation to deliver solid waste services.
- The municipality receives a dividend and franchise fees from the corporation.
- It charges a Flat fee of $21 per year is charged for garbage and $170.28 is charged for recycling, organics, and waste reduction to residential households.

4.3 HOW DOES EACH MODEL MEET FINANCIAL/ ENVIRONMENTAL OBJECTIVES? AN EVALUATION

In order to evaluate the effectives of each model, some criteria should be applied to each. As the preceding section addressed, they are some well-established public finance criteria that can be used, namely, efficiency, equity, accountability and transparency, stability and predictability, and ease of administration. Of course, environmental benefits should be considered, particularly the ability to achieve waste diversion goals. Finally, an important goal for any service delivery model should be for it achieve some level of operational or financial sustainability.

That said, Stack'd Consulting has produced an evaluation of each of the models noted in subsection 4.2 based on four objectives: (1) financial and operational sustainability; (2) waste diversion and service levels; (3) accountability/ transparency; and (4) equity. They attempt to show how strongly each model supports the criteria. This evaluation is reproduced in Table 4.3.

Table 4.3: An Evaluation of the Models

Criteria/ Objectives	1. Tax Funded Model	2. Tax & Fee Model	3. Utility Model	4. For Profit Model
Financial & Operational Sustainability	**Weak Support**	**Weak-Medium Support**	**Strong Support**	**Strong Support**
Waste Diversion and Service Levels	**Weak Support**	**Medium Support**	**Strong Support**	**Strong Support**
Accountability/ Transparency	**Weak-Medium Support**	**Weak Support**	**Strong Support**	**Medium/ Strong Support**
Equity (Benefits)	**Weak-Medium Support**	**Medium Support**	**Strong Support**	**Medium/ Strong**

The analysis and evaluation reveals that the Utility Model most strongly meets the stated criteria/objectives. The reasons for this are as follows:

- It enables an ability to plan for and consistently fund ongoing operational capital, and landfill liability requirements through establishing an accountable and transparent model which directly links sources of funds with corresponding uses;
- It provides a better way to more efficiently manage costs and communicate the costs to the public;
- It can support higher levels of waste diversion performance given the potential ability to use pricing incentives.
- The implementation of variable user rates support allocative efficiency and benefits equity in that the largest waste generators bear a more equitable burden of the costs.

Their analysis/evaluation also support other studies and research cited in this paper, in that using instruments, such as pricing, can result in behavioural changes and an efficient allocation of resources. This research confirms the benefits that arise from a using a solid waste utility to solid waste services. Namely, they:

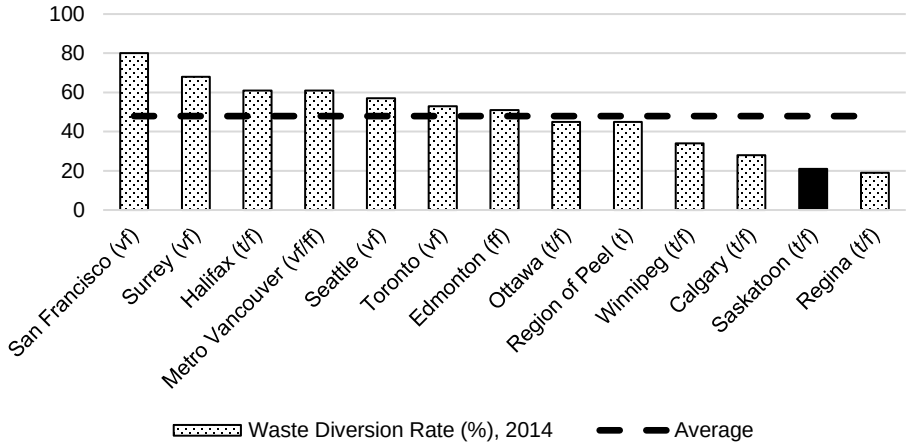
- Protect solid waste finances from budget challenges because utilities are usually self-financing through user fees or flat-rate charges to consumers; the programs are somewhat protected from budget cuts caused by shortfalls in other areas or by economic downturns.
- Increase public awareness of waste costs as a utility's rates are visible to the resident/ consumer, as opposed to services financed by the tax base. Cost awareness is key to waste reduction, as the latter activities can be tied directly to cost savings.
- Can induce higher levels of waste diversion.

SECTION 5: A SUSTAINABLE APPROACH FOR SASKATOON - SUMMARY AND CONCLUDING OBSERVATIONS

The City of Saskatoon is at crossroads with respect to its approach to solid waste management. On the one hand, it has adopted a strategic goal of "Environmental Leadership" with a supporting performance target of 70 percent waste diversion by 2023. On the other hand, a recent report by the City's Administration concluded that the City's current approach to solid waste management is neither environmentally nor financially sustainable.[25] Given this challenge, how does the City achieve its Environmental sustainability goals with an unsustainable approach to waste management?

Well, the simple answer is it cannot, unless it undertakes reforms to solid waste management. Ideally, the first place to start could be putting an appropriate price on solid waste generation. Of course, pricing is only one instrument or tool that may be used, but the research has shown it can be a very effective to change behaviours and thus, improve waste diversion.[26] In fact, as Chart 5.1 shows, those jurisdictions who have implemented fees (especially variable rate fees) for solid waste collection generally have much higher diversion rates.[27]

Chart 5.1
Waste Diversion Rates by Selected Cities



[25] See City of Saskatoon "Waste Management Master Plan – State of Waste," presented to the Standing Policy Committee on Environment, Utilities & Corporate Service, January 31, 2017.
[26] Marie Lynn Miranda, Scott D. Bauer and Joseph E. Aldy, "Unit Pricing Programs for Residential Municipal Solid Waste: An Assessment of the Literature," (Washington D.C. Office of Policy, Planning and Evalation, U.S Environmental Protection Agency) March 1996, v.
[27] The notations in the chart are as follows: vf= variable fee; ff = flat fee; t/f – tax and fee; and t = tax.

As we learned from the analysis in Section 2 of this paper, City services can be characterized as a having public good characteristics and private good characteristics (and of course, services that have a blend of the two, often called common or merit goods). The major distinctions between them is whether or not:

- A specific beneficiary can be identified;
- A person can be excluded from using the service; and
- A person who consumes the service prevents another person from consuming it at the same time (and at the same cost).

If the above conditions are present, then the service is said to have private good characteristics. If they are not present, then the service is said to have public good characteristics.

Using this framework, this paper has shown that solid waste services generally have private good characteristics because beneficiaries are easily identified, users can be excluded, and two persons (households) cannot consume the service at the same time without adding to the cost of providing that service. This is an important distinction to make because, as the economic literature suggests, services that have private good characteristics should be paid for in different ways than those with public good characteristics.

In section 3, this paper explains how services that benefit specific individuals (or households), such as those eliciting private good characteristics, should be paid for by user fees. Accordingly, "…user fees that are carefully designed to cover the costs services consumed are fair in their impact on users—those benefiting from a service pay for it."[28]

Moreover, user fees should be adopted wherever possible for financing local services as it makes considerable economic sense. [29] When priced correctly, user fees are an efficient, fair, transparent and accountable pricing mechanism in which to pay for specific City services, like solid waste collection and disposal services.

Of course, the issue that often emerges with user fees is that are alleged to be regressive in that they are perceived to consume a higher percentage of lower income individuals or households income relative to higher income individuals or households. While this is an important issue, there is a strong consensus in the economic literature that these issues should be addressed through government transfers, rather than reducing the price of a municipal service that is to be funded by user fees.

The reader should keep in mind that the primary objective of a user fee is to recoup the cost of providing the good or service, especially those with private good characteristics. Offering discounts jeopardizes this objective.

Moreover, a secondary objective of a user fee is to modify behaviour. For example, a secondary objective of many garbage collection fees is to entice users to reduce their waste. In this case, implementing user fees will allow users to adjust consumption to save money.

[28] See Kitchen supra note 3 at 43.
[29] Ibid, 31.

More specifically, the collection of solid waste can be priced according to two different policies: (1) traditional regulatory instruments (flat fees and local tax receipt-funded collection programs), and (2) market incentives policies. Flat fees and local tax receipt-funded collection programs provide little incentive to reduce waste as the waste generator faces no extra costs in producing more waste each month. Approaches that utilize economic incentives increase unit costs and provide monetary rewards for reducing waste generation, and they also increase composting and recycling.

Despite the strong support in the economic literature for using user fees to pay for solid waste services, municipalities in North America still use various ways to pay for and deliver them. In section 4, we learned that are four common financial models by which municipalities pay for and deliver solid waste services. Some use a full tax funded model; some use a partial tax and partial fee model; others use a self-sustaining utility model with variable rate fees; while others use a privatized model to deliver the service, but receive franchise fees or dividends as revenue (although the beneficiaries pay user fees).

The findings in section 4 strongly support the use of self-sustaining utility model, paid for by user fees. According to the analysis, such models can support higher levels of waste diversion performance given the potential ability to use pricing incentives. Pricing incentives in the form of variable user rates support allocative efficiency and benefits equity because the largest waste generators bear a more equitable burden of the costs.

Given the analysis in this paper, the City of Saskatoon will have to carefully consider how it would like to proceed in its approach to delivering solid waste management. If the goal is to increase waste diversion, and thus, a more environmentally sustainable approach, then it should seriously consider putting an efficient, equitable, and transparent price on solid waste (garbage) collection.

If a complimentary goal is to have financially sustainable business model, then the City should consider establishing a solid waste utility. Evidence indicates that such a model would allow the City to plan for and consistently fund ongoing operational capital, and landfill liability requirements through establishing an accountable and transparent model which directly links sources of funds with corresponding uses. The design of this utility should be the central focus of a future report.

Full Costs for Waste Management Services

Administration has prepared the following information about current waste management services in order to help taxpayers understand the current costs and users. Waste management is comprised of a number of services, some of which are 'pure public goods', which fit well with mill-rate funding through property taxes. Others have clear beneficiaries whose users can have a direct impact on the amount of service and cost of service, making a good fit for a utility model for funding.

The following information could be used to inform citizens through outreach and education.

The total budget for waste management services under the mill rate in 2017 is $8.1 Million. The total cost funded through the mill rate in 2016 was $9.5 million. An additional $3.5 Million should also have been spent but was deferred due to budget constraints.

The total cost to offer all waste-related services is shown in the tables below. These costs include the full cost of landfilling (including the full contribution to the Landfill Replacement Reserve identified in the budget) and the full cost of processing compost.

The total cost is greater than $20 million.

Waste Services Currently Charged on the Mill-Rate and Have a Direct User Benefit

Waste Service	Benefitting User	Total Annual Cost	Current Number of Users or Properties	Cost translated into 'per household per month'
Curbside Garbage Collection	Residential – single family households	$9,276,000 (includes $5,764,000 for collection services and $3,588,000 for landfilling)	68,400	$11.39
Multi-unit Residential Garbage Collection	Residential – multi-unit dwellings	$1,776,000 (includes $1,142,000 for collection services and $634,000 for landfilling)	22,600 units serviced (34,500 contribute through property taxes)	$4.29

Waste Services Currently Charged on the Mill-Rate and Have a Broad Benefit to the Community

Waste Service	Total Annual Cost (based on 2016)	Cost translated into 'per household per month'
Recycling Depots	$325,000	$0.26
Compost Depots	$584,000	$0.47
Christmas Tree Program	$10,000	$0.01
HHW Program	$234,000	$0.19
Litter and Illegal Dumping[1]	Included in curbside garbage collection and recycling depot costs[2]	
Waste Education[2]	$637,000	$0.52
Special Event Waste Collection	$20,000	$0.02
Bylaw Enforcement[3]	$172,000	$0.14
Total		**$1.61**

[1] Fire, Parks, Roadways, and Land also have activities related to Litter and Illegal Dumping. Administration will provide a follow up report following further study of this matter to fully outline these costs

[2] $0.38 per household per month is collected through the recycling utility and the remainder is funded from the mill-rate

[3] $0.02 per household per month is collected through the recycling utility and the remainder is funded from the mill-rate

Waste Services Currently Charged as a User or Utility Fee and Have a Direct User Benefit

Waste Service	Benefitting User	Total Annual Cost (based on 2016)	Current Number of Users or Properties	Cost translated into 'per household per month'
Curbside Recycling	Residential – single family households	$4,268,000	68,400	$5.20 utility fee
Multi-Unit Residential Recycling	Residential – multi-unit dwellings	$2,217,000	34,500	$2.66 utility fee + $2.71 other (MMRP funding)
Green Cart Program	Residential – single family households	$362,000	6,300	$4.79[4]
Commercial Hauler Compost Program	Commercial	$216,000	90	$2454/year[5]
Commercial Garbage Collection	Commercial	Included in curbside garbage collection costs plus incremental $102,000 commercial garbage costs	400	Varies
Landfill (Self Haul / Commercial)	Residential and Commercial	$2,773,000	76,300	Varies

[4]The cost of the program is not completely covered by the $55 Seasonal subscription fee

[5]This cost reflects the processing and management of commercial compost materials; commercial haulers are each charged $150 per season, plus $50 for each extra vehicle

Frequently Asked Questions - Waste Services Utility

What is the Waste Services Utility?

When recycling was implemented in 2013 and 2014, these services were charged as a utility fee (a flat monthly fee that each household pays) and the Waste Services Utility was created.

Having waste charged as a utility means that residents are charged through their utility bill for their waste management services instead of having them funded through property taxes. In Saskatoon and most cities, residents are used to having their water and electricity services charged separately from property taxes through their utility bills. The amount charged for these services is based on use.

Because waste services also can vary by household, it makes sense to consider charging utility fees in a way similar to water and electricity.

Will all waste services be charged as a utility?

The decision to expand the current Waste Services Utility, and by how much, has not yet been decided. The benefit of charging services as a utility is to ensure that the person or property benefiting from the service is charged for the service. This creates a sense of 'ownership' and control over the amount of service being requested. Services like water, waste, transit, and electricity all have direct user benefits. Other services, such as police, parks, environmental protection, and litter collection have overall user benefits and make sense to be charged through property taxes. The purpose of reviewing our waste management funding model and investigating a new design for the Waste Services Utility is to align user benefit with payer.

How will fees be set; will they be flat fees or based on weight and/or volume?

The decision to expand the current Waste Services Utility, and by how much, has not yet been decided. No decisions have been made yet for how an expanded waste utility would be designed; but typically there is a mix of flat fees to cover a base level of service (i.e. a basic level of garbage, recycling, and, one day, composting collections) plus variable fees that are based on frequency of collection, size of bin, or program participation. Using variable fees allows users to reduce their costs by reducing their garbage and using compost and recycling appropriately.

Don't we already pay taxes for waste services? Why would we change?

Garbage collection and most of the costs of landfilling (for residents) in Saskatoon is currently funded through property taxes. This method is not directly visible to residents and makes it more difficult to understand the true cost of waste management. It is also inequitable since costs are not aligned with services. The purpose of a utility would be

to provide better transparency and long-term financial stability for waste management in Saskatoon by ensuring waste service costs are more visible and equitably shared.

How is this more equitable?

Under a utility, users pay directly for the services that they benefit from, unlike the current model where non-residential (commercial & industrial) users are supporting residential services through property taxes and user fees (such as at the landfill).

For instance, the cost of landfilling is not included in the cost of residential garbage collection services provided by the City even though more than 60% of the waste brought to the landfill is from City trucks providing residential garbage collection. As a result, commercial and self-haul customers are subsidizing the cost of waste disposal for residential households by approximately $3.8M. At the landfill, commercial customers are charged the full cost of landfilling while residents self-hauling loads less than 150 kg are only charged the entrance fee.

Additionally, non-residential properties (businesses and institutions) pay property taxes (their share is 31%) some of which are allocated toward waste management, but they receive minimal waste management services. Instead, they pay additional fees to the City or a private contractor to collect their waste and recycling. Commercial property owners pay $27.89 for every $100,000 of assessed value each year while residential customers pay $17.53 per $100,000 of assessed value.

Lastly, all residents pay the same property tax rate for waste and recycling no matter how much they generate and/or divert.

Can I expect to pay more or less?

Future changes to the waste utility may result in a higher overall cost to the average residential property due to the transfer of funding contributions from commercial to residential properties even after the cost of waste management is removed from the mill rate.

Does a waste utility consider ability to pay?

Utility fees are not based on property value (unlike property taxes) and, therefore, are not directly related to ability to pay. Currently:

- properties valued at $253,700 (10th percentile) pay $44 per year ($3.67/month);
- properties valued at $385,000 (average) pay $68 per year ($5.67/month); and
- properties valued at $534,500 (90th percentile) pay $94 ($7.83/month).

Under a variable fee structure, users can reduce their waste management fees by reducing the amount of waste they generate and dispose of. The City expects to explore other considerations for affordability.

Has this been decided? When does this get implemented?

There have been no decisions made. Administration is asking City Council for permission to study options for expanding the Waste Services Utility as a means to promote higher levels of community waste diversion. The transition to a utility model could also happen through a phased approach.

Won't illegal dumping be a problem?

As part of the continued research into this funding model, Administration will explore what enforcement options and programs have worked in other places to reduce illegal dumping. A combination of education and enforcement will likely be required.

How does this fit into the City's plan on waste diversion?

This study is one potential component of the City's Waste Diversion Plan. Other components such as an organics program and additional requirements and programs for the commercial sector will be explored further in the coming months.

How does this ensure 'long-term financial stability' of waste management services?

The waste management program in Saskatoon is currently underfunded. In 2017, $8.1M has been budgeted for waste management services from the mill rate but the actual burden on the mill rate is expected to be $9.47 million, leaving a significant funding gap. In addition, $3.5 million should have been spent for contributions to the Landfill Replacement Reserve and for processing of compost; these are necessary components of the waste management program but were deferred in 2016 due to budget constraints. Even without going toward a waste utility model, these funding gaps will need to be addressed.

How is Waste Management funded now?

The total cost of the waste management program in Saskatoon is greater than $20M, this includes services funded by property taxes (garbage collection, part of the landfill, household hazardous waste collection, and the compost depots), utilities (the two residential recycling programs and the green cart program), user fees (the landfill and commercial garbage collection), and the Multi-material Recycling program (MMRP).

How does this help us protect the environment?

Cost awareness can influence waste reduction. The expanded waste utility will help increase public awareness of waste costs and help increase user accountability.

Increased waste reduction and diversion will help us protect our environment by reducing the amount of waste needing to be landfilled, reducing methane produced from burying organic waste at the landfill, and reducing our dependence on raw resources.

Research conducted by the US Environmental Protection Agency (2013) of waste programs in Canada and the United States found that waste utility models may improve waste diversion rates by between 6% and 40% (depending on the recovery rate for recyclables in the community prior to implementing the pricing model). In addition, communities reported a reduction in the amount of waste disposed of between 8% and 38%.

If you remove the cost of waste services from my property tax bill can I expect a reduced bill?

If the City moves to a full utility for waste management, approximately $8.1 million will be removed from the mill rate to be funded from other sources. On average, this equates to approximately $68 per year. It is unlikely that the City would transition all waste services off the mill rate to a utility at once. There are also aspects of the waste management program that provide benefit to all taxpayers that do not necessarily fit the utility model.

When will this happen?

If investigating the expansion of the waste utility is approved, Administration will present a report further on the design consideration for expanding the Waste Services Utility in August 2017. Financial implications could also be reported in time for consideration within the 2018 Business Plan and Budget deliberations.

How much will the fee be?

The financial implications of expanding the waste services utility in Saskatoon are not yet known as they are dependent on the design of the utility. If approved to proceed with further investigations, Administration would identify fees for consideration within the 2018 Business Plan and Budget deliberations.

How will the project be communicated?

If Administration is instructed to continue to the design phase of an expanded waste utility, it is critical that the public are informed and have the opportunity to learn about design options for the utility. As a result, a comprehensive communications plan will be developed to support public outreach and education.

For the lager waste diversion plan, Administration is developing a Communications Strategy that will focus on building public awareness and participation in future waste diversion engagement activities, strengthening stakeholder relationships, promoting new programs and ongoing communication for the reduction of solid waste in Saskatoon. Tactics could include the development of a community waste challenge; a waste diversion focused web page; social media; advertising and email. The goal is to

ensure stakeholders are not surprised by proposed changes and that they understand waste diversion issues, including how they can provide input into the development of potential solutions.

How will the project consider public/stakeholder input?

Waste as a utility is one component of a larger Waste Diversion Plan. Many of the topics within the Waste Diversion Plan will require community conversations and engagement. As a result, the Administration is developing a Waste Diversion Engagement Strategy and Framework to guide implementation and to ensure interactions with the community are meaningful, consistent, relevant, and effective.

This engagement strategy and framework could include the establishment of numerous stakeholder-focused working groups and include activities such as a series of workshops/forums, surveying and on- and offline discussions. The goal of waste diversion engagement is to help residents and businesses understand waste diversion challenges and provide input into prioritizing potential solutions. The output from waste diversion engagement will be a comprehensive report which outlines Saskatoon's waste diversion options for Council's future consideration. Public outreach and education will continue through the design phase if City Council chooses to advance toward implementation.

How does this support the City of Saskatoon's strategic directions?

This expansion of the Waste Services Utility supports the Strategic Goal of Environmental Leadership including the four-year priority to promote and facilitate city-wide composting and recycling and the long-term strategy to eliminate the need for a new landfill; It also supports the Strategic Goal of Asset and Financial Sustainability by reducing reliance on residential property taxes and setting long term sustainable rates.

Fire Prevention – Internal Process Review

Recommendation
That the report of the A/General Manager, Corporate Performance Department, dated June 12, 2017, be forwarded to City Council for information.

Topic and Purpose
The purpose of this report is to provide an overview of the Fire Prevention (FP) Internal Process Review (IPR).

The FP IPR included employees from the Saskatoon Fire Department (SFD), Community Standards, Building Standards, the Saskatoon Police Service, and Information Technology. Team discussions focused on the services provided by the FP Division including: fire inspections, fire investigations, and property maintenance services.

Report Highlights
1. A review of the current state suggested the FP team is a cohesive group offering a diverse set of inspection services in high demand by Saskatoon residents and organizations (i.e. Saskatchewan Health Region, Saskatoon Police Service, and SGI).
2. Key findings from the IPR focus on defining and communicating service levels, engaging customers, leveraging technology, and improving employee wellness.
3. Future state opportunities exist to improve service to citizens and create savings in both staff time ($27,000) and hard dollars ($15,000).

Strategic Goals
This report supports the Strategic Goals of A Culture of Continuous Improvement, Asset and Financial Sustainability, and Quality of Life. Process and efficiency improvements focus on identification of root cause issues and innovative and creative solutions that will provide optimal service improvements. Increasing efficiency and effectiveness in service provision ensures the City of Saskatoon is investing in what matters, managing resources in a long-term sustainable way, and creating cost-effective service delivery for citizens. Ensuring those with the training to prevent and remedy life safety issues in Saskatoon focus on this work will maintain a high quality of life for our citizens.

Background
City Council, at its meeting held on December 3 and 4, 2013, approved the Continuous Improvement (CI) Strategy which includes the following three components:
1. Annual Civic Service Reviews - an operational review process to find ways to control expenditures and to seek efficiencies in the delivery of municipal programs and services.
2. Internal Process Reviews - focus on identifying and removing redundancies and waste within existing processes to increase efficiencies in civic operations.

3. Building capacity in the corporation through innovation coaches and empowering employees.

Additionally, a CI review of the Saskatoon Fire Department's operations was conducted in 2014 (see Attachment 1 for additional information).

Report

The process for an IPR is the same as a larger civic service review. The difference is the scope of the review is smaller, allowing teams to dive deeper into the detailed processes within specific services and programs.

Current State

The review identified many strengths with the program in that Fire Prevention programs are reducing fire risk in the community and improving safety and quality of life in Saskatoon, there is good teamwork and information sharing amongst the Fire Prevention team, and that the Joint Task Force for Fire Inspections is working well.

The review also identified some challenges within the current state. Staff members conduct Fire Inspections, Fire Investigations, and address Property Maintenance Bylaw concerns resulting in highly physical and mentally demanding workloads and potential delays in responding to inquiries and complaints. There is often not enough time to complete reporting after inspection, investigation or complaint follow-up calls/emails which may result in delays. Given the nature of the work and the workload, there is opportunity to improve on physical and mental wellness training programs to support FP staff.

Defining Success

FP programs and services focus on improving community safety and quality of life through:

- Reduction in potential fire hazards,
- Increase in the number of houses and buildings that abide by bylaws and fire codes, and
- Reductions in potential future ignitions through post-fire investigation.

Key Findings for Creating the Desired Future State

The IPR highlighted the following opportunities.

- Work with internal partners to leverage technology to reduce time to complete reports, reduce time to search for work assignments, and increase the "user-friendliness" and "compatibility" of the FDM software.
- Pilot a partnership between the FP and Community Standards divisions with a focus on improving the service delivery for investigating Priority 3 Complaints. A report was presented to the Standing Policy Committee on Planning, Development and Community Services on May 29, 2017, proposing the pilot for the 2017 season.

- Investigate options to improve Fire Inspector wellness on the job, with specific attention to dealing with stress, uniforms for female inspectors, tools, and materials.
- Reach out to customer groups that use report data from inspections, investigations, and property maintenance to identify opportunities to streamline the reports in an effort to reduce reporting time and increase report utility.
- Work with Service Saskatoon to communicate defined service levels to the public and customers regarding inspections, investigations, and property maintenance work, building on prioritization already underway.

Additional detail on the key findings is available in Attachment 2.

Next Steps include defining the current service levels within the Fire Services business line and presenting this information to the Standing Policy Committee on Planning, Development and Community Services for discussion and approval. The IPR team will also focus on development of detailed action plans for each of the key findings and opportunities identified in the review. The FP team will include the action plans in their 2018-2021 business plan.

Communication Plan

The CSRs provide an opportunity for the public to learn more about the City's operations, the costs to deliver the services, and provide feedback and input into how the City can deliver any of its services more efficiently. Service level reports will be presented at the Standing Policy Committees and once approved, service levels will be communicated through Service Saskatoon. Citizens will have the opportunity to provide input into levels of service, as well as the budget using the Shaping our Financial Future budget tools.

Results from the Civic Service Reviews will be communicated on the City's website in the 'Latest Strides' and/or 'City Spotlight' sections of the *Our Performance* page at www.saskatoon.ca/strides.

Financial Implications

The financial implications related to efficiency gains will be reallocated to fund other strategic and operational priorities within the SFD including meeting existing service levels where standards may not currently be met (see Attachment 2 for discussion).

Other Considerations/Implications

There are no policy, environmental, privacy or CPTED implications or considerations.

Due Date for Follow-up

A report was presented to the Standing Policy Committee on Planning, Development, and Community Services outlining options to pilot a change to the service delivery model for complaints related to the Property Maintenance and Nuisance Abatement Bylaw for the 2017 season. A follow-up report detailing the results of the property maintenance partnership pilot program will be brought forward in the fourth quarter of 2017.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachments

1. Additional Context on SFD and FP Division.
2. Key Findings and Additional Action Item Information.

Report Approval

Written by:	Kristin Bruce, Performance Improvement Coordinator, Employee Experience and Performance Wayne Rodger, Fire Marshal, Fire Prevention and Investigation
Reviewed by:	Kim Matheson, Director of Employee Experience and Performance Andrew Hildebrant, Director of Community Standards
Approved by:	Morgan Hackl, Fire Chief, Saskatoon Fire Department

Fire Prevention-Internal Process Review.docx

The Saskatoon Fire Department

The Saskatoon Fire Department (SFD) provides community-based, customer-focused service to create a safe and comfortable environment for the residents of Saskatoon.

The SFD, with a total staff complement of 334, provides 24-hour emergency response service in conjunction with the Saskatoon Emergency 9-1-1 Telephone System. This gives residents of Saskatoon an emergency services delivery system consisting of a wide range of components for the purpose of preventing emergencies and reducing the loss of life and property.

In 2015, the SFD has tracked the total property value preserved through its programs in the city. The following equation illustrates this action:

$$\boldsymbol{Total\ Property\ Value\ Preserved} = Total\ "Prefire"\ Structure\ and\ Content\ Value - Total\ Structure\ and\ Content\ Losses\ Due\ to\ Fire$$

$$\mathbf{2015}\ \boldsymbol{Total\ Property\ Value\ Preserved} = \$\mathbf{500,000,000}\ (\boldsymbol{Prefire\ Value}) - \$\mathbf{5,115,000}\ (\boldsymbol{Losses})$$

$$\mathbf{2015}\ \boldsymbol{Total\ Property\ Value\ Preserved} = \$\,\mathbf{494,885,000}$$

This means the SFD prevented 99% of further loss to those businesses and homes experiencing fire damage in 2015. If property value preservation through the SFD was not present structure and content losses of $500M would be 2% of the total taxable value ($25.6B) of assets in the city limits. Tracking for 2016 is underway.

The SFD responds to and mitigates emergencies involving the rescue of persons, incidents of fire, unplanned releases of dangerous goods and pre-hospital emergency medical incidents. The SFD protects the city's tax base and supports economic development through extensive inspection, prevention and enforcement programs.

The Fire Prevention and Investigation Division

The Fire Prevention and Investigation (FPI) Division focuses on selected activities and building uses that offer a high potential for preventing unwanted ignition and elimination of hazardous conditions. To accomplish this, City Council has mandated to the Fire Chief specific bylaws, notably the Fire and Protective Services Bylaw, the Property Maintenance and Nuisance Abatement Bylaw, the Underground Encroachment and Sidewalk Safety Bylaw, the Transportation of Dangerous Goods Bylaw, and the Private Swimming Pools Bylaw.

To accomplish this, the Division delivers a number of inspection programs and initiatives that utilize three fundamentals of community risk reduction: engineering, education and enforcement. Programs that are paramount under this initiative include the following: Safety and Property Maintenance, Fire Inspections, Fire Investigations, and Plan Reviews.

The Division consists of 12 inspectors and one Fire Marshal. Nine of the Fire Inspectors are assigned to a division, a specific section of the city based on fire hall placement. Within the division, the inspectors are responsible for the completion of all inspections, investigations, and property maintenance complaint follow ups required. The remaining three inspectors fill gaps based on holiday, sick and other leaves today.

Safety and Property Maintenance

Property Maintenance and Nuisance Abatement Bylaw No. 8175 establishes minimum standards for buildings, structures, and yards throughout Saskatoon. The objective of the Bylaw is to provide safe living conditions by eliminating potential hazards. The SFD is also responsible for enforcement of the removal of graffiti from private property. This program continues to be successful with graffiti locations identified by complaints from the public and/or neighbourhood inspections conducted by SFD staff.

Fire Inspections

Fire Prevention and Operations staff conduct fire inspections that include the reliability of code-specific fire protection features, fire hazard recognition and gathering of building construction data, as well as emergency contact information. Company officers and Fire Inspectors work closely to coordinate and conduct fire inspections in their assigned response districts.

Fire inspections are conducted on all commercial and multi-residential buildings. Where voluntary compliance cannot be achieved through regular fire inspection and education, the fire inspection process includes enforcement procedures such as licensing, tickets, orders to remedy, and prosecutions.

Inspections are done on an annual basis for assembly, health care, multi-residential and high-hazard buildings and every two years for office, mercantile and industrial buildings. The process to complete an inspection is similar to a property maintenance complaint follow up process, aside from up-front work related to booking the initial appointment with the property owner or manager.

Fire Investigations

Fire investigations are an integral part of the SFD's commitment to public safety and fire reduction. Fire determination is of major importance to the SFD's fire prevention program. Analysis of the causes and origin of fires in Saskatoon is used to establish fire prevention program priorities as well as provide fire safety information to the public and provincial authorities.

Fire investigators work closely with the Saskatoon Police Service (SPS) to pursue criminal charges where fires have been determined to be intentionally set. They also collaborate and share information with SGI on all vehicle fires and Health Canada where fires have occurred in equipment or appliances.

In 2015, a total of 221 investigations were started, 165 investigations were completed through 844 hours of work (on site and reporting). On average this results in five hours

of work per investigation or 0.5 FTE[1]. In addition, another 56 investigations (114 hours) were started in 2015 but not completed. As result total, investigation time was 958 hours or 0.55 FTE.

Plan Reviews

Plan Reviews are conducted in cooperation with the Building Standards Division, providing the SFD with the opportunity to comment on preconstruction to address Fire Code requirements. Design professionals and contractors benefit from this procedure as problems that otherwise would cost time and money are identified and eliminated before construction begins.

Fire and building officials participate in joint inspections for Partial Occupancy Permit and Full Occupancy Permit applications. These inspections ensure that all building, fire and other applicable codes have been met and the building is safe and habitable. Plan reviews were considered outside the scope of the FP IPR as a Building and Development Permit Civic Service Review was conducted during the same timeframe and had representation from the FPI Division at the table.

[1] Annually FTE fire investigators have 1,950 hours of paid time, subtracting average annual vacation (120 hours) and average annual personal/sick time (40 hours) from this leaves 1,750 hours of available time per FTE.

Creating the Desired Future State

Key Findings

Theme	Action Items	Potential Benefits	
		Savings	Service
Improving Employee Wellness	• Work with existing civic programming and the Human Resources Consultant to improve use of wellness options and supports as well as create a more inclusive work environment for women (and Fire Inspectors) in emergency services • Work with appropriate committees and supervisor staff to ensure tools and equipment needed for successful and safe service delivery • Work with Service Saskatoon to communicate Defined Service Levels to the public to align service expectations with current provision ability	Potential reductions in sick time and Worker's Compensation Board related costs. (Quantification would require further analysis)	Employees who practice appropriate wellness regimes are more engaged in their work and take less sick time improving service to citizens through consistency and dedication to their work
Leveraging Technology	• Work with Information Technology Business Partner to investigate system integration, report streamlining options and online fire inspection booking and property maintenance complaint filing	~$19,500 in staff time savings, annually	Working with Service Saskatoon to ensure consistency
Engaging Customer Groups	• Engage with those groups who use the reports generated from the services investigated to see if the information is all necessary and provided clearly – eliminate anything not used to streamline reporting time	*Accounted for within Defining Service Levels theme	
Defining Service Levels	• Define service levels for Fire Investigation and Fire Inspection report submission, Property Maintenance Complaint initial follow up, and Fire Inspection frequency and building type and communicate these with the public through a partnership with Service Saskatoon • Investigate how to reduce workload for Fire Inspectors in high volume districts with work backlogs potentially through District splitting • Investigate salary cost-sharing models for Fire Inspectors doing vehicle fire (or similar) investigations for third party benefit • Investigate options for piloting different service models for addressing Priority 3 Property Maintenance Complaints[1]	• ~$7,900 in staff time • ~$15,000 in hard dollar savings	Working with Service Saskatoon to ensure consistency

[1] A report from the Fire Prevention and Inspection and Community Standards Division's outlining additional detail on pilot options and potential benefits to citizens and the City of Saskatoon was presented to SPC on Planning, Development & Community Services on May 29, 2017.

Moving forward in the IPR process focuses on creating lasting organizational change through efficiency, defined service levels, and addressing the current state challenges. The themes for action items reflected the following:

- Improving Employee Wellness
- Leveraging Technology
- Engaging Customer Groups
- Defining Service Levels

Action item themes are explained in more detail below and linked to current challenges outlined by the team. Following each theme is a description of some options to move the action item forward discussed by the team. Although the implementation planning and feasibility of each item will require deeper analysis if there is a desire to move forward.

Additional Action Item Information and Service Levels

Improving Employee Wellness relates to team discussions regarding a lack of on the job time dedicated to mental and physical wellness. Team members discussed the taxing aspects of the Fire Inspector job duties and desire to create positive ways to deal with stress. Improvements here will lead to higher employee morale and job satisfaction as well as keep employees active in all Fire Inspector job duties in a safe manner.

Leveraging Technology relates to improving customer service, returning staff time, improving the utility of the FDM system through user training and customization where appropriate, and increasing the FDM's ability to "speak" to other systems within the City of Saskatoon (i.e.: POSSE) where useful.

Engaging Customer Groups relates to speaking with those groups who use the data captured in Fire Inspection, Fire Investigation, and Property Maintenance reports and to see what information is being used, if it is presented in a clear way, and if anything can be removed or altered to reduce reporting time and report utility.

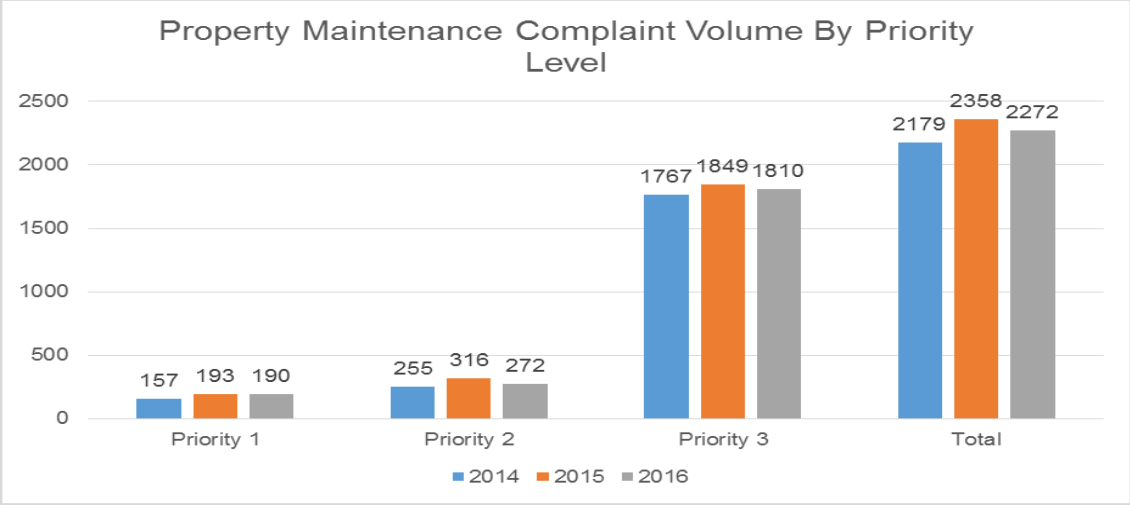
Defining Service Levels links with the Standards Pillar of Service Saskatoon and focuses on clearly communicating to citizens and customers what they can expect from the services provided by the FPI Division. This action item theme builds on the prioritization the Division has already put in place in 2016.

A service level report for Fire Services are will be presented to the Standing Policy Committee on Planning, Development and Community Services in the third quarter of 2017.

Property Maintenance and Nuisance Abatement Bylaw No. 8175 establishes minimum standards for buildings, structures, and yards throughout Saskatoon. The objective of the Bylaw is to provide safe living conditions by eliminating potential hazards and graffiti from private property.

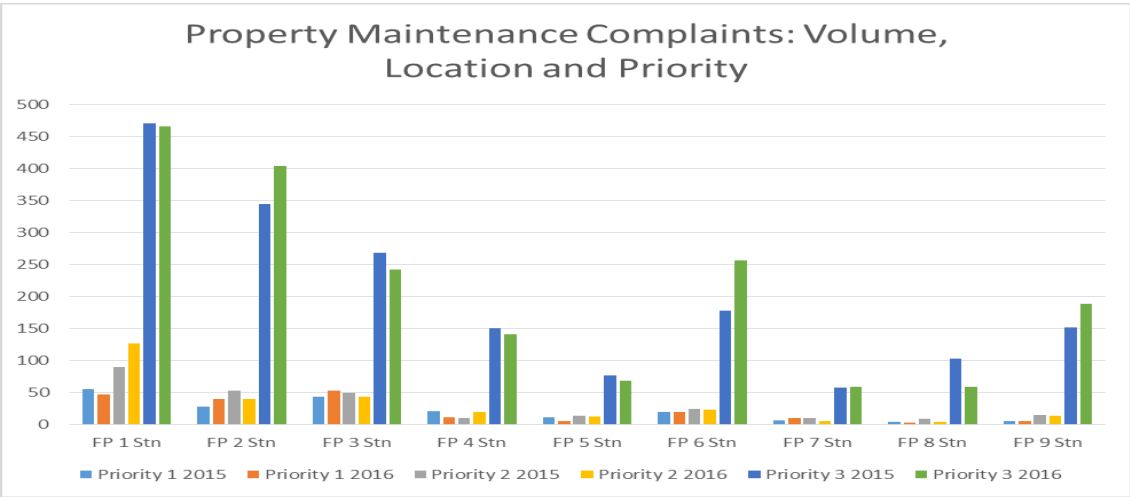
To follow up on a complaint Fire Inspectors visit the site in question, review the area, and make a determination based on the Bylaw. If a contravention is present an inspection report, a ticket, or an order to remedy is issued to and discussed with the resident/owner of the property. Non-compliance to an order to remedy results in a prosecution for failure to comply, or the Fire Inspector taking appropriate measures to remedy the contraventions as prescribed within the order to remedy, or both.

Graph 1



Graph 1 depicts the total number of Property Maintenance Bylaw related complaints received from the public in 2014, 2015, and 2016 (current up to October 31, 2016). The graph also highlights the inspection priority[2] assigned. Complaint prioritization was developed in 2016 to continuously improve service to citizens given current workload challenges by providing targeted risk reduction.

Graph 2



[2] The FPI Division's complaint priority system encompasses all inspection and investigation responsibilities a Fire Inspector has within a division and ensures those that pose the highest risk to citizens are addressed first followed by risk to property and finally those of a nuisance/clean manner (i.e.: long grass and weeds) are deemed Priority 3.

Graph 2 adds complaint location to priority information to highlight the most active compliant locations in the city. Fire Stations 1, 2, 3, and 6 are highly active complaint locations for complaints, especially Priority 3.

Service levels and priority assigned focus on when initial complaints will be followed up on to determine if a Bylaw contravention exists or not. This is in an important distinction between compliant follow up (investigation) and resolution. It is suggested that investigation better supports a citizen-centric service delivery model, letting citizens “know what to expect” without the loss of compliant resolution flexibility.

A report from Fire Prevention and Community Standards presented to the Standing Policy Committee on Planning, Development and Community Services recommends that the two divisions partner together to develop and pilot an option for a change in service delivery for investigating Priority 3 complaints. The pilot is proposed for the 2017 season.

Next Steps include defining the current service levels within the Fire Services business line and presenting this information to Standing Policy Committee on Planning, Development and Community Services for discussion and approval. The IPR team will also focus on development of detailed action plans for each of the key findings and opportunities identified in the review. The FPI team will include the action plans in their 2018-2021 business plan.

Managed Print Services – Request for Proposal Award

Recommendation
That the Standing Policy Committee on Environment, Utilities and Corporate Services recommend to City Council:

1. That the proposal submitted by WBM Office Systems Inc. for the managed print services for a term of five (5) years with an option to extend for two (2) additional years, be approved; and
2. That the City Solicitor be requested to prepare the appropriate agreement and that His Worship the Mayor and The City Clerk be authorized to execute the agreement under the Corporate Seal.

Topic and Purpose
The purpose of this report is to request approval to proceed with an agreement to engage WBM Office Systems Inc. to be the Managed Print Services Vendor for the City of Saskatoon (City).

Report Highlights
1. On December 12, 2016, the City issued a Request for Proposal (RFP) for Managed Print Services Partner (RFP #16-0931).
2. The recommendation is that WBM Office Systems Inc. (WBM), the Preferred Proponent, be awarded the contract to provide all Managed Print Services to the City for a period of five years with an option to extend an additional two years.

Strategic Goal
This report supports the Strategic Goal of Continuous Improvement and the four-year priority to identify targeted opportunities to implement specific continuous improvement tools within the department. Moving toward a print services partner will divest the IT Division of the administrative and maintenance support of our printer fleet and gain efficiencies, cost savings and environmental benefits.

Background
In November 2016, the Administration reported to the Standing Policy Committee on Environment, Utilities and Corporate Initiatives requesting that a Request for Proposal (RFP) be issued in order to secure a Managed Print Services Partner for the City of Saskatoon.

Based on this recommendation and endorsement by the Standing Policy Committee on Environment, Utilities and Corporate Services and City Council, an RFP was issued in December of 2016 to determine which company would best partner with the City to provide strategic benefits and operational efficiencies.

Report

RFP for Managed Print Services Partner

An RFP for Managed Print Services Partner was issued on December 12, 2016, with a closing date of January 24, 2017.

Responses were received from:

- Konica Minolta Business Solutions (Canada) Ltd.
- Kyocera Document Solutions Canada, Ltd.
- Success Office Systems
- WBM Office Systems Inc.
- Xerox Canada Ltd.

The RFP Review Team is composed of the IT Client Services Delivery Coordinator, Manager of Printer and Mail Services, Manager of Information Technology Services for Saskatoon Public Library, Environmental Coordinator for Environment and Corporate Initiatives, and the Buyer from the Purchasing Department.

The Team evaluated the proposals based on the following criteria as was outlined in the Request for Proposals (RFP).

Category	Points
General quality of proposal, including completeness, readability, grammar and technical merit	5
Overall Assessment of Understanding and Fulfillment of RFP Requirements	15
Content, Approach and Implementation Roadmap	25
Project schedule, milestones and control	15
Price	30
Qualifications and Experience	10
TOTAL	**100**

Preferred Proponent

Upon completion of the evaluation, the RFP Review Team determined that the proposal submitted by WBM Office Systems Inc. achieved the highest score and met the requirements of the RFP. The Administration is recommending that the City enter into an agreement with WBM for Managed Print Services for a term of five years with an option to extend for two additional years.

Options to the Recommendations

The option would be not to proceed with the managed print at this time. This is not a recommended option as there are cost savings and efficiencies to be gained if we proceed with managed print.

Public and/or Stakeholder Involvement

The stakeholders for the managed print initiative will be all print users in every Department within the Corporation, as well as all of the Boards and Commissions (except Police who already use WBM for Managed Print services). We have provided regular updates through Senior Management Team and other channels on the progress of the RFI, RFP, and selection process. Once WBM is engaged, they will be involving all Departments in the inventory, print strategy, and implementation, as well as the change management process. There is no direct public impact or involvement.

Financial Implications

Currently the Corporation spends approximately $1M annually to lease, maintain, and manage printers and multifunction devices. Each division currently funds their own printer and maintenance costs within their own operating budgets. It is estimated that with the implementation of Managed Print Services, the overall operating costs for the Corporation will be reduced by 30%. At this time the Administration estimates that the 2018 operating budget will include a $300,000 savings due to this initiative. Actual costs will be monitored and subsequent year budgets adjusted to reflect actual savings.

Environmental Implications

The secured print solution offered as part of the managed print solution will eliminate uncollected print jobs, which has reduced actual print volume by 18% in similar sized organizations. There will be further reduction in paper utilization as users are encouraged to print in duplex. And finally, reduction in energy consumption is expected as the devices are optimized, resulting in a percentage reduction in the number of devices.

Other Considerations/Implications

There are no policy, privacy or CPTED implications or considerations and a communication plan is not required.

Due Date for Follow-up and/or Project Completion

A progress report will be provided to Council on an annual basis.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Report Approval

Written by:	Kevin Shewchuk, Manager, IT Business Strategy & Support
Reviewed by:	Paul Ottmann, Director of Information Technology
Approved by:	Jeff Jorgenson, A/General Manager, Corporate Performance Department

Urban Forestry – Civic Service Review

Recommendation

That the report of the General Manager, Community Services Department dated June 12, 2017 be forwarded to City Council recommending:

1. That the information be received; and
2. That the current service level be acknowledged and approved for 2017.

Topic and Purpose

The purpose of this report is to provide an overview of the findings within the Urban Forestry Civic Service Review and provide information on the current service level provided under the Urban Forestry service line and options for alternative service levels.

Report Highlights

1. There are three key components to the Civic Service Review Process: outlining the current state, defining success for citizens and other customers, and designing the desired future state.
2. The review identified ideas to:
    - improve communication between workgroups within Urban Forestry;
    - increase collaboration with other Parks Division workgroups;
    - increase collaboration with other divisions (like Construction and Design); and
    - to improve citizen service through the introduction of new service level options for service request response.
3. Potential benefits of employee improvement ideas include:
    - ongoing staff time savings of more than $25,000;
    - increased options for citizens when having a tree removed or replanted; and
    - improvements to bylaws and policies as they relate to the protection and maintenance of civic trees.
4. Two service level analyses were completed, finding:
    - the service level for street trees includes a 1:7 year pruning cycle and is currently being met; however, the pruning cycle for park trees requires revision or additional funding to meet a similar standard;
    - service level options are included in the report; and
    - the service level for addressing service requests can be improved with more options for citizens.
5. As a direct result of this Civic Service Review, a partnership has been established with Parks and a Performance Improvement Coordinator from the Employee, Experience, and Performance Division to address additional issues brought forward regarding internal process definition and stakeholder communication. Additional reports will be brought forward for direction on City Council Policy C09-011, “Trees on City Property” and other Parks core service areas as the partnership progresses.

Strategic Goals

This report supports the Strategic Goals of Quality of Life, Continuous Improvement, and Asset and Financial Sustainability. Process and efficiency improvements focus on reducing manual processes by leveraging technology. Process improvements of this nature will reduce the time to complete service requests, planned work, and updating tree inventory data. Increasing efficiency and effectiveness in service provision ensures the City of Saskatoon (City) is investing in what matters and managing resources in a long-term sustainable way. Defined service levels ensure that the City is making informed financial decisions and investing in services that matter to citizens.

Background

City Council, at its meeting held on December 3 and 4, 2013, approved the Continuous Improvement Strategy which includes the following three components:

- Annual Civic Service Reviews - an operational review process to find ways to control expenditures and to seek efficiencies in the delivery of municipal programs and services;
- Internal Process Reviews - focus on identifying and removing redundancies and waste within existing processes to increase efficiencies in civic operations; and
- Building capacity in the Corporation through innovation coaches and empowering employees.

See Attachment 1 for the Continuous Improvement Strategy Overview.

At the May 23, 2017 City Council meeting, the 2018 Indicative Rate Report indicated that Urban Forestry would be one of eight core services bringing forward a formal service level document for consideration and approval by City Council prior to the 2018 Business Plan and Budget deliberations.

Report

Review Findings: Ideas for Improvement

The Urban Forestry Civic Service Review explored opportunities for efficiency improvement throughout the Urban Forestry team's operations with focused effort on tree inventory and tree maintenance related work. The review team included staff from all levels of Urban Forestry and other workgroups within the Parks Division as well as support from the IT Division (Attachment 2 provides an overview of the review's discussions and findings).

To begin the review, an internal survey was conducted with members of the Urban Forestry team. The survey asked frontline employees what could be improved in current operations to better serve the community, internal customers, and the urban forest.

Responses to these survey questions indicated that staff believe that increased efforts in customer service and public education, staff training and retention, the use of technology, and changes to the planting and maintenance programing could improve the current state of the Urban Forestry program.

Following the internal survey, team meetings were then held with staff at all levels within Urban Forestry. The purpose of these meetings was to work through the Continuous Improvement strategy of examining the current state, defining what success looks like in terms of customer expectations and then looking ahead at what the future state should be. A summary of the resulting ideas generated are outlined below (for a listing of all ideas and further details see Attachment 2 [page 6-8]).

1. Revise City Council Policy C09-011 "Trees on City Property" and provide a report on recommendations to update the policy to City Council. Review should focus on service to citizens and include updates to potentially add options and flexibility to services provided while continuing to protect the urban forest. These optional service levels may include a "user pay for expedited services" model. These service level options would need to be brought to City Council for budgetary decisions.
2. Work with internal partners to ensure that Parks Division is truly engaged early enough in planning processes to have influence over items that impact the life cycle of the urban forest from planting to pruning and inspection to removal and stumping. In particular, senior staff from Parks need to be key team members in the Right of Way, Tree Trimming, and Back lanes Civic Service Reviews.
3. Focus on service levels and define them by what is currently funded and how that impacts the health and wellbeing of the urban forest and provides the greatest overall benefit to the public. Provide service level options to City Council for funding decisions based on the impact they will have on service provision to citizens.

Implementation of improvement ideas from the review will create enough staff time savings to absorb the estimated $25,000 cost of upgrading the tree manager software system in 2017.

<u>Review Findings: Service Levels for Tree Maintenance and Service Requests</u>
Analysis of tree maintenance performance over the last three years suggests the current planned 1:7 year pruning/maintenance service level is being met for street trees. The service level achieved with existing budget parameters for park trees is a 1:13 year pruning cycle.

Optimal pruning cycles are determined by municipalities depending on a number of factors including climate, tree species composition within the urban forest, disease risk, and funding. The Parks Urban Forestry Section has determined through experience, that the 1:7 year proactive pruning cycle strikes the best balance in Saskatoon for efficient and effective use of funds and staff time for prevention of deadwood that harbours diseases and pests. This service level also reduces the demand for out of cycle service requests for clearance and safety issues and helps to mitigate liability from damage caused from fallen branches.

If the desire is to meet a service level of 1:7 year pruning cycle in park trees, an additional 3,000 trees would need to be pruned every year. At an average cost of $140 per tree, the Urban Forestry budget would need to be increased by $420,000 to attain this service level.

Attachment 3 outlines three options for service level funding for Urban Forestry:

- Option 1 has current funding levels remaining in place and the service level for street trees set at 1:7 year pruning cycle and park trees at 1:13 year pruning cycle;
- Option 2 increases funding to the Urban Forestry service line by $140,000 annually to provide a service level for park trees of 1:10 years; the service level of 1:7 year pruning cycle for street trees remains the same; and
- Option 3 increases the funding to the Urban Forestry service line by $420,000 annually to provide a service level for park trees of 1:7 years; the service level of 1:7 year pruning cycle for street trees remains the same.

Analysis of specific service request response times suggest that tree removal and tree replanting requests can have long wait times for citizens. For example, the tree removal, stumping, and replanting process can take as long as two years. Review discussions suggested the service level could be improved through the creation of an "express service model." Citizens that are satisfied with the current processing time would receive their service as part of their property tax payments and those who wanted "express service" would pay for this through a cost-recovery model (for more information see Attachment 3).

Communication Plan

Civic Service Reviews provide an opportunity for the public to learn more about the City's operations, the costs to deliver the services, and to provide feedback and input into how the City can deliver its services more efficiently. The approved levels will be communicated using the Service Saskatoon citizen centric simple language model so citizens know what services they can expect.

Results from the Civic Service Reviews will be communicated on the City's website in the 'Latest Strides' and/or 'City Spotlight' sections of the *Our Performance* page at www.saskatoon.ca/strides.

Financial Implications

The $25,000 savings from the implementation of the new software will be redeployed in 2018 to address the data entry backlog of tree inventory and provide additional analysis of tree maintenance services to further refine service levels.

Depending on which service level option is selected for 2018, additional funding may be required as per the options outlined in Attachment 3.

Increasing the pruning cycle time may increase costs associated with damages caused by falling deadwood and structurally unsound trees.

Other Considerations/Implications

There are no policy, Privacy, or CPTED implications or considerations.

Environmental Implications

Environmental considerations of longer pruning cycles include the increased accumulation of deadwood in trees between pruning cycles allowing for proliferation of disease and pest damage to the urban forest.

Due Date for Follow-up

Follow-up reports related to key findings of this report will be brought forward to the Standing Policy Committee on Planning, Development and Community Services Committee for approval. Action plans and recommendations will be incorporated into the annual business planning and budgeting process for the Parks Division.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachments

1. Continuous Improvement Strategy Overview
2. Urban Forestry Civic Service Review Executive Summary
3. Urban Forestry Service Level

Report Approval

Written by: Tanya Bell, Performance Improvement Coordinator, Employee Experience and Performance
Reviewed by: Kim Matheson, Director of Employee Experience and Performance
Michelle Chartier, Urban Forestry Superintendent, Parks
Darren Crilly, Director of Parks
Approved by: Randy Grauer, Acting City Manager

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Continuous Improvement Strategy Overview

In 2014, the Administration began our Civic Service Reviews (CSR) to conduct a detailed examination of each of our services to address three main questions:

A. Is the service aligned with our Strategic Plan?
B. Does the service provide value for citizens?
C. Are we delivering the service in the most efficient way?

Framework for Civic Service Reviews:

1. Service Level
   a. Asset Service Level
      How the assets and services are preserved, renewed, and funded to ensure the quality of life for citizens is sustained or improved, and include:
      - Inventory of Asset(s)
      - Condition of Asset(s)
      - Costs to Preserve Asset(s)
      - Gap in Funding
      - Funding Plan/Investment Strategy

   b. Maintenance Service Level
      The maximum interval between tasks or activities required to maintain the defined level of service are referred to as Maintenance Service Levels, and include:
      - Description of Service
      - Definition of Service Level
      - Cost to Maintain Asset
      - Timelines to achieve Service Level
      - Service Level Approval

2. Efficiency
   a. Operational Efficiency
      A review of current processes identifies opportunities to improve efficiency and increase the effectiveness of the service and /or program. Savings resulting from the improvements will be quantified and reported as part of the overall Civic Service Review.

Knowledge Base for Service Saskatoon

All of this information can be used to prepare our knowledge base for Service Saskatoon and the 311 Call Centre.

Communication Plan

The CSRs provide an opportunity for the public to learn more about the City's operations, the costs to deliver the services, and to provide feedback and input into how the City can deliver any of its services more efficiently. Citizens will have the opportunity to provide input into levels of service as well as the budget using the Shaping our Financial Future budget tools.

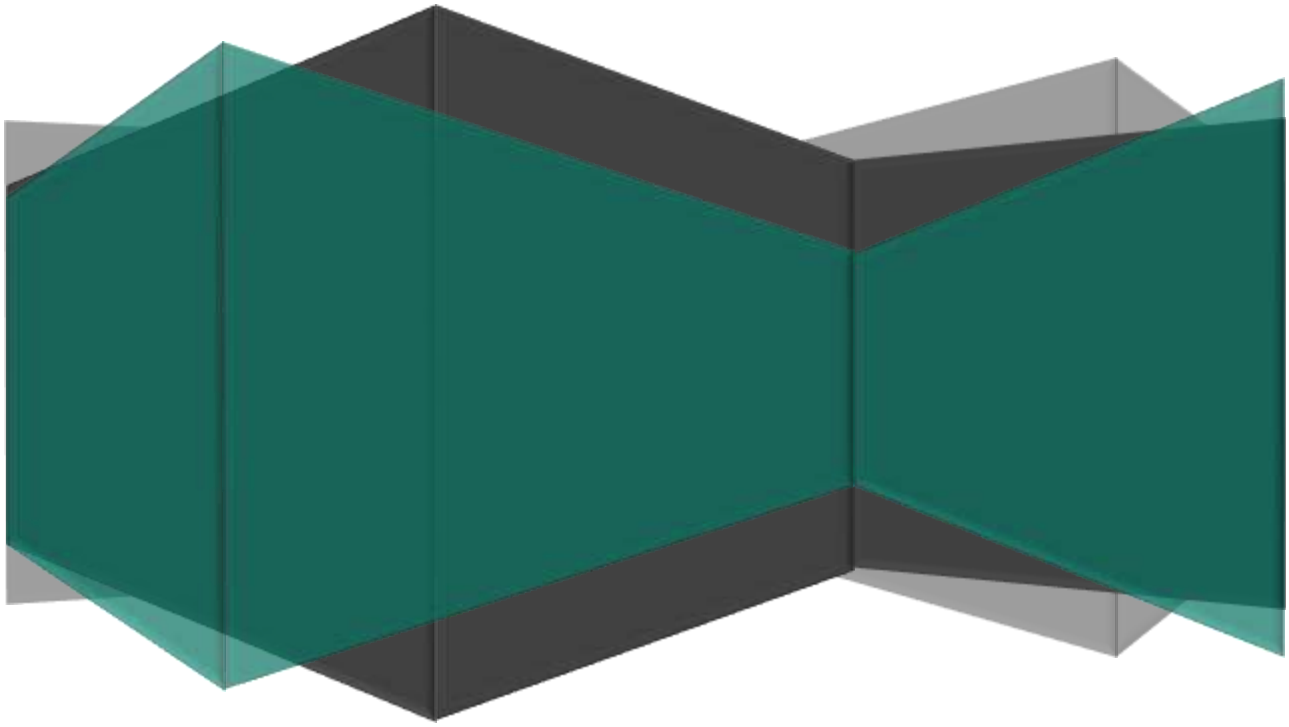
Results from the Civic Service Reviews will be communicated on the City's website in the 'Latest Strides' and/or 'City Spotlight' sections of the *Our Performance* page at www.saskatoon.ca/strides.

City of Saskatoon

Urban Forestry Civic Service Review

Executive Summary

June 2017



Urban Forestry CSR

INTRODUCTION

The Continuous Improvement (CI) Strategy was launched and approved by City Council in late 2013.

The CI Strategy has three main components:

- Annual Civic Service Reviews (CSR) are an operational review process to find ways to control expenditures and to seek efficiencies in the delivery of municipal programs and services
- Internal Process Reviews (IPR) are smaller in scale and focus on existing processes.
- Building capacity in the corporation through empowering employees to bring innovations and ideas forward and implement change within their work unit.

The CSRs and IPRs use a collaborative approach to bring together staff at all levels of the organization, usually from multiple divisions who play a role in the delivery of a particular program or service.

The teams focus on how the service or program is currently delivered, define what success looks like from both the citizen's and administration's perspective, analyze available data and trends related to the service or program and then finally design a future state for delivery of the program or service

The Urban Forestry Civic Service Review focused on tree inventory and maintenance.

THE PARKS DIVISION

The Parks Division is responsible for developing, preserving, and enhancing the City of Saskatoon's investment of its parks system and civic open spaces.

The division actively manages over 2,500 ha of parks and open spaces through the following programs:

- Parks and Open Space Maintenance;
- Sport Fields;
- Irrigation;
- Greenhouse and Conservatory;
- Pest Management;
- Parks and Open Space Design;
- Woodlawn Cemetery;
- Naturalized Area Management; and
- Urban Forestry.

THE URBAN FORESTRY PROGRAM

The Urban Forestry (UF) Program operates in order to protect, preserve and perpetuate the health, beauty and safety of the City of Saskatoon's urban forest for the enjoyment of its citizens.

The components of this program include:

- Tree maintenance;
- Tree planting and; and
- Nursery production.

UF staff and contractors maintain just under 104,000 trees in Saskatoon, 60% of this tree inventory line city streets and boulevards and the remaining 40% are located within civic parks. There is a backlog of trees planted in new areas of the city that has not yet been entered into the tree inventory system, with this additional inventory the total is estimated at approximately 110,000 trees. It should be noted that the UF section does not maintain all civic trees. Additional trees at civic golf courses other facilities like fire halls and the Gordie Howe Complex and campground, the afforestation area, back lanes, cemeteries, and Meewasin Valley Authority river valley are all excluded from UF's service area. This division of responsibility for trees on civic property has been mentioned in previous audits as a potential issue when other City of Saskatoon divisions provide a different level of service than UF, for the trees in their areas of responsibility.

The economic value of trees varies according to size, location, species and condition. A large healthy tree can be valued at more than $16,000. The total estimated value of the elm trees in Saskatoon on both public and private property is estimated conservatively at $500 million.

Program Budget

Within the Urban Forestry program, the total budget is just over $3.5 million. Costs related to providing tree maintenance both proactively and reactively account for 64.5% of total budget expenditures, planting and nursery service comprise an additional 21.7% of expenditures, with the remaining 13.8% being administration, weather event response, tree protection and tree inventory updates and system maintenance.

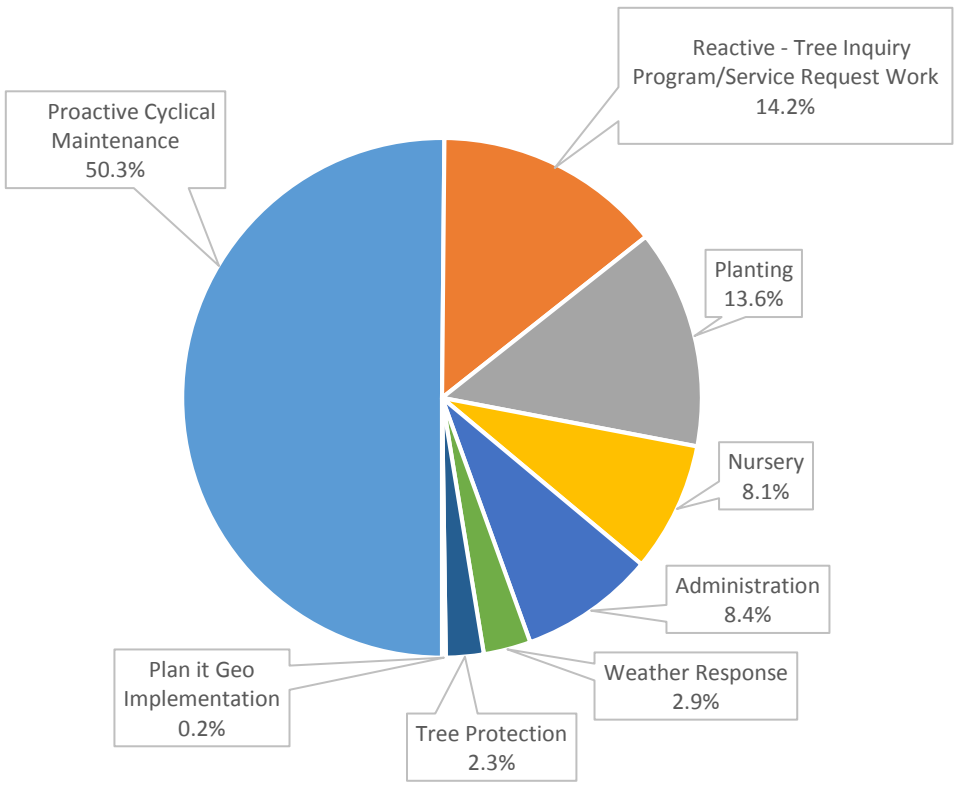


Figure1: Budget Expenditure Percent Breakdown
Urban Forestry Program 2016

THE URBAN FORESTRY CIVIC SERVICE REVIEW

The UF CSR focused on tree inventory and maintenance related work. The CSR team included a diverse group of frontline and management staff from UF as well as a representative from the Pest Management Section. The following processes were reviewed:

- Tree Inventory:
  - Pruning Service Requests (reactive work);
  - Adding a New Street Tree to the Inventory; and
  - Adding a New Park Tree to the Inventory.

- Tree Maintenance:
  - Cyclical Park Tree Investigation, Pruning, and Removal/Stumping;
  - Cyclical Street Tree Investigation, Pruning, and Removal/Stumping; and
- Weather Event Response.Striking a balance between protection of the urban forest and responding to individual requests for tree removals or out of cycle maintenance; and

- The lack of clarity with City Council Policy C09-011 Trees on City Property.

The Urban Forestry team identified the following as key factors in their success of the program:

- Earlier input into neighbourhood/park design and development processes as well as capital infrastructure upgrade projects;
- The creation of an Urban Forestry Management Plan; and
- Software that can support analytics to inform decision making.

Creating the Desired Future State

The final stage of the CSR process focuses on creating sustainable organizational change by identifying the ideal future state for tracking tree inventory and for the tree maintenance program. These are the recommended actions to be taken to achieve the desired future state:

1. Review City Council Policy C09-011 “Trees on City Property” and provide a report and recommendations to Committee and City Council. Review should focus on service to citizens and include updates to potentially add options and flexibility to services provided while continuing to protect our Urban Forest. These optional service levels may include a “user pay for expedited services model”.
2. Work with internal partners to ensure that Parks Division has an early voice in planning processes to have influence over items that impact the life cycle of the Urban Forest from planting, pruning, inspection, removal, and stumping. In particular senior staff from Parks need to be key team members in the Right of Way, Tree Trimming, and Backlanes CSR’s.
3. Focus on Service Levels and define them by what is currently funded and how that impacts the health and well being of the Urban Forest and provides the greatest overall benefit to the public. Provide service level options to council for funding decisions based on the impact they will have on service provision to citizens.

One key finding of the CSR process that has already been put into action addresses the issue of the lag time between work completed and tree inventory data updating. The UF team has worked with Information Technology (IT) to develop requirements for a new tree inventory software system. Using these requirements a vendor was sourced and contract signed to deliver and implement a new tree management system in 2017. The system is tablet compatible and able to integrate mapping which will enable UF and contractor personnel to effectively manage the large scale inventories for effective work history and provide an opportunity to streamline data gathering and input processes within the UF program.

This change to support digital data entry will allow a refocusing of the Forestry Analyst and Forestry Technician’s time on data review and analysis increasing the ability for strategic planning within the workgroup.

Current State	Future State

$26/hour average salary (Forestry Analyst/ Forestry Technician)	$26/hour average salary (Forestry Analyst/ Forestry Technician)
Several weeks potential lag time between work completed and tree inventory data updating	No lag time between work completion and tree inventory data updating; updated immediately upon completion of the work.
7,739 internally maintained trees	7,739 internally maintained trees
1,935 hours of staff time per year to manage inventory data entry (15 minutes manual data entry and paper file movement per tree)	930 hours of staff time per year to manage inventory data entry (5 minutes per tree to enter data in the field and review in office to determine follow up actions required)
Approximate cost to manage tree inventory data entry - $50,300 annually	Approximate cost to manage tree inventory data entry - $24,200 annually

In Summary, the $25,000 estimated cost of upgrading the software system and work processes described above to support an increased use of technology will be absorbed through cost savings related to data entry and report generation in less than a season. This cost savings will be redeployed to add staff time to catching up on the data entry backlog as well as performing additional analysis work on the data set once it is up to date.

Next Steps

To continue to working towards the identified future state and address findings outlined in this report, the UF team and operational staff are working on the following:

- Investigate the appropriateness of updating the current City Council Policy C09-011 “Trees on City Property” or creating a formal urban forestry management plan and/or bylaw to encompass all aspects of tree protection and management;
- Recognizing the impacts climate change is likely to have on urban forest management and outlining support strategies (i.e. equipment sharing between municipalities) for the Weather Event Response Plan;
- Gather improved data on public and private trees inventories to improve disease and pest management and response;
- Participation in the Backlanes CSR in 2017;
- Establish a partnership with a Performance Improvement Coordinator from Employee Experience and Performance Division to guide Parks in the development of service level standards for tree maintenance service request priorities and timelines for work completion; and

- Implement the new tree management software and align it to support the streamlined processes created by the CSR team, as well as organizing training to support these new processes and the use of technology through 2017.

Future reports discussing service level options and costing will be presented to the Standing Policy Committee on Planning, Development and Community Services and City Council prior to 2018 Budget deliberations.

Other Continuous Improvement Efforts Underway within the Urban Forestry Program

Throughout the CSR team discussions, team members would bring forward on-going and recent changes being made in operations to create efficiencies. The team's dedication to CI is illustrated in a list of their current trials and initiatives:

- Improvements to work planning and citizen communication to reduce the number of service requests that require out-of-cycle tree maintenance work.
- Operational refocus to increase the number of park trees pruned by 25% in 2015-2016.
    - The initiative added more detail to pruning specifications for contractor work on young trees. This allowed contractors to complete pruning work in entire neighborhoods at one time and to the same standard internal staff were using. This improvement eliminated the need for internal staff to follow contractors through neighborhoods to do structural pruning on young trees and as such allowed internal staff to be redeployed to dedicated park pruning work.
- Increasing the use of contracts to reduce stumping backlog and reduce the time customers are waiting to have stumps removed.
    - Stumping refers to the removal of the stump and sub-surface root material after tree has been cut down and removed for health or other reasons.
- Increased communication and work coordination between Saskatoon Light & Power and the UF team where tree pruning is near high voltage lines.
- Implementation of a new tree inventory and pruning preparation system prior to having arborists enter a park or neighborhood to ensure maximization of productive work hours.
- Increased focus on structural pruning on young trees to limit pruning work later in the trees life and increase tree resiliency to wind and weather events.
- Transition to the use of tree watering bags to establish new plantings more effectively, the bags slowly soak the root zone for less water waste and are quicker to fill than watering with a garden hose.

The Parks Division and Urban Forestry Section continue to include CI in their annual business planning process and works to foster an open culture of continuous improvement efforts in order to provide the most efficient services to the citizens of Saskatoon as they work to manage our Urban Forest and keep it healthy and strong for generations to come.

Attachment 3

Service Level for Urban Forestry

Scope

Service Level (SL) documents are prepared to allow citizens of the City of Saskatoon (City) to review and understand the services *currently* provided. This document includes activities completed under the Urban Forestry service line. This service is completed by sections within the Parks Division.

Service Overview: *what we do*

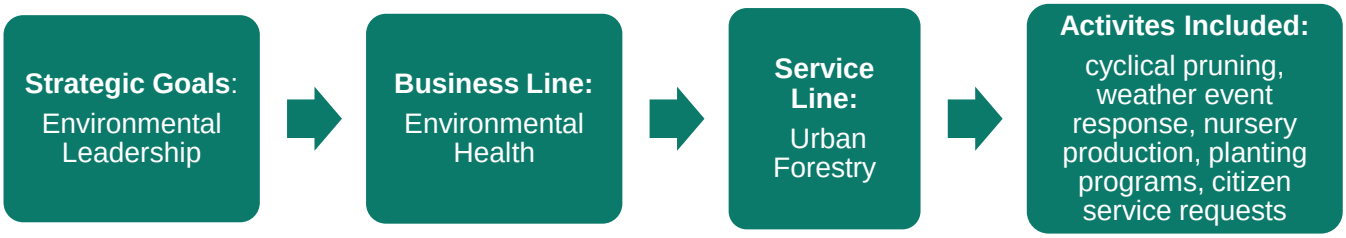
The Urban Forestry service line funds 3 programs:

- Tree Maintenance Program;
- Tree Planting Program; and
- Civic Nursery Program.

Within these programs, Urban Forestry manages the inventory of 110,000 street and park tree assets on a risk informed basis using international Arboriculture standards to guide them in their decisions. Components within these programs include: maintaining a comprehensive inventory of street and park trees, production of diverse quality stock in the civic nursery, establishment of sustainable planting programs, and providing ongoing maintenance operations. Maintenance operations include multiple functions such as cyclical pruning, weather event response, and internal and citizen service request response.

Purpose: *why we do it*

The Urban Forestry Program contributes to the quality of life for the citizens of Saskatoon by protecting, preserving, and perpetuating the health, beauty, and safety of the City of Saskatoon's urban forest for the enjoyment of its citizens, past, present, and future.



Programs within Service Line	Service Attributes or Values	Service Level Outcomes	Customer Performance Measures
Tree Maintenance Program	Responsiveness, Efficiency, Environmental Responsibility, Safety, Fiscal Responsibility	Urban Forestry provides responsive tree pruning on a priority basis Citizen emergency calls are handled promptly and either redirected or responded to appropriately Cyclical pruning cycles of street and park trees are set to keep the urban forest healthy and safe and aesthetically pleasing Trees may be removed if they are a safety hazard and eventually stumped.	Trees that pose an immediate safety risk are inspected and pruned within 24 hours All other tree maintenance service requests are inspected within 10 days and service, if required, is provided by the end of the year. Pruning cycles for Street Trees are 1:7 years. Pruning cycles for Park trees are 1:13 years. Once a tree is removed, the stump will be removed within 2 years.
Tree Planting Programs	Environmental Responsibility, Quality, Safety, Aesthetics, Efficiency	Trees are planted in new communities with a goal of 1 tree per new lot. If a tree has been removed, citizens may request a new tree be planted in its place. Industrial Areas have trees planted in them systematically. Reforestation proactively looks for planting sites in established neighbourhoods.	All identified planting sites in new communities that meet criteria have a tree planted. Requests for trees received by June 30th, will be planted within that season. After June 30th, requests are not guaranteed to be planted that season. Newly planted trees are watered and inspected for 3 years. Trees planted by homeowners request are watered by homeowners.
Nursery Operation	Quality, Efficiency, Fiscal Responsibility	Healthy young trees are available for planting. Diverse stock is available for a variety of urban conditions.	If trees fail within the first three years of planting, they are replaced. A variety of trees are planted throughout the city.

Resource Allocation: *what does it cost*

Service Line	Number of Programs	Budgeted Cost to Deliver Service	Actual Cost to Deliver Service	Variance
Urban Forestry	3	$3,706,562 (2016)	$3,612,679 (2016)	$93,882

Financial Assumptions

- Parks Administration (CC 01-450) and Training (CC 01-472) costs are allocated across the four Service Lines within the Division on a prorated basis.
- In 2018, we expect to be able to allocate funds separately to the three programs within Urban Forestry as the systems to support better reporting are implemented.
- Slight increases in the total cost to deliver the program relate to the cost of inflation and additional inventory added to the programs due to growth.
- Growth in inventory is generally one to two years behind, as new park and open space maintenance does not immediately become the responsibility of Parks in developing neighbourhoods.

Supporting Information

- Priorities for tree maintenance are safety, clearance, and then aesthetics.
- 2017 Business Plans include the development of an Urban Forestry Management Plan which may necessitate some changes to these service levels.
- As the scientific knowledge base grows on emerging disease and insects threats to our urban forest ecosystem, we will be reviewing our management plans and revising service level information accordingly.

Constraints

Risk factors that impact the ability to deliver a service (i.e. seasonal weather, major weather events):

- major weather events or insect infestations will require the reallocation of resources to manage them and may temporarily alter service levels as specific situations are dealt with; and
- risk of catastrophic failure and liability of removal once trees are damaged or infested.

Supporting References

- City Council Policy C09-011 Trees on City Property

Options to the Current State

The table below provides service level options and associated costs should there be a need or desire to adjust the service level.

No.	Service Level Option	Description of Change in Service Level Outcome	Est. Annual Cost	Current Budget	Overall Funding Result
1	Reduce Service Level to 1:13 years for Park Trees, Street Trees Service Level remains at 1:7	Tree Pruning Cycles remain at 1:7 years for street trees and 1:13 years for park trees. Inventory of 110,000 trees	$3,715,187 (2017)	$3,715,187 (2017)	$0
2	Increase funding to provide a Service Level for Park Trees to 1:10 year pruning cycle, Street trees remain at 1:7	Tree pruning cycle is increased to 1:10 years for Park trees. The pruning cycle remains at 1:7 years for street trees Inventory of 110,000 trees	$3,855,187	$3,715,187	Increase of $140,000
3	Increase funding to meet Service Level for all Trees in Urban Forestry's area of Responsibility	Tree pruning cycle is increased to 1:7 years for Park trees. The pruning cycle remains at 1:7 years for street trees Inventory of 110,000 trees	$4,135,187	$3,715,187	Increase of $420,000

Wastewater Treatment Plant – Digester and Heating Upgrade Project – Award of Engineering Services

Recommendation
That the Standing Policy Committee on Environment, Utilities and Corporate Services recommend to City Council:

1. That the proposal submitted by CH2M HILL Canada Limited for engineering services for the design and construction of the Wastewater Treatment Plant Digester and Heating Upgrade, at a total upset fee of $3,159,638.70 (including GST and PST), be approved; and
2. That the City Solicitor be requested to prepare the appropriate agreement and that His Worship the Mayor and the City Clerk be authorized to execute the agreement under the Corporate Seal.

Topic and Purpose
The purpose of this report is to present a plan and a recommendation for engineering services required to design and construct digester and heating plant upgrades for the City of Saskatoon H. McIvor Weir Wastewater Treatment Plant (WWTP).

Report Highlights
1. Addressing digester capacity concerns and increasing the WWTP's level of service to the public are the primary reasons for the project.
2. The WWTP Digester and Heating Upgrade Project involves the construction of a fourth digester and fully redundant heating system to deliver heat to the digesters for operation.
3. A Request for Proposal (RFP) was issued on April 21, 2017, and closed on May 16, 2017, for engineering services for design, tender, and construction management of the project. Four proposals were submitted and the proposal from CH2M HILL Canada Limited (CH2M HILL) was rated the highest.
4. Procurement of specialized, external engineering services are required to provide design team experience and expertise from projects throughout Canada.

Strategic Goals
This report supports the Strategic Goal of Asset and Financial Sustainability through planning and budgeting of lifecycle maintenance and upgrades to existing equipment. This report also supports the Strategic Goal of Quality of Life by ensuring that treatment regulatory standards are met while minimizing effects on surrounding citizens.

Background
The WWTP is a designated Class 4 treatment facility, the highest level of certification in Canada, and provides transmission and treatment services to Saskatoon residents,

businesses, and surrounding communities. It currently processes, on average, 90 million litres of wastewater a day.

The WWTP was constructed in 1971, the digester system was comprised of two digester tanks. A third digester was constructed in 1991. Since 2000, the plant has undergone facility improvements including anaerobic digester mixing improvements to facilitate operation of a three primary digester process.

In 2012, the Wastewater Treatment Plant Long Term Capital Development and Expansion Plan (LTCDP) (Stantec Consulting Ltd., 2012) was completed. The goal of the LTCDP was to provide the City with a forecast of expected upgrades and expansions required to meet the projected treatment objectives over a 30-year planning period. The LTCDP identified plant phasing and expansion requirements, project expandability on site, and allocation of useable space resulting in a basic capital expenditure plan. The LTCDP recommended a digester assessment be done in 2016 as digester capacity may be nearing its limit.

In 2016, the report entitled Waste Water Treatment Plant Heating System Study [Associated Engineering (Sask.) Ltd., September 2016] provided a condition assessment of heating equipment at the WWTP. The report presented a comprehensive listing of upgrades required to ensure that the heating systems at the WWTP are of a design and condition to meet current plant heating requirements and future requirements identified in the LTCDP.

At its meeting held on May 8, 2017, the Standing Policy Committee on Environment, Utilities and Corporate Services resolved that the report Wastewater Treatment Plant – Digester Upgrade Project – Request for Proposal be received as information.

Report

Digester Capacity Concerns

An internal digester assessment, completed in 2016, found that with all three digesters in operation, the current solids retention time (SRT) was an acceptable 20 days at average flow conditions. However, when one tank is taken out of service, the SRT drops to 12 days during average flow conditions. This indicates that the existing digester capacity is no longer sufficient and is below the SRT of 15 days that is recommended in the Sewage Work Design Standard issued by the Water Security Agency.

Construction of the WWTP digester and heating upgrades will greatly improve the level of service and increase reliability at the plant. Currently, the WWTP's level of service is measurably impacted through reduced digester volumes related to upset conditions, high flow events, or maintenance. The long-term analysis of expected growth and loading on the plant, with the proposed fourth digester incorporating heating upgrades, shows improved levels of service and a reduction of risk to plant operations.

Digester and Heating Upgrade Project Objectives

The primary objective of the WWTP Digester and Heating Upgrade Project is the construction of a fourth digester to address capacity concerns and to provide a fully redundant heating system to deliver heat to the digesters for operation. The initial task is to define feasibility and functionality throughout the initial design incorporating past studies and long-term plans to meet objectives. Through consultation with the City, a detailed design and implementation plan that incorporates operational efficiency and system redundancy will be produced.

Once the fourth digester is in operation, there will be a reduction in odours emitted from the plant during scheduled digester maintenance. This is due to the capacity improvements which will allow the digester being taken out of service the time required to fully break down the sludge it contains.

Request for Proposal

To assist the project team with technical requirements during the design, planning, and procurement phases of the project, the Administration proposes to hire an engineering firm. The engineer reports to the project lead and will oversee the technical design and tender, and ensure that the contractor is following all technical submissions, standards, and specifications.

A Terms of Reference was developed providing a basis for the engineering services required for the project. On April 21, 2017, an RFP was advertised on the SaskTenders website and the following four proposals were received on May 16, 2017:

- Amec Foster Wheeler (Saskatoon, SK)
- Associated Engineering (Sask.) Ltd. (Saskatoon, SK)
- CH2M HILL Canada Limited (Calgary, AB)
- Stantec Consulting Ltd. (Calgary, AB)

After evaluation, the Administration gave the proposal from CH2M HILL the highest rating and confirmed it met the scope-of-work defined in the Terms of Reference.

The Administration tendered the engineering through Purchasing Services following the City's procurement policies. Through the expertise and ability of the Purchasing Services staff, the City receives the best value available in purchasing.

Scheduling and timing of the construction phases of this project will have to give consideration to plant operations. Operations cannot be compromised, and consideration is to be given to varying plant conditions during summer and winter operations. It is in the City's best interest to move forward with this project in order to plan, design, and implement the work appropriately.

External Engineering Services

Work of this nature has been traditionally procured from the private sector. The work involves specialized design teams drawing on experience and expertise from projects throughout Canada. In order for the City to complete this work in-house, additional

specialized staff would need to be hired for this project. Given that work of this nature is specialized and not required on an ongoing basis, the use of external engineering services is required.

The Administration intends to complete more design projects using internal resources throughout Saskatoon Water. A long-term schedule will be developed based on anticipated projects, and a long-term staffing plan will be developed. This is best done for sequential small to medium-sized projects and would not be appropriate for a project the size of this Digester and Heating Upgrade Project.

Options to the Recommendation

The Administration could consider other proposals submitted or re-tender the work; however, this is not recommended as the proponent met all of the City's requirements and the cost is reasonable, considering the scope-of-work.

Public and/or Stakeholder Involvement

Design of the WWTP Digester and Heating Upgrade is an internal upgrade project that does not have any identifiable individuals or interest groups beyond Saskatoon Water.

Communication Plan

The construction project resulting from the design may require a communication plan that would be detailed in the report awarding the construction contract.

Financial Implications

The net cost to the City for the engineering services, as submitted by CH2M HILL, is as follows:

Project Management	$ 134,450.50
Preliminary Design	211,425.50
Detailed Design	1,338,812.00
Construction Administration	830,817.50
Post Construction Commissioning	302,078.50
Contingency (5%)	140,879.20
Subtotal	$2,958,463.20
PST (6% of 30% of Subtotal)	53,252.30
GST (5% of Subtotal)	147,923.20
Total Upset Fee	$3,159,638.70
GST Rebate	(147,923.20)
Net Cost to City	$3,011,715.50

This project has sufficient funding in Capital Project #2579 – WWTP – Digester Tank 4.

Environmental Implications

The addition of a fourth digester tank will significantly increase capacity and reliability of the wastewater treatment process. Construction, operation, and maintenance of the new digester will include the use of natural resources and the generation of greenhouse gas emissions; however, these impacts are not known at this time. There will be

efficiencies gained through the upgrade of the heating system which will result in reduced natural gas resource consumption during the life of the project, when compared to natural gas consumption of the present heating system arrangement.

Other Considerations/Implications

There are no policy, privacy, or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

It is estimated that design, tendering, construction, and commissioning of the work will take approximately three years. The construction is expected to be completed by summer of 2020.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Report Approval

Written by:	Pamela Hamoline, Project Engineer, Saskatoon Water
Reviewed by:	Reid Corbett, Director of Saskatoon Water
Approved by:	Angela Gardiner, Acting General Manager, Transportation & Utilities Department

EUCS PH – WWTP – Digester and Heating Upgrade Project – AES.docx

Wastewater Treatment Plant – North 40 – Biosolids Management Study – Award of Engineering Services

Recommendation

That the Standing Policy Committee on Environment, Utilities and Corporate Services recommend to City Council:

1. That the proposal submitted by CH2M HILL Canada Limited for engineering services for the Biosolids Management Study, for a total upset fee of $203,821.39 (including GST and PST), be accepted; and
2. That the City Solicitor be requested to prepare the appropriate agreement and that His Worship the Mayor and the City Clerk be authorized to execute the agreement under the Corporate Seal.

Topic and Purpose

The purpose of this report is to obtain City Council approval to award a proposal from CH2M HILL Canada Limited (CH2M HILL) to conduct a biosolids management study. The study will result in a report identifying biosolids management technologies appropriate for the existing North 40 Biosolids Dewatering Facility (N40) site to increase capacity, reduce annual costs, and achieve higher quality standards.

Report Highlights

1. Due to Saskatoon's growing population, significant ongoing costs, and availability of land, a review of an alternate biosolids management process is required.
2. The study will deliver an assessment of capacity requirements, asset conditions, and regulatory treatment objectives.
3. Saskatoon Water issued a Request for Proposal (RFP) for professional services that will result in recommendations for biosolids management technologies appropriate for the existing N40 site. The proposal submitted by CH2M HILL was determined to be the most favourable to the City.
4. Procurement of specialized, external engineering services are required to provide design team experience and expertise from projects throughout North America.

Strategic Goals

This report supports the Strategic Goal of Asset and Financial Sustainability through planning and budgeting for lifecycle maintenance and upgrades of the facility's equipment. This report also supports the Strategic Goal of Quality of Life by ensuring City biosolids operations reduces effects on the surrounding neighbours by meeting expectations and complying with regulations.

Background

The City of Saskatoon H. McIvor Weir Wastewater Treatment Plant (WWTP) operates as a Biological Nutrient Removal Facility. After treatment, any remaining digested sludge is sent via forcemain to the N40 site, located approximately 12 kms north of the

WWTP, where solids are settled out in deep sludge storage cells and is applied to neighbouring agricultural land, using a wet injection program. The decant water is returned to the WWTP for further treatment. The N40 facilities include five deep cells, two decant cells, a supernatant pumping station and dedicated return line, and numerous drying beds.

In 2012, a Biosolids Management Assessment was completed on the N40 handling, thickening, and land application of digested sludge as part of a larger plant-wide Long Term Capital Development and Expansion Plan (LTCDP). The goal of the LTCDP was to provide the City with a forecast of the expected upgrades and expansions required to meet the projected treatment objectives over a 30-year planning period.

The assessment outlined past and current practices, modes of application, loading rates, future considerations, and evaluation of the systems comprising the overall train, with respect to the projected needs within the 30-year time frame.

Following the review of potential options and anticipated associated costs, it was found that the current land application practices, by dewatering in ponds and then pumping to agricultural land, offered the most benefit to the City, at the time. The degree of familiarity, availability of existing capacity for expansion, lower costs associated with operations and maintenance, combined with the agricultural benefit, made current practices the recommended option.

Report

Population Growth

The City's N40 operations are a critical part of the wastewater treatment process, which require ongoing maintenance and upgrading. Due to Saskatoon's growing population, the LTCDP forecasts that the solids loading rates will double in the next 30 years. In order to accommodate this growth, substantial facility upgrades will be required.

Due to growth, unknown future regulatory requirements, availability of land inventory, and significant ongoing costs of the injection program and lagoon maintenance, a review of alternative biosolids management processes is required.

Study Deliverables

The study will conduct individual assessments of alternative sludge management technologies and methodologies that may include, but are not limited to, Thermal, Centrifuge, and Lagoon Thickening. The operational impacts of the proposed technology, including time, people, and process, will be evaluated and will cover potential maintenance and operational scheduling and required necessary infrastructure.

A cost/benefit analysis of the various options will be carried out, including economic issues related to the consequences of any changes to the sludge management process for the most favourable options. The analysis will include a present worth calculation of staged capital expenditures, expected operating costs, anticipated values of input and

output materials, numbers of materials received and processed, as well as marketable and non-marketable products.

An informed evaluation of the non-tangible issues that do not have a direct economic impact or do not lend themselves to an economic analysis, but would be matters of significance with regard to facility operations, potential for conflicts, or any other relevant matters for consideration, will be included.

Following an internal workshop and presentation of the study deliverables, a recommended option or combination of options will be selected and detailed in a report to be delivered to the Administration in October 2017.

Request for Proposal

In April 2017, an RFP was issued for professional services to conduct the biosolids management technology study. The following five proposals were received and evaluated by the Administration:

- Stantec Consulting Ltd. (Saskatoon, SK)
- Amec Foster Wheeler Environment & Infrastructure (Saskatoon, SK)
- CH2M HILL Canada Limited (Edmonton, SK)
- Nobilitas Consulting Inc. (Saskatoon, SK)
- SYLVIS Environmental (New Westminster, BC)

A systematic evaluation of the proposals resulted in the proposal from CH2M HILL being selected as most favourable for the City.

External Engineering Services

Work of this nature has been traditionally procured from the private sector. The work involves specialized knowledge and teams drawing on experience and expertise from projects throughout North America. In order for the City to complete this work in-house, additional discipline specific staff would need to be hired. Given that work of this nature is specialized and not required on an ongoing basis, the use of external engineering services is required.

Options to the Recommendation

City Council could not accept the proposal. Costs directed at disposal and the N40 site maintenance will continue to be incurred.

Financial Implications

The net cost to the City for engineering services, as described above and within the proposal submitted by CH2M HILL, would be as follows:

Proponent Labour	$181,756.00
Contingency	9,088.00
Total Proposal Price	$190,844.00
PST (6%)	3,435.19
GST (5%)	9,542.20
Total Upset Fee	$203,821.39
GST Rebate	(9,542.20)
Net Cost to the City	$194,279.19

There is sufficient funding in Capital Project #2567 – WWT – N40 Relining Cell to fund this study.

Environmental Implications
The recommendation to form an Engineering Services Agreement with CH2M HILL is not associated with a specific environmental implication. However, the updated capital plan may require subsequent construction and/or maintenance activities, some of which are associated with resource use and greenhouse gas emissions. The capital plan will provide redundancy and resiliency of N40 operations. The overall impact on greenhouse gas emissions has not been quantified.

Other Considerations/Implications
There are no public and/or stakeholder involvement, communications, policy, privacy, or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion
A report with recommendations will be completed in October 2017. Based on the findings and the recommendations given, the Administration will present an updated 10-year capital management plan for the N40 site.

Public Notice
Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Report Approval

Written by:	Pamela Hamoline, Project Engineer, Saskatoon Water
Reviewed by:	Reid Corbett, Director of Saskatoon Water
Approved by:	Angela Gardiner, Acting General Manager, Transportation & Utilities Department

EUCS PH – WWTP – N40 – Biosolids Management Study - AES.docx

Saskatoon Water Capital Projects Funding Reallocation

Recommendation
That the Standing Policy Committee on Environment, Utilities and Corporate Services recommend to City Council:

That $115,561 from the Waterworks Capital Projects Reserve be allocated to Capital Project #2218 – WTP/WWTR – Time and Attendance System.

Topic and Purpose
This report is to provide City Council with information on the Administration's review of Saskatoon Water's capital projects and to obtain approval to fund a specific capital project over expenditure.

Report Highlights
1. During a comprehensive review of capital projects, four projects were found to be completed and can be closed, with a net return to source of $2,917,215.
2. One of these projects requires City Council approval to fund the over expenditure.

Strategic Goal
The recommendations in this report support the Strategic Goal of Asset and Financial Sustainability as the review and closure of completed capital projects ensures the City is open, accountable, and transparent, particularly in regard to resource allocation.

Background
A comprehensive review of Saskatoon Water capital programs has resulted in the closure of four projects, one of which requires City Council approval for additional funding.

Report
Of the projects reviewed, four were completed and can be closed and two are ongoing and have favourable price variances that require a return to Saskatoon Water's capital reserves. One project is deferred due to a reprioritization of capital projects. One project requires City Council approval to fund the over expenditure. The net effect of this review is a return to source of $2,917,215.

Capital Project #2218 – WTP/WWTR – Time and Attendance System has an over expenditure of $115,561. The over expenditure is due to extended time required to implement the system due to staff turnover during the implementation, as well as a change to implementing an existing corporate system to take advantage of internal expertise.

The Administration is recommending that funding from the Waterworks Capital Projects Reserve, in the amount of $115,561, be allocated to allow closure of this project.

Financial Implications

There is sufficient funding in the Waterworks Capital Projects Reserve to fund the outstanding balance in Capital Project #2218 – WTP/WWTR – Time and Attendance System.

Other Considerations/Implications

There are no options, public and/or stakeholder involvement, communication, policy, environmental, privacy, or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

There will be no follow-up report.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Report Approval

Written by:	Beverly Stanley, Accounting Coordinator II, Business Administration
Reviewed by:	Reid Corbett, Director of Saskatoon Water
Approved by:	Angela Gardiner, Acting General Manager, Transportation & Utilities Department

EUCS BS – Saskatoon Water Capital Projects Funding Reallocation.docx

Options for Collection – Front Street Garbage and Recycling on Streets with Significant Parking

Recommendation
That the Standing Policy Committee on Environment, Utilities and Corporate Services recommend to City Council:

That the current level of service as outlined in Option 6 of this report be maintained for the collection of garbage and recycled materials in neighbourhoods with significant on-street parking.

Topic and Purpose

The purpose of this report is to provide a detailed update on options for the City of Saskatoon to collect garbage and recycled materials in neighbourhoods with significant on-street parking. The benefits and drawbacks for each option are presented and estimated costs are included, where appropriate. This report's findings is reflective of garbage collections only but recycle carts and green carts will have a similar effect up to three times per week in summer months.

Report Highlights

1. Options for container pickup have been prepared by evaluating the six neighbourhoods with the highest missed garbage collection rate throughout 2016.
2. The current service objectives for garbage collection are being achieved 99.9% of the time. The options that were reviewed may result in a decrease to the level of service or an increase in operating costs with a limited return on investment.

Strategic Goals

This report supports the Strategic Goals of Continuous Improvement and Environmental Leadership by studying alternative methods to current environmental operations. This report also supports the Strategic Goals of Moving Around and Quality of Life by ensuring citizens have reasonable access to parking and through the removal of solid waste and recycling materials.

Background

During consideration of the Inquiry – Councillor Z. Jeffries (Jan. 25, 2016) Options for Assistance – Front Street Garbage and Recycling on Streets with Significant Parking report, at its meeting held on September 19, 2016, City Council resolved, in part:

"2. That the Administration be directed to report back to City Council in December 2017 with updated information once a full study has been completed; and
3. That the Administration consider an Option 6 being a two-person collection crew on select collection routes."

Report

Options for Waste Collection

The six neighbourhoods with the highest number of missed collections in 2016 were:

- Nutana
- Caswell Hill
- Silverwood Heights
- Adelaide/Churchill
- Stonebridge
- Mount Royal

Missed collections primarily result from vehicles parking too close to the container, operator error, and restricted access due to delivery vehicles and unplanned construction activities. Attachment 1 presents missed collection data by neighbourhood for 2016.

A new data collection system was put in place for 2016 and provides a detailed picture of missed collections. This data was used to determine the neighbourhoods with the greatest number of missed garbage collections. In 2016, 500 bins from the neighbourhoods listed above were missed and 103 were missed due to vehicles parking too close to a container. The total number of collections was over 400,000 in those neighbourhoods. The missed collections due to vehicles parked too close represented 0.03% of the total pickups in 2016.

Six alternatives were reviewed to assess whether it would be possible to reduce the number of missed collections in areas with dense on-street parking. One of the six options included maintaining the status quo.

Option 1 – No Parking on One Side of Street:

This option would allow the City to collect garbage from one side of the street designated as no parking. This would involve mounting permanent signs on one side of the street indicating “no parking during collection days.” City Garbage trucks would be able to pick up all the containers from one side rather than having to back up and come down the block again. This option would cut down the collection time, resulting in average collection time of 10 seconds per container and possible savings. However, additional budget and plans would be needed for parking enforcement.

This option increases efficiency by reducing collection time from an average of 20 seconds per bin, but the method of no parking on one side of the street would cause a significant inconvenience to residents.

Additional inconveniences for residents would be as follows:

- Inconvenient for citizens to haul garbage containers to opposite side of the street.
- Containers could get mixed up and not returned to their designated home. Currently, with the RFID tracking system, the City is able to monitor accurate pickup times for each container in a neighbourhood.

- Citizens with limited mobility would potentially have trouble, especially during winter conditions, to push a fully loaded garbage container across the street.
- Cart collection could affect people up to 3 times per week in the summer months.

Option 2 – No Front Street Parking:
This option is similar to Option 1, except with both sides of the street having no parking. This option, through education and enforcement, would allow for bins to be placed in front of all residences. Permanent signs would be mounted on both sides of the street indicating “no parking during collection days.” This option would generate high efficiency for collections, as there would be more than sufficient space to place all containers, but would result in a high level of inconvenience for residents. Additional resources and costs would be incurred for parking enforcement to ensure compliance.

Option 3 – Designated Bin Parking:
This option would create a designated bin placement area on both sides of the street. This designated area is recommended to be mid-block, so the travel distance during bin placement is minimized. Administration estimates a collection time of 15 seconds per container as the truck would still have to collect from both sides of the street.

This option may be unappealing for residents who will have the designated cart placement area in front of their houses. Those residents would not be able to park in front of their house on collection days and might be restricted from doing so until the whole block has picked up their empty containers. This option has a marginally better collection time than the current practice; however, residents would be required to move their bins which presents mobility challenges and may also lower the curb appeal or property value of the homes that the bin parking is placed in front of.

Additional resources and costs would be incurred for parking enforcement to ensure compliance.

Option 4 – Rear-Lane Collection:
There are limited locations with front street collection that also have rear lanes. Moving the collection from the front street to the rear lane would reduce the number of missed collections due to vehicles parked too close. This option could only be implemented in limited situations. Of the six neighbourhoods reviewed, Stonebridge and Silverwood Heights have front lane collection while Nutana, Adelaide/Churchill, Caswell Hill and Mount Royal primarily have rear lane collection, or a mix of front and rear lane collection.

Associated Collection issues in rear lanes:
- Lower efficiency due to narrow lane width and obstructions such as low power lines.
- Potential residential property damage.
- Rear lane structural damage resulting in an increase of maintenance costs.
- New neighbourhoods with paved lanes were not designed to carry the weight of garbage trucks, a recycling truck, and a leaves and grass truck.

Expanding rear lane collections would result in increased occurrences of these issues. Currently, all green cart collections are on the front streets. See Attachments 2 through 4 for additional details related to rear lane collection.

Option 5 – Purchase of an Additional Garbage Truck:
Purchase a new garbage truck that would be designated to pick up all missed collections throughout the day. This truck could be used efficiently, with proper planning and scheduling, to minimize travel costs.

a) Rear Loader Garbage Truck:
   The yearly average operational cost to operate a rear loader automated garbage truck is $262,000. Administration estimates the initial capital cost of a new garbage truck to be $300,000. This truck requires two operators to collect garbage, and due to the truck being smaller in size, it would be efficient to operate in both rear lanes and front lanes.
b) Side Arm Garbage Truck:
   The yearly average operational cost to operate a side arm garbage truck is $246,000. Administration estimates the initial capital cost of a new garbage truck to be $360,000. A side arm truck requires a single operator to collect garbage, and due to the truck being bigger in size, it would mostly be efficient in front lanes and not in rear lanes.

Detailed salary and equipment costs for each garbage truck are provided in Attachment 5.

Option 6 – Status Quo:
This option would result in no modification to the current practice. Waste Stream Management is providing reliable and efficient service to residents. The current goal of the City is to have a 99.9% success rate on collections. This goal has been achieved and will continue to be achieved by maintaining the status quo.

Options to the Recommendation

City Council may choose to add or remove options to be studied further or to implement one of the options presented within this report.

Communication Plan

An education and communication plan would be required if further work is undertaken following the results of the study.

Administration will include cart placement instruction in the garbage collection calendar and on the City website to assist residents with proper cart placement.

Other Considerations/Implications

There are no policy, public and/or stakeholder involvement, financial, environmental, privacy, or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

The report findings will be integrated into the Waste Management Master Plan. The Next Waste Management Master Plan report is expected in August 2017.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachments

1. Neighbourhoods with Missed Collection Details
2. Collection Efficiency Details
3. Damage Caused to Private Property during Collection
4. Rear Lane Collection Details
5. Salary and Equipment Cost Details

Report Approval

Written by:	Riwaj Adhikari, Operations Engineer, Logistics & Procurement
Reviewed by:	Russ Munro, Director of Water & Waste Stream
Approved by:	Angela Gardiner, A/General Manager of Transportation and Utilities

EUCS – RA – Options for Collection – Front Street Garbage and Recycling.docx

Neighbourhoods with Missed Collection Details

The table below summarizes the top six neighbourhoods in the City of Saskatoon with total missed collection and missed collection due to vehicles parked close to the containers. The statistics are for garbage collection only and not for recycle or green cart collections. Total pickups through the year in these neighbourhoods and the total percentage of missed collections are represented in the table below. The percentage of missed collections due to vehicles parked averaged 0.03%.

Caswell Hill had the highest number of missed collection by neighbourhood and percentage collected due to vehicles parked close to a container.

Neighbourhood	Total Missed Collection	Missed Collection Due to Parked Vehicles	Total Pickups	% Total Missed	% Missed Collection due to Parked Vehicles
Nutana	91	18	61,040	0.15%	0.03%
Caswell Hill	104	28	51,200	0.20%	0.05%
Silverwood Heights	90	17	123,840	0.07%	0.01%
Adelaide/Churchill	62	18	51,360	0.12%	0.04%
Stonebridge	63	12	56,960	0.11%	0.02%
Mount Royal	90	10	60,760	0.15%	0.02%
Total	**500**	**103**	**405,160**	**0.13%**	**0.03%**

Collection Efficiency Details

Administration collected data from 2015 to 2016 for collections using Elamos and calculated the average time for the six neighbourhoods mentioned in Attachment 1.

Front street collection averaged 20 seconds per pickup, while rear lane collection averaged 25 seconds per pickup. The cul-de-sac collection time for straight through bins was 10 seconds per pickup. This average was calculated by using winter and summer data, and various blocks from the six neighbourhoods.

Garbage Collection Time (per container)	
Location	**Time (Seconds)**
Front Street Collection	20
Rear Lane Collection	25
Back to Back Straight Through Only (Cul-de-sac) Collection	10

Damage Caused to Private Property during Collection

In conjunction with Solicitors, Administration collected data and was able determine damage costs caused to private properties during collection. Claim data for 2016 is not yet available so an average for the previous seven years (2010 to 2015) was analyzed. The average yearly damage cost to the City is $17,036. Anecdotal evidence provided by field staff indicates that the majority of damage to private property occurs from rear lane collection.

The table below shows damage costs per year during collection from 2010 to 2016.

Year	Value
2010	$ 19,978.56
2011	$ 10,983.54
2012	$ 16,671.44
2013	$ 36,083.83
2014	$ 11,247.18
2015	$ 1 8,938.17
2016	$ 5,356.09
Total	**$119,258.81**

Rear Lane Collection Details

City of Saskatoon currently contains 71 kilometers of paved rear lanes. Approximately 1.2 to 1.5 kilometres of paved lanes are maintained per year and various types of preservation and restoration is required in its lifetime. This includes micro surfacing, restoration, re-surfacing, and deep and shallow patches. 100 year life cycle per year cost is $530,000 to $1.2 million. Average cost to maintain paved rear lane is $77.08 per meter per year, which would cost the City $5.4 Million if each meter was maintained in one year. Over the 100 year life cycle, $540 Million in maintenance is conducted on paved rear lanes. This calculation is estimated with current price and current gravel length that city owns. Inflation and expansion of the City are not considered in this cost calculation. Micro surfacing costs approximately $14 square meter and for deep, and shallow patches and resurfacing the rehabilitation cost is $85 to $105 square meters. Paved rear lanes typically sees $500,000 to $600,000 per year on preservation and restoration.

City of Saskatoon currently contains 410 kilometers of gravel rear lanes and various types of maintenance is required in its lifetime. This includes grading, addition or removal of gravel as required for proper stability and drainage of the lanes. The 100 year life cycle per year cost is $225,000 to $425,000. Average cost to maintain gravel rear lane is $35.01/meters/year, which would cost $14.3 Million if we maintained each meter of our gravel lane in one year. Over 100 year life cycle, $1.4 Billion worth of maintenance is conducted on gravel lanes. This calculation is with current price and current gravel length that City owns Inflation and expansion of the City is not considered in this cost calculation.

Administration calculated the average rear lane collection time to be 25 seconds per pickup as listed in attachment 2.

The estimated annual cost for maintenance in lanes due to collection truck operations is obscured by other maintenance activities, however, lanes with collection see more frequent maintenance and repair than those without.

Salary and Equipment Cost Details

The 2015 Salary Report indicates the City of Saskatoon pays $1.55 Million on salaries for garbage collection staff (excluding supervisors and managers). An additional staff member would cost the City $94,000, including overhead costs.

Running a rear loader truck would cost the program $ 262,000.00 in operational costs per year plus a one-time capital cost to the City of $300,000. Running a side arm automated truck would cost the program $246,500.00 in operational costs per year plus a one-time capital cost to the City of $360,000.

Yearly Cost						
Type	**Capital Cost**	**Annual Lease Cost**	**Avg. Mtc./Repair Cost**	**Avg. Fuel Cost**	**Avg. Operator Cost**	**Avg. Annual Operations Cost**
Side Arm	$360,000.00	$108,060.00	$36,606.73	$7,700.00	$ 94,000.00	$246,366.73
Rear Load	$300,000.00	$ 29,460.00	$36,606.73	$7,700.00	$188,000.00	$261,766.73

St. Paul's Hospital Combined Heat and Power Plant Feasibility Study

Recommendation

That the Standing Policy Committee on Environment, Utilities and Corporate Services recommend to City Council:

1. That the proposal submitted by Clark Engineering for the St. Paul's Hospital Combined Heat and Power Plant Feasibility Study, for a total cost of $79,800 (including taxes) be accepted; and
2. That the City Solicitor be requested to prepare the appropriate agreement and that His Worship the Mayor and the City Clerk be authorized to execute the agreement under the Corporate Seal.

Topic and Purpose

Saskatoon Light & Power (SL&P) and the Saskatoon Health Region wish to study the feasibility of a co-owned Combined Heat and Power (CHP) plant at St. Paul's Hospital. Proposals have been submitted by engineering consulting firms to conduct the study, and were evaluated by SL&P and the Saskatoon Health Region, who are requesting acceptance of the proposal from Clark Engineering.

Report Highlights

1. A Request for Proposals (RFP) was issued April 4, 2017. The work requires specialized experience with the integration of CHP systems into hospitals.
2. Six proposals were received, and the proposal submitted by Clark Engineering was the highest rated proponent based on a predetermined set of evaluation criteria.

Strategic Goals

This report supports the Strategic Goal of Asset and Financial Sustainability to increase revenue sources and reduce reliance on residential property taxes. It also supports the Strategic Goal of Environmental Leadership to implement energy efficiency practices and reduce greenhouse gas emissions.

Background

City Council, at its meeting held on December 12, 2016, adopted a recommendation that Administration, in conjunction with the Saskatoon Health Region, issue an RFP to conduct a detailed feasibility study of the project economics and report the findings of the same to City Council. The study will include sizing of the CHP plant for optimal operation, preparation of preliminary engineering drawings and specifications, and preparation of a detailed capital cost estimate and economic analysis.

CHP plants produce both electricity and heat at the same time, with less greenhouse gas emissions, and do so more efficiently than producing each separately. The CHP plant will produce electrical energy for SL&P and thermal energy for the hospital for use throughout their heating systems.

Report

Request for Proposals

SL&P and the Saskatoon Health Region issued an RFP on April 4, 2017, seeking proposals from qualified engineering consultants to undertake a feasibility study of a CHP plant located at St. Paul's Hospital. Work of this nature has been traditionally procured from the private sector to ensure a third-party objective and expert evaluation of the feasibility. The work involves highly specialized experience and expertise on hospitals, CHP systems, and feasibility studies.

Six engineering consultants submitted proposals by the April 25, 2017 deadline, and all submissions were deemed compliant with the requirements defined within the RFP. All six proposals were evaluated by a team with members from SL&P and the Saskatoon Health Region.

Proposals were received from:

- AERA Energy Solutions (Guelph, ON)
- Catch Engineering (Calgary, AB)
- Clark Engineering (Edmonton, AB)
- EMS Croscan (Saskatoon, SK)
- Frontline Industrial Solutions (Saskatoon, SK)
- WSP (Saskatoon, SK)

The proposals were evaluated on the following requirements:

- Company Related Experience - 30%
- Team Member Experience - 15%
- Methodology and Schedule - 20%
- Total Price - 25%
- Environmental Considerations – 4%
- Overall Presentation – 6%

Preferred Proponent

The proposal submitted by Clark Engineering was rated the highest in the evaluation and was determined to be the most favourable for the City of Saskatoon (City) and the Saskatoon Health Region.

Options to the Recommendation

City Council could choose to not accept the proposal and reject all other proposals; however, the Administration does not recommend this option as the preferred proponent's qualifications meets or exceeds the requirements to perform the work, the price is within the approved budget, and the procurement process was fair, open, and conducted in accordance of the Corporate Purchasing Procedure.

Financial Implications

Pre-feasibility work completed by the City and Saskatoon Health Region has shown that a project with an investment of $4.1 million has a high likelihood of success and a nine year payback.

The cost of the feasibility study will be shared equally between the City and Saskatoon Health Region. The City's portion will be funded from Capital Project #1281 - Sustainable Power Generation Options.

The total value for the feasibility study including taxes is estimated at:

Contract Amount	$76,000
GST (5%)	3,800
Sub-Total	$79,800
GST Rebate (5%)	(3,800)
Total Net Cost	$76,000
Net Cost to the Health Region (50%)	$38,000
Net Cost to the City (50%)	$38,000

Environmental Implications

By generating electrical energy and thermal energy together, greenhouse gas emission savings associated with the proposed CHP plant are estimated at 3,000 tonnes CO_2e per year, which is equivalent to removing 637 cars from the roadways.

Other Considerations/Implications

There are no public and/or stakeholder involvement, communications, policy, privacy, or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

Administration will report back in early 2018 with further recommendations and details of the findings.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Report Approval

Written by:	Nathan Ziegler, Sustainable Electricity Engineer
Reviewed by:	Trevor Bell, Director of Saskatoon Light & Power
Approved by:	Angela Gardiner, Acting General Manager, Transportation & Utilities Department

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Waste Diversion Communications and Engagement

Recommendation
That the Standing Policy Committee on Environment, Utilities and Corporate Services recommend to City Council:

That a Request for Proposal be issued for an engagement consultant for a period of one year with an upset limit of $130,000 to help facilitate engagement on upcoming environmental initiatives including waste diversion and climate change mitigation.

Topic and Purpose
The purpose of this report is to provide a high-level overview of a potential communications and engagement approach related to waste diversion opportunities and initiatives; including the need for an engagement consultant to facilitate this work. It also describes the relationship of waste diversion engagement to other environmental initiatives.

Report Highlights
1. Communications and education are needed to build awareness and support in the community for waste diversion. The Administration recommends an approach that combines traditional marketing with Community Based Social Marketing (CBSM) to present material in a way that engages, encourages positive behaviours, and presents solutions to waste diversion as a shared plan/responsibility.
2. Tactics for communications and education will include discussion papers (or videos), social media content, infographics, email marketing and a Waste Challenge.
3. The Administration is developing a Waste Diversion Engagement Strategy and Framework to guide implementation and to ensure interactions with the community are meaningful, consistent, relevant, and effective.
4. An engagement consultant is required to develop the engagement plan and facilitate its implementation. A consultant can provide qualified engagement facilitators and offer strategic insight and specialized engagement tools.
5. Communications and engagement activities will be integrated with other Environmental Initiatives including the Climate Change Mitigation Business Plan (GHG reduction), the Green Infrastructure Strategy and the Growth Plan where appropriate. These engagement activities will be included in the scope of work for the engagement consultant.

Strategic Goals

This report supports the Strategic Goal of Environmental Leadership through the four-year priorities of promoting and facilitating city-wide composting and recycling to reduce the rate and volume of waste sent to the landfill and implement energy-efficient practices in City buildings, transportation, and operations. It also supports the long-term strategy to reduce greenhouse (GHG) gas emissions tied to City operations.

Background

On December 14, 2015, Council approved the award of an RFP for the Waste Characterization Study and Waste Diversion Plan.

On February 27, 2017, Council received a report with preliminary results of the 2016 community-wide Waste Characterization.

On May 26, 2017, Council received a report on Waste Diversion Opportunities.

Report

Work has begun on the development of a Waste Diversion Plan that will provide a potential long-term roadmap for the City of Saskatoon's (City) waste management programs and recommend policies and initiatives that City Council could adopt to achieve full implementation. Shortlisted items include modifying the approach to financing solid waste (waste as a utility); changes to the Waste Bylaw; modifying collection frequency; disposal ban(s); a material recycling facility at the landfill; city-wide organics program for residents; enhanced data management systems; and ongoing education and awareness.

The proposed communications and engagement strategy serve to outline the high-level activities necessary to assist in achieving the waste reduction and diversion goals outlined in the Waste Diversion Plan. An overview of the Waste Diversion Plan Strategy Development Process is provided in Attachment 1.

Communications Strategy

Administration is developing a Communications Strategy that will focus on building public awareness and participation in future waste diversion engagement activities, strengthening stakeholder relationships, promoting new programs, and ongoing communication about the reduction of solid waste in Saskatoon.

Diverting waste from landfills requires Saskatoon residents and businesses to change their behavior when managing their waste. To help influence behavior, it is recommended that the City use both traditional marketing tools along with elements of a community-based social marketing program in its Communications Strategy.

The proposed overarching communications strategy for the first phase will include:

Building Support: The City needs to demonstrate to residents the case for improved waste management and diversion activities. This will include communicating the current

state (i.e. how much waste are we generating now), why it is important to make changes, what those changes might be, and who will be affected.

Campaigns need to capture attention (vivid messaging, easy to remember) and avoid polarizing or threatening messaging. Overall the information needs to be presented in a way that engages and includes people, encourages positive behaviors, and presents solutions to waste diversion as a shared plan/responsibility.

The messaging can be aligned with new and existing campaigns which help reinforce personal responsibility and position waste diversion activities as localized, achievable, and personally relevant. These will include a waste diversion related webpage and a Waste Challenge to help build support, rally the community, and build shared vision.

Education: Waste diversion is a complex topic and education is needed to ensure residents and businesses better understand the issues, the impact, and potential solutions identified in the Waste Diversion Plan. To help ensure businesses and residents understand the issues, this work could include a series of discussion papers (or videos), social media content, infographics, email marketing and more, as well as the waste challenge mentioned above. The webpage would be used to distribute and discuss ongoing education materials.

Integration with other environmental initiatives: Waste Diversion communications activities will be coordinated and integrated with other related environmental initiatives, such as the Climate Change Mitigation Plan (GHG reduction), Green Infrastructure Strategy, and the Growth Plan where possible.

Future phases of communications will be developed on a project-by-project basis for each component of the Waste Diversion Plan.

Engagement Approach

Many of the topics within the Waste Diversion Plan will require significant community conversations and engagement. As a result, the Administration is developing a Waste Diversion Engagement Strategy and Framework to guide implementation and to ensure interactions with the community are meaningful, consistent, relevant, and effective.

The engagement approach may include the establishment of numerous stakeholder-focused working groups and include activities such as a series of workshops/forums, surveying and on- and offline discussions. The goal of waste diversion engagement is to help residents and businesses understand waste diversion challenges and provide input into prioritizing potential solutions. The output from waste diversion engagement will be a comprehensive report which outlines Saskatoon's waste diversion options for City Council's future consideration. Public outreach and education will continue through the design phase if City Council chooses to advance toward implementation.

The Administration is recommending that a Request for Proposal (RFP) be issued in order to contract an engagement consultant that will help develop and facilitate an engagement plan for waste diversion. Attachment 2 outlines the factors considered for

the use of external engagement services. The engagement work is beyond the current level of staff resources and what is available is currently allocated to other priorities including the Growth Plan. Furthermore, while the City is able to provide subject matter experts, an external consulting firm will provide qualified engagement facilitators and offer strategic insight and specialized engagement tools. The Administration also anticipates there may be certain situations where an objective facilitator will add credibility to the engagement process. Finally, working with an external agency will result in knowledge transfer that builds the City's internal capacity in the future.

Attachment 3 outlines the proposed scope of work for an engagement consultant. The consultant will be asked to provide "as-needed" scalable engagement support. The scope of requested services includes a coordinated and integrated approach to facilitating and implementing support for the Climate Change Mitigation Plan (GHG reduction), the Green Infrastructure Strategy, and the Growth Plan where possible.

Options to the Recommendation

City Council may choose to direct the Administration to explore building internal capacity to support waste diversion and mitigation engagement activities. This would require recruiting and hiring an Engagement Consultant preferably with an International Association of Public Participation (IAP2) Certification. Although this option was considered and being further explored, it is not recommended at this time since it may result in delays and the need for training in this specific skill set. Furthermore, the City would not benefit from the availability of online engagement services provided by a qualified external consultant. It is likely more appropriate to start building this capacity under the direction of a consultant to be prepared for future planning projects that require engagement.

Public and/or Stakeholder Involvement

Many of the topics within the waste diversion plan will require community conversations and engagement. Through the development of the Waste Diversion Engagement Strategy and Framework, stakeholders and tactics on how to engage them will be identified. The Administration hopes to present the Waste Diversion Engagement Strategy and Framework to the Standing Policy Committee on Environment, Utilities and Corporate Services in September to enable engagement activities to begin later that month.

As an initial step in the engagement process, a technical advisory panel of local experts will be established to provide an early review of the waste diversion opportunities report, various discussion papers will be developed, and communication materials will be prepared to support community engagement.

Communication Plan

In addition to the communication strategy provided in this report, communication plans will be developed during the project-planning phase for each initiative from the Waste Diversion Plan. The Administration is preparing for significant communication activities in support of these initiatives.

Financial Implications

Communications for Waste Diversion and Characterization have already begun and are budgeted at $80,000 (planning and implementation) from Capital Project 2184 (Waste Characterization Study).

The upset limit for hiring an engagement consultant for the period of one year is estimated at $130,000; $100,000 is available from Capital Project 2184 – Waste Characterization Study, and $30,000 is available from Capital Project 2183 – Greenhouse Gas Reduction.

Environmental Implications

The Waste Diversion Plan represents an opportunity for the City to reach its goals of diverting 70% of waste from the Landfill by 2023. (GHG) emissions implications and other environmental protection measures will be estimated and reported on as the Waste Diversion Plan is developed.

Other Considerations/Implications

There are no privacy, policy or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

If approved, the Administration will report to City Council on the award of the RFP in July. A follow-up report will be sent to the Standing Policy Committee on Environment, Utilities and Corporate Services in September to present the Waste Diversion Engagement Strategy and Framework. Future reports will provide more detail on the engagement strategy for Climate Change Mitigation and other environmental projects that will be utilizing these funds.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachment

1. City of Saskatoon's Waste Diversion Plan – Strategy Development Process
2. Factors Considered for External Engagement Services
3. Request for Proposals Overview

Report Approval

Written by:	Mike Klein, Marketing Consultant II
Reviewed by:	Amber Weckworth, Education & Environmental Performance Manager Carla Blumers, Director of Communications Brenda Wallace, Director of Environmental & Corporate Initiatives
Approved by:	Jeff Jorgenson, A/General Manager, Corporate Performance Department

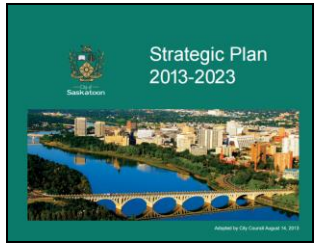
City of Saskatoon's Waste Diversion Plan

Strategy Development Process

Historical Information

2006 Saskatoon Waste and Recycling Plan

The purpose of the 2006 Waste Characterization Study was to update the 1996 Waste Characterization Study as well as to provide a baseline to support the overall waste management plan and the development of new waste management and waste diversion programs.



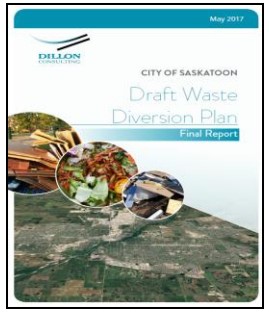
2015 Waste Diversion Target

As part of 25 targets included in the City's Strategic Plan, the waste diversion target (70% diversion by 2023) will measure success in environmental stewardship through increasing the percentage of waste that is recycled, reused, or composted.

Phase 1

What is possible?

We are here.



2017 Waste Diversion Opportunities Report

In December 2015, the City retained Dillon Consulting Limited (Dillon) to conduct a four-season waste composition study (completed by sub-consultant, 2cg Inc.) and a review of the City's existing solid waste management program to identify opportunities to improve waste diversion performance for residential and Industrial, Commercial, and Institutional (ICI) generators.

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Policy Options

- Modify approach to financing solid waste
- Waste bylaw/ enforcement
- Collection frequency of solid waste
- Influence and enforce diversion of ICI and C&D waste
- Disposal bans

Program Options

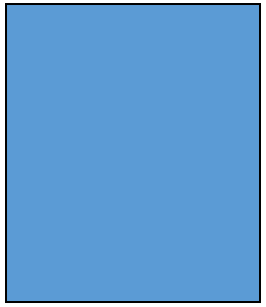
- Recovery Park
- HHW program development
- Mandatory city-wide organics program for single-family households
- Data managment system

Education & Awareness

- Refine and validate promotion and education efforts to launch potential new programs and improve existing programs
- Implement promotion and education about ways to reduce waste
- Standardize signage and symbols

Phase 2

What is supported?



Engagement Report

The engagement strategy and framework could include the establishment of numerous stakeholder-focused working groups and include activities such as a series of workshops/forums, surveying and on- and offline discussions. The output from waste diversion engagement will be a comprehensive report which outlines 'what we heard' and will serve as a major input into the development of Saskatoon's Waste Diversion Plan.

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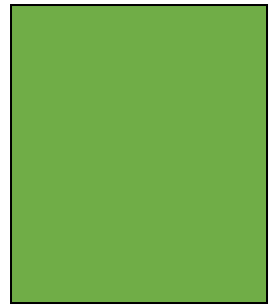
Phase 3

What is justified?



Waste Diversion Plan

Based on input from the Waste Diversion Engagement Report, and input from project stakeholders, the City of Saskatoon will develop a comprehensive Waste Diversion Plan for Council's consideration.

Factors for Engagement Services
Waste Diversion Engagement

The Administration is suggesting that a Request for Proposals (RFP) be issued in order to contract an engagement specialist that will help develop and facilitate an engagement plan for waste diversion. The Administration has determined that procuring external support through a competitive RFP is the appropriate delivery method for the Waste Diversion Engagement and other environmental initiatives (e.g. Climate Change Mitigation Plan and Green Infrastructure Strategy) based on a number of factors, including:

a) Capacity of existing staff to perform the work –The engagement work is beyond the current level of staff resources. There is one dedicated engagement staff member assigned to the Growth Plan while other staff provide communications and marketing related services.
b) Requirement of specialized services – While the City is able to provide subject matter experts for engagement, the City has a limited number of specialized engagement staff. Therefore, the City needs to consider contracting this specialized service. External agencies may have their own engagement facilitators on staff or have access to a pool of high-calibre facilitators. Work with external agencies will also result in the transfer of knowledge that builds the City's internal capacity in the future.
c) Objectivity of an Opinion – The City will facilitate some of the engagement in-house, however, we anticipate there may be certain situations where an objective facilitator will add credibility to the engagement process.
d) Available Technology In-House – The City has limited available technology in-house to provide online engagement services. External agencies have their own proprietary or corporate licenses to online/off-line engagement tools that the City could potentially leverage.

ATTACHMENT 3

Request for Proposal Overview
Waste Diversion Engagement

RFP Purpose and Approach
The purpose of this RFP is to retain a proponent to provide "as-needed" scalable engagement support to facilitate the engagement approach for the Waste Diversion Plan, Climate Change Mitigation Plan (GHG reduction) and the Green Infrastructure Strategy, while considering any coordination with the Growth Plan.

The proponent will be asked to provide access to a wide range of engagement services to support planned engagement projects. This may include, but is not limited to: recommendations on engagement approach, facilitation, event planning/coordination/logistics and online engagement design/management/reporting.

Expected Contract Time Frame

Term of Agreement	Anticipated Contract Award
One (1) year	July 2017

Estimated Contract Value
The estimated contract value is for up to a maximum of $130,000 for the term of agreement, excluding third party fees (e.g. travel costs, etc.). There is no minimum spend required. This will allow the City of Saskatoon (City) to more easily scale up or down its expense as projects require additional support on the ground. $100,000 is available from Capital Project 2184 – Waste Characterization Study, and $30,000 is available from Capital Project 2183 – Greenhouse Gas Reduction.

Summary of Scope – What types of services does the RFP include?
Requested services will vary project by project, depending on engagement requirements as defined by the City. The proponent may be asked to provide engagement services including, but not limited to, those listed below:

- Recommendations on approach;
- Engagement facilitation;
- Event planning/coordination/logistics; and
- Online engagement – design, management, and reporting.

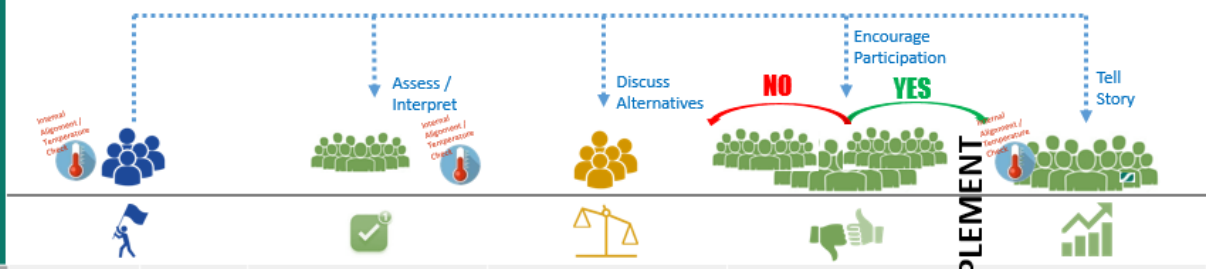
Integration with other Environmental Initiatives
The scope of requested services include a coordinated and integrated approach to facilitating and implementing "as needed" scalable engagement support for the following:

a) Waste Diversion Plan
b) Climate Change Mitigation Plan (GHG)
c) Green Infrastructure Strategy

The work must also be coordinated and integrated with Growth Plan activities where possible.

Engagement Approach

In order to ensure consistency across projects, the approach below has been developed as the basis for Waste Diversion Engagement Strategy & Framework. This reflects current best practices for structuring engagement. This guideline offers flexibility as, in some cases, not all steps may be necessary particularly for individual components of the Waste Diversion Plan.

Waste Diversion Engagement Approach						
Goal	**Community leadership**	**Technical advice to inform planning**	**Determine Priorities**	**Create Solutions Based On Priorities**	**Gather Input on Solutions / Finalize Plans**	**Communicate Outcomes**
Team	Leadership Group	Technical Advisory Group	Community Advisory Panel	Leadership Group/Technical Advisory Group	Public Engagement	Communicate Outcomes
Audience	Narrow (8 to 10)	Narrow (10-12)	Focused (30-40)	Narrow (20)	Broad (100s to 1000s)	Broad (1000s)
Target	Stakeholders	Stakeholders	Public	Stakeholders	Public	Public
Interested / Invested	Invested	Invested	Interested/Invested	Invested	Interested	Interested / Non-Interested
Time Commitment	Long-term (5 years)	Long-term (5 years)	TBD	TBD	TBD	TBD
Primary Approach	High-Touch (In-Person)	High-Touch (In-Person)	High-Touch (In-Person)	High-Touch (In-Person)	High-Tech (Online)	High-Tech (Online)
Potential Tactics *(But not limited to)*	Create Advisory Group (meet regularly throughout)	Planning meetings (meet regularly throughout)	Kick-Off Event, Deliberative Forum (series of facilitated sessions)	Facilitated session to present outcomes from CAP and other surveying.	Website, Virtual Town Halls, Surveys	Media / Wrap-Up Event – Advisory Group On Stage With City