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

Monday, November 6, 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 October 10, 2017, be adopted.

5. UNFINISHED BUSINESS

6. COMMUNICATIONS (requiring the direction of the Committee)

6.1 Delegated Authority Matters

6.2 Matters Requiring Direction

6.3 Requests to Speak (new matters)

6.3.1 Gord Enns - Saskatoon Food Council [CK. 5700-1] 7 - 21

A request to speak from Gord Enns, Executive Director, Saskatoon Food Council, dated October 3, 2017 is provided, including a letter dated September 1, 2017 from the Saskatoon Food Council attaching materials in support of his presentation.

Also provided is a letter dated October 18, 2017 from Kathleen Aikens, Chair, Saskatoon Environmental Advisory Committee, recommending that the Standing Policy Committee on Environment, Utilities and Corporate Services explore means of effectively supporting the work of the Food Policy Council, including developing stronger ties between this organization and the City of Saskatoon.

Recommendation
That the direction of the Committee issue.

6.3.2 Mary-Jo Devine - Saskatoon Light and Power Superstructure Installation [CK. 2000-1] 22 - 26

A request to speak from Mary-Jo Devine, dated October 22, 2017, is provided.

At its meeting held on October 30, 2017 the Standing Policy Committee on Planning, Development and Community Services received a presentation from Ms. Devine. The presentation is provided. The Committee resolved:

1. That the information be received and forwarded to Standing Policy Committee on Environment, Utilities and Corporate Services for consideration;
2. That Saskatoon Light and Power be present at the Standing Policy Committee on Environment, Utilities and Corporate Services meeting; and
3. That the Administration provide a report on additional information requested, including the status of the project, what is remaining, and the cost estimates relating to the options.

The Administration will provide a verbal report with a PowerPoint.

Recommendation
That the direction of the Committee issue.

7. REPORTS FROM ADMINISTRATION

7.1 Delegated Authority Matters

7.2 Matters Requiring Direction

7.2.1 Approval to Extend Contract - Facility Maintenance Service for the Transition Period at Remai Modern Art Gallery of Saskatchewan [CK. 5800-5 and AF. 4130-3] 27 - 29

Recommendation

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

That the Administration be authorized to extend a sole source contract with Black & McDonald until November 30, 2017 for a total cost of $44,726.52 (excluding applicable taxes).

7.2.2 Utility Scale Solar Power Plant [CK. 2000-5 and SLP. 2000-10-7] 30 - 42

Recommendation

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

1. That Parcel M, Plan No. 102221525 (a 13 acre undeveloped parcel located along Circle Drive South near Montgomery Place) be set aside for a solar power plant; and
2. That Administration proceed with community engagement and report back to City Council with options to finance, build, and operate the solar power plant.

7.2.3 Storm Water Flood Resiliency [CK. 7820-2, x 7560-1 and TS. 7820-1] 43 - 72

A PowerPoint presentation will be provided.

Recommendation

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

1. That a Home Flood Protection Program pilot project be developed for high flood risk areas in 2018;
2. That $200,000 be allocated in 2018 from the Storm Water Capital Reserve to fund the pilot Home Flood Protection Program; and
3. That the Administration refine infrastructure options with funding strategies and report back by mid-2018.

7.2.4 Options for Expanding Special Needs Garbage Collection Service [CK. 7830-3 and PW. 7830-1] 73 - 75

Recommendation
That the report of the Acting General Manager, Corporate Performance Department, dated November 6, 2017, be received as information.

7.2.5 Congested Front Street Collection Level of Service [CK. 116-2, x 7830-3 and PW. 7831-1] 76 - 87

At its meeting held on June 12, 2017, the Standing Policy Committee on Environment, Utilities and Corporate Services deferred consideration of the Options for Collection - Front Street Garbage and Recycling on Streets with Significant Parking report and to be brought back prior to discussions on the 2018 Business Plan and Preliminary Budget. The deferred report is also provided.

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

That the matter of level of service for congested front street collection be deferred to the 2018 public engagement and discussion on the expanded waste utility business model.

7.2.6 Request for Permission to Exceed 25% of Contract - Wheel Loader/Tandem Truck and Operators for Compost Depots [CK. 7830-4-2 and PW. 7832-2] 88 - 91

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

1. That the Administration be given approval for Contract No. 16-0142, Wheel Loader/Tandem Truck and Operators for Compost Depots with Wozniak & Sons to exceed 25% of the contract value and be extended by $84,000, including GST; and
2. That the City Solicitor be requested to amend the appropriate agreement.

7.2.7 Facilitating Solar Energy Opportunities in Saskatoon [CK. 752-2, x 375-4 and CP. 0753-005] 92 - 114

A request to speak from Angie Bugg and Brian Sawatzky, Saskatoon Environmental Advisory Committee, dated October 30, 2017, is provided.

Recommendation
That the report of the Acting General Manager, Corporate Performance Department, dated November 6, 2017, be forwarded to City Council for information.

7.2.8 **Integrating the Recovery Park Project with Required Saskatoon Regional Waste Management Centre Projects [CK. 7830-4-2 and CP. 7838-005]** 115 - 137

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

That the Administration continue with preparation and planning for the Recovery Park project and defer procurement until a comprehensive funding plan is in place for the Landfill Capital Investments as outlined in the report of the Acting General Manager, Corporate Performance Department, dated November 6, 2017.

7.2.9 **Industrial, Commercial, and Institutional (ICI) Waste Diversion Opportunities [CK. 7830-1, x 1702-1 and CP. 7542-006]** 138 - 148

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

1. That $156,000 be transferred from the Waste Minimization Reserve to Capital Project #2184 - Waste Characterization for the development of the Industrial, Commercial, and Institutional Waste Diversion Strategy; and
2. That this report be forwarded to the Saskatoon Environmental Advisory Committee for information.

7.2.10 **Next Steps in City-Wide (Mandatory) Organics and Waste Utility Program Development [CK. 7830-1 and CP. 7838-010]** 149 - 152

Recommendation
That the report of the Acting General Manager, Corporate Performance Department, dated November 6, 2017, be forwarded to City Council for information.

7.2.11 **Closure of Capital Project #2186 - Waste Management Strategic Plan [CK. 7830-1, x 1702-1 and CP. 7837-002]** 153 - 156

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

1. That $408,000 be transferred from the Recycling Stabilization Reserve to Capital Project #2186 – Waste Management Strategic Plan to bring the account balance to zero, and that the Capital Project be closed; and

2. That $45,000 from the Recycling Stabilization Reserve be transferred to Capital Project #2184 - Waste Characterization to support waste diversion planning studies.

7.2.12 **Winter City Strategy Update [CK. 5600-001, x 1700-1 and CP. 5600-002]** 157 - 226

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

That the report of the Acting General Manager, Corporate Performance Department, dated November 6, 2017, be forwarded to City Council for information.

8. OTHER

8.1 2018 Preliminary Business Plan and Budget

City Council, at its Regular Business Meeting held on October 23, 2017, resolved that the meeting agendas for the Standing Policy Committees leading up to City Council's Budget Deliberations include "2018 Preliminary Business Plan and Budget" as a standing agenda item to allow for discussion and comment.

9. MOTIONS (NOTICE PREVIOUSLY GIVEN)

10. GIVING NOTICE

11. URGENT BUSINESS

12. IN CAMERA SESSION (OPTIONAL)

13. ADJOURNMENT

225-1

From: City Council
Sent: October 03, 2017 2:26 PM
To: City Council
Subject: Form submission from: Write a Letter to Council

Submitted on Tuesday, October 3, 2017 - 14:26
Submitted by anonymous user: 128.233.8.180
Submitted values are:

Date: Tuesday, October 03, 2017
To: His Worship the Mayor and Members of City Council
First Name: Gord
Last Name: Enns
Address: 425-221 Cumberland Ave
City: Saskatoon
Province: Saskatchewan
Postal Code: S7N 1M3
Email: saskatoon.foodcouncil@usask.ca
Comments:
Mayor Clark and City Council,
This is a request to speak to the Standing Policy Committee on Environment, Utilities and Corporate Services on Tuesday October 10. The Saskatoon Food Council is requesting a partnership with the City of Saskatoon to form a Food Systems committee to work towards a sustainable and dynamic food system in our city.

Sincerely,
Gordon Enns - Executive Director
Saskatoon Food Council

The results of this submission may be viewed at:
https://www.saskatoon.ca/node/398/submission/197841

225-1

From: Enns, Gordon <gordon.enns@usask.ca>
Sent: October 03, 2017 2:55 PM
To: Web E-mail - City Clerks
Subject: October 10 SPC on Environment, Utilities and Corporate Services
Attachments: City of Saskatoon letter September 1.2017 (2) (3).docx; Recommendations Saskatoon Regional Food Assessment (1) (5) (3).pdf; Urban Agriculture Fact Sheet - July 7th Draft (2) (3) (3).pdf; Urban Agriculture in Saskatoon September 2017 (2).docx

Hi,
Attached are materials in support of my request to speak to the SPC on Environment, Utilities and Corporate Services on October 10.

I recognize the deadline was noon today and that I am a few hours late. I am requesting this item be included in the October 10 meeting due to our request for consideration of financial support during FY2018.

Thanks - please advise if you have any questions.

Gord Enns
Executive Director
Saskatoon Food Council
(306) 221-9942
saskatoon.foodcouncil@usask.ca.
saskatoonfood.ca

Community-University Institute for Social Research
425-221 Cumberland Avenue
Saskatoon, Sk.
S7N 1M3

September 1, 2017

Dear Mayor Charlie Clark and City of Saskatoon Councillors:

Formed as a result of a 2013 Community Food Assessment (CFA – attached), the Saskatoon Food Council Inc. is a community-based organization that works with many partners to create a sustainable, accessible, and dynamic food system. The Food Council board (currently including representatives from the City of Saskatoon, University of Saskatchewan, Saskatoon Health Region, a farmer representative and CHEP Good Food Inc.) recognizes that effective implementation of the food assessment recommendations requires a close working relationship with the City of Saskatoon.

To that end, the board of directors of the Saskatoon Food Council requests that the City of Saskatoon:

1. Partner with the Saskatoon Food Council to form a City of Saskatoon Food Systems Committee. Membership will include representatives from Parks, Community Development, Planning, Environment and Corporate Initiatives, Water and Waste Stream, Executive Director and 2 board members of the Saskatoon Food Council.

2. Provide $25,000 in FY2018 to support the operations of the Saskatoon Food Council, specifically to:

    - implement the CFA recommendations with a particular focus on improving food access in Saskatoon.

    - support staff capacity to co-chair the City of Saskatoon Urban Agriculture committee (existing and currently co-chaired with Planners Paul Whitenect and Ellen Pearson)

3. Nominate one City of Saskatoon Councillor to serve as a representative on the board of the Saskatoon Food Council.

While creation of the Saskatoon Food Council was the overarching recommendation of the CFA, the CFA also recommended that the Food Council:

- Promote Saskatchewan foods and food production as a healthy community-minded choice.
- Garden everywhere: expand capacity in urban agriculture.
- Increase collaboration among producers and the development of needed supports.
- Increase ways to obtain local food products.
- Feed the children: substantially increase school meals and snacks.
- Educate residents about healthy food and teach good food skills.
- Increase availability and affordability of good food.
- Increase people's ability to buy good food: reduce inequality.
- Reduce food waste in the home and reduce energy input in food production.
- Preserve water and land for the future.
- Build knowledge of regional food systems.

Like progressive cities across Canada who are engaging with community to form Food Policy Councils, the City of Saskatoon has made progress in implementing parts of these recommendations – however there is much opportunity for further progress. The Saskatoon Food Council looks forward to a strong, ongoing partnership with the City of Saskatoon to foster a sustainable, accessible, and dynamic food system.

We look forward to hearing from you.

Sincerely,

Gordon Enns, Executive Director
On behalf of the Saskatoon Food Council

Towards a Food Strategy for Saskatoon

Recommendations from the Saskatoon Regional Food System Assessment and Action Plan[1]

Recommendations

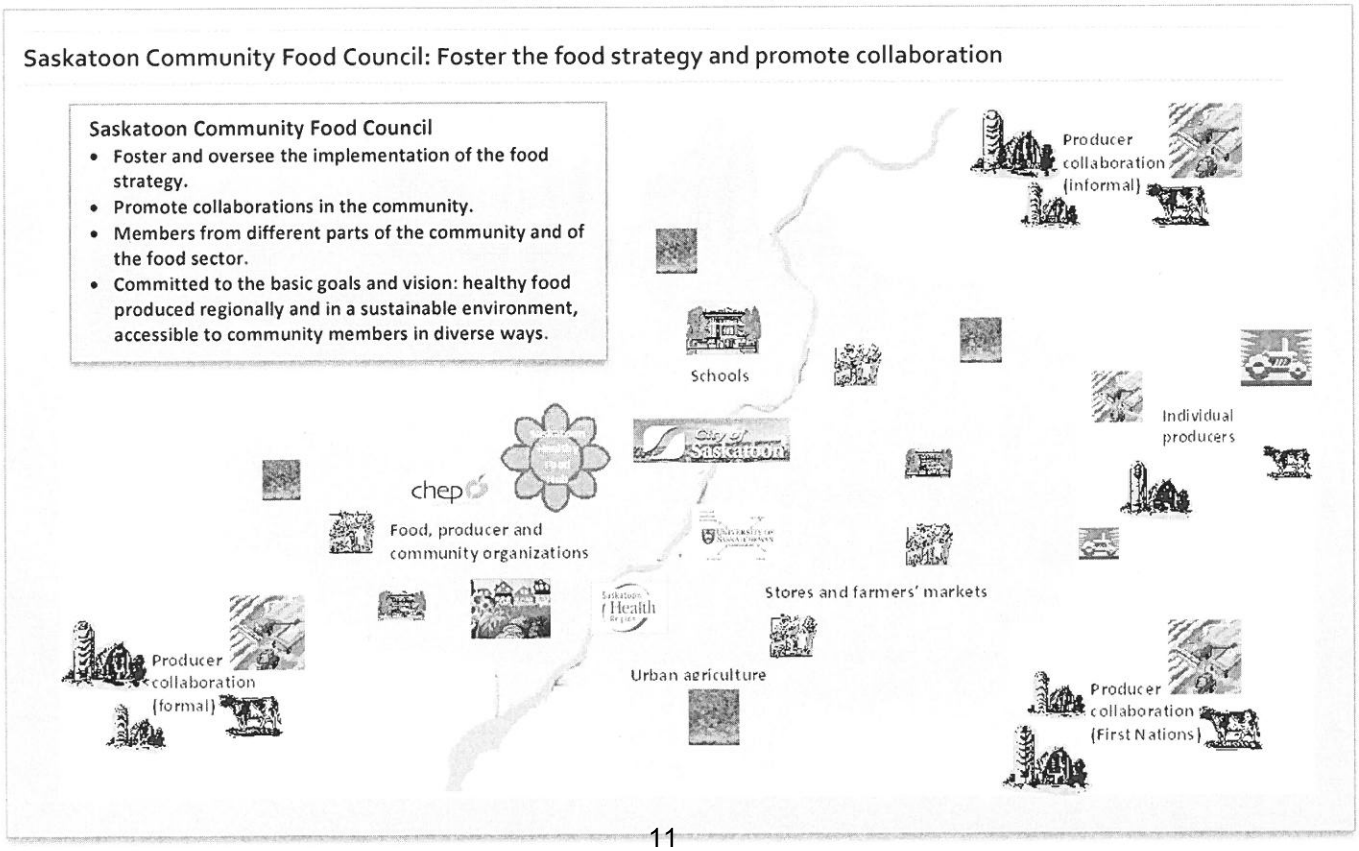
Our assessment has documented many of the factors, organizations, and enterprises already supporting change in the Saskatoon food system. In formulating recommendations and suggestions, our focus is to build on the existing strengths.

1. Our first overarching recommendation is to create a mechanism for ongoing food system action: A Saskatoon Community Food Council.

The Council would have members from different parts of the community and of the food sector, all committed to the basic goals and vision. Its purpose would be to foster and oversee the implementation of the food strategy. It would promote collaborations in the community, among and between producers and residents, and their organizations, building on existing strengths.

From the findings, the need emerges for increased collaboration among those involved. Given the nature of the movement's strength, any collaborations that are formed should retain flexibility, openness and responsiveness, but alliances can lead to more effective use of resources with better economies of scale, and improve the potential to leverage additional investment from outside sources. Alliances also enable the delivery of a coherent message for promotion. Based on our discussions in the assessment, we suggest that an explicit commitment to healthy food produced in a sustainable environment, accessible to community members in diverse ways, would be a message consistent with residents' values.

Saskatoon Community Food Council: Foster the food strategy and promote collaboration



In implementing the food strategy, the Council would act on the recommendations we have made in the following areas. Taken as a whole, the recommendations form the basis for a food strategy and corresponding action plan for Saskatoon.

2. Promote Saskatchewan foods and food production as a healthy community-minded choice.
3. Garden everywhere: expand capacity in urban agriculture.
4. Increase collaboration among producers and the development of needed supports.
5. Increase ways to obtain local food products.
6. Feed the children: substantially increase school meals and snacks.
7. Educate residents about healthy food and teach good food skills.
8. Increase availability and affordability of good food.
9. Increase people's ability to buy good food: reduce inequality.
10. Reduce food waste in the home and reduce energy input in food production.
11. Preserve water and land for the future.
12. Build knowledge of regional food systems.

Detail

2. **Promote Saskatchewan foods and food production as a healthy, enjoyable, community-minded choice.**
   - It is opportune to make good food a key theme for Saskatoon, with the City of Saskatoon and Tourism Saskatoon becoming leaders in the regional food strategy, along with the food sector and organizations. We need to bring together partners from across the food system to explore challenges, and identify opportunity for growth. We need to build on the strengths that we have, by increasing collaborations among organizations active on food strategy goals.
   - The overarching message is that Saskatchewan foods and food production are a healthy, enjoyable, community-minded choice.
   - The City of Saskatoon should integrate the food strategy goals into the Official Community Plan and promote the food strategy as part of Saskatoon's image and values.
   - Food tourism can be a strong contributor to the economy. Tourism Saskatoon should make the availability of interesting local food one of its attractions for Saskatoon. Tourism Saskatoon should market and promote the region's culinary offerings. It should work with local chefs to promote a city/region-oriented label for restaurants. Restaurants in tourist destinations, for example the Western Development Museum or Wanuskewin, could integrate local thematic food. Food festivals such as Taste of Saskatchewan or Folkfest could highlight local food components. The Star-Phoenix Taste of Saskatoon could include a local food component.
   - The development of a media strategy for Saskatoon, including newspapers, food writers, social media and other forms, would be an important component of promoting local food and the food strategy in an ongoing way.

3. Garden everywhere: expand capacity in urban agriculture.

We need to grow more food in Saskatoon. We should strengthen the existing collaboration among CHEP, the City of Saskatoon and the University of Saskatchewan to increase support and leadership in urban agriculture, including the following key areas:

- Support existing community gardens and increase the number available. Having people garden on civic land decreases opportunities for crime and vandalism and builds community.
- Create a problem-solving mechanism to assist community gardens to function. Often there are specific logistical problems that good communication could easily resolve. This same mechanism could act to ensure that lower income communities not only have good access to gardens but are not impeded from using them through lack of specific resources, such as tools.
- Plan for community gardens in new neighbourhoods. This would be a better process than retroactively finding a suitable place for a community garden in existing neighbourhoods.
- Work with schools and other institutions interested in establishing gardens.
- Collaborate with interested First Nations and Métis organizations and communities to create and support programs and microenterprise for food production and processing.
- Develop a program to foster rooftop, balcony and boulevard gardens. Let people know that front-yard gardens are allowed.
- Develop CHEP's newly initiated shared-garden initiative, matching those with gardens to share, with others wanting to garden.
- Plant berry bushes and fruit trees where possible on city-owned land.
- Collaborate with Out of Your Tree to promote harvesting from fruit trees.
- Pilot promising practices in urban agriculture, promoting them and teaching about them.
- Create a training program in urban agriculture, which would include Seedy Saturday, and practice opportunities in CHEP and other projects, including recent initiatives in microenterprise projects.
- Inventory available land and resources
    - Develop an inventory of public and private land that can be leased by food growers. The inventory would include factors such as water access, slope and soil conditions.
    - Develop an interactive map that shows where all the edible fruit is on city park land, the U of S, and other accessible land, to encourage residents to harvest this fruit.
    - Develop an inventory of community accessible kitchens that the public can access.
- The City of Saskatoon should adopt several of the best practices in this area for its own jurisdiction, many already adopted by other cities, such as the following:

  Allotment gardens
  - Add at least one allotment garden in the short term, and in the longer term, offer allotment gardens in the west, east, south and north parts of the city.
  - Consider reducing or eliminating the fee to make them more accessible.

  Bylaws and practices supportive of urban agriculture
  - Actively inform residents about what practices are currently allowed in urban agriculture and what practices would be welcomed. For example, the City can support and educate its population about growing food in front yards, boulevards, vacant lots, right of ways, traffic circles etc. It could perhaps encourage the use of rain water/rain barrels connected to schools and businesses to serve as a water source for these gardens.

- In the longer term, review the City's OCP and zoning bylaws to remove impediments to or ambiguities about urban agriculture; and to create policies and allowable practices for commercial uses of urban agriculture.
- In the longer term, consider assigning civic staff to focus on supporting urban agriculture.

4. Increase ways to obtain local food products.

- There is a need for a "Saskatoon Food Hub" or centre, to act as a network hub, providing an important conduit for local food. CHEP could play this role, or perhaps a partnership could be formed. The Hub would:
  - Become the central registry for local food sources and urban-rural links, and hosting the on-line map of local food.
  - Increase bulk-buying, such as the Good Food Box, to increase the flow between producers and consumers at volume discounts.
  - Work with stores like Steep Hill, Herbs and Health, Dad's, and SaskMade to have a consistent and expanding repertoire of local products, perhaps over time increasing distribution to other small stores.
  - Work with the Saskatoon Farmers' Market to expand its producers, diversify its local produce and improve relationships with the core neighbourhoods.
  - Identify ways to support an increase in mini-Farmers Markets within the city, of various forms, while not jeopardizing the Saskatoon Farmers' Market.
  - Develop a stronger presence on the East Side of Saskatoon, to create a city-wide capacity and increase volumes.
- The Saskatoon Health Region should increase its purchase of local food by an increasing amount each year, to reach 5% of the total budget. In moving to centralize purchasing by all health regions, the province should include criteria to support local food purchasing.
- The U. of S. should participate in the national Farm to Cafeteria program, as a way to increase local food offerings in its cafeteria, and as a way to engage students and faculty in a local food system experience, while participating in a cross-Canada dialogue about it.

5. Increase collaboration among producers and the development of needed supports.

- There is a need for producers to collaborate in many different ways, to create economies of scale and increase their capacity and strength in the market, and invest in common infrastructure. Our assessment has documented some examples. There is also an opportunity for local retailers to provide leadership and flexibility in increasing their relationships with local producers.
- A project to "showcase" local producers as teaching examples would be beneficial to increasing both capacity and the potential for collaboration.
- There would be benefit in the partners in the Value Chain Initiative – the Saskatoon Co-ops and the Agriculture Council of Saskatchewan -- to expand the number of producers over time, expanding the capacity of producers in providing organizational infrastructure; creating economies of scale by collaborating in production, and providing market stability through contracts.
- There may be potential for collaboration with interested First Nations communities in and near Saskatoon to build on the economic opportunity presented through their reserve land to produce food for local sale.

- The Saskatoon Food Hub, the Value Chain Initiative and the Food Centre should build knowledge about policies and programs that would support small and medium-sized farmers, including specific implementation guidelines for food safety in smaller enterprises, such knowledge to be used by provincial and federal agencies.

6. Feed the children: substantially increase school meals and snacks.

- City school boards, in partnership with CHEP and with financial support from the provincial government, should expand their meal programs within the community schools to provide meals to all children who attend those schools. This will improve the nutrition of all the children there, while removing the stigma of using the program. Education and engagement about good food should continue to be part of the programs. In addition, there is a need to develop understanding by the general public about the benefits of these programs.
- The provincial government should support childcare centres in providing healthy and affordable meals to children, perhaps through partnering with CHEP in Saskatoon. Over the longer term, the availability of healthy food should be expanded to all public places where children congregate, e.g., all schools, childcare centres, and leisure centres. There should be collaboration with national groups to develop a national child nutrition program for children in Canada.

7. Educate residents about healthy food and teach good food skills.

- Schools are an important site for education of children and families. Saskatoon School Boards, CHEP and the Saskatoon Health Region should continue to develop healthy eating programs in all schools, using standards such as health promoting schools, incorporating gardens, and integrating the families of children so that they learn and support their children's healthy choices.
- The Saskatoon Health Region should champion food security for residents as a determinant of health, and continue to partner with community organizations in increasing access to healthy food and providing education around it. It should be a leader in implementing the food strategy.
- First Nations and Métis organizations, CHEP and the Saskatoon Health Region should continue to collaborate in engaging these communities to participate in food education activities and to improve nutrition.
- CHEP and its partners, including the Saskatoon Health Region, should build on its collective kitchens and other programs that provide education and promotion about healthy food, by encouraging other organizations in the city to do the same with their clientele.
- Newcomer communities could be engaged in identifying how local ingredients can be used or adapted for creating their traditional recipes.
- Breast feeding is an important element of good nutrition. CHEP, the Saskatoon Health Region and others supporting the Saskatoon Breast-Friendly Initiative should continue their initiatives. They should also increase the public's understanding about why breast feeding is part of a good food strategy.

8. Increase availability and affordability of good food.

- CHEP and the new Saskatoon Food Hub should continue to develop ways to make good food available at reasonable prices, including bulk buying and the Good Food Box, as above, but also by providing senior-friendly, community and mobile markets. The Good Food Junction should ensure it continues to provide a healthy food choice for the core neighbourhoods.

- CHEP and the City of Saskatoon should continue to promote and develop community gardens in such a way as to keep them affordable and accessible to people with fewer resources, so that the gardens can be a way to supplement the food intake for lower income people.
- First Nations and Métis communities should continue to provide meals to those in need, while providing education and promotion about healthy food, integrating cultural traditions that enrich the lives of the community, and partnering with CHEP and other groups.
- The Saskatoon Food Bank and Learning Centre should continue to enhance the nutritious elements of food hampers to those in need, while providing education and promotion about healthy food, and integrating projects such as the Potato Patch, which foster urban agriculture and participation by the larger community.

9. Increase people's ability to buy good food: reduce inequality.
   - The Saskatoon Health Region should continue to focus on reducing health disparities in the city through health promotion in schools and action on including nutrition in schools and other social determinants of health, in partnership with community organizations.
   - The Saskatoon Poverty Reduction Partnership should support the recommendations of the food strategy as a means to reduce food insecurity for Saskatoon residents facing poverty, while continuing to advocate for policies that increase income and other supports.

10. Reduce food waste in the home and energy input in food production.
   - Residents should seek food products with minimal packaging, reduce food waste in preparing food and compost food waste.
   - The City of Saskatoon should implement the city-wide curbside composting program for food waste, now being studied.
   - Federal and provincial government agricultural policies should include goals to reduce the carbon footprint of food production and processing. We need studies of on-farm energy use and energy use by other links in the food chain: transportation, processing and packaging. Farmers need support in moving toward livestock production strategies to reduce energy use and greenhouse gas emissions.

11. Preserve water and land for the future.

    Water
   - Residents should conserve water and minimize the use of cosmetic pesticides in yards.
   - The City of Saskatoon should increase protection of our water sources. We offer the following recommendations
     - Continue to support the protection plan for the South Saskatchewan River Watershed.
     - Incorporate green policies for its own buildings, for example, green roofs.
     - Adopt park design that reuses and saves treated water. (For example, instead of using treated water for spray pads only once before it is washed into the storm sewers, the water could flow to nearby trees, etc.).
   - The provincial government should increase protection of our water sources from agricultural waste. Given limited water supplies, the government should prioritize irrigation projects that diversify food production and that target production to the local Saskatoon and area market.

Land

- Federal and provincial governments should implement agricultural policies to preserve and promote the next generations' ability to grow a diverse range of healthy food for our population. For example:
    - In cooperation with other provinces, Saskatchewan should enact a set of land ownership restrictions wherein farmland can only be owned by individuals who are provincial residents, or by incorporated farming operations owned by provincial residents. Residents of other provinces or nations and Saskatchewan non-farm corporations should not be allowed to own more than a small amount of Saskatchewan farmland.
    - Where the land is owned by Saskatchewan residents who are not active or retired farmers, e.g. by Saskatchewan residents who hold farmland as an investment, property tax rates should be higher.

12. Build knowledge of regional food systems.

In the assessment, we noted the need for a way to bring together and build on the different forms of knowledge toward the goal of improving the food system of our Saskatoon and area community. We suggest the following:

- The University of Saskatchewan should establish a regional food systems unit, comprised of university-based and community-based participants, to focus on studies of the local food economy. It would involve different departments and disciplines, including community health, plant sciences, and others but also community partners, such as CHEP and the SHR. The unit could encourage research at many different levels. Examples based on key informant interviews include studies that provide students with research opportunities such as regular food costing (as SHR is doing) nutrition tracking within the city, tracking vacant land uses in the city, and identifying conditions for rooftop gardens. Also arising from this assessment are proposals for studies of best-practices in small to medium-scale agriculture and food processing, and sector-specific analyses for increasing local markets for food products. Finally we need policy research on possibilities for different levels of government to increase support to the local food system. The unit should be housed in a department or college which has multi-disciplinary experience and community partnerships, such as within Plant Sciences in the College of Agriculture or Community Health and Epidemiology in the College of Medicine. Other options include the School of Environment and Sustainability or in the Division of Nutrition. Perhaps funding for a research chair in regional food systems could be obtained.
- In the short term, funds should be applied for to carry out further analyses of the food system in the Saskatoon area. Examples include:
    - Studies could be designed using data from Statistics Canada in conjunction with surveys of local producers to provide sector or product-specific analyses of potential.
    - Partners in First Nations and Métis organizations should be encouraged to collaborate in applying for funds to carry out a study of best practices for meeting the needs of First Nations and Métis communities though a food systems approach.
    - Saskatoon organizations such as the Saskatoon Environmental Society and the Waste Reduction Council could be encouraged to collaborate with others to create a research and education program about the environmental impacts and costs of food as it is consumed in Saskatoon, and how to reduce them.

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[i] These recommendations are excerpted from the full report Towards a Food Strategy for Saskatoon: Saskatoon Regional Rood System Assessment and Action Plan, prepared by Kouri Research for the Saskatoon Regional Food System and Action Plan Team, December, 2013. Online at saskatoonfood.ca.

What does Saskatoon think about URBAN AGRICULTURE?

In May 2017, the University of Saskatchewan conducted a phone survey in Saskatoon to find out what residents think about local food and urban agriculture.

Here's what people had to say:

91% of residents think that it is important or somewhat important to grow their own food

More than **70%** of Saskatoon residents look for local food when shopping at a grocery store

More than **87%** of Saskatoon residents support improved public education on urban agriculture, and more than **80%** support using public spaces to plant vegetables and fruit.

Did you know?

Over HALF of Saskatoon´s residents planted a food garden in the last year!

Random sampling resulted in a representative sample with a 33.8% response rate and a 5% margin of error.

For more information contact Wanda Martin at wanda.martin@usask.ca

University of Saskatchewan

Saskatoon Food Council

SHRF Saskatchewan Health Research Foundation

Action on Saskatoon's Urban Agriculture Plan

SASKATOON FOOD COUNCIL

What is urban agriculture?

Urban agriculture is the practice of cultivating, processing, and distributing food in and around towns and cities1. It has been increasing in popularity in Saskatoon and has expanded from the familiar private backyard garden into community spaces such as parks, school grounds, vacant lots and boulevards.

Urban agriculture in Saskatoon

Currently, there are 48 community gardens in Saskatoon (many of which have waiting lists) and a number of organizations engaged in urban agriculture activities. As well, Saskatoon has individual entrepreneurs developing commercial market gardens within its boundaries and strong advocates, researchers and practitioners at the University of Saskatchewan

There are multiple reasons for this growing interest in urban agriculture, including having more control over what we eat and where our food comes from to building a better understanding of the connection between food and health, the local economy and the environment. New growing techniques and technologies that allow food to be grown almost anywhere are also helping to drive this change. Hydroponics, SPIN farming, aquaponics, container gardens, and vertical growing systems, among other methods, are becoming more available as production alternatives. Building on this new interest, the City of Saskatoon could play a significant role in encouraging the practice of food growing in urban areas in safe and effective ways, through guidelines, regulations and permitting. The City can also enable and facilitate by increasing public awareness, brokering partnerships, removing barriers and creating opportunities for businesses, providing initial operational and material support to organizations, and leading by example with initiatives such as edible landscaping. Capitalizing on Saskatoon's existing strengths and assets in urban agriculture will lead to strong growth and benefits to many, including small businesses, non-profits, community groups, and citizens. The public benefits could include a more resilient local food supply chain, increased community participation in the food system, a greater diversity of fresh food sources, healthier ecosystems and improved efficiencies in the distribution of food.

1 Bailkey, M. and J. Nasr. 2000. From Brownfields to Greenfields: Producing Food in North American Cities. Community Food Security News. Fall 1999/Winter 2000:6

A stronger, more vibrant local economy

Urban agriculture can provide viable, commercial business opportunities in the areas of food production (and related processing and retailing), and the development and application of new technologies and methods for growing large volumes of food in small spaces.

A healthier, more food-secure community

Urban agriculture can help to provide resilience in the event of food supply chain interruptions (from market shifts in commodities or weather events, for instance). It can also help address food-related health and access issues, and increase community participation in the food system.

More attractive, vibrant, and unique places

Increasing the diversity and visibility of food-growing in Saskatoon adds interest and animation to the public realm. A broad spectrum of urban agriculture activities increases access to the diversity of sources of fresh produce within neighbourhoods.

Healthier ecosystems

Urban agriculture can support urban ecosystem services such as storm water management and habitat areas for songbirds, bees, and other species.

Less Energy, Emissions, Waste

closer to home shortens the supply chain, enabling energy and organic matter to be more efficiently recycled. As well, the need for packaging can be decreased and transportation efficiencies can reduce energy use.

225-1

From: City Council
Sent: October 18, 2017 3:54 PM
To: City Council
Subject: Form submission from: Write a Letter to Council

Submitted on Wednesday, October 18, 2017 - 15:54
Submitted by anonymous user: 108.60.174.176
Submitted values are:

Date: Wednesday, October 18, 2017
To: His Worship the Mayor and Members of City Council
First Name: Kathleen
Last Name: Aikens
Address: 216 32nd St. W.
City: Saskatoon
Province: Saskatchewan
Postal Code: S7L 0S4
Email: kathleen.aikens@gmail.com
Comments:
These comments are submitted on behalf of the Saskatoon Environmental Advisory Committee (SEAC) in support of the submission by Mr. Gordon Enns, Saskatoon Food Council, to the Standing Policy Committee on Environment, Utilities and Corporate Services. Food security is a complex sustainability challenge, requiring consideration of environmental, social, and economic spheres. Food security intersects with climate change mitigation and adaptation in multiple ways. In terms of mitigation, local food production and distribution can substantially reduce both food miles (the distance food travels to reach our shops and households) and food waste, both of which support reduced greenhouse gas emissions. These shortened supply chains often require less packaging, which reduces overall strain on municipal waste systems. The Prairie Climate Centre notes that a strong urban agriculture system can insulate cities from shocks in the global food system.1

SEAC therefore recommends that the Standing Policy Committee on Environment, Utilities and Corporate Services, and ultimately City Council, explore means of effectively supporting the work of the Food Policy Council, including developing stronger ties between this organization and the City of Saskatoon.

Kathleen Aikens
Chair, Saskatoon Environmental Advisory Committee

1. Temmer, J., for the IISD and the Prairie Climate Centre. (2017). Building a Climate Resilient City: Agriculture and Food Security. http://prairieclimatecentre.ca/wp-content/uploads/2017/04/pcc-brief-climate-resilient-city-agriculture-food.pdf

The results of this submission may be viewed at:
https://www.saskatoon.ca/node/398/submission/199490

2000-1

From: City Council
Sent: October 22, 2017 11:05 PM
To: City Council
Subject: Form submission from: Write a Letter to Council

Submitted on Sunday, October 22, 2017 - 23:05
Submitted by anonymous user: 64.110.219.106
Submitted values are:

Date: Sunday, October 22, 2017
To: His Worship the Mayor and Members of City Council
First Name: Mary-Jo
Last Name: Devine
Address: 902 Queen Street
City: Saskatoon
Province: Saskatchewan
Postal Code: S7K 0N2
Email: maryjodevine@sasktel.net
Comments:
His Worship the Mayor and City Council
Concerned City Park residents wish to meet and speak with the Standing Policy Committee on Environment Utilities and Corporate Services on November 6, 2017.
Our concerns regard the Saskatoon Light and Power superstructure installation on the corner of Spadina and Queen.
We are requesting an immediate halt to the electrical project.
We wish to request a third party review of the uninformed installation to examine:
-project management planning and documentation
-structural integrity, safety, environmental concerns and impact on Kinsmen Park redevelopment
-adequacy of information provided by City Council, Meewasin, Federal Government, Saskatoon Light and Power at all stages of approval process
-community engagement processes
Thank you for your attention to the rushed industrial eyesore installed along the South Saskatchewan River and 'destination' Kinsmen Park.

The results of this submission may be viewed at:
https://www.saskatoon.ca/node/398/submission/199816

Circulated to SPC on PDCS - Oct. 30/17

SL&P Electrical Superstructure Project
Spadina Crescent and Queen Street
Kinsmen Park

Presentation from Concerned Residents of City Park

Presentation Overview

- City of Saskatoon Mission Statement and Leadership Commitments
- Opening Statement
- Concerns
  - Project management and documentation
  - Structural integrity and safety
  - Community engagement and approval processes
- Points for further clarification
- Summary

City of Saskatoon 2013 - 2023 Strategic Plan

- Mission Statement:
  - "...The City of Saskatoon exists to provide excellent local government through leadership, teamwork, partnership and dedication to the community ... "
- Leadership Commitments including:
  - Effective communication, openness and accountability

Opening Statement

- SL&P's electrical superstructure project has moved forward with total disregard for the City of Saskatoon's commitment to effective communications, openness and transparency
- Concerned City Park residents want City Council to immediately halt the project
- Request a third party review of the project to examine:
  - Project management planning and documentation
  - Structural integrity, safety, and impact on Kinsmen Park redevelopment
  - Adequacy of information provided City Council, Meewasin Valley Authority, and Federal Government agencies at all stages of the various approval processes
  - Community engagement processes

Concerns

1. Project management planning and documentation
   - Where is documentation of project management plan?
   - Information and decision making of stakeholders?
2. Structural integrity and safety
   - Structural supports needed – guy wires
   - Use of untested materials in Sask. climate ie – fiberglass
   - Close proximity to high traffic street and riverbank
3. Community engagement and project approval process
   - Project was approved 2015
   - Disrespectful consultation and communication with residents from City of Saskatoon, Meewasin and Saskatoon Light and Power

Points for Further Clarification

Following the meeting with SL&P on October 17, the following are questions we find ourselves asking regarding the electrical superstructure:

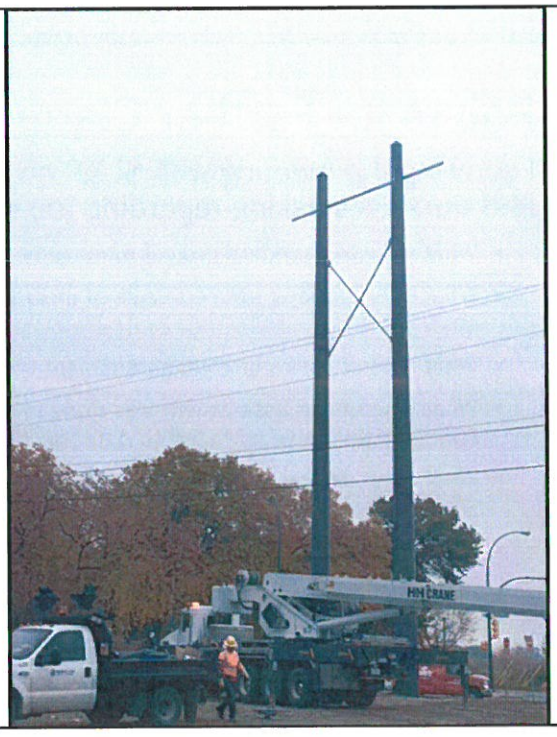
- What industry standard project management approach was used in developing the overall project plan?
- What other options were considered including third party validation of those options and associated costs
- What type of environmental assessment was done for the project?
- What type of risk assessment was done on the material used on the project and other constructional concerns that have surfaced to date? ie. tower material, guy wires
- What approval was provided by the Federal Ministries responsible for work done above the South Saskatchewan River?
- What impact does this project have on the Kinsmen Park redevelopment plan?
- How does the community engagement process for this project differ from that which would be done if a similar electrical project was undertaken by SaskPower in other areas of the city?

Summary

- Request an immediate halt to any further work being done on the project
- Engage a third party to review issues raised in this presentation
- Review community engagement processes and establish consistent practices within all city departments

Thank you for your attention and consideration of the electrical superstructure.

We look forward to working with you to renew resident's faith and trust in Council, Administration and Saskatoon Light & Power.



Approval to Extend Contract – Facility Maintenance Service for the Transition Period at Remai Modern Art Gallery of Saskatchewan

Recommendation
That the Standing Policy Committee on Environment, Utilities & Corporate Services recommend to City Council that the Administration be authorized to extend a sole source contract with Black & McDonald until November 30, 2017 for a total cost of $44,726.52 (excluding applicable taxes).

Topic and Purpose

The purpose of this report is to obtain City Council approval to extend a sole source contract for facility maintenance service with Black & McDonald Ltd. (Black & McDonald) to assist in the transfer of specialized knowledge and commissioning of the Remai Modern Art Gallery of Saskatchewan (Remai Modern).

Report Highlights

1. The Major Projects Division awarded Black & McDonald a sole source contract to support facility management operations start-up and transition services for Remai Modern.
2. Black & McDonald has specialized facility management expertise in the operation and maintenance of museums and art galleries across Canada.
3. Facilities Services is requesting an extension to the services provided by Black & McDonald until November 30, 2017 to support facility management, deficiency completion and commissioning of Remai Modern.

Strategic Goal

This report supports the Strategic Goal of Asset and Financial Sustainability by ensuring the City of Saskatoon's (City) assets are well-managed and well-maintained.

Background

Black & McDonald was retained by Major Projects in June 2017 to assist with facility management operations start up and the transition period of the Remai Modern.

The Administration reported to the Standing Policy Committee on Finance at its meeting on October 30, 2017 of the original sole source contract to Black & McDonald. As this extension exceeds the Administration's authority of $75,000, City Council approval is now required.

Report

Black & McDonald has specialized experience with museums and art galleries to support:

- operational readiness and gap analysis;
- development of a preventative maintenance program;
- development of operation plans and procedures;
- provision of helpdesk/call centre services; and
- provision of supervisory oversight and administrative support.

The Administration is requesting an extension of the contract with Black & McDonald for the following reasons:

- the City does not have the internal resources to support commissioning and complete minor deficiencies associated with the capital project;
- operations support and training of new staff is required for this specialized facility; and
- Black & McDonald has helpdesk services to support the transition to the Facilities Division's work request and maintenance management systems.

Facilities & Fleet Management is recommending an extension of Black & McDonald's services until November 30, 2017 to assist with the transfer of specialized knowledge, as well as continuity of service and familiarity of the facility. These special services will ensure Remai Modern achieves Category "A" status from Heritage Canada by December 2018.

Options to the Recommendation

City Council can choose not to proceed with awarding the extension of the contract with Black & McDonald. The Administration does not recommend this option as Black & McDonald provides expert external services to assist in the training and transfer of specialized knowledge to support the successful opening of the Remai Modern.

Financial Implications

Funds for this contract are in available in Project No. 1815 – New Art Gallery.

Other Considerations/Implications

There are no policy, environmental, privacy, or CPTED implications or considerations, and neither public and/or stakeholder involvement nor a communication plan is required.

Due Date for Follow-up and/or Project Completion

If additional services or an extension of services is required, a follow-up report will be submitted.

Public Notice

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

Report Approval

Written by: Troy LaFreniere, Director of Facilities & Fleet Management
Approved by: Kerry Tarasoff, CFO/General Manager, Asset and Financial Management

Maintenance Extension_AGS Transition.docx

Utility Scale Solar Power Plant

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

1. That Parcel M, Plan No. 102221525 (a 13 acre undeveloped parcel located along Circle Drive South near Montgomery Place) be set aside for a solar power plant; and
2. That Administration proceed with community engagement and report back to City Council with options to finance, build, and operate the solar power plant.

Topic and Purpose

The purpose of this report is to recommend that Parcel M be set aside to build a Solar Power Plant. Saskatoon Light & Power (SL&P) set a target to generate 10% of the utility's annual energy requirements from local, renewable resources. Development of solar power facilities will be key to meeting this target.

Report Highlights

1. SL&P is seeking approval to consider the development of a solar power development project on city-owned Parcel M.
2. SL&P could consider utilizing a mix of financial models to finance, build and operate the solar power plant.
3. SL&P currently has self-generation programs that it offers to its customers to facilitate small solar energy opportunities. While each program provides social and environmental benefits to the city, there are financial implications to the utility.
4. SL&P envisions adding more solar power generating stations in the future to help meet the City's Greenhouse Gas Emission targets.

Strategic Goal

This report supports the Strategic Goal of Environmental Leadership with a long-term strategy to create new sources of green energy where feasible and to increase self-reliance on green energy for city operations.

This report also supports the four-year priority to continue implementation of the Energy and Greenhouse Gas Management Plan, under the Strategic Goal of Environmental Leadership. The Energy and Greenhouse Gas Management Plan lays out many actions related to the development of renewable energy.

Background

City Council, at its meeting held on April 25, 2016, received the report Saskatchewan Polytechnic Solar Demonstration Partnership at the Landfill Gas Power Generation that

that provided a facility for construction of the Solar Power Demonstration Site, and on June 22, 2015, received the report Net Metering Program on providing customers with the ability to generate their own electricity.

In 2016, SL&P built the Saskatoon Solar Power Demonstration Site with its partners SES Solar Co-operative Ltd., Saskatchewan Polytechnic, and the Saskatchewan Environmental Society. The demonstration site was the first step for SL&P to prepare for a larger solar power plant.

The Solar Demonstration Site, located at the Landfill Gas Power Generation Facility is only 500 metres south of the proposed Parcel M location. From the demonstration site, SL&P is analyzing the performance of different solar arrays, comparing the capital cost against its generation, gaining operational and maintenance experience, and creating long-term energy production projections. Attachment 1 highlights early results from the solar demonstration project.

Report

SL&P has set a target to generate 10% of the utility's annual energy requirements from local, renewable resources. Solar power technology fits well within its franchise limits as it is easily deployable and can be sized to fit the available space.

SL&P envisions deploying solar technology within its boundary on undeveloped land that has little or no other above ground development opportunities, such as along rights-of-way.

Parcel M

Parcel M is approximately 13 acres in size and is located immediately south of 11th Street West between Circle Drive South and the CN rail lines. The parcel is a suitable location as it has excellent solar exposure, the location is near electrical distribution lines, and has little or no above-ground development opportunity. SL&P estimates that a one-megawatt solar power plant could be constructed on this site. A conceptual site layout is shown in Attachment 2.

Administration recommends that City Council set aside this parcel for a future solar power plant. This would not permit SL&P to start building the power plant, but would allow the utility to further analyze the site and begin developing a program to finance, build and operate a solar power facility on the land. A further report will be submitted to City Council providing a detailed project proposal before proceeding with the project.

Financial Models for Solar Power Development

There are several programs that SL&P could offer to finance, build and operate a solar power plant. Each program provides social and environmental benefits to the City, but may have varying adverse financial impacts on SL&P.

As a reseller of electricity, SL&P buys electrical energy in bulk from SaskPower. Roughly half the bulk cost is for electrical energy and the other half is for demand-

related charges. Solar generation on SL&P's distribution system would reduce the cost of electrical energy but may not reduce the demand charge. This is explained further in Attachment 3. Attachment 4 introduces the four possible financial models that could be used to finance this project:

1. SL&P could directly invest, construct, and operate the plant.
2. SL&P could contract an independent power producer to own and operate the plant, selling the power to SL&P.
3. SL&P could create a space for its customers to deploy solar power generation on their own to offset their existing power consumption (i.e. Virtual Net Metering).
4. SL&P could create a new Renewable Energy Tariffs Rate Class for its customers.

SL&P would prefer to consider offering multiple programs utilizing Parcel M. This would provide customers with choice on which program suits their needs best. Also, SL&P would be able to monitor the success of each program and expand the best programs in the future.

Facilitating Small Energy Opportunities

The use of Parcel M would be SL&P's first step to facilitate large solar energy opportunities. SL&P facilitates small solar energy opportunities through the customer self-generation programs. Currently, SL&P offers customers the same two programs SaskPower offers to its customers, the Small Power Producer Program and the Net Metering Program. Through the Net Metering Program, SL&P credits customers for electricity sent to the electrical grid at the retail rate. This is often visualized as the customer 'banking' their electricity in the distribution system when they are over-producing and 'withdrawing' that electricity at a later time. For this service, SL&P retains the emissions credits for the generation returning to the distribution system. SL&P is essentially buying greenhouse gas offsets at the purchase price of $148 per tonne of carbon-dioxide equivalent.

The programs provide high customer satisfaction, but have a direct impact on SL&P's financial performance since the purchase price of electricity is purchased from customers at retail rates instead of the more economical bulk power rates that SL&P pays for electricity from SaskPower. The financial impact for each kilowatt of solar installed is estimated to be a reduction in revenue of $185.25 per year. With these programs doubling in size every two years, the financial impact continues to grow proportionally. The loss of revenue opportunity from the existing programs in 2017 is estimated at $92,625.

Future Solar Deployment and Use

To reach the City's new greenhouse gas emissions targets, both the electrification of end-use applications and the deployment of clean energy generation sources are required.

As traditional fossil-fueled applications convert to electrified applications (such as stoves, water heaters, space heating, and electric buses and vehicles), SL&P envisions adding new clean energy generation in its franchise area to power these new loads. Several opportunities exist adjacent to Circle Drive around the city similar to this parcel east of Montgomery Place, on sound walls, and near SL&P substations. Multiple programs would be established.

Future opportunities are possible to invest in clean energy projects outside SL&P's franchise area. For example, SL&P could bid as an independent power producer on SaskPower procurement opportunities to add new clean energy to the provincial grid. This is in place in other jurisdictions such as Calgary who powers its light rail transit from wind farms outside of the city.

The following table illustrates a solar deployment strategy and timeline to meet the new demand to 2050.

Year	Net Metering	Community Co-op	Independent Power Producers	Direct Investment	Cumulative Total
Existing	0.5 MW				0.5 MW
2019	0.5 MW	0.2 MW	2 MW		3.2 MW
2021	1 MW		5 MW		9.2 MW
2023	2 MW	0.8 MW	5 MW		17 MW
2025	2 MW	1 MW	10 MW	20 MW	50 MW
By 2050	10 MW	10 MW		30 MW	100 MW
Total	16 MW	12 MW	22 MW	50 MW	100 MW

Options to the Recommendation

Administration could explore alternative sites such as using existing sound attenuation walls along Circle Drive South. This is a long-term vision for solar technology deployment but is not recommended by the Administration at this time as installations would be smaller and require more electrical distribution capital. Parcel M was deemed the most practical and cost effective with excellent exposure for this project.

Public and/or Stakeholder Involvement

Formal engagement with major stakeholder groups, community-based special interest groups, and adjacent residents will proceed in 2018. The City could also consider gathering public input via its Citizen Advisory Panel (CAP).

Communication Plan

Communication planning will be ongoing as the project progresses and will include website updates, media relations and advertising where required to promote accomplishments and provide opportunities for citizens to engage.

Financial Implications

Project investigation to date has been funded from Capital Project #1281 - Sustainable Power Generation Options.

Environmental Implications

A 1 MW solar power plant is estimated to save 15,893 tonnes of carbon dioxide equivalent (CO2e) from being emitted over the 25-year term of the project, which is equivalent to removing 134 cars from the road.

Other Considerations/Implications

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

Due Date for Follow-up and/or Project Completion

If City Council approves to set aside Parcel M for a potential solar power plant, the Administration would provide a further report identifying the proposed programs to be used to finance, build, and operate the plant.

Public Notice

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

Attachments

1. Solar Power Demonstration Site
2. Proposed 1 MW Solar Power Plant Design Circle Drive Parcel M
3. Reseller Rates and Local Solar Generation
4. Potential Utility Scale Solar Power Plant Financial Programs

Report Approval

Written by:	Nathan Ziegler, Sustainable Electricity Engineer Kevin Hudson, Manager of Metering and Sustainable Electricity
Reviewed by:	Trevor Bell, Director of Saskatoon Light & Power
Approved by:	Angela Gardiner, Acting General Manager, Transportation & Utilities Department

EUCS NZ – Utility Scale Solar Power Plant.docx

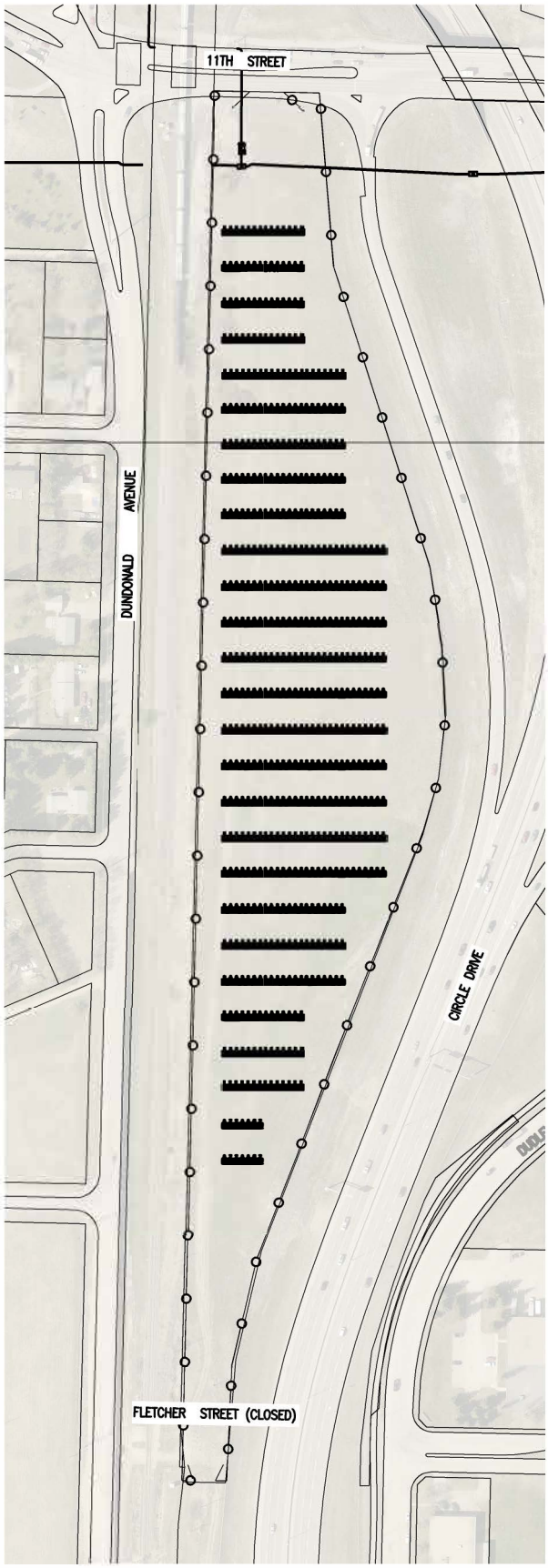
Solar Power Demonstration Site

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 Saskatoon Light & Power 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. Early results are showing that the site is meeting or exceeding its production expectations and financial payback.

Item	Fixed Position Array	Manually Adjustable Array	Sun Tracking Arrays
Initial Production Estimate (kWh/kW)	1,230	1,368	1,880
Actual Production Estimate (kWh/kW)	1,310	1,403	1,906
Initial Capacity Factor (%)	14.0	15.5	21.5
Actual Capacity Factor (%)	14.9	15.8	21.5
Initial Cost per kW ($/kW)	4.70	4.75	5.3
Actual Cost per kW ($/kW)	4.70	5.10	9.84
Initial Payback Time (years)	23	21	16
New estimated Payback Time (years)	21	21	25

Attachment 2



LEGEND

- SOLAR ARRAY
- TRANSFORMER & METERING CABINET
- FENCE
- MANHOLE
- DUCT

COPY
Oct. 10, 17
JJA
INITIALS

LATEST REVISION	ORIGINAL	SASKATOON LIGHT & POWER – City of Saskatoon –	REVISION DESCRIPTION
REVISED BY _____ DATE _____	DRAWN BY JJA DATE OCT 4/17		
CHECKED BY _____ DATE _____	DESIGNED BY _____ DATE _____	PROPOSED 1 MW SOLAR POWER PLANT DESIGN CIRCLE DRIVE PARCEL M	SCALE Horizontal NTS Vertical _____ REV NO 0
APPROVED BY _____ DATE _____	APPROVED BY _____ DATE _____	36	DRAWING NUMBER V-501

Reseller Rates and Local Solar Generation

Saskatoon Light & Power (SL&P) resells electrical energy by purchasing electrical energy in bulk from SaskPower and sells that purchased electrical energy to its customers. In comparison, SaskPower generates the electrical energy that it sells to its customers.

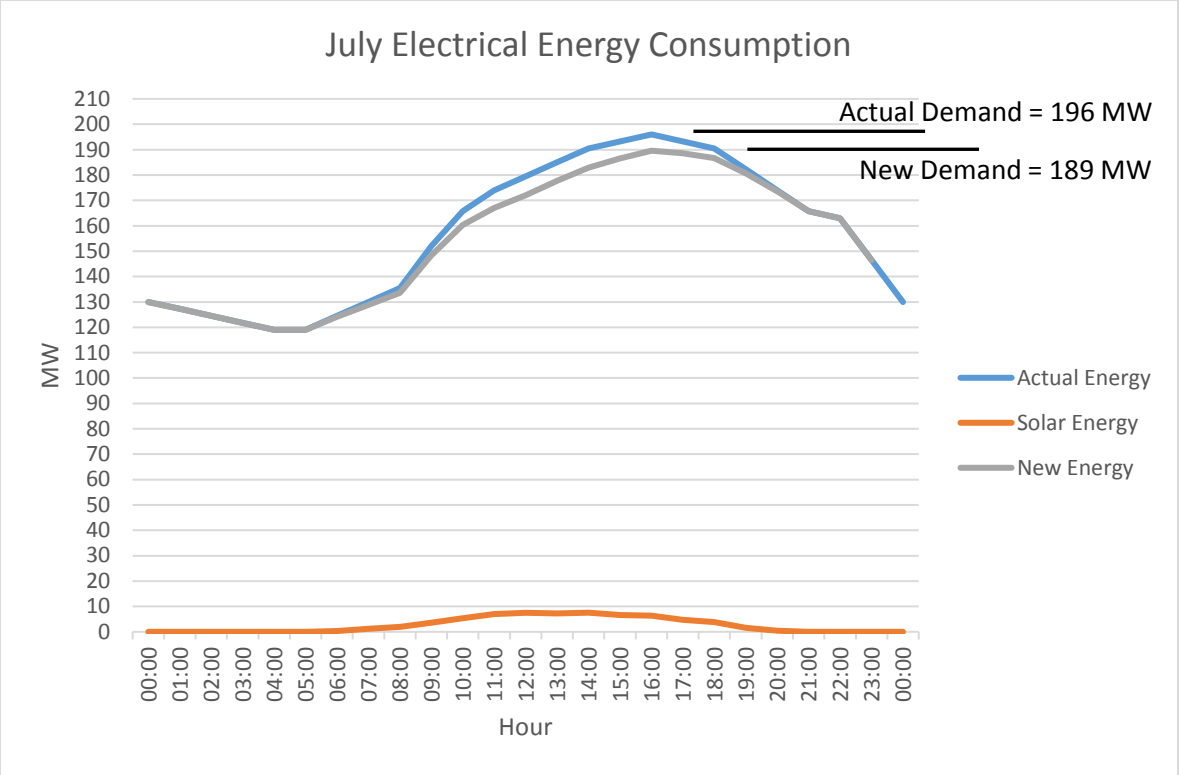
SL&P pays three charges each month for the bulk power as follows:

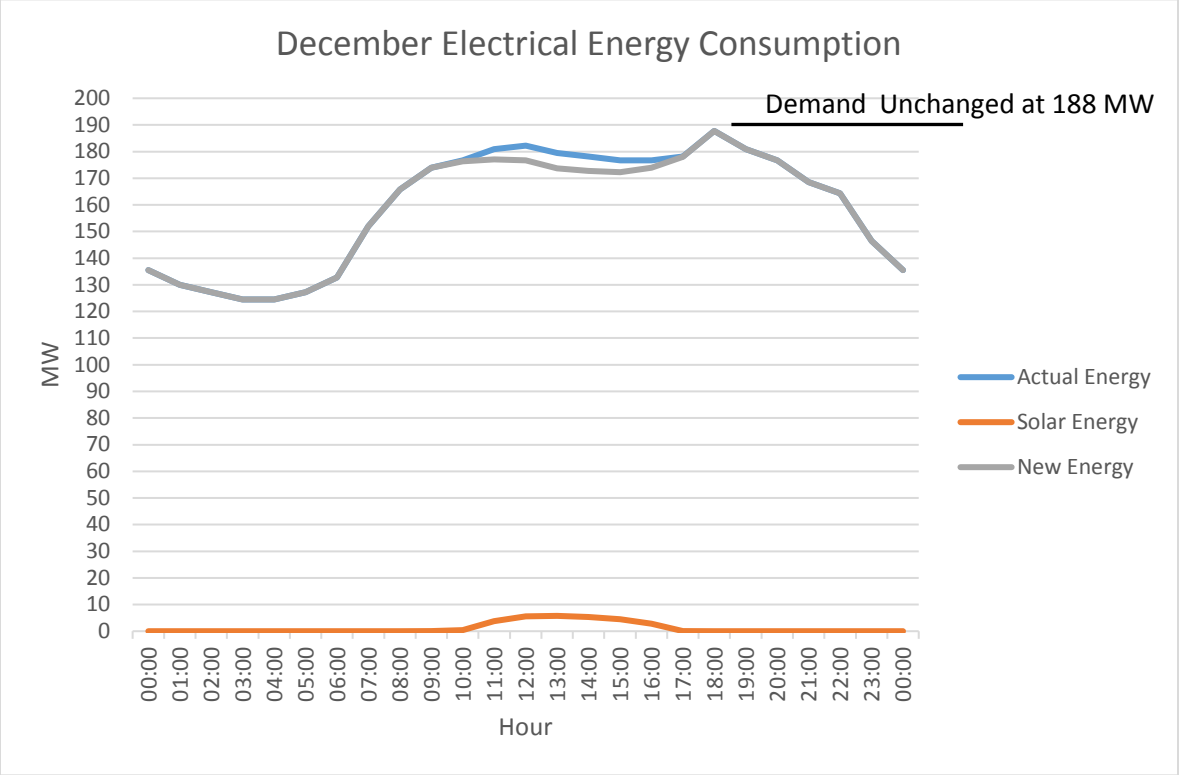
- First, SL&P pays a basic monthly charge.
- Second, SL&P is charged for the energy (i.e. consumption) imported in the month.
- Third, SL&P pays a demand charge which is the maximum amount of electrical energy being delivered at one time in the month (i.e. capacity).

By generating electricity from a solar power plant located inside the SL&P franchise area, SL&P's energy charge from SaskPower would be reduced by the same amount of energy generated from the plant but may still pay the same demand charge.

The following two charts were created using real data collected from our transmission electrical energy meters and the Solar Demonstration Site to illustrate the concept. Each chart shows the hourly energy being purchased from SaskPower and the solar energy from a theoretical 10 mega-watt (MW) plant. In July, the solar power would reduce the peak demand as the energy production matches the peak demand on the electrical system. However, in December the peak energy demand occurs after the sun has set and the solar power plant is not generating electrical energy. In December, SL&P would only save on the energy charge and pay the same demand charge as usual. It is likely that a solar power plant may, but not necessarily, reduce the demand charge for SL&P in the summer months but would not reduce the demand charges in the winter months.

Further, SaskPower can charge its customers a Stand-by Charge. A Stand-by Charge is applied to customers who generate a portion of their electrical energy but may need additional capacity when their generation facility is not working or offline for repair.


July Electrical Energy Consumption
Actual Demand = 196 MW
New Demand = 189 MW
MW
Hour
Actual Energy
Solar Energy
New Energy


December Electrical Energy Consumption
Demand Unchanged at 188 MW
MW
Hour
Actual Energy
Solar Energy
New Energy

Potential Utility Scale Solar Power Plant Financial Programs

The following four programs are possible ways SL&P could finance, build, and operate a solar power plant. The following four programs compare a 1 megawatt (MW) installation, which is the estimated size of a power plant at Parcel M. Each program compares the financial return over a 25-year term. The economic impact is calculated by comparing the traditional model of purchasing the electrical energy from SaskPower against the cost of electrical energy from the new solar power plant. The financial calculations assume a price on carbon starting at $10 per tonne carbon dioxide equivalent (CO_{2eq}) and increasing by $10 per year until the price is $50 per tonne CO_{2eq}.

Program No. 1 – Direct Investment

Under this program, SL&P will build and operate the 1 MW solar power plant using its crews. The project will be financed using 100% debt. Generated power will be used for reselling to customers reducing the amount of electrical energy needed from SaskPower.

Details	
Size of Power Plant:	1 MW
Capital Cost:	$3.54 M
Loan:	$3.18 M
1st Year of Operation:	2020

Economics	
Return of Investment after 25 years	-$0.6 M
Simple Payback:	11.8 years
Payback w/ Loan Costs	22.2 years
Internal Rate of Return	1.86%
Discount Rate	3.5%

Program No. 1 Values

Finance	Social	Environment
Neutral	Good	High

The program will:

- ✘ Improve energy affordability for local residents and local businesses.
- ✓ Keep "energy dollars" in the community
- ✓ Create local and/or regional jobs
- ✓ Attract new investment to the community
- ✓ Support community health goals (improved air quality, active transport)
- ✓ Increase energy resilience

The financial impact on SL&P will be neutral, although the yearly return on investment provided to the City would be reduced for the next 20 years to pay off the loan. At the end of the project term, SL&P would own depreciated assets approximately equal to the lost revenue amount.

Through the program, new and interesting work would be created for the SL&P staff with the construction and operations of the solar power plant. The Carbon credits would belong to the City who could apply the credits towards its CO2eq reduction targets.

Program No. 2 – 3rd Party Investment

Under this program, SL&P would contract an Independent Power Producer (IPP) to finance, build, and operate a solar power plant. The IPP would sell the generated electrical energy to SL&P. Generated power would be used for general purpose to reduce the amount of electrical energy needed from SaskPower.

Details	
Size of Power Plant:	1 MW
Capital Cost:	$0
Loan:	$0
1st Year of Operation:	2020

Economics	
Return of Investment after 25 years	-$2.2 M
Simple Payback:	-
Payback w/ Loan Costs	-
Internal Rate of Return	-
Discount Rate	-

Program No. 2 Values

Finance	Social	Environment
Poor	Neutral	High

The program will:

- ✘ Improve energy affordability for local residents and local businesses.
- ✘ Keep "energy dollars" in the community
- ✓ Create local and/or regional jobs
- ✓ Attract new investment to the community
- ✓ Support community health goals (improved air quality, active transport)
- ✓ Increase energy resilience

The IPP would finance the project and own the capital with no upfront costs for SL&P. Instead, SL&P would pay a premium rate for the electrical energy and reduce its return on investments to the City by approximately $100,000 per year to pay the premium rate. The Carbon credits would belong to the City who could apply the credits towards its CO_{2eq} reduction targets.

Program No. 3 – Virtual Net Metering

SL&P would create a Virtual Net Metering Program that would allow customers to install their own solar power equipment. SL&P customers would finance and build solar power systems in a designated area. The electricity generated from the customer's solar power system would be used to reduce their electricity cost at the home or business.

Details	
Size of Power Plant:	1 MW
Capital Cost:	$0
Loan:	$0
1st Year of Operation:	2020

Economics	
Return of Investment after 25 years	-$3.5 M
Simple Payback:	-
Payback w/ Loan Costs	-
Internal Rate of Return	-
Discount Rate	-

Program No. 3 Values

Finance	Social	Environment
Poor	High	High

The program will:

- ✘ Improve energy affordability for local residents and local businesses
- ✓ Keep "energy dollars" in the community
- ✓ Create local and/or regional jobs
- ✓ Attract new investment to the community
- ✓ Support community health goals (improved air quality, active transport)
- ✓ Increase energy resilience

This program would provide high customer satisfaction but would have significant financial impact on SL&P. The negative economic impact would occur from the loss of sales as customers generate electricity. Under the program, SL&P would create new revenue sources for land lease rentals and operating the facility. Carbon credits would belong to the City who could apply the credits towards its CO2eq reduction targets.

Program No. 4 – New Rate Class

SL&P would create a new rate class to sell a bundled package of electrical energy and carbon credits. A bundled rate class is the preferred method for large corporations like Google Inc., who power their operations with 100% renewable power. The program would be designed to be financially neutral and would add new services to customers.

SL&P would build and operate the 1 MW solar power plant. The project is financed using 100% debt. Power generated from the solar power plant would be used for general purpose. Generated electrical energy reduces the amount of electrical energy purchased from SaskPower.

Financially, the program would be net neutral, although SL&P would reduce its return on investment to the City for 20 years to pay the loan costs. Carbon credits would belong to the client.

Details	
Size of Power Plant:	1 MW
Capital Cost:	$3.54 M
Loan:	$3.18 M
1st Year of Operation:	2020

Economics	
Return of Investment after 25 years	$0 M
Simple Payback:	11.0 years
Payback w/ Loan Costs	21.2 years
Internal Rate of Return	2.61 %
Discount Rate	3.5 %

Program No. 4 Values

Finance	Social	Environment
Neutral	Good	Neutral

The program will:

- ✓ Improve energy affordability for local residents and local businesses
- ✓ Keep "energy dollars" in the community
- ✓ Create local and/or regional jobs
- ✓ Attract new investment to the community
- ✓ Support community health goals (improved air quality, active transport)
- ✓ Increase energy resilience

Storm Water Flood Resiliency

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

1. That a Home Flood Protection Program pilot project be developed for high flood risk areas in 2018;
2. That $200,000 be allocated in 2018 from the Storm Water Capital Reserve to fund the pilot Home Flood Protection Program; and
3. That the Administration refine infrastructure options with funding strategies and report back by mid-2018.

Topic and Purpose

The purpose of this report is to outline options to increase flood resiliency to reduce the risk of flooding in high-risk flood areas.

Report Highlights

1. Thirty high-risk flood areas in Saskatoon were prioritized, and concept level options and costs for increasing service levels for the top three flood risk areas were evaluated.
2. A Home Flood Protection Program pilot is recommended to offer subsidized home inspections for citizens in the top 30 high-risk flood areas.
3. Based on the concept level costs and service level, funding options to increase storm water infrastructure capacity are included for consideration.
4. Incentives to increase on-site storm water management will be reviewed in 2018.

Strategic Goals

This report supports the Strategic Goal of Quality of Life through reduced flood damage risk to properties, and diminished stress and anxiety associated with intense rainfalls. This report also supports the Strategic Goal of Environmental Leadership through adaptation to climate change.

Background

At its meeting held on August 28, 2017, City Council approved four recommendations regarding the Storm Water Utility Business Plan, as presented by the Administration, and made four additional directives to address surface flooding in high-risk flood areas:

> "1. That the Storm Water Utility focus resources on maintenance and preservation of existing storm water assets;
> 2. That $3 million be maintained in the Storm Water Utility's capital reserve to protect strategic public infrastructure from damage caused by riverbank slumping and other emergency storm water repairs;

3. That the Equivalent Runoff Unit used for Storm Water Management charges be increased by $13.50 annually from 2019 to 2022, and utilized for projects to maintain and preserve storm water infrastructure;
4. That the temporary Flood Protection Program be extended and phased out by $13.50 annually from 2019 to 2022;
5. That the Administration report prior to 2018 budget consideration on the impact of an increase to the ERU to generate funds for flood mitigation;
6. That the City identify this situation as a further request for Federal Funding;
7. That the Administration report on a funding and infrastructure strategy to systematically deal with the top risk priority areas.
8. That the Administration report back outlining possible incentives to residential and/or commercial/industrial property owners to promote demonstrated onsite storm water management not only for new development/infill development, but for retrofit with possible emphasis on established and flood-prone areas."

Report

Intense rainfalls on July 10, 2017, and August 8, 2017, caused surface flooding in 11 of the prioritized 30 surface flood risk areas in south-central Saskatoon. According to the storm water model, both rain events were rated as "1-in-25 year" in localized areas and up to "1-in-2 year" rainfall in most other areas of the city. A survey of property owners in the highest impact areas was conducted to verify the model results (Attachment 1). The survey results of actual flooding in 2017 provided valuable information that will assist in recalibrating the storm water model and reassessing the cost of infrastructure options for different rain events.

Surface Flood Control Strategy

In 2014, 30 areas at risk of flooding were evaluated and rated. The Surface Flooding Control Strategy Report – Storm Water Management (Attachment 2) provides more information about the prioritization.

Conceptual options to reduce the risk of surface flooding and estimated costs for different service levels were assessed for the following three highest ranked areas:

- Ruth Street/Cairns Avenue
- First Street/Dufferin Avenue
- Cascade Street/Dufferin Avenue

The following options were evaluated:

- Flood walls
- Up-size pipes
- Storm water ponds and underground storage
- Redevelop flood-prone areas
- Combination of ponds/underground storage and redeveloping flood-prone areas

The infrastructure solutions are complex because of the capital intensive work required to retrofit the storm water management systems in areas with existing development. As a result, options for residents to make improvements to their properties to increase flood resiliency were assessed.

Home Flood Protection Program

Homeowners can increase flood resiliency by understanding flood risks and taking preventative actions. The Home Flood Protection Program developed by the University of Waterloo's Intact Centre for Climate Adaptation (ICCA) was introduced in 2017 to southern Ontario municipalities, which experienced severe basement flooding. The program offers free online self-help resources and a Home Flood Protection Assessment. Citizens pay $125 (approximately one-third of the cost) for an inspection and report with ways they can reduce sewer backup and overland flood risks, reduce moisture content, minimize damage to valuables, wisely manage water on site, and understand insurance coverage. The ICCA has indicated that a similar pilot program could be offered in Saskatoon in 2018.

The Administration is recommending that a Home Flood Protection Program, in cooperation with ICCA, be implemented in high-risk flood areas in Saskatoon. Information from the assessments will provide the City with valuable information to develop further programs that may include subsidization of recommendations from the assessments.

A review of other municipal programs found three cities that offer a credit program to residential properties for on-site storage of storm water runoff. Some municipalities offer cost-shared programs to reduce the risk of sewer back-ups but not surface flooding. Increasing Flood Resiliency through Private Property Improvements (Attachment 3) provides more details.

Infrastructure Options to Enhance Storm Water Capacity

The flooding impacts of each rain event are different. A "1-in-10 year" storm water retention solution likely would have prevented most of the basement flooding in 2017; however, infrastructure solutions to reduce surface flooding will not prevent the foundation seepage or sanitary sewer back-ups that occurred. Continued actions will also be needed by individual property owners to make their properties more flood resilient as rainfall events greater than "1-in-10 year" are expected in the future.

Based on modelling, the most effective infrastructure option is to direct runoff from intense rain events to a new retention system, which could include dry storm water ponds and possibly underground storage.

Two service level options for infrastructure to enhance storm capacity are summarized as follows:

1. Implement a "1-in-10 year" storm water capacity expansion service level. The $19.0 million high-level concept cost to implement the expansion in three areas could be funded through one of three options:

- A dedicated 0.6% annual mill rate increase for five years (3.04% compounded);
- Make the Flood Protection Program (FPP) permanent and increase the fee to $66 per meter; or
- Increase the Storm Water Utility Equivalent Runoff Unit (ERU) by 30%, in addition to previously approved ERU increases.

These options would generate approximately $154 million over 25 years to increase capacity for 30 areas.

The following table summarizes potential funding strategies for a "1-in-10 year" service level of storm water capacity expansion for three flood risk areas. Further details for infrastructure options are shown in High Level Conceptual Remediation Options and Costs by Service Level (Attachment 4).

Funding Options for "1-in-10 Year" Storm Water Capacity Expansion (Revenue In Millions)						
Funding Options	2018	2019	2020	2021	2022	Total (2018 to 2022)
Mill Rate (0.6% Annual Increase)	$ 1.3	$ 2.7	$ 4.0	$ 5.3	$ 6.7	$ 20.0
Flood Protection Program (FPP) ($66/meter)	$ 0.6	$ 5.0	$ 5.1	$ 5.1	$ 5.2	$ 21.0
ERU Increase (30%) & FPP Re-allocation	$ 1.9	$ 5.2	$ 5.0	$ 4.6	$ 4.1	$ 20.8

2. Implement a "1-in-25 year" storm water capacity expansion service level. The $36.6 million high-level concept cost to implement the expansion in three areas could be funded through one of three options:
   - A dedicated 1.2% annual mill rate increase for five years (6.12% compounded);
   - Make the FPP permanent and increase the fee to $114 per meter; or
   - Increase the Storm Water Utility ERU by 67%, in addition to previously approved ERU increases.

   These options would generate approximately $311 million over 25 years to increase capacity for 30 areas.

Conceptual Storm Water Capacity Expansion and Funding Options (Attachment 5) provides more details on the funding strategy options for different service level options and a high-level implementation plan, if one of these options is desired in the future.

Although solutions and costs have not been developed for the other 27 flood risk areas, if costs for each area are a similar order of magnitude (average of $6.3 million per area), in some areas, the infrastructure solution will exceed the total value of the houses protected and the most cost-effective option may be to redevelop flood-prone areas. The solution complexity, cost, number of properties, and cost to protect each property will vary significantly for each area. Each zone needs to be looked at on a case-by-case basis to determine the most cost-effective solution for the unique circumstances.

If a new retention system is constructed, efforts will be made to maintain recreation usage of parks after reconstruction. However, current recreation activities in these parks are expected to be impacted and park maintenance costs may increase.

Incentives to Promote On-site Storm Water Management

Commercial and industrial property owners in Saskatoon can reduce their Storm Water Utility Bill by reducing permeability. The program will be further assessed in 2018 to determine possible changes to increase uptake and encourage on-site storm water runoff storage, particularly in flood risk areas.

Options to the Recommendation

An option is to purchase the houses in the high-risk areas. This option is generally more expensive than the infrastructure options in more intensive rainfall scenarios; therefore, not recommended for the top three risk areas. This option may be the most cost-effective option in some of the 30 high-risk flood areas but will require further analysis.

Public and/or Stakeholder Involvement

Extensive consultations were undertaken in 2014 with residents in the top flood risk areas about the impacts of property flooding and options to reduce flood risks. Citizens' preferred solutions were storm water retention and upsizing pipes.

Many citizens who were impacted by the July and August 2017 flooding contacted City Council members and the Administration about concerns with flooding in their area. Citizens who presented to the August 15, 2017, Standing Policy Committee on Environment, Utilities and Corporate Services and the August 28, 2017, City Council meeting provided personal accounts of the impact of flooding and requested timely action.

Communication Plan

Flyers were delivered to 480 properties at risk of flooding to provide information about the Provincial Disaster Assistance Program funding, to invite feedback on the extent of the 2017 flooding through an online survey, and to acquire email addresses from citizens for future engagement. The flyers were followed up with phone calls and e-mails to residents in the highest risk areas. Information about flood mitigation is available at saskatoon.ca/flooding.

When a decision about flood resiliency is made, a more detailed communication plan will be developed to inform residents in areas at risk of flooding.

Communication about increases to property taxes or other charges will focus on the importance of enhancing capacity to reduce the risk of property damage, in light of climate change and the likelihood of more frequent intense storms. The communication will also focus on the importance of asset maintenance and preservation to prevent future higher costs.

Financial Implications

The cost to subsidize up to 600 Home Flood Protection Assessments to eligible properties in the 30 high-risk flood areas by $250 each, would be $150,000 and approximately $50,000 to set up, communicate, and administer the assessment program for a total cost of $200,000. The Storm Water Capital Reserve has sufficient funding available in 2018 to support this program.

Estimated resources of $500,000 will be required from the Storm Water Capital Reserve for community engagement and internal engineering design work to support the infrastructure options. A reallocation from the Storm Water Capital Reserve will reduce funding available for emergency remediation of storm water assets and slope stability funding.

If the detailed engineering shows that costs for capacity expansion are more than the concept level costs, adjustments to the Asset Preservation Plan, construction schedule extension, and further mill rate or fee increase will be evaluated and presented.

Environmental Implications

The proposed program supports climate adaptation measures to mitigate flood damage associated with longer-term climate change impacts (e.g. more frequent and intense rainfall events). Storm water infrastructure options would generate greenhouse gas emissions resulting from construction-related activities; however, the overall impact on greenhouse gas emissions has not been quantified.

Other Considerations/Implications

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

Due Date for Follow-up and/or Project Completion

A report summarizing the details and eligibility of the Home Flood Protection Program will be presented in early 2018.

Public Notice

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

Attachments

1. 2017 Rain Events
2. Surface Flooding Control Strategy Report – Storm Water Management
3. Increasing Flood Resiliency Through Private Property Improvements
4. High Level Conceptual Remediation Options and Costs by Service Level
5. Conceptual Storm Water Capacity Expansion and Funding Options

Report Approval

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Reviewed by: Reid Corbett, Director of Saskatoon Water

Approved by: Angela Gardiner, Acting General Manager, Transportation & Utilities Department

EUCA AS – Storm Water Flood Resiliency – Nov 6-17.docx

2017 Rain Events

In 2017, severe rainfall events on July 10 and August 8 resulted in localized flooding in south-central Saskatoon. On July 10, accumulated rainfall of 45 mm was recorded at the Saskatoon Light & Power rain gauge. On August 8, Environment Canada reported 57 mm of rainfall at an unofficial rain gauge in the Nutana area, while the closest Saskatoon Water rain gauge at the Acadia Reservoir recorded 26 mm of rainfall. Eleven of the 30 prioritized flood risk areas are located in south-central Saskatoon where flooding was primarily concentrated. Both rain events were rated as a "1-in-25 year" in the areas with the highest official and unofficial accumulated rainfall, and up to a "1-in-2 year" rainfall in most other areas of the city.

In September 2017, 480 flyers inviting residents to complete an on-line questionnaire were delivered in the 11 areas that had been identified to be at highest risk of flooding. The flyers were followed up with phone calls and e-mails to the residents in the top five flood risk areas. As of October 26, 2017, 114 citizens in the 11 areas completed the survey.

The following are survey highlights based on the responses:

- During the July 10 rain event, surface water entered 16 houses and reached the base of an additional 19 houses but did not penetrate the house.
- During the August 8 rain event, surface water entered 41 houses and reached the base of an additional 12 houses.
- Over half of the houses with flooding had less than 2.5 cm of water depth in their house. Fifteen houses had water depth between 2.5 cm and 30 cm (one inch to one foot) and five houses experienced water depth of more than 30 cm (one foot). Three of these houses with more than 30 cm of water were in the First Street/Dufferin Avenue area.
- Of the houses that flooded, fourteen had less than $1,000 in damage, eight had between $1,000 and $10,000, eleven had between $10,000 and $50,000, and seven experienced more than $50,000 in damage.
- Of the houses that experienced flooding, water entered the majority through basement windows. Water also entered via doors, the garage, seepage through the foundation, air conditioning lines, and crawl spaces. Eight properties experienced sewer back-up.

The questionnaire responses confirming flooding were mapped and compared to debris lines and models to determine the estimated number of houses in the top five risk areas that experienced flooding on August 8. The table below shows that based on an extrapolation of the surveys, the maximum number of houses and businesses with water in or at the building in the top five areas on August 8 was 81, with 63 of those being in the top three areas. These numbers based on actual reported flooding indicate that the impact was closer to a "1-in-5 year" modelled rain event, in which 118 properties would be expected to experience water at the base or in their buildings (204 buildings in a "1-in-10 Year" rain event).

Top Five Flood-Risk Areas	Number of survey respondents indicating water reached or entered the building	Maximum houses or businesses with water to the base or in the building extrapolated from surveys and maps	Maximum houses or businesses with expected flooding based only on modelling for a "1-in-10 Year" rain event
1. Ruth Street/Cairns Ave.	17	21	54
2. First Street/Dufferin Ave.	11	19	39
3. Cascade Street/Dufferin Ave.	12	23	41
4. Early Drive/Tucker Ave.	3	9	47
5. Seventh Street/Cairns Ave	7	9	23
Total for five areas	**50**	**81**	**204**

Climate change could result in more frequent, high-intensity rain events in the future. If a "1-in-10 year" design standard is implemented, properties will still be at risk of flooding when intense rains exceed the "1-in-10 year" modelled rain event. Each rain event is different and the impacts are influenced by many factors, including:

- Amount of rainfall
- Intensity
- Duration
- Soil saturation from previous rainfall or snowmelt
- Topography
- Measures taken by homeowners to make their properties more flood resilient.

Municipalities and homeowners can invest in measures to increase flood resiliency. However, there will always be a chance of basement flooding, no matter what municipalities or private homeowners do to reduce the risk.[1]

[1] Dan Sandink, *Handbook for Reducing Basement Flooding*, Institute for Catastrophic Loss, June 2009, pg 4.

Surface Flooding Control Strategy Report

Storm Water Management

Saskatoon Water
Transportation & Utilities Department

City of Saskatoon

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BACKGROUND

The storm sewer in Saskatoon is designed to fill and flood onto the street during major rain events. In neighbourhoods constructed after 1989, the water in the street was accounted for as part of the design to try and limit property damage. However, many areas in Saskatoon constructed before 1989 were not designed with the same provision. Therefore, many residents are concerned about property damage as a result of a major rain event.

To add to the problem, Saskatoon has recently received more precipitation than any other similar period, dating back to 1900. This precipitation has led to an increase in ground water elevation which has caused a higher level of saturation in the soil. As well, the rainfall intensity and frequency has increased the risk of property damage in many areas of Saskatoon.

In response, the Storm Water Management Group within Saskatoon Water has developed a surface flooding control strategy. The strategy is to prioritize all the known flooding locations and investigate possible remedial options. Thirty flood zones have been assessed and the top five have been identified to address first.

INTRODUCTION

The 2007 city-wide model produced flood contours for four different storms with the following return periods: 2 year, 5 year, 10 year, and 100 year.

METHODOLOGY

Site Risk

Site Risk is an indicator of the probability that any given site will flood within a specific flood zone. For each of the flood zones, the number of residential flooded sites and the number of commercial flooded sites were counted for each of the four storms. A site was assumed to be flooded if any amount of water touched or surpassed its boundaries. As well, it should be noted that residential sites are those sites with a subclass of RES (residential), MRES (multi-residential), or COND (condominium), while commercial sites are those sites with a subclass of COMM (commercial). For this analysis, residential property is considered to be more important that commercial property. Therefore, the following formula was used to determine the total number of flooded sites within a flood zone:

$$\text{Number of Flooded Sites} = 2 \times \left(\text{Number of Residential Flooded Sites}\right) + \left(\text{Number of Commercial Flooded Sites}\right) \quad (1)$$

The above formula resulted in four values for each flood zone, one for every storm event. These values were then used in the following formula to determine the Site Risk for each storm within each flood zone:

$$\text{Site Risk} = \frac{\text{Number of Flooded Sites}}{\text{Return Period of Storm}} \quad (2)$$

This resulted in four Site Risk values for each flood zone, one for each storm event. Finally, the Site Risk for each flood zone was determined to be the largest of the four resulting values.

Figure 1: An example of flooded sites during a 5 year storm.

METHODOLOGY

Building Risk

Similar to Site Risk, Building Risk is an indicator of the probability that a building will flood within a specific flood zone. For each of the flood zones, the number of residential flooded buildings and the number of commercial flooded buildings were counted for each of the four storms. A building was assumed to flood if any amount of water touched or surpassed the boundaries of the building. It was also assumed that a building was residential if it was located on a site with a subclass of RES, MRES, or COND. Commercial buildings were those buildings located on sites with a subclass of COMM. Once again, this analysis assumed that residential property was more important than commercial property. Therefore, the following formula was used to determine the total number of flooded buildings within a flood zone:

$$\text{Number of Flooded Buildings} = 2 \times \left(\text{Number of Residential Flooded Building}\right) + \left(\text{Number of Commercial Flooded Buildings}\right) \quad (3)$$

The above formula resulted in four values for each flood zone, one for every storm event. These values were then used in the following formula to determine the Building Risk for each storm within each flood zone:

$$\text{Building Risk} = \frac{\text{Number of Flooded Buildings}}{\text{Return Period of Storm}} \quad (4)$$

This resulted in four Building Risk values for each flood zone, one for each storm event. Finally, the Building Risk for each flood zone was determined to be the largest of the four resulting values.

Figure 2: An example of flooded buildings during a 5 year storm.

METHODOLOGY

Road Risk

Throughout Saskatoon, there are eight different road types, each classified based on their importance to and impact on the public. For this analysis, each road type was assigned a value between one and eight to indicate how the public would be affected if the road was flooded. An eight indicates that the majority of the public would be affected if the road was flooded, while a one indicates that very few people would be affected if the road was flooded. This value is referred to as Road Criticality. It should be noted that a road was considered to be flooded if any amount of water was on the road. A summary of the different road types, and their corresponding Road Criticality values, can be seen below in Table 1.

Table 1: Road Type Summary

Road Type	Road Criticality
Highway	8
Expressway	7
Expressway Ramp	6
Arterial Major	5
Arterial Minor	4
Collector	3
Local	2
Grid Road	1

For each storm event, the total number of roads that experienced flooding were counted for each unique road type within each flood zone. Once this information was collected, the following formula was used to determine the Road Risk for each storm within each flood zone:

$$\text{Road Risk} = \frac{\sum (\text{Road Criticality} \times \text{Number of Flooded Roads})}{\text{Return Period of Storm}} \quad (5)$$

This resulted in four Road Risk values for each flood zone, one for each storm event. Finally, the Road Risk for each flood zone was determined to be the largest of the four resulting values.

METHODOLOGY

Combined Risk

Finally, a Combined Risk was calculated for each of the flood zones by taking into account Building Risk, Site Risk, and Road Risk. For this analysis, each of the three risk factors were given different levels of importance. Building Risk was considered the most important since damage to a building due to flooding can be costly to fix and has a large impact on the well-being of the public. Road Risk was considered the least important since roadways constructed after 1989 are designed to convey overland flow. The following formula was used to determine the Combined Risk for each flood zone:

$$\text{Combined Risk} = (3 \times \text{Building Risk}) + (2 \times \text{Site Risk}) + \text{Road Risk} \quad (6)$$

The following Table provides the Combined Risk for each of the thirty flood zones, as well as the resulting priority for each zone.

METHODOLOGY

Table 2: Flood Zone Risk Analysis Results

Priority	Flood Zone	Neighbourhood(s)	Combined Risk
1	Ruth - Cairns	Adelaide / Churchill	103.4
2	1st Street - Dufferin	Haultain / Buena Vista / Queen Elizabeth	80.4
3	Cascade - Dufferin	Avalon	78.4
4	Early - Tucker	Brevoort Park	64.2
5	7th Street - Cairns	Haultain / Holliston	60.4
6	24th Street - 3rd Avenue	City Park / Central Business District	56.6
7	Centennial - Dickey	Pacific Heights	53.6
8	Main - Cumberland	Varsity View / Grosvenor Park / Holliston / Haultain	49.4
9	John A MacDonald - McCully	Confederation Park	47.9
10	Junor - Makaroff	Dundonald / Westview	41.0
11	Louise - Taylor	Holliston	38.6
12	21st Street - Avenue W	Pleasant Hill / Meadowgreen / Mount Royal	38.6
13	King - 5th Avenue	City Park	38.2
14	Confederation - Laurier	Massey Place / Confed Suburban Centre / Confed Park	38.2
15	Meighen Crescent	Confederation Park	36.0
16	East - Louise	Eastview / Nutana Suburban Centre	32.2
17	Kingsmere - Brightsand	Lakeridge	32.0
18	14th Street - Cumberland	U of S South Area / Varsity View / Grosvenor Park	30.9
19	Eastview Streets	Eastview	30.2
20	Grosvenor - Taylor	Holliston	28.3
21	Eastlake - Willow	Queen Elizabeth	26.6
22	1st Avenue - 46th Street	North Industrial	22.0
23	Byers - Selkirk	Westview / Hampton Village	21.2
24	Ruth - York	Avalon / Queen Elizabeth	19.4
25	Albert - Bute	Avalon / Adelaide / Churchill	17.6
26	Idylwyld - Circle	North Industrial / Airport Business Area	17.3
27	Kingsmere - Wakaw	Lakeview	14.6
28	Smith - McCormack	Parkridge	11.0
29	1st Avenue - 50th Street	North Industrial	9.5
30	Northumberland - Mackie	Massey Place	6.6

Increasing Flood Resiliency Through Private Property Improvements

Property owners can take various actions to manage rainwater on their properties and increase flood resiliency. The following summarizes a review of municipal programs, measures that property owners can take to increase flood resiliency, and advantages and disadvantages of cost-shared programs for private properties.

Municipal Programs to Increase Flood Resiliency

Programs to Reduce Basement Flood Risk

After flooding occurred in 2005, the City of Saskatoon implemented a grant program to fund 100% of the installation of sumps and backflow devices, up to $2,500, in designated areas that experienced sewer backup. In 2007, the program was expanded to properties that did not flood but were in high-risk zones, and in 2010, the maximum grant was increased to $3,000. In 2008, a new program funded 100% of the cost to install winter weather bypass systems to direct sump flow into floor drains for previous Flood Protection Program participants who were experiencing winter weather flow.

Several other Canadian municipalities offer subsidies or grants for sump pits, sump pumps, backwater devices, and disconnecting downspouts and weeping tiles from sanitary sewers. A typical maximum municipal subsidy for these programs is $3,000, with maximum amounts ranging from $1,500 (Humboldt, SK) to $11,000 (London, ON). London's program is higher because a subsidy is provided for a drain connection from the city sewer in the road allowance to the dwelling unit.

Programs to Encourage On-site Runoff Storage for Commercial Properties

Commercial, industrial, and institutional property owners in Saskatoon can reduce their Storm Water Utility Bill by installing private storage ponds, green roofs, permeable pavement, rain gardens, or other "soft" landscaping that reduces runoff. Few companies have made these type of changes, likely because of the relatively high upfront capital cost.

Programs to Encourage On-site Runoff Storage for Residential Properties

Three municipal programs to encourage rainwater management on residential properties were identified. The City of Victoria offers residential "Rainwater Rewards" which are rebates for on-site storage, ranging from $100 for a rain barrel to $1,500 for permeable pavement with a rock reservoir, in addition to ongoing credits. The Cities of Kitchener and Waterloo offer up to a 45% credit applied to storm water charges, depending on the amount of water diverted from the storm water system. Although these are best practices for storm water management, they would have little impact in preventing surface flooding during intense rain events similar to those experienced in Saskatoon in 2017.

Programs to Encourage Retrofitting Properties to Reduce Surface Flooding

In 2017, Burlington, Ontario, launched the Home Flood Protection Program in collaboration with the University of Waterloo's Intact Centre on Climate Adaptation. The pilot program provides free online self-help resources and for $125, residents can get a

home flood protection assessment with tips to reduce sewer backup and overland flood risks, reduce moisture content, reduce damage to valuables, and wisely manage water on site. All residents are eligible and approximately 100 had booked by mid-October. Although no other Canadian municipal subsidy program for property improvements to increase surface flooding resiliency was identified, the United Kingdom implemented "The Property Level Flood Resilience Grant Scheme" which provided a grant of up to £5,000 (~$9,000 CAD) to homeowners and businesses that were flooded in December 2015. [1]

Flood Resiliency and Resistent Measures

The most effective way for property owners to minimize flooding varies and requires an assessment of the unique characteristics of each individual property. The following are examples of measures that homewowners can take to increase flood resiliency:[2]

1. Install weeping tiles, sump pits, sump pumps, and backwater valves
2. Seal cracks and gaps in walls
3. Install water-resisting external doors and windows
4. Construct flood defense walls and gates
5. Acquire temporary free standing barriers, such as self-inflating flood protection or water absorbing bags
6. Acquire water sensor and alarm
7. Enhance lot grading, backfilling, and swales
8. Raise porches

The cost of options to reduce flooding range from under $100 for water alarms or a basic rain barrel, to over $10,000 for lot regrading and other property improvements.

Program Advantages and Disadvantages

A main benefit to subsidizing a program for property owners as an alternative to investing in a large infrastructure program is the significantly lower cost. Infrastructure projects that would protect up to 130 houses in three areas for a "1-in-10 year" storm, are estimated to cost $19.0 million. A grant of up to $4,000 for up to 130 homeowners to make improvements would be a maximum of $0.52 million and about $0.1 million to communicate and administer for a total of about $0.62 million. Expanding a program to up to 600 properties in the top 30 assessed risk areas would cost up to $2.8 million,

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[1] The grant was available until March 31, 2017
http://www.flood-products.co.uk/government-flood-grant-explained/
http://www.nationalfloodforum.org.uk/government-grants-for-property-level-flood-resilience/

[2] *Handbook for Reducing Basement Flooding* published by Institute for Catastrophic Loss Reduction (2009). Author: Dan Sandink.
http://www.basementfloodreduction.com/forhomeowners/20tipsforhomeowners.html
Homeowners Guide to Flood Resilience: A Living Document published through the "Know Your Flood Risk" Campaign in conjunction with RAB Consultants Ltd. and MDA. (2016). Authors: Mary Dhonau et al. http://www.knowyourfloodrisk.co.uk/sites/default/files/FloodGuide_ForHomeowners.pdf

including about $0.4 million to administer. Not all property owners would be expected to access the program so the cost is likely to be lower.

A decision to fund improvements to private properties must consider various advantages and disadvantages:

Advantages

- Reduces impacts of flooding of eligible properties that benefit from the program.
- Increases quality of life for residents of eligible properties by reducing risk of flooding.
- Lower cost than large capital solution.
- Increases property values for eligible properties that are upgraded.

Disadvantages

- Fairness: Determining criteria for eligibility will be partly subjective. Current modelling is not based on individual situations and includes a three meter buffer zone around each property. A more comprehensive evaluation of properties may be needed to determine eligibility. Properties in other areas also may also be prone to flooding.
- Fairness: Many homeowners at risk of flooding have already been proactive in investing at their own cost to minimize the impacts of flooding, and those costs would be ineligible.
- Another precedent for covering costs of private property improvements: The City may receive additional requests from property owners to cover costs to minimize the impacts of flood damage to personal property.
- Could encourage rent-seeking: Evidence indicates that costs often increase when government funded programs are implemented.
- Administrative costs for the program may be higher than expected, depending on the criteria that are put in place, to determine eligibility and to audit eligible expenses.
- Effective flood prevention solutions may be unaffordable to some property owners, even with cost-sharing.
- Won't eliminate flood risk: Flood damage could still occur in intense storms.
- Transfers more costs of flooding from the Federal and Provincial Governments to the City. The Provincial Disaster Assistance Program currently provides funding of up to $240,000 per property for damage incurred from surface flooding during intense storms. However, this program is currently under review and could be eliminated because surface flood insurance became available in Saskatchewan in 2016.

High Level Conceptual Remediation Options and Costs by Service Level

The first three of five risk level one flood zones were analyzed to determine the feasibility and relative cost of remediation. These three zones include:

- Ruth Street/Cairns Avenue
- First Street/Dufferin Avenue
- Cascade Street/Dufferin Avenue

The following five remediation solutions were considered:

- Up-size pipes
- Storm water ponds and underground storage
- Flood walls
- Redevelop flood-prone areas
- Combination of ponds/underground storage and redevelop flood-prone areas

The necessary conceptual design for each method was evaluated against five different design storms: 2, 5, 10, 25, and 100 years.

The following tables and graphs below outline the estimated cost in millions of dollars for the five options and five design storms. The 2014 costs have been inflated at 3.2% annually for three years to 2017 dollars. The pipe up-size option is the most expensive option and is not included in the individual flood zone tables and graphs as this solution would be a coordinated cost sharing amongst the three zones. Flood walls are the least expensive but not recommended because they may not be effective and consultations indicated a low acceptance among residents.

Total Solution Concept Costs for All Three Zones Cost in Millions of Dollars ($2017)					
Modelled Solution/ Rain Event Risk	**2 YR**	**5 YR**	**10 YR**	**25 YR**	**100 YR**
Up-size pipes	$ 31.3	$ 48.8	$ 61.0	$ 70.0	$ 79.2
Pond/Underground storage	$ 12.8	$ 16.6	$ 19.0	$ 42.7	$ 57.7
Flood walls	$ 0.7	$ 5.8	$ 10.1	$ 16.8	$ 28.0
Redevelop flood-prone areas	$ 7.9	$ 29.0	$ 48.2	$ 73.3	$ 105.9
Combinations	$ 10.1	$ 17.9	$ 29.2	$ 41.2	$ 68.1

The optimal concept solutions in the following table are generally based on a storm water retention system (ponds/ underground storage) and/or redevelop flood-prone areas. The optimal type of solution can depend on the rain risk event.

Top 3 Modelled Flood Zones Optimal Concept Solution by Risk Zone and Rain Risk Event Cost in Millions of Dollars ($2017)					
Flood Zone/ Rain Event Risk	**2 YR**	**5 YR**	**10 YR**	**25 YR**	**100 YR**
Ruth-Cairns	$ 0.4	$ 3.7	$ 4.3	$ 6.4	$ 6.6
1st - Dufferin	$ 3.8	$ 3.8	$ 3.8	$ 16.0	$ 27.2
Cascade-Dufferin	$ 3.0	$ 5.3	$ 10.9	$ 14.2	$ 23.9
Total Cost	**$ 7.2**	**$ 12.7**	**$ 19.0**	**$ 36.6**	**$ 57.7**
Average Cost Per Area	**$ 2.4**	**$ 4.2**	**$ 6.3**	**$ 12.2**	**$ 19.2**
# of Properties Affected	22	79	130	197	286

Flood Zone 1: Ruth - Cairns Concept Solutions and Rain Risk Events Cost in Millions of Dollars ($2017)					
Modelled Solution/ Rain Event Risk	**2 YR**	**5 YR**	**10 YR**	**25 YR**	**100 YR**
Pond/Underground storage	$ 4.2	$ 3.7	$ 4.3	$ 6.4	$ 6.6
Flood walls	$ 0.1	$ 1.9	$ 3.3	$ 6.9	$ 10.7
Redevelop flood-prone areas	$ 0.4	$ 7.6	$ 20.1	$ 33.7	$ 46.6
Combinations	$ 2.7	$ 5.5	$ 8.2	$ 11.0	$ 16.1
# of Properties Affected	1	20	53	89	123

Flood Zone 2: 1st - Dufferin Concept Solutions and Rain Risk Events Cost in Millions of Dollars ($2017)					
Modelled Solution/ Rain Event Risk	**2 YR**	**5 YR**	**10 YR**	**25 YR**	**100 YR**
Pond/Underground storage	$ 3.7	$ 3.8	$ 3.8	$ 19.8	$ 27.2
Flood walls	$ 0.2	$ 1.8	$ 3.4	$ 4.9	$ 7.5
Redevelop flood-prone areas	$ 3.8	$ 8.7	$ 12.8	$ 20.9	$ 37.3
Combinations	$ 4.4	$ 7.2	$ 10.3	$ 16.0	$ 27.2
# of Properties Affected	11	25	36	58	104

Flood Zone 3: Cascade - Dufferin Concept Solutions and Rain Risk Events Cost in Millions of Dollars ($2017)					
Modelled Solution/ Rain Event Risk	**2 YR**	**5 YR**	**10 YR**	**25 YR**	**100 YR**
Pond/Underground storage	$ 4.6	$ 8.6	$ 10.9	$ 16.5	$ 23.9
Flood walls	$ 0.4	$ 2.2	$ 3.4	$ 4.9	$ 9.8
Redevelop flood-prone areas	$ 3.7	$ 12.7	$ 15.3	$ 18.7	$ 22.0
Combinations	$ 3.0	$ 5.3	$ 10.7	$ 14.2	$ 24.8
# of Properties Affected	10	34	41	50	59

The cost per property based on the optimal storm water solution varies by area and the number of properties impacted for each modelled rain risk event. The cost per property impacted for a "1-in-10 year" rain event averages $146,000 per property for the three areas, and ranges from $80,255 for Ruth-Cairns up to $265,394 for Cascade-Dufferin. The table below summarizes the costs per property impacted for each of the three areas for the five design storms.

Top 3 Modelled Flood Zones Cost Per Property Affected ($2017)					
Flood Zone/ Rain Event Risk	**2 YR**	**5 YR**	**10 YR**	**25 YR**	**100 YR**
Ruth-Cairns	$ 373,696	$ 185,749	$ 80,255	$ 72,245	$ 53,347
1st - Dufferin	$ 345,718	$ 150,358	$ 106,857	$ 276,671	$ 261,671
Cascade-Dufferin	$ 300,056	$ 154,844	$ 265,394	$ 283,349	$ 405,551
Average Cost Per Property (Not in Millions)	$ 326,234	$ 161,248	$ 146,012	$ 186,011	$ 201,759

All numbers may change based on more detailed designs and costs, and refined modelling assumptions based on the survey results clarifying the number of houses impacted by rain events.

Conceptual Storm Water Capacity Expansion and Funding Options

Funding Option Overview

Three options are summarized in the tables below to generate funding for storm water retention infrastructure for three of the top risk areas over five years for different levels of service: "1-in-10 Year" and "1-in-25 Year". In addition, community engagement and detailed engineering design work could be started in 2018 by re-allocating existing staff resources. If the costs for capacity expansion are more than the estimated concept level costs, adjustments to the asset preservation plan, an extension of the construction schedule, and other increases will be evaluated and reported.

Funding Options for for 1-in-10 Year Storm Water Capacity Expansion (Revenue In Millions)						
Funding Options	**2018**	**2019**	**2020**	**2021**	**2022**	**Total (2018 to 2022)**
Mill Rate (0.6% Annual Increase)	$ 1.3	$ 2.7	$ 4.0	$ 5.3	$ 6.7	**$ 20.0**
Flood Protection Program (FPP) ($66/meter)	$ 0.6	$ 5.0	$ 5.1	$ 5.1	$ 5.2	**$ 21.0**
ERU Increase (30%) & FPP Re-allocation	$ 1.9	$ 5.2	$ 5.0	$ 4.6	$ 4.1	**$ 20.8**

Funding Options for 1-in-25 Year Storm Water Capacity Expansion (Revenue In Millions)						
Funding Options	**2018**	**2019**	**2020**	**2021**	**2022**	**Total (2018 to 2022)**
Mill Rate (1.2% Annual Increase)	$ 2.6	$ 5.3	$ 8.0	$ 10.8	$ 13.5	**$ 40.3**
Flood Protection Program ($114)	$ 4.2	$ 8.6	$ 8.7	$ 8.9	$ 9.0	**$ 39.4**
ERU Increase (67%) & FPP Re-allocation	$ 4.3	$ 8.2	$ 8.7	$ 8.9	$ 9.1	**$ 39.2**

A borrowing strategy could be implemented in conjunction with any of the funding options to complete the design and construction more quickly but costs would increase due to interest costs and the higher cost of using consultants instead of available in-house design engineers.

Option 1: Mill Rate Increase

A 0.6% annual mill rate increase over five years (3.04% compounded increase) will generate $20.0 million over five years with a base budget of approximately $6.7 million by 2022. This could be a dedicated increase for increasing storm water capacity similar to the dedicated increase for sound walls. Over 25 years, approximately $154 million (excluding assessment growth) would be generated to increase storm water capacity in 30 flood risk areas.

A mill rate increase is appropriate to fund the storm water expansion because the improvement increases the level of service for storm water infrastructure in at risk areas to a level that is more consistent with the service level in other areas of the city. An option is to delay the mill rate increase until 2019 when construction costs start to be incurred.

Option 2: Flood Protection Program

A second funding option is to expand the scope of the temporary Flood Protection Program (FPP), increase the fee to $66.00 per water meter in 2018, and make the FPP permanent. The FPP increase and permanent extension would supersede City Council's recommendation on August 28, 2017, to extend and phase-out the FPP by December 31, 2021.

After intense rain events caused sewer backups in 2005, the temporary FPP was established with a $3.00 monthly charge on all water meters. The charge was increased to $4.50 per month ($54.00 annual) in 2009. The program was extended to sunset December 31, 2018, after generating about $44 million in revenues to fund damage from the 2005 sewer backups, a program for sewer backup valve installation, and superpipes to reduce sewer backups during severe rain events.

On August 28, 2017, City Council approved an extension and gradual phase-out of the FPP by December 31, 2021, to fund the current projected program deficit of $0.3 million and additional superpipes in areas at risk of sewer backups. Option 2 proposes that the scope of the FPP be expanded to include surface flooding, that the annual charge be increased, and that it be made permanent.

The following tables summarize the amount that single family residential, and small and large commercial properties would pay in total for storm water Equivalent Runoff Unit (ERU) and FPP charges for two service levels using the option to fund capacity expansion through the FPP. The maximum commercial charge assumes one water meter per property but many commercial properties have more than one meter.

Option 2: Fee Structure for "1-in-10 Year" Storm Water Capacity Expansion Annual Charges for Residential and Commercial Properties

	2017	2018	2019	2020	2021	2022	2017-2022 % Increase
Annual ERU Rate	$ 52.80	$ 52.80	$ 66.30	$ 79.80	$ 93.30	$ 106.80	102%
Annual FPP Rate	$ 54.00	$ 66.00	$ 66.00	$ 66.00	$ 66.00	$ 66.00	22%
Total Single Family Res	$ 106.80	$ 118.80	$ 132.30	$ 145.80	$ 159.30	$ 172.80	62%
Total Commercial Min	$ 159.60	$ 171.60	$ 198.60	$ 225.60	$ 252.60	$ 279.60	75%
Total Commercial Max	$ 4,542.00	$ 5,346.00	$ 6,696.00	$ 8,046.00	$ 9,396.00	$ 10,746.00	137%

Option 2: Fee Structure for "1-in-25 Year" Storm Water Capacity Expansion Annual Charges for Residential and Commercial Properties

	2017	2018	2019	2020	2021	2022	2017-2022 % Increase
Annual ERU Rate	$ 52.80	$ 52.80	$ 66.30	$ 79.80	$ 93.30	$ 106.80	102%
Annual FPP Rate	$ 54.00	$ 114.00	$ 114.00	$ 114.00	$ 114.00	$ 114.00	111%
Total Single Family Res	$ 106.80	$ 166.80	$ 180.30	$ 193.80	$ 207.30	$ 220.80	107%
Total Commercial Min	$ 159.60	$ 219.60	$ 246.60	$ 273.60	$ 300.60	$ 327.60	105%
Total Commercial Max	$ 4,542.00	$ 5,394.00	$ 6,744.00	$ 8,094.00	$ 9,444.00	$ 10,794.00	138%

The projected revenues for the FPP funding strategy are based on a 1.0% increase in the number of water meters in 2018 and a 1.5% annual increase from 2019 to 2022. An

FPP rate of $66.00 per water meter will generate approximately $5.2 million a year by 2022, and $155 million over 30 years.

Option 3: Equivalent Runoff Unit

The Storm Water Management Charge is based on a unit of measure known as an ERU, which many municipalities use for storm water utility billing. A single family residential (residential) dwelling is deemed to produce one ERU of storm water based on an average of 265.3 m^2 of impervious surface, such as roofs, driveways, and sidewalks.

One ERU valued at $52.80 per year ($4.40 per month) is the amount charged to residential properties. Commercial, industrial, and institutional (commercial) can generate significantly more storm water than residential properties generate; therefore, they are charged multiple ERUs ranging from an annual minimum of two ERUs ($105.60) to a maximum of 100 ERUs ($5,280) in 2018.

The seven-year phase-in of ERUs charged to commercial sites began in 2012 with increases to the annual caps. City Council approved incremental increases of $13.50 per year to the ERU Rate from 2019 to 2022 to fund storm water infrastructure maintenance and preservation and other business plan components. The following table shows the maximum approved charges for ERUs for commercial properties from 2012 to 2022.

Year	Maximum Commercial ERUs	ERU Rate	Maximum Annual Commercial Charge for ERUs
2012	10	$ 52.80	$ 528
2013	25	$ 52.80	$ 1,320
2014	40	$ 52.80	$ 2,112
2015	55	$ 52.80	$ 2,904
2016	70	$ 52.80	$ 3,696
2017	85	$ 52.80	$ 4,488
2018	100	$ 52.80	$ 5,280
2019	100	$ 66.30	$ 6,630
2020	100	$ 79.80	$ 7,980
2021	100	$ 93.30	$ 9,330
2022	100	$ 106.80	$ 10,680

Approximately one third of the ERU revenue is paid by Commercial customers and about two thirds is paid by residential (including multi-residential) customers.

The following tables summarize the amount that residential, and small and large commercial properties would pay in total for ERU and FPP charges for two service levels using the option to fund capacity expansion through an additional increase to the

ERU rate. By 2022, the largest commercial properties would pay up to $17,836 annually.

Option 3: Fee Structure for "1-in-10 Year" Storm Water Capacity Expansion Annual Charges for Residential and Commercial Properties							
	2017	2018	2019	2020	2021	2022	2017-2022 % Increase
Annual ERU Rate	$ 52.80	$ 68.64	$ 86.19	$ 103.74	$ 121.29	$ 138.84	163%
Annual FPP Rate	$ 54.00	$ 54.00	$ 40.50	$ 27.00	$ 13.50	$ -	-100%
Total Single Family Res	$ 106.80	$ 122.64	$ 126.69	$ 130.74	$ 134.79	$ 138.84	30%
Total Commercial Min	$ 159.60	$ 191.28	$ 212.88	$ 234.48	$ 256.08	$ 277.68	74%
Total Commercial Max	$ 4,542.00	$ 6,918.00	$ 8,659.50	$10,401.00	$12,142.50	$13,884.00	206%

Option 3: Fee Structure for "1-in-25 Year" Storm Water Capacity Expansion Annual Charges for Residential and Commercial Properties							
	2017	2018	2019	2020	2021	2022	2017-2022 % Increase
Annual ERU Rate	$ 52.80	$ 88.18	$ 110.72	$ 133.27	$ 155.81	$ 178.36	238%
Annual FPP Rate	$ 54.00	$ 54.00	$ 40.50	$ 27.00	$ 13.50	$ -	-100%
Total Single Family Res	$ 106.80	$ 142.18	$ 151.22	$ 160.27	$ 169.31	$ 178.36	67%
Total Commercial Min	$ 159.60	$ 230.35	$ 261.94	$ 293.53	$ 325.12	$ 356.71	124%
Total Commercial Max	$ 4,542.00	$ 8,871.60	$ 11,112.60	$13,353.60	$15,594.60	$17,835.60	293%

Neighbourhood Improvement Levy

Saskatoon's 1994 Local Improvement Program (Bylaw 5257 *The Local Improvement Procedure* Bylaw) allows for Neighbourhood Improvement Levies to be collected. [1]
A levy to fund the 14th Street storm sewer lining was previously applied to properties in south-central Saskatoon draining to the trunk. However, one resident's response to the 2017 flood impact survey indicated that even though he had paid the levy, he did not believe the improvement reduced the flooding on his street.

If a decision is made to expand the capacity of the storm water network in the three modelled at-risk areas, a $600 annual levy for 130 modelled properties that would benefit from increased storm water capacity would generate $1.9 million over 25 years, which is 10% of the estimated infrastructure cost. Alternative amounts could also be considered.

The main advantage to a levy would be the additional revenue and cost sharing for new infrastructure for those that benefit. Some residents who are at greatest risk of flooding may support the levy because reduced flood risk would improve their quality of life and increase the value of their property. The City's cost of providing higher service levels for storm water infrastructure in new neighbourhoods is passed on to property owners in the form of development levies.

[1] Assessing Owners' Share District Storm Sewers 16) In assessing the owner's share of the cost of construction of a district storm sewer, the said rate shall be specially assessed upon: (a) the land directly abutting upon the work; (b) the land not abutting directly on the work but deemed by Council to be benefitted thereby.

Neighbourhood Improvement Levies require that a majority of impacted property owners support the levies. Residents may not support the levy because of the following:

- A neighbourhood improvement levy was previously paid to fund storm water capacity but properties still flooded.
- Adding a new fixed annual cost may reduce the quality of life for some residents, particularly fixed income residents who may be required to make difficult decisions to adapt to the higher costs.
- Some of the property owners who would be required to pay may have experienced no or minimal flood damage, particularly if they have already made significant investments to make their properties more flood resilient.
- The cost may be considered high relative to the incremental cost of surface flood insurance. While many factors impact the cost of insurance, SGI indicated that the average cost is about $100 per year.
- Neighbourhood Improvement Levies have not been implemented in Saskatoon for many years. Other infrastructure improvements that primarily benefit specific areas have been funded through general revenues.
- Some properties would still be at risk of flooding during rain events that exceed “1-in-10 years”.

Another consideration is the administration cost that would be incurred for managing, billing and collecting the levies.

Federal Funding

An application for storm water capacity expansion will be made to the federal Disaster Mitigation and Adaptation Fund, which is a national, competitive, merit-based program, designed to support investments that will mitigate current and future climate risks, including floods. More information about the program is expected to be released by the Government of Canada in October 2017.

The Storm Water Utility will also leverage federal funding for eligible storm water activities from the National Disaster Mitigation Program, the Municipal Asset Management Program (maximum of $50,000 annually), and any Integrated Bilateral Agreements with the Province of Saskatchewan that provide funding for municipal infrastructure.

Storm Water Capacity Implementation Strategy

If City Council approves proceeding with increased infrastructure capacity, the following implementation is proposed:

One-Year (2018):

- Community engagement about the use of parks for storm water retention will be conducted in high-risk flood areas.

- The storm water model will be further refined based on survey results, and refined details on the infrastructure solution and funding strategy will be presented to City Council.

Five Years: (2018-2022):

- Detailed engineering plans and costs will be prepared for the top two high-risk flood areas: Ruth Street/Cairns Avenue (Area #1) and First Street/Dufferin Avenue (Area #2)
- Cascade Street/Dufferin Avenue (Area #3) will be further assessed, and high-level options and costs for Early Drive/Tucker Crescent (Area #4) and Seventh Street/Cairns Avenue (Area #5) will be completed.
- The next areas for more detailed engineering and construction will be prioritized.
- Constructed infrastructure solutions will be completed for three high-risk areas.
- Automated gates to close two high-risk intersections included in the top 30 ranked areas (Confederation Drive/Laurier Drive and Idylwyld Drive/Circle Drive) will be evaluated.

Twenty-Five Years (2018-2044)

- The funding options provide for implementation of service level infrastructure solutions for up to 30 areas at risk of surface flooding within the next 25 to 30 years. Implementing a borrowing plan will allow for quicker implementation but costs are expected to be higher to contract with engineering firms to supplement in-house resources.

Options for Expanding Special Needs Garbage Collection Service

Recommendation
That the report of the Acting General Manager, Corporate Performance Department dated November 6, 2017 be received as information.

Topic and Purpose
The purpose of this report is to provide information on potential options and considerations for expanding the Special Needs Garbage Collection Service.

Report Highlights
1. The Administration estimates that up to 100 households in existing neighbourhoods could be accepted into the Special Needs Garbage Collection Service by reallocating resources from other services.
2. Prior to accepting new households, an approved application process would be required, including clearly defined eligibility criteria and a follow-up process with applicants.
3. Expanding the program beyond a limited number of households would require unfunded capital and operating resources, including additional rear-loader garbage trucks and FTEs.

Strategic Goal
This report supports the Strategic Goal of Quality of Life by refocusing on services that are of high importance to citizens and by developing age-friendly initiatives to enhance quality of life as people age.

Background
City Council at its meeting held on October 23, 2017, considered the Special Needs Garbage Collection Service report and resolved, in part:

> "3. That the Administration report at 2018 budget deliberations outlining the potential for and impact of accepting new applicants to the Special Needs Garbage Collection Service for the interim term prior to the results of the Waste Utility consultation and resulting updated Waste Management and Services implementation."

Report
Current Program Design

The Special Needs Garbage Collection Service currently has 300 households in the program. The service costs approximately five times more than curbside garbage collection. This program was originally implemented during the conversion to individual garbage bins and was designed to be phased out when eligible residents no longer

required the service. Since the Special Needs Garbage Collection Service was implemented, the Administration receives on average 10 requests annually from elderly and mobility-challenged residents who wish to be included in the program.

The Administration estimates that up to 100 households in the original neighbourhoods could be included into the program with the existing rear-loader truck fleet as an interim solution prior to completing the Waste Utility consultation. Redirecting resources to expand the program would result in a reduction in other levels of service currently provided by the rear-loader fleet, including clean-ups at the recycling depots and in back lanes.

Administration and Process for Accepting New Applicants

The Administration has contact information for approximately 50 households that have enquired about options for receiving this service. If the Special Needs Garbage Collection Service were to be expanded, an application process and eligibility criteria would have to be re-established. To minimize potential mis-use of these types of programs, some municipalities require medical documentation, a signed contract, a home visit conducted by a City representative and/or an annual review for eligibility.

Whether the program is opened up on a first come-first-serve basis or a needs basis would have to be determined. Additionally, the Administration recommends following up with existing households in the program to confirm if the service is still required. If the program is expanded, the process for accepting and evaluating new applications could be developed by the end of the first quarter of 2018.

Costs and Considerations to Expand the Program

If requests for Special Needs Garbage Collection Service extend beyond 100 households, additional rear-loader trucks and FTEs (one operator and one labourer for each truck) would be required. The number of households that could be serviced by each rear-loader is estimated to be between 500 and 750, depending on collection locations and unique circumstances at each household. The capital cost for a new rear-loader garbage truck is approximately $320,000. In addition, the procurement and delivery timeframe for a new garbage truck is 8 to 10 months. Annual operating costs for each additional truck and two staff are approximately $190,000. Administrative and processing costs are estimated at $100 per application.

Financial Implications

The estimated costs of expanding the program within existing neighbourhoods is outlined in the table below.

Table 1 – Estimated Additional Costs for Expanding the Special Needs Program

Number of New Households	Capital Costs	Annual Operating Costs	Admin/Processing Costs
Up to 100	$0	$50,000	Up to $10,000
Up to 750	$320,000	$190,000	Up to $75,000
Up to 1,500	$640,000	$380,000	Up to $150,000

The Special Needs Garbage Collection Service is funded from the Garbage Collection Operating Program under the Waste Handling Service Line. The costs to operate this program are funded by property taxes.

The opportunities to expand this service to the recycling program and the financial implications are unknown at this time and would need to be investigated and negotiated with Loraas Recycle.

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

The Administration will report back on engagement results and recommendations on design requirements as part of the Waste Services Utility in the second quarter of 2018.

Public Notice

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

Report Approval

Written by:	Michelle Jelinski, Senior Project Management Engineer, Water & Waste Stream
Reviewed by:	Mark Shaw, Environmental Operations Manager, Water & Waste Stream
	Russ Munro, Director of Water & Waste Stream
Reviewed by:	Angela Gardiner, Acting General Manager, Transportation & Utilities Department
Approved by:	Jeff Jorgenson, Acting General Manager, Corporate Performance Department

EUCS MJ - Options for Expanding Special Needs Garbage Collection Service.docx

Congested Front Street Collection Level of Service

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

That the matter of level of service for congested front street collection be deferred to the 2018 public engagement and discussion on the expanded waste utility business model.

Topic and Purpose
The purpose of this report is to recommend deferring the matter of congested front street collection levels of service to the 2018 waste utility discussions.

Report Highlights
1. The Administration did not recommend any action regarding congested front street collection because of low numbers of missed collections, higher costs for these services, and it being a change in service level.
2. The 2018 development and implementation of a waste utility include service location discussions and decisions related to congested streets and would be optimally considered at that time.

Strategic Goal
The recommendation in this report supports the Strategic Goal of Quality of Life by providing access to services in a manner that is desired by citizens.

Background
At its meeting held on June 12, 2017, the Standing Policy Committee on Environment, Utilities and Corporate Services deferred consideration of the Options for Collection – Front Street Garbage and Recycling on Streets with Significant Parking report and to be brought back prior to discussions on the 2018 Business Plan and Preliminary Budget.

At its meeting held on September 25, 2017, City Council considered the Waste Handling Service of Level report and resolved, in part:

"4. That all other service level changes be considered during the development and implementation of waste utility options."

Report
<u>Previous Recommendation – Maintain Current Service Level</u>
In the report Options for Collection – Front Street Garbage and Recycling on Streets with Significant Parking, the recommendation was to maintain the current level of service after evaluating six alternative ways of delivering service due to the low occurrence of missed collections (99.9% or greater success) and the alternatives leading to higher operating costs or lower overall service to citizens.

Optimal Opportunity to Evaluate Changing Service Levels

Development and implementation of a waste utility includes review and discussion on service location, which may impact the service for congested streets. This is an optimum opportunity to review the work on collecting from congested streets.

Options to the Recommendation

City Council may choose to not approve the recommendations and lock in the current level of service for congested streets going forward into the utility.

Communication Plan

A communication and engagement strategy for the development of a waste utility and city wide organics strategy will be taking place in 2018 and will include service location.

Financial Implications

The costs of citizen engagement and discussion will be included in the citizen engagement on waste in 2018.

Other Considerations/Implications

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

Due Date for Follow-up and/or Project Completion

A report on the findings from the waste utility public engagement is expected in April of 2018.

Public Notice

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

Report Approval

Written by:	Russ Munro, Director of Water and Waste Stream
Reviewed by:	Brenda Wallace, Director of Environment & Corporate Initiatives
Approved by:	Jeff Jorgenson, Acting General Manager, Corporate Performance Department

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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

Request for Permission to Exceed 25% of Contract – Wheel Loader/Tandem Truck and Operators for Compost Depots

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

1. That the Administration be given approval for Contract No. 16-0142, Wheel Loader/Tandem Truck and Operators for Compost Depots with Wozniak & Sons to exceed 25% of the contract value and be extended by $84,000, including GST; and
2. That the City Solicitor be requested to amend the appropriate agreement.

Topic and Purpose

The purpose of this report is to request approval to exceed 25% of the contract value for Contract No. 16-0142, Wheel Loader/Tandem Truck and Operators for Compost Depots with Wozniak & Sons.

Report Highlights

1. The compost depots are a well-used service by residents and commercial customers. In 2016, approximately 52,000 vehicle visits were made to the depots and more than 12,000 tonnes of organic material was kept out of the Landfill.
2. Contracted equipment and operator services are required to process organic materials into finished products and maintain public access areas at both depots.
3. Several factors have contributed to higher equipment hours required in 2017. To maintain service levels, keep the depots open until November 12, 2017, and prepare for next season, the Administration recommends extending Contract No. 16-0142 with Wozniak & Sons, in the amount of $84,000.

Strategic Goal

The recommendation in this report supports the Strategic Goal of Environmental Leadership including the four-year priority to promote and facilitate city-wide composting and reduce the volume of waste sent to the Landfill. It also supports the long-term strategies to eliminate the need for a new Landfill and to reduce greenhouse gas emissions tied to City operations. In addition, it supports the Waste Diversion Performance Target to divert 70% of waste by 2023.

Background

On April 25, 2016, City Council approved an award of contract for equipment and operators at the City Compost Depots to Wozniak & Sons. This was a multi-year contract and was awarded through a publicly advertised Request for Proposal process.

Report

Compost Depots - Services and Successes

The compost depots are a successful and well-used service by residents and commercial customers alike. In 2016, the compost depots received 52,000 vehicle visits and the 2017 season is showing a similar trend. The number of Green Cart subscriptions has increased by 1,200 households, compared to 2016 and has resulted in more organic materials being delivered to the compost depot. The compost depots have provided a convenient, free service for residents for more than 10 years. Each year, the compost depots keep more than 12,000 tonnes of organic waste out of the landfill, effectively reducing the amount of greenhouse gas emissions and extending the life of the landfill.

Compost Equipment and Operator Contract

An equipment and operator contract is required to effectively operate the depots and process organic materials into finished products. The work under the contract includes moving materials from the public drop off areas and mixing into windrows for processing, operating the compost windrow turner, loading materials for transfer from the East depot to the West depot, maintaining internal roadways and public access areas, and site drainage work. Administration has worked closely with the contractor throughout the season to ensure optimal utilization of resources to reduce the time spent on site with equipment. The Administration is not able to cut back any more hours without impacting safety and service levels.

Increased Contract Costs

The original estimates for equipment hours in 2017 were based on last year's requirements and forecasts for this season. Several factors have contributed to an overall increase in equipment hours required in 2017 as compared to the 2016 season, and are identified below:

- A significant increase in the number of Green Cart subscriptions, resulting in increased food waste and special handling requirements (immediate burial) at the depot.
- Assistance with wood grinding and screening contracts, as a result of accumulated materials. Wood grinding and screening were deferred in 2015 and 2016 but were required in 2017 due to safety concerns and operational issues.
- Working around numerous stockpiles of accumulated material, and double handling of excess materials, resulting in inefficiencies.
- Introduction of the Dig-Your-Own compost and mulch pilot program, requiring a newly developed self-loading area and bulk loading for customers. In three weeks of the pilot program, the loader operator has handled approximately 800 cubic yards of material to accommodate more than 1,000 residents who have participated in the program.
- As of mid-October, warm temperatures and no snow have contributed to more materials being dropped off later in the season. October often receives the highest daily traffic volumes of the year and more operator and equipment time is required to manage bulky leaves and branches.

Additional equipment hours, over the approved contract value, are required in order to maintain the same level of service for residents and commercial customers, to keep the depots open until November 12, 2017, and to prepare the depots for next year's opening date. The increased number of hours to complete the required work is anticipated to cost $84,000.00 (including GST) or approximately 30% of the original contract value. The Administration recommends extending Contract No. 16-0142 with Wozniak & Sons, in the amount of $84,000.

Administration will be undertaking a detailed review of contract estimates to limit risk of over expenditure in 2018.

Options to the Recommendation

City Council may choose to not approve an extension to the compost equipment and operator contract. Due to the time-sensitive nature of this request for contract extension, the Administration is currently proceeding with the work. If the Standing Policy Committee on Environment, Utilities and Corporate Services does not support the recommendations in this report, the compost depots will close effective end of day November 6, 2017 in order to reduce the overall costs under this contract. The Administration notes that this would not be ideal as it would have negative impacts on residents and commercial customers and would not allow for sufficient time to communicate an early closure of the depots.

Policy Implications

The recommendation is in accordance with the Corporate Purchasing Procedure (Administrative Policy A02-027) where the request for extension exceeds 25% of the approved contract value and thus requires City Council approval.

Financial Implications

Compost depot operations are funded from the Compost Depots Utility Budget under the Waste Services Utility. The 2017 Wheel Loader/Tandem Truck and Operators contract was awarded at $279,300 (including GST). The additional funding request to complete the work this season is $84,000 (including GST).

The cost breakdown is as follows:

Original Contract Cost	$266,000.00
Change Order Cost	80,000.00
GST	17,300.00
Total Revised Contract Cost	$363,300.00
Less GST Rebate	(17,300.00)
Total Revised Net Cost to the City	$346,000.00

The Compost Depots Utility Budget does not contain sufficient funding to cover these costs, and any over expenditures will be backfilled from an increased transfer from the Landfill Operating Budget which in turn will reduce the amount that can be transferred to the Landfill Replacement Reserve.

Environmental Implications

Compost depot operations divert approximately 12,000 tonnes of organic materials from the Landfill every year, resulting in a reduction in greenhouse gas emissions and an increase in Landfill life.

Other Considerations/Implications

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

Due Date for Follow-up and/or Project Completion

An update on the Compost Depot operations will be included in the 2017 Integrated Waste Management Annual Report.

Public Notice

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

Report Approval

Written by:	Riwaj Adhikari, Operations Engineer, Logistics & Procurement Michelle Jelinski, Senior Project Management Engineer, Water & Waste Stream
Reviewed by:	Brodie Thompson, Manager of Logistics & Procurement Russ Munro, Director of Water & Waste Stream Angela Gardiner, Acting General Manager, Transportation & Utilities Department
Approved by:	Jeff Jorgenson, Acting General Manager, Corporate Performance Department

EUCS – RA MJ – R2Exec 25Perc – Wheel Loader Truck_Operators-Compost Depots

Facilitating Solar Energy Opportunities in Saskatoon

Recommendation
That the report of the Acting General Manager, Corporate Performance Department, dated November 6, 2017, be forwarded to City Council

Topic and Purpose
The purpose of this report is to outline potential roles for the City of Saskatoon (City) in facilitating solar energy opportunities within city limits.

Report Highlights
1. Solar Energy has become an emerging opportunity in the world and Saskatoon has the potential to capitalize on this opportunity.
2. To facilitate Solar Energy uptake, there is a potential role for the City to develop programs and implement changes to existing City policies to address current market barriers. Changes to Provincial Acts would also help facilitate the development of solar energy at the local level.

Strategic Goals
The recommendations contained in this report directly contributes to the Performance Target to reduce greenhouse gas emissions and also align with several four-year priorities and long term strategies under the Strategic Goal of Environmental Leadership.

Background
City Council, at its meeting held on January 25, 2016, considered the Municipal Greenhouse Gas Emissions Reduction Strategy – Response to Saskatchewan Environmental Society Letter report; and resolved, in part:

> "2. That the Administration report on emerging opportunities to facilitate large and small solar energy opportunities in Saskatoon on City or privately-owned land."

City Council, at is meeting held on May 23, 2017, considered the Energy Performance Contracting Negotiations and Letter of Intent report and resolved in part:

> "2. That the Administration communicate to the Energy Services Company that loan periods greater than 15 years, and potentially as long as 30 years, may be acceptable to City Council."

The report stated that there is the opportunity to achieve greater GHG savings, install more renewable energy systems (e.g. solar photovoltaic panels), and modernize more aging infrastructure (thus further reducing the burden on the Civic Building Comprehensive Maintenance reserve (CBCM)) by increasing the allowable loan

periods. To maximize the achievement of these goals the Administration recommends that the ESCO be permitted to explore retrofit options that result in loan periods longer than 15 years.

Report

Emerging Opportunities for Solar Energy

A number of factors are currently having an influence on the attractiveness of solar power production as an opportunity. These include the solar resource in Saskatchewan, increasing electrical utility rates, changes in technology and market economics, and growing community interest in solar energy. Attachment 1, Factors Influencing Solar Opportunities, describes these factors in more detail.

The city consumed 1.9 million megawatt-hours (MWh) of electricity in 2014 (year of last greenhouse gas emissions inventory). If electricity consumption were assumed to be constant, approximately 1,600 MW of solar electricity could meet current community annual consumption.

Opportunities on City sites

Administration conducted a preliminary scan of opportunities to develop solar arrays on City-owned properties and determined there may be an opportunity to develop solar projects on civic lands and buildings that could aggregate together to total up to 400 MW. Even if 5% of City-owned vacant land is used for solar electricity, this can add 40 MW. More in depth analysis is required to determine the capability of using City-owned properties for solar installations.

The City also owns a variety of rights-of-way and under-utilized sites that can accommodate small-scale installations. Rights-of-way are estimated to provide between 42 MW (if 5% of sites are developed) and 425 MW (if 50% of sites are used) of solar potential. However, the current practice in the City is to keep these areas clear to minimize safety concerns and a detailed analysis will need to be conducted to ensure all site specific parameters are accounted for at each proposed site. For example if a right-of-way area has potential to accommodate a small scale installation, the road classification, clear zone width, posted speed, side slopes, traffic volume, and road geometry will need to be considered for the specific location to ensure all safety criteria are met. Administration has not yet determined the scale of generating capacity that may come from constructing shelter structures over parking lots and sport field fan areas, or adding panels to sound attenuation walls, transit shelters and future bus rapid transit stations.

Civic buildings could also accommodate small rooftop installations. Approximately 70 City-owned buildings have a combined potential to generate 1.8 MW of solar energy on their rooftops. Some of the facilities that are anticipated to have the lowest repayment periods include the buildings at the Vic Rempel Yards (Parks facilities), Fire Halls, Farmers' Market, and JS Wood and Mayfair Branch Libraries. The potential for installing solar on civic buildings will be included in the energy performance contracting (EPC) project. The energy services company (ESCO) engaged by the City will be instructed to

consider renewable energy technologies (particularly solar photovoltaic panels) and the use of long loan periods in order to achieve the overall goals of the City.

Opportunities on Private Sites

There are approximately 12,000 acres of privately-held vacant sites (large and small). In addition, private, institutional and residential rooftops provide approximately 4,000 acres of space where solar panels could be installed. The table below provides a high level estimate of the solar capacity that may be developed on rooftops in Saskatoon. The table provides three scenarios where 5%, 25%, or 50% of the available space is utilized to accommodate a solar panel system.

Site	**Low (5%)**	**Medium (25%)**	**High (50%)**
	MW		
Private Vacant Land	89	446	891
Private Buildings			
Commercial	8	42	83
Residential	23	114	228
Institutions	1	7	15
Total (MW)	**122**	**609**	**1,217**

Current Barriers to Solar Uptake

The opportunities for developing solar projects are not currently being realized for a variety of reasons. Development of solar energy is still in its early stages in Saskatoon. For this reason, there are a number of barriers that act as a disincentive to the uptake of solar opportunities. These barriers are described in Attachment 2, Solar Update, Barriers and Potential Solutions, and include:

- Upfront capital investment;
- Rate classes and rate blocks;
- Limited solar access;
- Soft costs (Non hardware costs such as permitting, financing, applications, etc.);
- Limited consumer awareness of solar energy; and
- Grid interconnection wait times.

Facilitating Solar Opportunities

Attachment 3, Overview of Municipal Approaches, provides an overview of several approaches the City may take to facilitate solar energy systems within city limits. The municipal tools range from policy and land use planning approaches, direct investment in solar arrays and system infrastructure, and financial and non-financial incentive programs.

Dunsky Energy Consulting conducted an extensive investigation into program options in 2014 for expanding renewable energy in Saskatoon. The study confirmed that based on Saskatoon's excellent conditions for solar electricity generation, and the changing

economics for solar panel systems, a program offered by the City could reasonably be expected to accelerate the installation of solar panel systems and achieve community greenhouse gas reductions.

The study concluded that developing a program based on the Property Assessed Clean Energy (PACE) model would be the most beneficial for the community and provide the lowest risk to the City. Under the PACE model the City would finance the property owner to purchase solar equipment and a special assessment would be added to the owner's property tax bill to repay the City for the system.

In 2016, the Solicitors Office was asked to review the possibility of using the PACE model for a solar program and the following comments were provided:

- *The Cities Act* provides strict limits on the City's ability to finance home owners and businesses. The City can only lend (or guarantee a loan) to a non-profit organization, a controlled corporation or a business improvement district.
- *The Cities Act* currently does not allow a special assessment to be added to an owner's property tax bill to pay for the purchase of solar equipment.

Based on the Solicitors comments, the City currently cannot use the PACE model to develop a solar program for the City without working with the Province to amend *The Cities Act* to change the restrictions listed above. However, the City can take a lighter approach until these changes occur. For example, the City could provide a revolving pool of funds for a program that can be managed by a third-party organization that in turn provides preferred-rate loans for solar projects. This can help reduce the property owner's borrowing costs and encourage lenders to offer long-term financing that matches the equipment life. The third-party would be responsible for the qualification of participating lenders and hold an agreement for repayment with the property owner in a manner similar to the City's Mortgage Flexibilities Support Program.

Public and/or Stakeholder Involvement

Administration and members of City Council have recently participated in consultations on community solar opportunities hosted by SaskPower. The City intends to continue to engage with SaskPower to better understand what role they plan to take as power regulator, power producer, electricity grid (i.e. electricity transmission and distribution) manager and programmer. It is possible that choices made by SaskPower may enable, enhance, diminish or replace efforts undertaken by the City. Administration will make every effort to stay abreast SaskPower decisions and communicate the implications of these choices to inform future decision-making by City Council.

A number of community stakeholders, ranging from the University of Saskatchewan, non-profit cooperatives and organizations as well as local businesses have demonstrated their interest (i.e. through participation in local forums and SaskPower consultations and by writing and meeting with civic staff) in being involved in any future discussions or decisions pertaining to solar energy opportunities in Saskatoon.

Solar opportunities can mitigate greenhouse gas emissions and will therefore be included as a topic of discussion when the Climate Change Mitigation Business Plan engagement process begins.

Policy Implications

Several municipal approaches identified in this report will require changes to provincial legislation. This includes, but is not limited to, amending sections of *The Cities Act* to allow the municipalities to provide loans such as Property Assessed Clean Energy (PACE) programs currently operating in other jurisdictions.

This report also identifies several policy changes that could be considered.

Financial Implications

Should City Council have an interest in proceeding with any of the identified approaches to facilitating solar energy, the financial implications would require further study.

It is currently estimated that Saskatoon Light & Power's (SL&P) revenue is reduced by $185.25 for every kilowatt installed by a Net Metering residential customer. This has a direct impact on the utility's ability to fund the maintenance of the existing distribution system for all customers and to provide a return on investment (ROI) and grants-in-lieu of taxes (GIL) to the City. With this program doubling in size every two years, the financial impact continues to grow proportionally. The loss of revenue from the existing programs in 2017 is estimated at $92,625.

While the price offered to customers through the Net Metering program for their excess generated power is the same as what customers pay to buy electricity from the utility (retail price), this price is much higher than the bulk power rate that SL&P can purchase electricity from SaskPower. The difference between the bulk power rate and the residential retail rate allows SL&P to fund the maintenance and operation of the distribution system.

For this reason, any program that facilitates the replacement of energy sold by SL&P has an impact on their ability to generate Operating Income, which subsidizes the mill-rate thru grants-in-lieu and a ROI. For example, SL&P indicates that if residential customers installed 10 MW of solar on their roofs, GIL paid to the City would be reduced by $253,000 and the utility's revenue would be reduced by $1.85 M.

If the City were to proceed with facilitating solar electricity, SL&P would need to develop new funding strategies to ensure the health and sustainability of the electrical grid.

Environmental Implications

Solar energy opportunities would replace the current carbon-intensive energy supplied through the existing electrical grid with 'zero-emissions' energy. For each MW of solar added, it is estimated that approximately 15,893 tonnes of carbon dioxide equivalent (CO2e) greenhouse gas emissions would be reduced over a 25-year term, which is equivalent to removing 134 cars from the road annually.

Other Considerations/Implications

There are no options, communications, Privacy or CPTED implications at this time.

Due Date for Follow-up and/or Project Completion

There is no due date for follow up identified at this time.

Public Notice

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

Attachments

1. Factors Influencing Solar Opportunities
2. Solar Uptake Barriers and Potential Solutions
3. Overview of Municipal Approaches

Report Approval

Written by:	Bibian Rajakumar, Project Engineer, Environmental & Corporate Initiatives
Reviewed by:	Chris Richards, Energy & Sustainability Manager, Environmental & Corporate Initiatives Trevor Bell, Director of Saskatoon Light & Power Brenda Wallace, Director of Environmental & Corporate Initiatives
Approved by:	Jeff Jorgenson, Acting General Manager, Corporate Performance Department

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Factors Influencing Solar Opportunities

Increasing Rates

Since 2013, electrical utility rates have increased an average of 5% annually. This trend is projected to continue as SaskPower applies for another rate increase of 5% to be implemented in March 2018. With growing electricity demand observable in Saskatchewan, increased environmental commitments made federally, and the need to invest in modernizing an aging electrical infrastructure, continued annual rate increases can be anticipated in the next 5 to 10 years.

Higher rates for electricity make the business case for alternative energy generation more favourable.

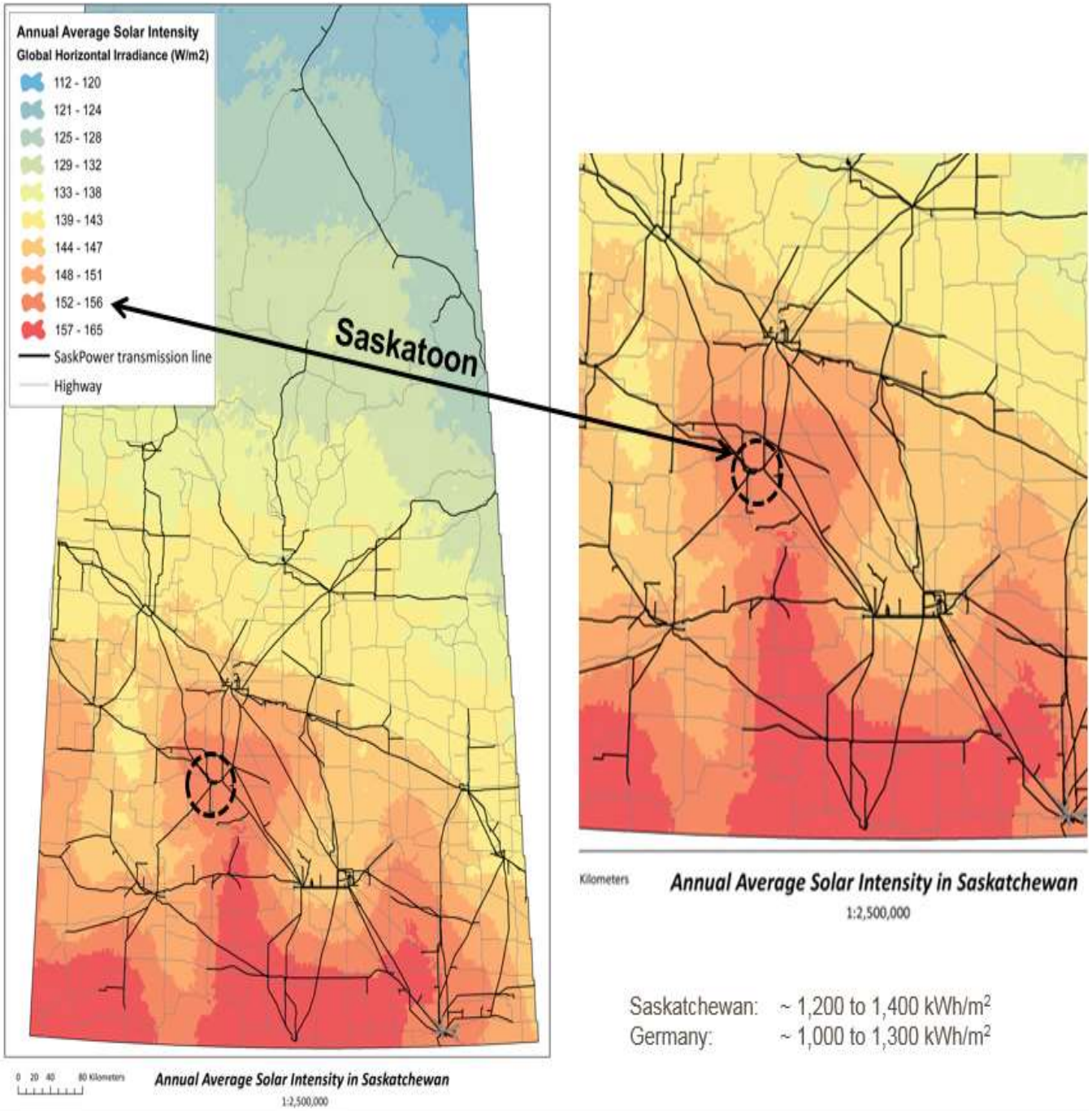
Solar Costs Falling

As electrical rates increase, solar electricity will become more viable to residents. Solar electrical panel costs are steadily decreasing and becoming more affordable. In 2014 Dunsky Energy Consultants conducted an analysis showing that solar electric panels are reaching a tipping point in the Saskatoon market. The analysis predicts that, by 2020 residents will be able to produce electricity (to be fed into an electrical grid) for less than the cost of purchasing it from a power utility.

Similar forecasts for solar electricity are reported by the International Renewable Energy Agency. In their 2016 report they forecast solar electricity costs could reduce in price 59% by 2025 with the right regulatory and policy framework in place.

Solar Resource in Saskatoon

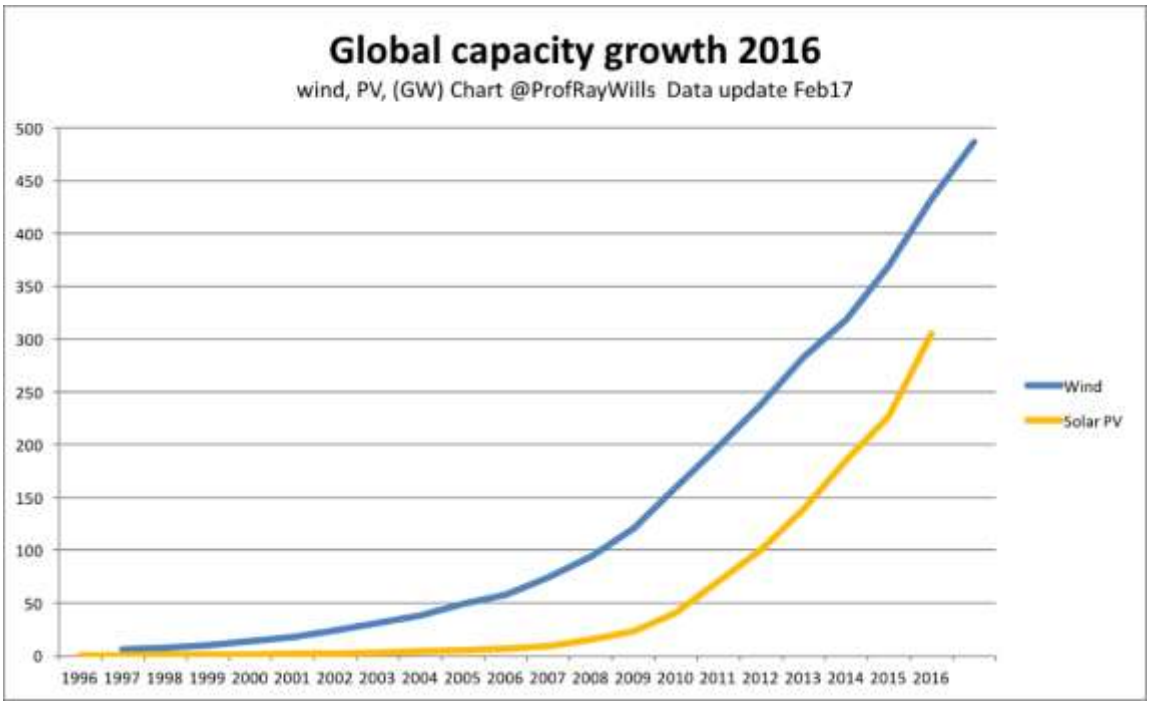
Location plays an important role in the ability to utilize solar energy. Solar intensity (Watts/m^2) varies from region to region. Canada's solar intensity on average is lower than most countries, however, Saskatchewan alone has a solar intensity which rivals or exceeds countries like Germany which have invested heavily in solar energy.



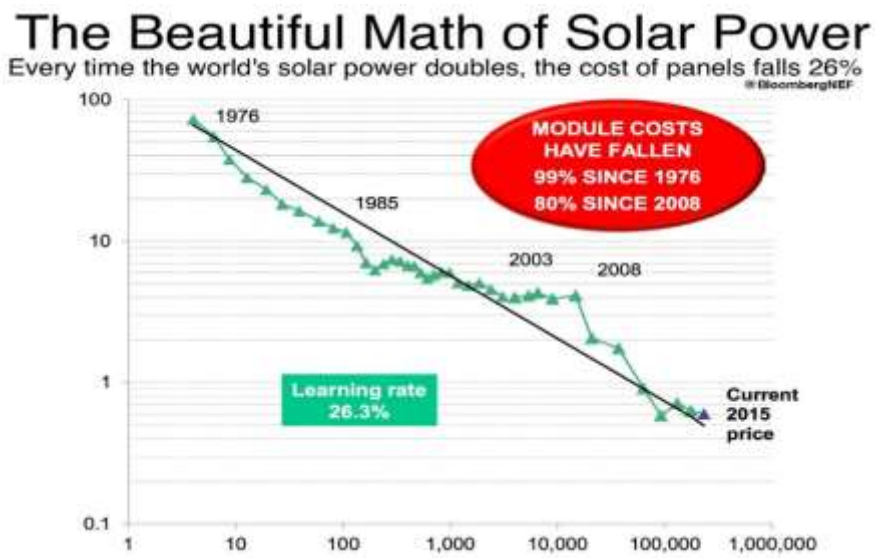
Source: SaskPower Renewables Roadmap http://www.saskpower.com/our-power-future/renewables-roadmap/

Growing Community and Market Interest

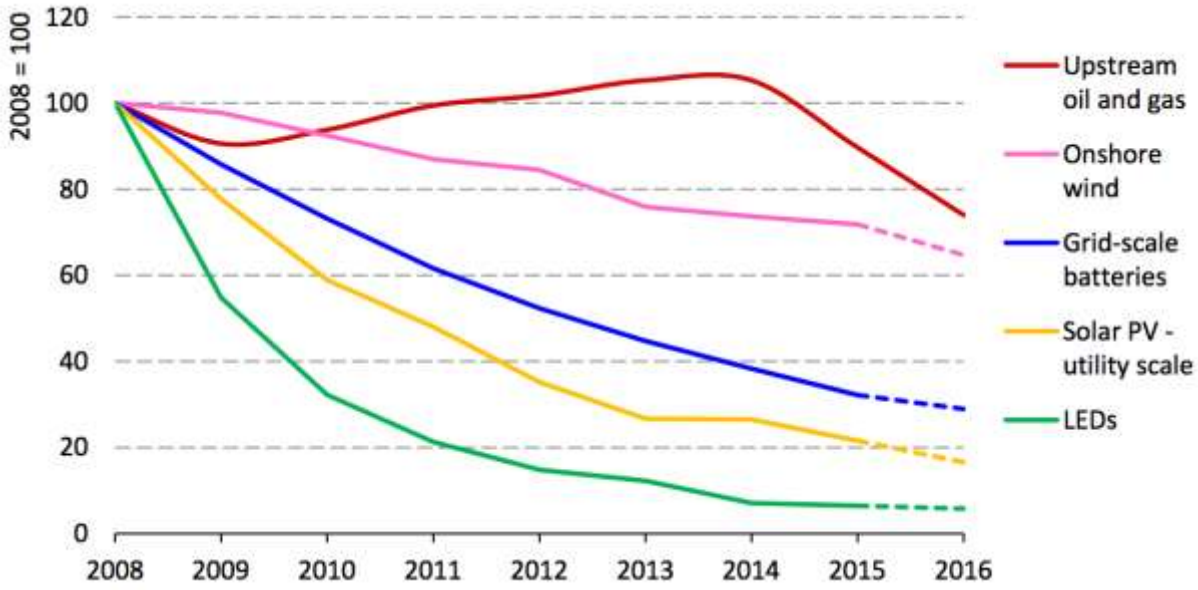
Civic staff recently attended the Global Renewable Cities Forum where the economic performance of solar and other renewable energy technologies were highlighted. The following graph illustrates the global increase in solar and wind power generating capacity (measured in gigawatts) between 1996 and 2016



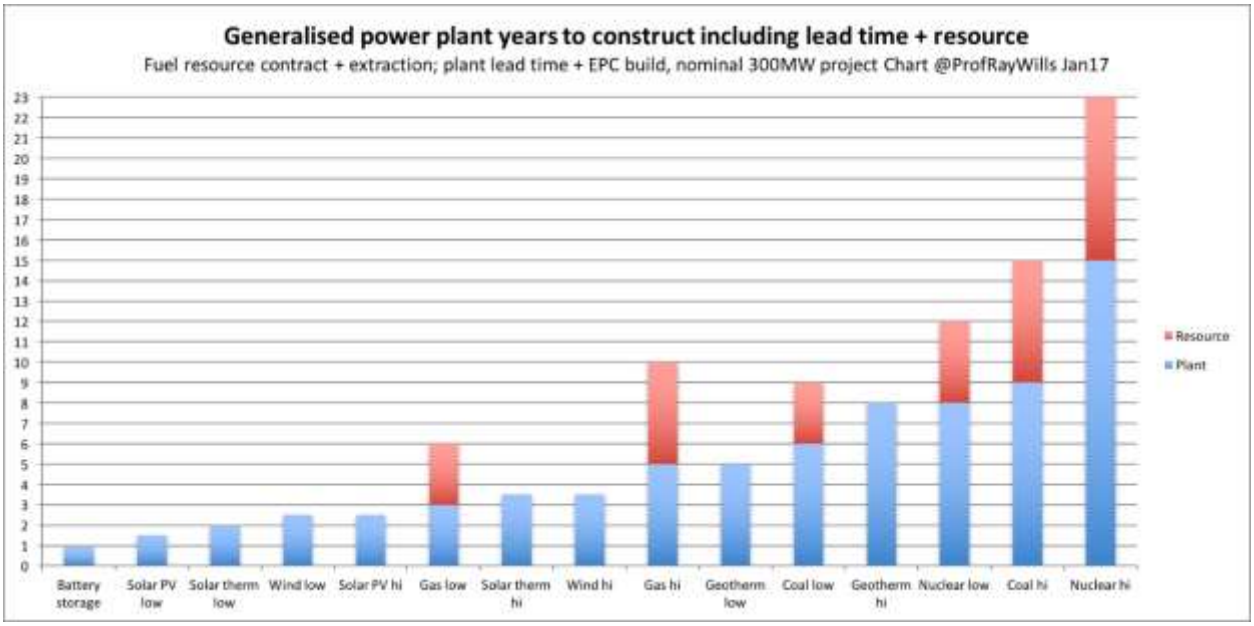
These significant growth rates have occurred both as a result of falling costs and are also contributing to ongoing cost reductions. The following graph shows this relationship in what Bloomberg New Energy Finance has labelled ‘the beautiful math of solar power’.



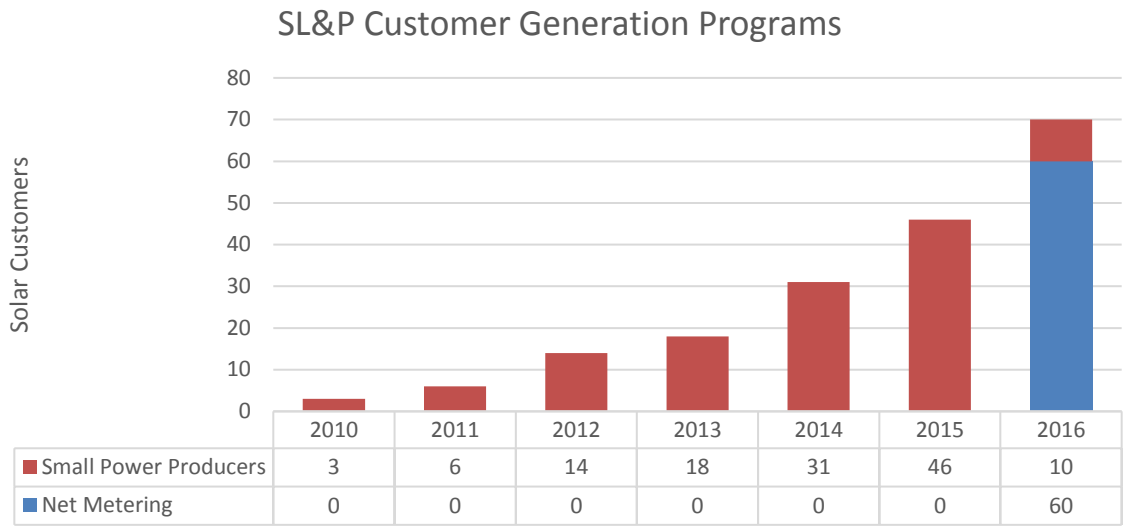
With prices for renewable energy falling quickly, renewable energy such as solar electricity is being generated globally at rates cheaper than 'traditional' fossil-fuel based energy as shown below in an analysis of developed projects by a conference presenter, Ray Wills, economist and futurist from Australia.



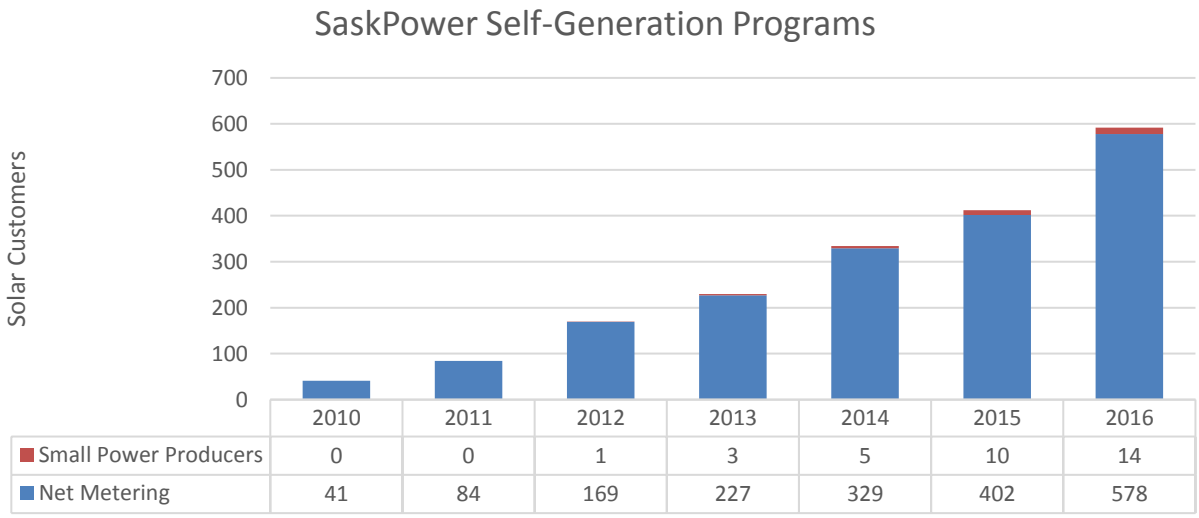
These projects are developed in the marketplace more quickly than other forms of energy.



Local market experience is consistent with these global trends. Saskatchewan has a solar resource that creates ideal conditions for residents to utilize solar energy. Residents in Saskatoon that connect solar electric panels to an electrical grid are required to follow the terms of the programs offered by their electrical utility, either Saskatoon Light and Power (SL&P) or SaskPower. For a typical residential installation these programs are the Net Metering or Small Power Producers Program. Of the two programs the Net Metering Program is more favourable to residents due to the preferential rate and Net Metering Rebate offered by SaskPower. Since 2010 both SL&P and SaskPower have seen growth in these programs, particularly in the area of solar electricity panels (known as photovoltaics or PV). SaskPower has grown from 46 solar electricity customers in their grid interconnection programs in 2010, to 617 in 2016 (13-fold increase or 55% annual growth rate) and SL&P has grown from 3 solar electricity customers in their grid interconnection programs in 2010, to 70 in 2016 (23-fold increase or 70% annual growth rate).



*SL&P Net Metering Program began in 2016
**Decrease in participation in Small Producers Program in 2016 due to customers switching to Net Metering Program



Jobs

The solar industry has started to play a more important role over the last 5 years in regard to job growth within the energy sector. The following has been reported by the United States and the International Renewable Agency:

- Fossil fuels still account for a large portion of the United States energy jobs, however specifically in the Power Generation Sector, solar employment makes up the bulk of jobs at 43%
- Solar employment in the United States, since 2010, has experienced increasing growth rates from 0% to 200%
- Construction and installation, wholesale trade, and manufacturing make up the bulk of solar electricity jobs; and

- Internationally, there were approximately 8.1 million renewable energy jobs in 2015, with approximately 2.8 million of these jobs coming from solar electricity employment

Canada's investment in solar energy is currently not as robust as in other countries due to large amounts of electricity already being obtained from renewable sources such as hydro. However, solar electricity capacity in Canada has steadily increased from 2008 to 2013. In addition, the Federal Government has committed to phase out coal fired power by 2030, which will create a generation capacity gap that can be filled by sources such as solar electricity. For instance, in Saskatchewan, SaskPower has committed to changing their generation capacity to 50% renewables by 2030, with 180 MW coming from solar generation by 2031. This shift by SaskPower to more renewables will contribute to increased solar employment in the province and help offset the recent reductions in employment within the fossil fuel sector.

Solar Uptake Barriers and Potential Solutions

Upfront Capital Investment

Solar electricity allows users to pay for their system through decreased electrical utility bills where solar power provides a portion of their electrical consumption needs. However due to the large upfront costs of a solar system, the payback period for solar users can be unfavourable. For example, a 5 kW solar panel system can cost at least $15,000 ($3 per Watt) for a typical solar user. If a solar user has the finances to cover these costs and can utilize the current rebate offered by SaskPower (which provides 20% of the total upfront cost), the payback period is approximately 11 years. However, most users do not have the upfront capital and will require financing, which results in a longer payback period due to added monthly interest charges.

The opportunities for the City of Saskatoon to address barriers associated with access to upfront capital include, property tax abatements, grants, providing a loan loss reserve or guarantee to support third party lending, preferential pricing of solar electricity supplied to the Saskatoon Light and Power grid and providing low cost or free long term (e.g. 30 year) land leases.

Rate Classes and Blocks

Outside the residential sector, electrical rates are currently designed to promote electrical consumption for high electrical consumers (such as commercial and industrial customers) through rate blocks and rate classes. Rate blocks offer discounted electricity rates for electrical consumption beyond a certain threshold.

For example, City Hall falls under the following rate class because of its high electrical consumption:

Commercial Loads Greater Than 75 But Not Exceeding 3,000 kVA - Utility Owned Transformer

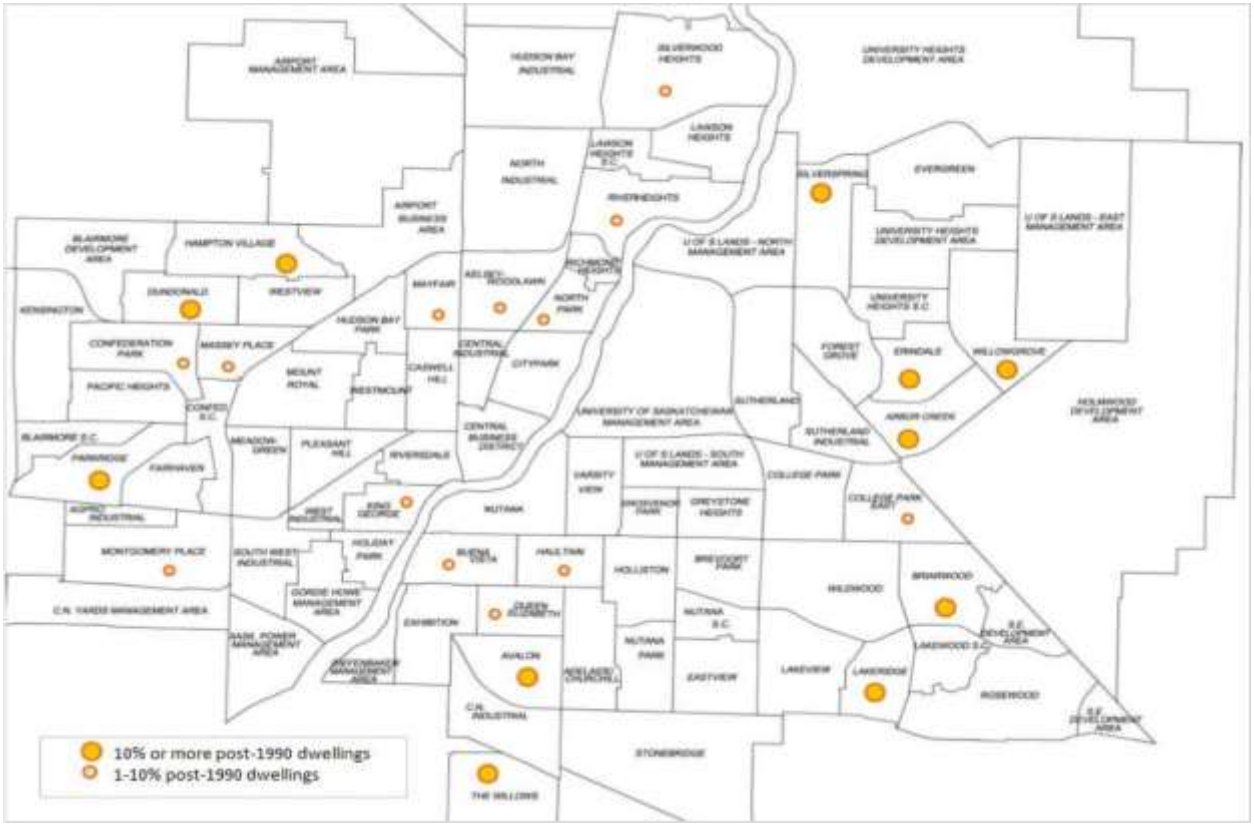
Service Charge ($)	$61.55
Energy charge (¢/kWh)	
First 16,750 kWh	12.73¢/kWh
Balance	8.15¢/kWh
Demand ($/kVA)	
First 50 kVA	no charge
Balance	$16.57/kVA

City Hall uses an average of 200,000 kWh per month. Under the rate class above, City Hall will pay 12.73 cents per kWh for the first 16,750 kWh consumed and 8.15 cents/kWh for the balance kWh consumed. If a solar panel system were installed at City Hall, the system would only reduce the kWh consumed at the lower rate of 8.15 cents/kWh making the payback for the solar panels unfavourable. This creates a financial barrier to many locations with roof sizes or land space ideal for large solar systems.

In some scenarios, a solar panel system may lower demand charges for a customer, which would create a more favourable blended offset rate of more than 12 cents per kWh. However, this scenario is difficult to accomplish because a system may not always be producing electricity when peak electricity demand is occurring for the commercial/industrial customer.

Limited Solar Access

Solar access is a key factor in utilizing solar energy. Typically large homes with south facing roofs and minimal shading create optimal conditions for solar electricity. These type of conditions are usually found in newer suburban neighborhoods with homes built after 1990. Dunsky Energy Consultants created the map below to highlight Saskatoon neighborhoods where ownership rates are above 60% and where over 10% of the single-family dwellings were built after 1990.



The map above also shows that most inner city neighborhoods may not have ideal conditions to utilize solar energy due to low ownership, smaller rooftops, and high tree density that increases shading. However, interest in solar electricity in these

neighborhoods may still exist and home owners may be able to utilize solar electricity through community solar projects which utilize Virtual Net Metering.

Virtual Net Metering

Virtual Net Metering (also known as Net Billing) is a concept that was developed in other communities to address issues due to rate blocks, rate classes and residents not having access to ideal solar locations. Under Virtual Net Metering, customers can pay to have a solar panel system built at an ideal solar location which is not physically connected to their electrical service and the utility provider will credit the customer's utility account with the solar energy generated from that system.

Source: http://www.indianadg.net/community-solar-gardens-could-expand-solar-benefits-to-more-hoosiers-but-needs-virtual-net-metering

Saskatoon Light and Power (SL&P) is currently working to pilot the concept of Virtual Net Metering in a demonstration project with the Saskatchewan Environmental Society (SES) Solar Co-op, Sun Country Highway, Saskatchewan Research Council (SRC), Saskatoon Car Share Co-op and the University of Saskatchewan. The demonstration project will virtually net meter solar power coming onto SL&P's grid from a large installation supplied by SES Solar Co-op to supply four electric vehicle (EV) charging stations. By using Virtual Net Metering the demonstration project can ensure that the electric vehicles charged at these sites are using solar energy to power their vehicles.

High Soft Costs

Solar costs are made up of three categories: hardware, installation and soft costs. Hardware correlates to the actual physical equipment and the installation costs represents electrical, mechanical and inspection costs that come with setting up the

system. Soft costs are all remaining costs associated with installing a solar system. These costs usually include:

- Application costs
- Permitting costs
- Taxes
- System Design; and
- Financing Costs

Soft costs can account for up to one-third of the solar installation costs and can hurt the economic payback for solar installations. The scale of these costs vary from region to region depending on the regulations and programs in place.

Municipalites can help decrease solar costs by reviewing application and permitting costs as well as determing whether some of these costs can be reduced or eliminated. For instance, Saskatoon currently requires a building permit for solar installations at a cost of approximately $7.50 per $1000 construction value. Calgary and Toronto have eliminated this cost by not requiring a building permit for solar installs when certain criteria are met to help promote the uptake of solar in their cities.

Limited Awareness of Solar Energy Among Consumers

Although solar electricity has been around for many years, it has not been a financially viable opportunity for most residents and businesses until recently. For this reason, education available to the public on how to get involved and utilize solar energy is limited in Saskatchewan. Residents who are interested in solar electricity are unaware of where to start if they are interested in the solar energy and what programs/incentives they can utilize.

There is an opportunity for the City to develop an education and awareness program to help residents and businesses. A variety of program-related considerations are outlined in Attachment 3. Any program approach should include strong education and awareness components to address this barrier.

Grid Interconnection Wait Times

As described in Attachment 1, residents who choose to use solar electricity will need to connect to the electrical grid managed either by SaskPower or Saskatoon Light and Power. This requires seeking permission to participate in their grid interconnection programs. Currently the process to participate in these programs and connect to the grid can be lengthy and may deter a user from participating in the program based on the uncertainty or the reason that things may change in the time it takes to receive approval. As interest in solar energy grows in Saskatchewan, the process for participating in these programs will need to be reviewed to see if there is any potential to stream line the process.

Overview of Potential Municipal Approaches

Planning/Policy Approach

Generally speaking, a planning or policy approach will require fewer civic resources (though some planning, legal and technical expertise is required to establish the initial approach and guide overall implementation).

Adopting new or revised policies supportive of solar to benefit public and private opportunities

(a) Changes can be made to the City's suite of development-related policies to achieve maximum solar orientation and access. These include changes to the Official Community Plan, Zoning Bylaw, Subdivision Regulations and Infill Guidelines. These changes would not only support the installation of solar panels, but also provide passive solar benefits that include:
   - Daylighting – reduced reliance on electric lighting (utility savings) and increased productivity and health (time and health cost savings)
   - Reduced heating requirements (opportunity to right-size equipment to save on capital costs and to reduce ongoing utility costs as equipment is used less)
   - Improved building comfort and increased satisfaction by building users

(b) Select and set-aside parcels suitable for solar energy in the same manner that parcels are set aside for care homes today.

(c) Develop policies supportive of district energy systems, electrical micro-grids and battery storage systems. This approach addresses concerns associated with intermittent energy supply within an electrical grid that must have 24-hour availability.

(d) Changes can be made to various Council and Administrative Policies:
   - Develop a clear permit and code review process that is outcomes based and utilizes a simplified inspection approach.
   - Creating a virtual net metering program - The City is installing an Advanced Metering Infrastructure (AMI) and Meter Data Management System. With these technologies it becomes possible to allow AMI customers to net meter electricity generated at a different location than their home or business and credit against their electrical bill. For example, electricity could be generated by a City-owned, private or non-profit solar array and the electricity could be credited on the electrical bill of subscribing businesses and residents. This approach also supports the concept of a micro-grid whereby properties make use of someone else's roof/property (having better solar orientation and access) and supports higher utilization of solar energy production by the property rather than sending back to the electrical grid.
   - There is an opportunity to change the operating policies and programs of Saskatoon Light and Power to create a '0% hurdle rate for projects'. Many solar projects would become more attractive if the expected Internal Rate of Return (IRR) over 20 years was 0% rather than ≥7%.

Direct-Investment/Project Approach
These approaches involve significant technical resources (engineering and financial), initial capital, site selection processes, project management, Power Purchase Agreements (particularly if outside the Saskatoon Light and Power franchise area), and ongoing operations and maintenance.

Directly-investing in solar panel arrays and systems
In addition to the investments already made at the Green Energy Park and at 2 civic indoor pool facilities, there is an opportunity to develop solar projects on civic lands and buildings that may total between 80 to 800 MW.

The City owns a number of undeveloped locations (bare land) that can accommodate utility scale (large) installations. It is also possible for other strategic locations to be acquired for this purpose. Preliminary estimates of the potential to install either permanent or temporary solar arrays on vacant City-owned land have revealed several opportunities:

- 136-acre parcel south of the Queen Elisabeth Power Station could generate ten (10) MW based on current panel technology.
- Creating a 'bright-field' that generates 300 kW at 1202 19th Street West where the City owns a portion of a brownfield site (the other portion is currently owned by Imperial Oil).
- 8030 acres of City-owned land are currently listed as undeveloped vacant land and could generate up to 400 MW if 50% of this land were used for solar development at 1 MW per 10 acres.

As discussed in the Report, Civic buildings could also accommodate small rooftop installations. Approximately 70 City-owned buildings have a combined potential to generate 1.8 MW of solar energy on their rooftops. This opportunity will be explored as part of the energy performance contracting (EPC) project.

Rights-of-ways are estimated to provide between 42 to 425 MW of solar potential assuming only 5% to 50% of the land can be used at 1 MW per 10 acres. However, the current practice in the City is to keep these areas clear to minimize safety concerns and a detailed analysis will need to be conducted so ensure all site specific parameters are accounted for at each proposed site.

The City also owns a variety of under-utilized sites that can accommodate small-scale installations. Administration has not yet determined the scale of generating capacity that may come from constructing shelter structures over parking lots and sport field fan areas, or adding panels to sound attenuation walls, transit shelters and future bus rapid transit stations.

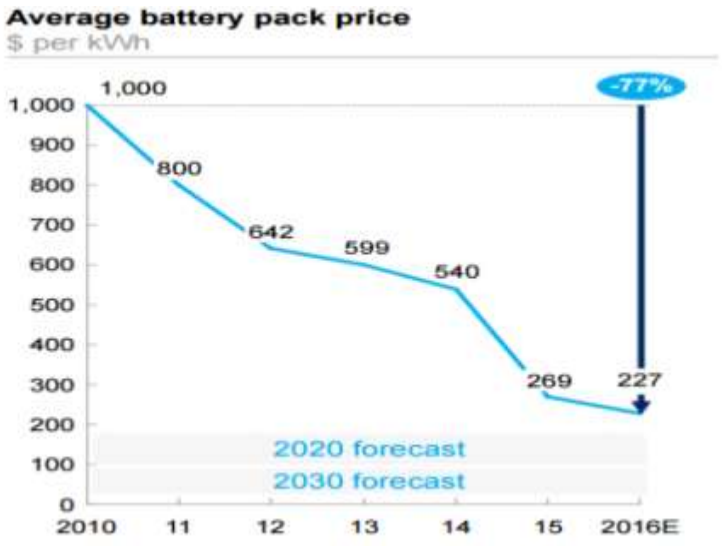
Investing in infrastructure enhancement projects such as micro-grids and energy storage facilities

Conventional electrical generation in most developed countries use high density power to meet electrical demand. High density power are large power plants (generally >1 MW) like coal, hydro, natural gas, solar and wind farms, and nuclear power to provide electricity to a large region. This approach has the following disadvantages:

- Large capital and operation costs associated with large power plants;
- Electrical distribution losses from distributing electricity large distances from power plants to point of consumption;
- Heavy reliance and costs to maintain large electrical grid; and
- Large power plants are usually fossil fuel based or require nuclear energy in areas where large scale hydro is not available.

These disadvantages have led to the increased use of micro-grids which promote the use of low density power sources. Micro-grids are small scale community based electrical grids that use low density power sources such as small scale solar and wind, combined heat and power (CHP), fuel cells, diesel, and natural gas to generate and distribute energy efficiently in a small area. In 2016 micro-grids were forecasted to grow 115% and reach a capacity of 4.3 GW in the next 5 years in the United States. Currently in the United States most micro-grids are composed of fossil fuel sources, however use of renewables such as solar energy is expected to grow in micro-grids. From 2015-2016 renewable energy capacity in micro-grids more than doubled, increasing from 6 to 14%.

Research into efficient battery technology to promote electric vehicles and the use of low density power over high density power has resulted in decreasing battery costs. Tesla's recent construction of their Gigafactory in 2014 has helped contribute to decreasing battery costs by 80% in the last 6 years and is expecting to reduce battery costs by another 35% in the coming years.



Source: electrek *https://electrek.co/2017/01/30/electric-vehicle-battery-cost-dropped-80-6-years-227kwh-tesla-190kwh/*

Decreased battery costs will help promote the use of solar electricity by providing users an option to disconnect from the grid and self-generate their electricity independently.

There is an opportunity for the City to invest in these technologies through demonstrations, partnerships, and pilot projects to enhance the grid infrastructure in the City to become more solar compatible.

Program Approach

Programs attempt to tackle barriers (perceived or real) to the installation of solar energy. Technical resources are required to create and administer the program. Some legal, financial and marketing resources are also required. Capital funding is also often required.

Programs providing financial incentives

(a) Property tax abatements - The City could abate all or a portion of property taxes owed for a period up to five (5) years on properties that install solar panels. The maximum abatement amount could be equal to the total installed cost for the system and could be as high as $3/kilowatt.

(b) Grants - To address the barrier posed by the significant capital costs required to install solar panels, the City could provide cash grants to cover a portion of the costs associated with installing solar panels. Grant programs typically range in value in Canada from a minimum of $650 to $20,000 for residential systems (0-100 kW) and up to $500,000 for commercial systems.

(c) Providing a loan loss reserve or guarantee to support third party lending - The City could provide funding to be managed by a third party organization that provides preferred-rate loans to cover the costs of solar panel systems. The third-party would be responsible for the qualification of participating lenders and hold an agreement for repayment with the property owner.

(d) Preferential pricing for solar / Feed-In-Tariff (FIT) - The City could create a temporary Feed-In-Tariff (FIT) Program. A FIT pays a premium for solar electricity supplied to the electrical grid. There are different models for FIT programs. The municipality of Banff has recently created the first municipal FIT in the country, and pays their customer a pre-determined amount (typically $1,400) yearly for seven years. The province of Ontario paid up to 31.1 cents per kilowatt-hour of electricity supplied to the electrical grid under the final year of their microFIT program in 2017.

(e) Provide cheap or free land leases for solar installations – Rather than develop solar projects itself, the City could lease City-owned land at reduced or no cost to solar companies or co-operatives. The City currently utilizes leasing arrangements with community associations/groups and businesses such as SaskEnergy,

Cosmopolitan Industries, and the Western Development Museum for the use of City facilities.

Non-financial incentives

(a) Education - Communicate the benefits achieved by systems installed on City sites or develop awareness campaigns.

(b) Technical assistance - Consulting/pathfinding (as envisioned under the Solar City program proposal made in 2014)

- A person to make the complex process of installing solar panels simple by guiding or explaining the planning, procurement, and installation process.
- A person to work with permitting agencies to advocate for fast-tracked permitting (from the Building Standards Division, Saskatoon Light & Power and SaskPower) and power-purchasing (especially from SaskPower whose current permitting time is greater than 8 months. Advocacy has been shown to be successful in the past when SRC was involved in delivering a recent Provincial solar panel incentive program. This program provided a cash grant for a limited time only).
- A guide and on-line resources to explain how solar panel systems work, their benefits, how residents can purchase them, and what they should expect from solar companies.
- A person to develop and maintain relationships with solar companies to keep abreast new technologies and processes (and pass this information on to potential customers).
- Right-sizing solar installations (avoid sending any back to the grid – esp. in Central Business District)

(c) Density and other development bonuses (such as available in City Centre incentive policy) – Building developers may be offered height bonuses if their developments include solar panels. The bonus will allow additional height and/or reduce the correlation of height to land area when solar panels are included in the development.

(d) Direct sale of land – Saskatoon Land is currently investigating the benefits and methodology of offering an incentive program to Eligible Contractors to create a residential photovoltaic solar power demonstration project in Aspen Ridge. The methodology is currently being investigated however, consideration is being given to offering a selected block of lots with preferred active solar potential. These lots would be allocated outside of the normal lot draw process. Further study is required as to whether it would be possible and beneficial to offer a financial incentive in addition to the direct sale lot selection incentive. In this regard, following due process to request permission to price and sell land, Saskatoon Land will be reporting to the Standing Policy Committee on Finance prior to lot allocations and sales.

2000-5

From: City Council
Sent: Monday, October 30, 2017 12:11 PM
To: City Council
Subject: Form submission from: Write a Letter to Council

Submitted on Monday, October 30, 2017 - 12:10
Submitted by anonymous user: 207.47.243.164
Submitted values are:

Date: Monday, October 30, 2017
To: His Worship the Mayor and Members of City Council
First Name: Angie
Last Name: Bugg
Address: 308 Albert Ave
City: Saskatoon
Province: Saskatchewan
Postal Code: S7N 1G1
Email: angie.bugg@sasktel.net
Comments: Brian Sawatzky and I, members of the Saskatoon Environmental Advisory Committee, request to speak at the November 6 Standing Policy Committee on Environment, Utilities and Corporate Services meeting, regarding the City's proposed Solar Strategy.

The results of this submission may be viewed at:
https://www.saskatoon.ca/node/398/submission/200836

Integrating the Recovery Park Project with Required Saskatoon Regional Waste Management Centre Projects

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

That the Administration continue with preparation and planning for the Recovery Park project and defer procurement until a comprehensive funding plan is in place for the Landfill Capital Investments as outlined in this report.

Topic and Purpose

The purpose of this report is to update City Council on the Recovery Park project and the need to coordinate this work with the next phases of landfill capital investment. The final phases of functional planning have demonstrated that Recovery Park is an integrated component of the Saskatoon Regional Waste Management Centre (SRWMC) and required capital projects.

Report Highlights

1. As the functional design progressed, it became evident that in addition to the construction of new landfill scales, the Recovery Park project should proceed concurrently with a planned Landfill capital project which would see relocation of existing out-buildings that have reached the end of their service life.
2. Landfill out-building relocation is required due to the need, by about 2020, to expand the active landfilling area into the area currently occupied by waste drop off, existing recycling, West (old) scales and building infrastructure, as identified in the 2011 Integrated Landfill Management Plan. The Administration has more clearly delineated costs associated with Recovery Park and costs associated with investments required to continue to operate the landfill. The recovery portions are estimated to cost $7.4M, and the estimated cost for the planned relocation of landfill-related facilities is $16M.
3. Implementation of the plan integrates facilities for the landfill and recycling into one comprehensive entry point, currently referred to as Recovery Park.
4. Relocation of landfill-related facilities to adjoin recovery functions will make available the final footprint expansion for the landfill. This cell construction is anticipated to be required in 2020 at an estimated cost of $8M.
5. Administration will report back in mid-2018 on funding for the integrated Recovery Park project and present an Operating Plan.

Strategic Goal

This report supports the Strategic Goal of Environmental Leadership. Construction and demolition recycling and yard waste composting programs respond directly to the four-year priorities to promote and facilitate city-wide composting and recycling and eliminate the need for a new landfill by diverting waste for re-use. Recovery Park also supports the 10-year strategies to improve the quality and reduce the quantity of storm water run-off going to the river, reduce greenhouse gas (GHG) emissions and address soil-quality

issues on City-owned properties. Recovery Park will also support the Performance Target of diverting 70% of waste from the landfill by 2023.

Background

On August 17, 2011, City Council considered and approved the Integrated Landfill Management Plan to extend the life of the landfill. The 2011 plan includes: building steeper landfill slope-sides, expanding waste cells to the area currently occupied by infrastructure that has largely reached the end of its service life, reclaiming inefficiently filled areas, and maximizing opportunities for waste minimization.

The Integrated Landfill Management Plan was comprehensive in nature and effectively describes how the landfill should be expanded and operated until its ultimate closure. For a variety of reasons, most notably private landfill competition and a long-standing internal business model where residential waste is received at the landfill with no associated revenue, revenue actuals have been significantly below planned projections. This has led to a situation where there is insufficient capital funding accumulation in the Landfill Replacement Reserve (LRR).

On November 28, 2016, City Council consolidated $7M in capital funding for the construction of Recovery Park.

On May 23, 2017, City Council approved the issuance of a Request for Proposal(s) for the design and construction of Phases 1 and 2 of Recovery Park, which included a new landfill scale.

On August 28, 2017, City Council approved procuring specialized design services for the scale house and occupied buildings associated with Recovery Park.

Report

Landfill Expansion to Occur Beginning in 2020

Based on current trends, the active waste cell at the landfill will be full within three to four years and construction of a new cell will need to commence by 2020.

Room for a new cell is available within the current landfill footprint where the waste transfer facility is currently located. Expansion of the landfill mound was described in the Integrated Landfill Management Plan, approved by City Council in 2011, which includes constructing a new waste cell on the eastern portion of the existing site, including required leachate collection systems. Consistent with the report's optimization strategy and to accommodate this expansion, existing infrastructure is planned to be demolished in the spring of 2020. Further details are provided in Attachment 1, Additional Information.

The construction of this new cell is the last expansion of the landfill footprint in the Integrated Landfill Management Plan and will allow the landfill to maximise the use of the airspace at the site in compliance with regulatory requirements. As such, once this investment is made, the new public scale site, transfer station and recycling

infrastructure (Recovery Park) are expected to be in place until the landfill reaches the end of its service life and is closed.

Recovery Park

The plan integrates all landfill and recycling entry facilities into one comprehensive entry point, currently called Recovery Park, which becomes the new public face of the landfill and contributes to realizing the full potential of the SRWMC. The project includes construction of a new scale house and waste acceptance area in response to the planned demolition of the existing public landfill infrastructure. Future infrastructure for compost operations may also be constructed at Recovery Park, making the site the largest and most prominent City-owned waste management facility and similar to facilities constructed in other Canadian cities.

Dundonald Avenue

Dundonald Avenue is currently aligned north-south, immediately east of the footprint of the Recovery Park site, and provides primary access to SaskPower further to the east. The SRWMC will be designed to be a secure facility and, in doing so, a portion of the existing Dundonald Avenue requires closure. A new access road to SaskPower is being considered through the western portion of the Recovery Park site. The Administration and SaskPower are currently working together to determine a new alignment and a cost arrangement.

Operations

The current planning for operations anticipates that Recovery Park can replace or augment the operations of the following existing waste management programs: waste transfer station, community recycling depots and Household Hazardous Waste Days. Funding for these programs can therefore be consolidated to help fund Recovery Park operations. Compost depots are not at this time being proposed to be moved to Recovery Park immediately and therefore this funding has not be included in the initial operating budget. Administration is currently working through a preliminary operations plan, including preparation of service levels and associated costs for City Council approval. This operating information will be presented to Committee in the second quarter of 2018.

Project Development Status and Schedule

Following the reports in May and August, Administration carried out a call for consultant services for the design of the Recovery Park Scale House and Ancillaries. The returns from the call were deemed unacceptable, and as such all proposals were rejected. Because of the complexity of the project and the need to carefully coordinate the work across many disciplines, Recovery Park is likely to proceed using a design-build procurement model.

As the site concept was advanced, it became clear that the landfill capital works need to be integrated into the Recovery Park work. The updated project plan includes refinement of the site layout, scope and preparation of owner's technical requirements. This work will be completed over the course of Q4-2017 and Q1-2018 to prepare for

tender of the design-build package. This work will also allow for refinement and approval of the funding plan for the integrated Recovery Park capital project in mid-2018.

Because the project cannot be tendered until funding is approved, the schedule for the design-build of the integrated Recovery Park project becomes aggressive with little room for contingency. A 15-month design and construction period from Q3-2018 to early 2020 allows for the demolition of existing infrastructure at the landfill in the spring of 2020, along with the operations commencing at Recovery Park at that time. Funding approval delays will result in later design and construction of Recovery Park. Any delays in the delivery of the Recovery Park construction, commissioning and transfer of public operations from the existing scales to the new scales at Recovery Park, would push back construction of the new cell putting landfill operations at risk.

Options to the Recommendation

City Council could rescind its resolution to construct both Phases 1 and 2 instead of instructing Administration to only proceed with Phase 1 of Recovery Park, as outlined in the report that City Council received on May 23, 2017. This is not recommended due to the efficiencies of an integrated site and the schedule for demolishing existing infrastructure at the landfill, which this option does not resolve.

An option exists to defer selecting a funding strategy until a decision has been made with respect to expanding the Waste Services Utility as this could provide a basis for funding an internal loan against future utility revenues.

A more radical option exists where the City could close the landfill to commercial customers and residential self-haul customers but remain open for residential waste collected by City garbage trucks. This is estimated to result in delaying the need to expand the footprint of the landfill by 4 years. This is not recommended due to the resulting loss of revenues and service.

Financial Implications

In the November 28, 2016, and May 23, 2017, reports approved by City Council, approximately $7M of capital funding was consolidated from existing capital projects for Recovery Park and Administration indicated that an additional $7M was expected to be needed in order to construct the full scope of the project. The previous $14M estimate excluded costs such as staff buildings, equipment purchases, surface water management pond, Dundonald realignment and other costs not directly associated with the construction of the civil works. It was previously expected that the Landfill Replacement Reserve would contribute to the construction of replacement landfill infrastructure and site requirements at Recovery Park, but this reserve is currently in a deficit. The current reserve sufficiency shows that the LRR could come out of a deficit position in 2018 pending revenues are fully realized and the Leaves & Grass program/Compost programs are self sufficient.

Administration also reported that Federal funding would be pursued for the project; however, details of this funding are not expected before March 2018 and at this time it is not believed that the unfunded aspects (i.e. landfill scales and support buildings) of the project would be eligible. The May 23, 2017, report also communicated the need for relocation of Dundonald Ave but did not provide a capital cost estimate or funding strategy for this new road.

Attachment 2, Recovery Park, Regina and Calgary Comparison, includes further comparison of Saskatoon's proposed Recovery Park to Calgary and Regina sites.

The following table provides Administration's updated capital cost estimate for the Recovery Park project as well as the Landfill capital projects running concurrently.

Project		Associated Costs		Funding Available	Required Additional Funding
	Total	Diversion	Landfill		
Saskatoon Regional Waste Management Centre	**$20,600,000**	**$7,400,000**	**$13,200,000**	**$ 7,000,000**	**$13,600,000**
Site Work	$ 6,900,000	$3,500,000	$ 3,400,000		
Operational Roads	$ 2,800,000	$1,400,000	$ 1,400,000		
Stormwater Pond	$ 1,400,000	$ 200,000	$ 1,200,000		
Scales and Scale House	$ 3,500,000	$ -	$ 3,500,000		
Equipment & Kiosks	$ 500,000	$ 300,000	$ 200,000		
Design/Build Contractor Costs	$ 1,300,000	$ 500,000	$ 800,000		
Admin and Other Costs	$ 4,200,000	$1,500,000	$ 2,700,000		
Landfill Outbuildings	**$ 2,800,000**	**$ -**	**$ 2,800,000**		**$ 2,800,000**
TOTAL	**$23,400,000**	**$7,400,000**	**$16,000,000**	**$ 7,000,000**	**$16,400,000**

Future Work Required for the Regional Waste Management Centre

Liner and Leachate System	$ 8,000,000	$ -	$ 8,000,000	$ 8,000,000	
COMBINED TOTAL	$31,400,000	$7,400,000	$24,000,000	$15,000,000	$16,400,000

Should Committee choose to approve the complete scope as recommended, Administration will continue to investigate funding options and provide a report to the Standing Policy Committee on Finance with a recommendation to fund this shortfall (as options include borrowing). Administration will also diligently continue to seek ways to reduce life-cycle costs for the project.

Alternatively, if the City were to construct a replacement landfill facility, very preliminary estimates put this capital cost at approximately $100M plus decommissioning of the existing site. Further work to refine this estimate is planned to begin later this year, with anticipated completion in the first quarter of 2018.

A new landfill would result in increased operating cost impacts due to:

- The landfill would be further from the city centre.
- A new landfill further from the City could result in a reduction of landfill revenue, as customers may chose commercial sites that are more easily accessed; and
- A transfer station may be required to minimize trips to the new landfill, generating additional operating costs and implications.

Communications Plan

A communications plan will be developed in conjunction with the funding plan utilizing the information provided in Attachment 3, Frequently Asked Questions.

Other Considerations/Implications

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

Due Date for Follow-up and/or Project Completion

Administration will report back on a funding plan for both Recovery Park and the Outbuilding Relocation capital projects in mid-2018. Further reporting on the value of the Landfill airspace and an updated cost estimate for constructing a new landfill will be provided in 2018.

Public Notice

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

Attachments

1. Additional Information
2. Recovery Park, Regina and Calgary Comparison
3. Frequently Asked Questions

Report Approval

Written by:	Chris Richards, Energy and Sustainability Engineering Manager Jeanna South, Special Projects Manager
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Approved by:	Jeff Jorgenson, Acting General Manager, Corporate Performance Department

Recovery Park Integration: Further Detailed Information

2011 Integrated Landfill Management Plan and Funding Projections

On August 17, 2011, City Council considered and approved the Integrated Landfill Management Plan to extend the life of the landfill. The 2011 plan includes: building steeper landfill slope-sides, expanding waste cells, reclaiming inefficiently filled areas and maximizing opportunities for waste minimization. It established the sequencing of landfill expansion and changes in operation to protect the lifespan of the facility. If all of the recommended changes from the 2011 plan are realized, the report states that the landfill will be likely be available for forty years longer.

The Landfill Optimization Council Report outlined a 10-year plan for funding landfill improvements based on recommended tipping fees and a portion of the revenue to be allocated to capital projects. The plan recommended that the project proceed ahead of reserve sufficiency, and that the City carry the project and recover the capital costs with interest when the reserve is sufficiently funded. The 2011 report projected that by 2016, $6M would be available for the new cell and other landfill optimizations.

The Optimization report projected 2011-2021 fees needed to rise from $65 to $110 per tonne and associated contributions to the Landfill Replacement Reserve (LRR) rise in order to accumulate capital funding, but the tipping fee projection did not anticipate the impact of competitive factors such as, the ability for the privately-owned Northern Landfill to negotiate fees below posted rates or the sale of the Corman Park Landfill to an aggressive market competitor. As a result, the financial projection proved to be too aggressive. Revenue actuals for 2011-2016 fell significantly below planned projections and has resulted in no capital funding accumulation in the LRR.

Landfill Expansion and Asset Requirements

Room for a new cell is available within the current Saskatoon Regional Waste Management Centre (SRWMC) footprint where the waste transfer facility is currently located. Expansion of the landfill mound described in the plan includes constructing a new waste cell on the eastern portion of the existing site, including required leachate collection systems. Consistent with the report's optimization strategy and to accommodate this expansion, existing infrastructure is planned to be demolished in the spring of 2020, including:

- two heated equipment storage buildings which are undersized and have been preserved beyond their useful life;
- west (old) Scale House;
- landfill office and staff facilities which are undersized and do not meet the requirements of current operations;
- public waste and recycling drop off areas which are insufficient for current and future requirements; and
- internal roadways.

New Public Face of the SRWMC

The new public face of the SRWMC will integrate waste diversion opportunities (currently referred to as Recovery Park) and infrastructure related to Waste Stream Management. The scope of work for new landfill infrastructure at this location includes:

- two heated equipment storage buildings;
- new Scale House for use by the public;
- new, fully-serviced landfill office and staff facilities;
- public waste drop off areas;
- new surface water management pond as required by regulator; and
- Sask Power access roadway.

Operations

The current planning for operations anticipates that Recovery Park can replace or augment the operations of the following existing waste management programs: waste transfer station, community recycling depots and Household Hazardous Waste Days. Funding for these programs can therefore be consolidated to help fund operations. Compost depots are not at this time being proposed to be moved to Recovery Park immediately and therefore this funding has not be included in the initial operating budget. Administration is currently working through a preliminary operations plan, including preparation of service levels and associated costs for City Council approval. This operating information will be presented to Committee in the second quarter of 2018. Greater clarity on operating costs and service levels will be achieved once further discussions with service providers have occurred, and from that, a Final Operating Plan will be prepared. Administration will bring a report on the operating budget for the integrated Recovery Park, including proposed fees, prior to opening the facility.

Recovery Park, Regina and Calgary Comparison

This attachment compares the Recovery Park site to other recently constructed sites. The City of Regina recently constructed a municipal scale system at a cost $7.5M in 2013. Regina has not yet constructed a recycling area that would be comparable to Recovery Park.

The City of Calgary constructed new scales (East Calgary landfill) and a recycling area that is very similar to what is proposed for Recovery Park (scales, recycling, throw and go building, z-wall with bins, large asphalt pad, etc.) for approximately $16M in 2012. The East Calgary site has a much smaller footprint than Recovery Park but is located in a more remote location and required significant investment in access roads, water/sewer infrastructure, and other site improvements in adjacent areas.

The Recovery Park concept is more compact, less remote, and has significantly less roadways. Additional construction cost efficiencies are expected for Recovery Park, however, Recovery Park must include the construction of new areas to accept waste for the landfill which was not included in either the Regina or Calgary projects.

City of Calgary, East Calgary Scales and Throw and Go ($16M in 2012)

East Calgary Scales

Roll-Off Bins and Z-Wall

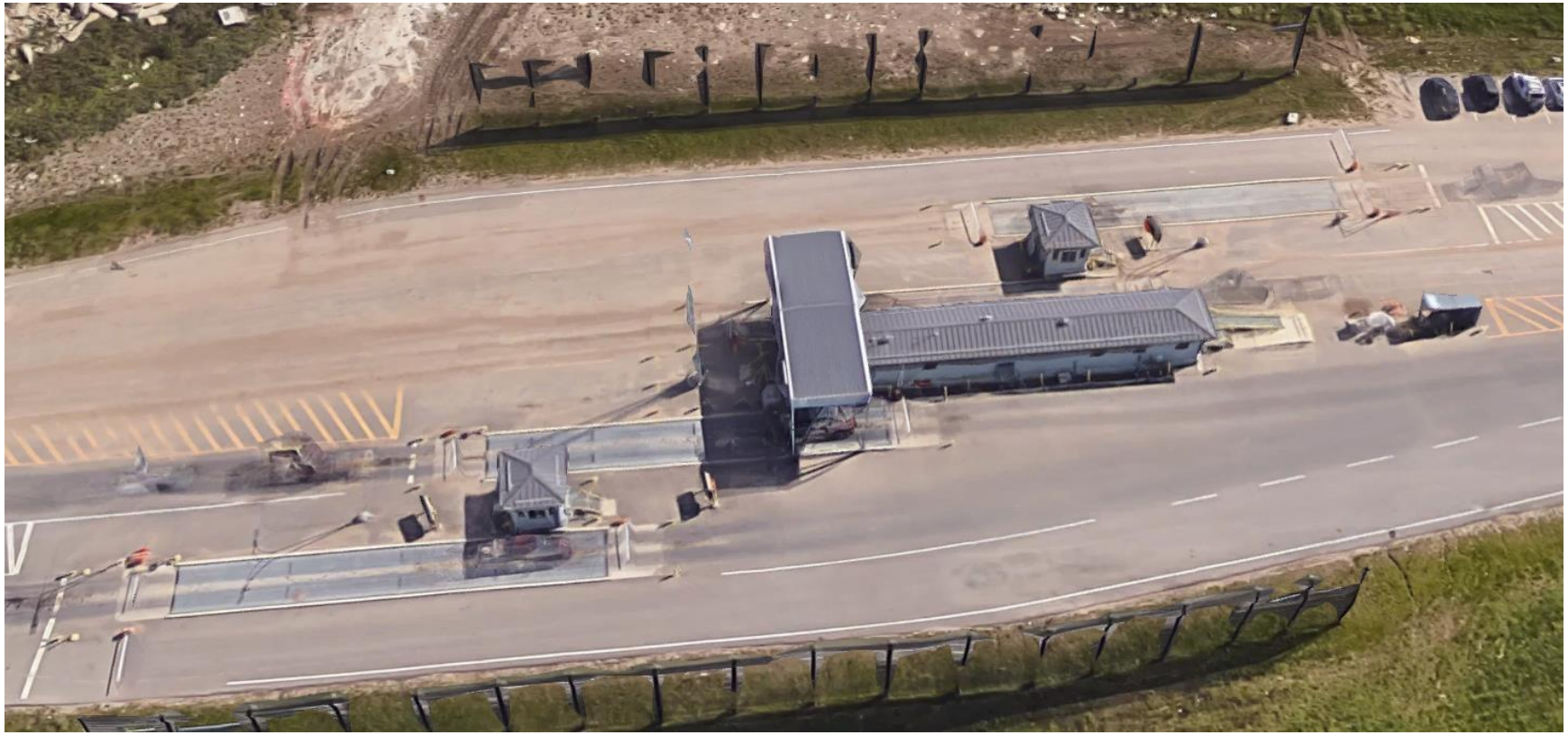
Site Area is Approximately 10,000 m^2 (excludes all access and service roads)

Throw and Go Building

East Calgary Throw and Go

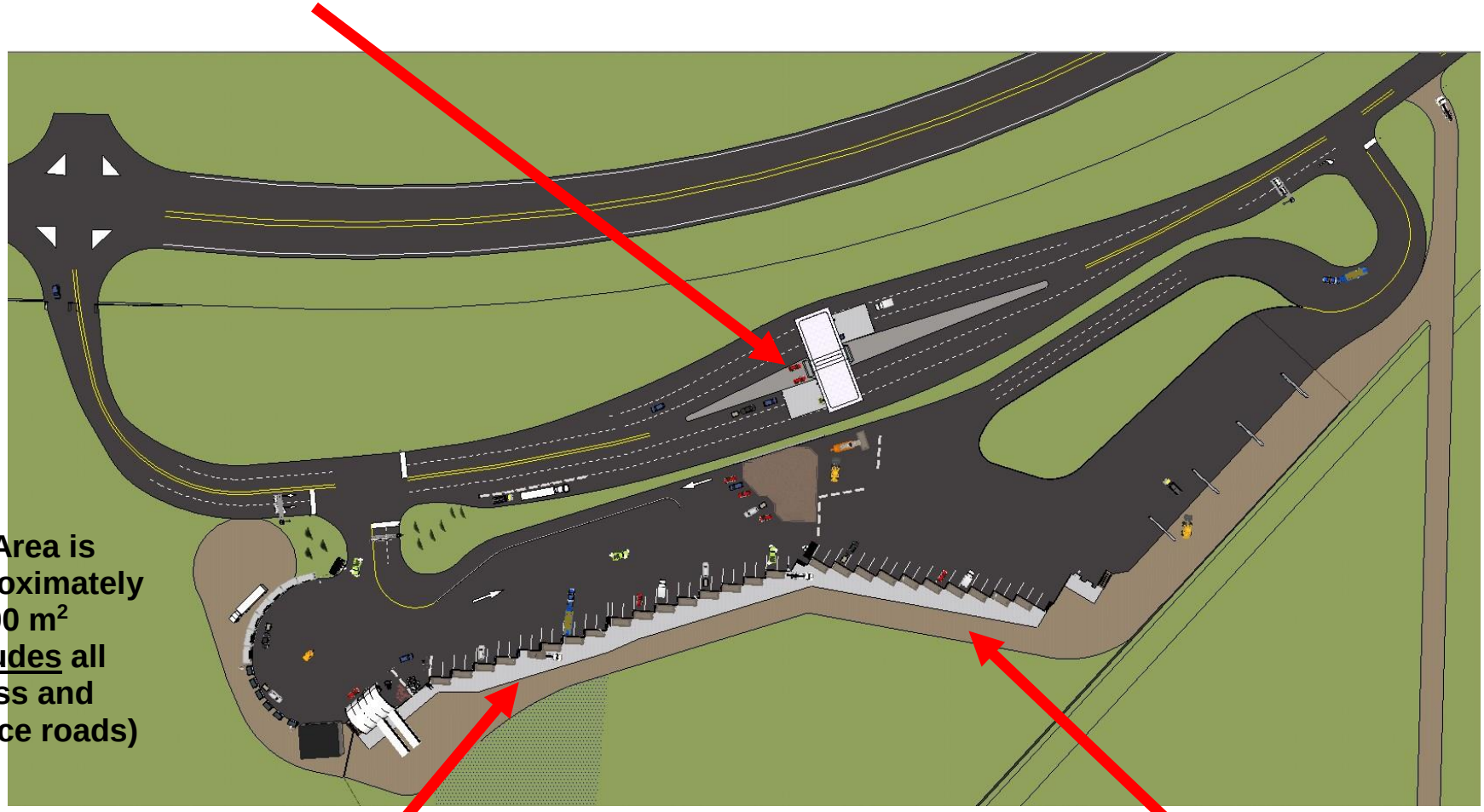
Shephard Landfill Scales (South Calgary, similar to East Calgary Scales)

New Regina Landfill Scale System ($7.5M in 2013)



New Regina Landfill Scale System

New Scales



Site Area is Approximately 50,000 m^2 (<u>includes</u> all access and service roads)

Waste Diversion Transfer Bins

Recovery Park Concept

Waste Transfer Bins

Frequently Asked Questions

What is Recovery Park?

The City is proposing to expand waste diversion (recycling/reclamation) capabilities at the Saskatoon Regional Waste Management Centre (SRWMC, commonly referred to as the Landfill).

The project - currently named Recovery Park - involves the construction of a comprehensive new public facility that will integrate solid waste diversion and disposal facilities at a single location. Recovery Park will include such features as updated scales & scale house; construction and demolition (C&D) waste recycling; Household Hazardous Waste (HHW) collection; composting; recycling; a gently used item exchange, and solid waste transfer bins, along with facilities related to landfill operation. Opportunities for garbage truck fleet storage may be added in future phases.

What are the overall benefits?

By providing all of these services at the SRWMC, citizens and City operations would have a "one-stop" location where numerous waste diversion and waste disposal needs would be met. Recovery Park effectively becomes the public face of SRWMC by offering integrated and comprehensive waste and recycling services to citizens.

In comparison to operating separate sites, the City will realize cost savings by sharing infrastructure (e.g. scales and scale house) and operational resources (i.e. less staff are needed to manage a single site with multiple services vs. multiple sites with single services). Greater customer service and diversion rates should also be achieved. New revenues or operational savings could potentially be realized through bulking of HHW and sale of recovered recyclable materials.

What are the benefits of waste diversion?

- **Extends the life of the Landfill** - Waste diversion is necessary if Saskatoon wishes to defer or eliminate its need for a new landfill. Recovery Park works towards realizing a landfill optimization plan that the City has been implementing since 2011 to manage the landfill more efficiently. The 2011 plan includes: building steeper landfill slope-sides; expanding waste cells, reclaiming inefficiently filled areas; and maximizing opportunities for waste minimization (waste received by the facility remains or falls below a rate of 130,000 tonnes per year)[1].

  If all of the recommended changes from the 2011 plan are realized, and the City achieves its Performance Target to increase the waste diversion rate to 70% by 2023, the Landfill will be likely be available to 2050 or longer.

[1] "Landfill Optimization." Report to Saskatoon City Council. May 16, 2011. Data refers to XCG Consultants' "The Saskatoon Waste Management Centre – Integrated Landfill Management Plan." 2011, p3.

Without Landfill optimization strategies and aggressive diversion, the lifespan of the Landfill was projected to close between 2021 and 2026[2].

- **Reduced Greenhouse Gas Emissions** - Much of the waste disposed of within landfills breaks down without oxygen resulting in the release of Methane, which is a potent greenhouse gas (GHG), 25 times stronger than carbon dioxide. Waste diverted from the landfill will result in fewer emissions. Less material breaking down also results in less generation of toxic leachate, which pollutes groundwater and surface water or causes increased demands on municipal wastewater treatment systems that may or may not be able to handle the toxins found in the leachate.

- **Saves valuable resources** - Technological advancements in the waste and recycling industries have resulted in numerous ways to divert waste to a useable and often valuable end product. Many cities around the world are turning toward these technologies to solve the increasing demand on landfills and their associated environmental hazards.

How much waste can be diverted through the various initiatives planned for Recovery Park?

Through the operation of Recovery Park as a centralized drop-off location for waste management and waste diversion, it is expected that greater diversion will be achieved over existing programs (e.g. HHW days, recycling depots). Along with the increased participation in existing programs, the introduction of C&D recycling should result in upwards of 10,000 tonnes of waste diverted annually in the initial years[3]. Tonnages are expected to increase in subsequent years as the community becomes more familiar with the site and recycling opportunities.

Recovery Park is projected to increase Saskatoon's Waste Diversion Rate from 21% to 30% or greater. Saskatoon's Performance Target is to divert 70% of waste from the landfill by 2023, so other initiatives such as organics diversion will be required to augment Recovery Park in order to meet this target.

What is the proposed cost?

In November 2016, $7M funding for a portion of the project was identified from various civic sources.[4] This funding was approved in the 2017 Capital Budget. Throughout 2017, work has been carried out to scope and consolidate the Landfill expansion work with Recovery Park, resulting in a total value of work at $23.4M. Of this approximately $7.4M is attributable to Recovery Park and $16M to the Landfill capital project[5].

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[2] Ibid. "Landfill Optimization. Page 1.

[3] "Recovery Park Next Steps". Administrative Report. November 2016. Page 6.

[4] Capital Project #2187 - US Composting Facility, Capital Project #2050 – C&D Waste Management Centre, and Capital Project #1482 – SW Recycling Depots. From "Recovery Park Next Steps". Administrative Report. November 2016.Page 5.

[5] "Recovery Park: Capital Update". Report for EU&CS. November 2017. Page 1.

What is the expected cost of building a new Landfill?

Calculating the cost of a new Landfill is difficult as it depends on the City's ability to acquire a significant land parcel that is likely to be outside of the City limits. Community acceptance of this land-use could also delay the acquisition. Further consideration would be the time impact and challenges in achieving regulatory approval for a new site.

Estimating the capital cost of a new Landfill is very preliminary, and further work to refine this estimate is underway. The current cost assumptions are:

Close out the existing Landfill footprint (2021)[6]	$26M[7]
Land	$3.5-5M[8]
New Site Preparation and Permitting Costs	$95M[9]
TOTAL CAPITAL COSTS	$124.5-$126M

Annual operating costs should also be considered in a holistic view of this option. It is likely that should a site for a new landfill become available, it would not be within close proximity to the city limits. Trip durations of 30 minutes or more are anticipated, and this would significantly impact the City's annual operating costs for collections due to additional trucks and increased travel time. Currently, the Landfill generates approximately $4M of revenues from tipping fees, which has helped the City dispose of residential waste with no mill rate budgeted impact. A new Landfill further from the City could result in a reduction of Landfill revenue, as customers may chose commercial sites that are more easily accessed. Alternately, a transfer station may be considered to minimize trips to the new landfill.

Environmental impacts to land and water would also be considered in disturbing a green field site.

Will the expansion of the recovery/reclamation services at the SRWMC cost more to operate in the future?

The current operations planning forecasts that Recovery Park can replace or augment the operations of the following existing waste management programs: Waste transfer station; Community recycling depots; and Household Hazardous Waste Days. Existing compost depots are not proposed to be moved to Recovery Parkat this time. Administration is currently working through and operation plan, including assignment of service levels and costs associated with the new diversion program. Detailed operating information will be presented to Council in Q2 2018.

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[6] The purpose of the Landfill Replacement Reserve is to fund the eventual closure of the Landfill, as well as capital improvement costs and costs to meet requirements of the Ministry of the Environment Permit to Operate. These costs are not currently covered and the LRR is in a deficit position.

[7] "Landfill Replacement Reserve." Administrative Report. Resolution at 2016 Preliminary Business Plan and Budget meeting. November 30 and December 1 2015. Page 4.

[8] Land cost estimate provided by City of Saskatoon Real Estate Manager. Estimate of 1 section (640 acres) at $3,500 per acre.

[9] Ibid. "Landfill Replacement Reserve." Page 2.

What is the Landfill Replacement Reserve and can the Reserve fund these improvements?

The Landfill Optimization report outlined a 10-year plan for funding for the landfill improvements for a landfill development, including recommended tipping fees and +/- 50% proportion of the revenue to be allocated to capital projects. The plan recommends that the project proceeds ahead of reserve sufficiency, and that the City carry the project and recover the capital costs with interest when the reserve is sufficiently funded. The 2011 report projects that by 2016, $6M would be available for the new cell and other landfill optimization

In order to attempt to address decreasing landfill revenues and the impact on the mill rate, 2015 capital contribution rates (of $45 per tonne) were maintained into 2016. The Optimization report projected 2011-2016 capital contributions needed rise to $60 per tonne in order to accumulate capital funding, but the tipping fee projection proved to be too aggressive. Actuals revenues fell significantly below these planned projections and resulted in no capital funding accumulation in the LRR through to 2017.

Could the existing funding be used to construct the Landfill infrastructure and Federal funding used for the diversion components?

There are cost efficiencies expected to be realized through use of a single design-bid package as opposed to splitting the work into phases. The $7M of available capital funding is not sufficient to pay for the approximately $16M required for Landfill infrastructure. The breakdown of "Diversion" and "Landfill" costs is also approximate. It would also be very difficult, both logistically and financially, to proceed with components identified as "Landfill" ahead of the "Diversion" components as some of the existing diversion services already being provided at the landfill are included in the "Diversion" values. Roads have also been split (e.g. 50/50) in the budget breakdown but could not necessarily be phased in that manner. The projected cost of $16M is therefore not necessarily representative of the stand-alone cost for the "Landfill" components (actual costs should be anticipated to be more). Additionally, there is a risk that the Landfill Replacement Reserve will not have sufficient balance for the $8M budgeted in 2021 for the Liner and Leachate System. Details of Federal funding are not expected before March 2018 and at this time it is not believed that the unfunded aspects (i.e. landfill scales and support buildings) of the project would be eligible. This report recommends proceeding in a manner that allows Federal funding requirements to become known such that the Administration can explore the Federal funding potential. Administration notes there is increased schedule risk associated with the approach proposed by this report.

What efficiencies do we expect from this project?

Current waste diversion programs are achieving a waste diversion rate of 21%. In order to begin moving toward the diversion target of 70% by 2023, the City requires a waste facility that can provide greater incentive to residents and businesses for diversion through convenience and affordability.

The Recovery Park concept provides the opportunity to:

- replace or augment six (6) recycling depots across Saskatoon;
- provide options to businesses that will be impacted by policies such as landfill bans;
- replace eight (8) Household Hazardous Waste (HHW) event days each year with a year-round depot where residents can drop-off hazardous items such as aerosols, lightbulbs, household cleaning products, etc.;
- replace and enhance the operation of two (2) seasonal compost depots;
- consolidate other forms of recycling currently located behind the weigh scale at the Landfill such as motor oil, metals, appliances, etc.;
- allow for the drop off of a variety of other recyclable or reusable items not currently offered, such as construction-related materials;
- place diversion options alongside a new garbage transfer station that is safer and more convenient;
- incorporate facilities to support efficient and safe operations, as well as opportunities for interpretation, education and training; and
- provide areas for processing waste materials into valuable commodities[10].

How many years will Recovery Park extend the life of the Landfill?

Recovery Park is part of the Integrated Landfill Management Plan that the City has been implementing since 2011. The 2011 plan includes: building steeper landfill slope-sides; expanding waste cells, reclaiming inefficiently filled areas; and maximizing opportunities for waste minimization (waste received by the facility remains or falls below a rate of 130,000 tonnes per year)[11].

If all of the recommended changes from the 2011 plan are realized, and the City achieves its Performance Target to increase the waste diversion rate to 70% by 2023, the Landfill will be likely be available to 2050 or longer.

Why can't the Landfill just expand to the west, on to the proposed Recovery Park site?

The site to the West currently includes major utility routes, including a Saskatoon Light and Power transmission line, Suncor Products pipeline, SaskPower Communication network lines and City of Saskatoon communication network. Relocation of these services to allow for Landfill development would be costly ($10M or more), before actual construction of the new cell even begins. Further, permitting would likely pose a significant challenge, as the site would be considered an expansion on to new property. Lastly, the configuration of the site relative to the existing landfill mound does not allow for efficiencies in the 'shape' of the mound. The new site would be an appendage to the existing landfill and neither site would help the other have a higher footprint. Because of the shape of the Recovery Park site, the footprint would be inefficient, resulting in what is likely to be a low, flat mound with limited airspace.

[10] Ibid. "Recovery Park Next Steps." Page 2.
[11] Ibid. "Landfill Optimization." Page 3.

What are the risks of not proceeding with this project?
The largest risk resulting from not proceeding with the project is that it is likely that the landfill will reach the end of its useful life estimated at 2021-2026[12].

How does this relate to the proposed City-wide organics program? Is the City planning to handle compost processing at the SRWMC?
Recovery Park is planned to include a transfer area for Organics within the unscaled/free portion of the site. As a separate initiative, the Master Organics Plan is under development by the City, and it is intended to establish a city-wide mandatory organics program for single-family homes[13]. In planning for the operation of the Organics program, inclusion of the materials gathered at the Recovery Park site will be considered.

This Organics initiative has been identified to have the greatest diversion potential for single-family households[14], and along with Recovery Park will contribute toward the City's implementation of the Landfill Optimization and the Strategic Direction to divert 70% of waste from the landfill by 2023.

Why does the City want to divert Organics from the Landfill?
An Organics Program is essential if considering the life cycle cost of the landfill as it is a critical component to deferring or eliminating the need for a new landfill, instead of passing on this environmental and financial burden to future generations. Landfill life is estimated to be extended by at least 8 years with organics diversion.

An Organics Program also reduces the environmental and financial burden we pass on to future generations and contributes to positives steps in climate change mitigation. Diverting 78,000 tonnes of food and yard waste from landfills is estimated to reduce between 85,000[15] and 120,600[16] tonnes of carbon dioxide equivalents.

Why does the City want to divert Construction & Demolition (C&D) waste from the Landfill?
C&D waste is often inert, dry, bulky material. This waste takes up a significant amount of space at landfills as it cannot be compacted well. The City receives approximately 10,000 tonnes of C&D waste each year. This material consumes approximately 17,000 cubic-meters of landfill space, having an asset value of $1.5M.

Through technological advancements and innovation in C&D processing and reuse, C&D waste is being used within roadways, landscaping, new construction, composting, and waste to energy projects.

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[12] Ibid. "Landfill Optimization." Page 1.
[13] Organic Opportunities, Council Report August 28, 2017
[14] Organic Opportunities, Council Report August 28, 2017
[15] Source: Waste GHG Calculator (Environment Canada); Note that the results of calculations from this calculator are not intended for quantifying emission reductions, they serve only as a common basis for comparison.
[16] School Canyon Model used for the City of Saskatoon GHG inventory.

Why does the City want to divert Household Hazardous Waste (HHW) from the Landfill?

HHW includes a variety of common substances used in and around homes, which can pose serious environmental and human health concerns if not managed properly. Many of these substances contain corrosive, toxic, flammable or reactive ingredients that require special handling during use and disposal. Improper containment or disposal can ultimately lead to contamination of our air, land, and water resources. The City's Landfill is not a hazardous waste facility and therefore should not receive these materials.

How will the project be communicated?

A multi-channel communications approach will focus on building awareness and understanding of the expanded recycling/reclamation services offered at the SRWMC. The first phase of communications could include signage at the site which illustrates a rendering of the new facility. A handbill will also be distributed to existing SRWMC customers. The second phase, six months prior to opening the facility, will focus on building widespread awareness through activities such as the city's website, billboards, social media, radio advertising, utility insert and more. After the opening of the new facility, communications will be needed to educate users of existing programs which are closing, such as Household Hazardous Waste and the West Compost Drop-off.

How does this support the City of Saskatoon's Strategic Directions

This project supports the Strategic Goal of Environmental Leadership. C&D recycling and composting programs respond directly to the four-year priorities to promote and facilitate city-wide composting and recycling and eliminate the need for a new landfill by diverting waste for re-use. The expansion of services also supports the 10-year strategies to improve the quality and reduce the quantity of storm water run-off going to the river, reduce greenhouse gas (GHG) emissions, and address soil-quality issues on City-owned properties. Recovery Park will also support the Performance Target of diverting 70% of waste from the landfill by 2023.

Industrial, Commercial, and Institutional (ICI) Waste Diversion Opportunities

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

1. That $156,000 be transferred from the Waste Minimization Reserve to Capital Project #2184 - Waste Characterization for the development of the Industrial, Commercial, and Institutional Waste Diversion Strategy.
2. That this report be forwarded to SEAC for information.

Topic and Purpose

The purpose of this report is to provide a preliminary overview of waste diversion opportunities for the ICI sector.

Report Highlights

1. 66% of waste generated in Saskatoon comes from Industrial, Commercial and Institutional (ICI) or construction & demolition (C&D) activities making it a critical component to increasing Saskatoon's waste diversion rate.
2. Initial discussions with a limited number of ICI stakeholders in Saskatoon have shown that there may be interest in expanding waste diversion efforts and capacities to this sector.
3. To achieve 70% diversion of waste in Saskatoon by 2023, substantive policy and program changes are needed. Further investigation into design considerations is required to identify specific options.
4. Engagement with the ICI sector to discuss options will play a central role in helping shape a strategy.
5. Waste diversion in the residential sector is being prioritized ahead of the ICI sector because of the ability for the City to move forward more quickly with solutions.

Strategic Goal

The information in this report supports the four-year priorities to promote and facilitate city-wide composting and recycling and implement energy-efficient practices in City operations, along with the long-term strategy to eliminate the need for a new landfill under the Strategic Goal of Environmental Leadership.

Background

Standing Policy Committee on Finance, at its meeting held on March 6, 2017, received the Preliminary Year-End Financial Results – December 31, 2016 indicating that the Multi-Unit Residential Recycling Program had a surplus of $156,000 largely due to the additional revenue received from the Provincial Multi-Material Recycling Program (MMRP). This surplus was transferred to the Waste Minimization Reserve and that

Reserve is now beyond the cap of $100,000 outlined in Council Policy C03-003, Reserves for Future Expenditures.

City Council, at its meeting held on May 23, 2017 received the Waste Diversion Opportunities report identifying various tools and approaches to improving waste diversion in Saskatoon. In that report, Administration indicated a future report on the current role of the City in ICI waste management and specific opportunities for future programs that target this sector would be prepared.

Report

Waste being disposed of in Saskatoon area landfills comes from two main sources – residential and non-residential. Waste coming from non-residential sources is generated primarily through ICI and C&D activities.

It is estimated that 66% of waste generated in Saskatoon is derived from the ICI sector. The development of a comprehensive strategy for waste from this sector is a critical component in continued progress towards a waste diversion target of 70% diversion by 2023.

Waste Characterization

The composition of ICI waste was approximated as part of the 2016 Waste Characterization Study. The top six estimated waste generator types by North American Industry Classification System (NAICS) codes were audited. These included manufacturing, retail trade, health care and social assistance, accommodation and food services, other services and public administration.

It is estimated, based on the audit and other data sources, that the majority of ICI waste (56%) can be diverted. Further information is available in Attachment 1, Current State of ICI Waste Management.

Current State of Waste Management for ICI Sector

Saskatoon currently has three area landfills that receive most of the waste generated in Saskatoon. Attachment 2 shows the location of these landfills.

The 2016 Waste Characterization determined that most ICI waste is managed by the private sector and is assumed to be disposed of in private landfills in the region. To date, the City has influenced ICI waste diversion directly and indirectly through several avenues including:

- Increasing landfill tipping fees for waste materials (effectively making diversion programs more attractive);
- Providing processing capacity for yard waste at two Compost Depots;
- Supporting provincial stewardship programs for recycling items such as electronics, paint, oil, and tires through education; and
- Increasing local recycling capacity (offered by the private sector) through the introduction of residential recycling programs.

More details on the state of ICI waste management in Saskatoon are available in Attachment 1.

ICI Waste Diversion Opportunities

Through the Waste Diversion Opportunities report, Dillon Consulting provided an overview of best practices that have worked in other municipalities and a summary of their recommendations is provided below.

Disposal bans and measures Implement disposal bans and measures to increase diversion from all sectors on a material by material basis (with timing coinciding with having processing capacity in place)
Mandatory Recycling for businesses and organizations Mandate on-site separation of designated materials once processing capacity is in place (i.e. recycling, organics) and/or require recycling contracts to be in place
Mandatory source separation of C&D waste Mandate source separation of C&D waste and have timing coincide with opening of Recovery Park
Additional requirements and enforcement City to influence and/ or enforce diversion of ICI and C&D waste at the front end (e.g. through building permits)

Table 1: Waste Diversion regulatory and economic tools for ICI and C&D activities

Research contained in the Waste Diversion Opportunities report (available at Saskatoon.ca/wastediversion) illustrates that most ICI customers will choose the lowest cost, legal option available. Often this is disposal at a landfill. Some businesses and institutions are committed to environmental goals and have voluntary diversion programs. According to the City's 2017 Waste and Recycling survey, approximately 75% of businesses in Saskatoon indicated they already have on-site recycling in place.

Disposal Bans and Mandatory Recycling

Disposal bans are defined as a range of measures to prevent or restrict the disposal of specific types of waste in landfills. In the case of Saskatoon, implementing a bylaw that attempts control where waste goes is challenging to enforce as there is a high potential for the material to be taken to landfills not under the direct control of the City. For this reason, disposal bans are often implemented at the provincial or regional level.

In 2015, Administration identified that an initial step for ICI waste diversion could be a bylaw that requires all ICI sector businesses (including hospitals, schools, offices, shopping centres, restaurants, hotels, manufacturers, warehouses and other businesses) to provide on-site recycling. City Council, at its meeting held on November 30 & December 1, 2015, considered the Landfill Ban Implementation Considerations report. City Council supported this approach and resolved:

> "That a phased landfill ban for paper and cardboard begin in 2016 as outlined in the report of the General Manager, Corporate Performance Department dated November 9, 2015."

Administration has not yet implemented this resolution. Stakeholder engagement and education was identified as a significant aspect of the design and implementation of the program and when it became clear that additional resources would be required, the initiative was delayed. The delay has allowed for this initiative to fit within the broader context of the ICI sector as a component of the Waste Diversion Plan. Attachment 3, Disposal Bans and Mandatory Recycling, provides further background on disposal bans, considerations associated with implementing mandatory recycling for the ICI sector, and a resource plan for moving forward with this approach.

Mandatory source separation of C&D waste

Waste generated from C&D activities currently disposed at private landfills have significant opportunities for diversion. Through the work of developing and designing Recovery Park, Administration started to collect information on existing markets for recyclable materials and the potential development of new markets. Market prices for recyclable materials are dependent on a number of considerations such as material quality, volumes and contractual arrangements.

One significant incentive to the diversion of C&D materials is the establishment of lower disposal fees for material that is separated by type, making it more readily recyclable at better market prices.

There is an opportunity to explore source separation programs for construction and demolition projects through research and engagement. There are also opportunities to facilitate diversion through the building and/or demolition permit process. It may also be possible to work with private developers to set up diversion opportunities, and to require diversion, in new neighbourhoods.

Creating a Waste Diversion Strategy for the ICI Sector

As part of the Waste Diversion Plan, a strategy for ICI waste diversion can focus on the most common materials in that waste stream (i.e. paper and cardboard, organics, and C&D) and the largest generators of waste to maximize the impact on community waste diversion.

Resources are not currently available to complete an ICI waste diversion strategy. Administration also recommends giving priority to residential programs for the following reasons:

- Residential waste management is considered an essential service that the City delivers; this is not the case for the ICI sector.
- Historically, municipalities have not implemented large-scale programs or targeted policies for the ICI sector because they do not control or regulate the ICI waste stream.
- Waste diversion can cost less than garbage disposal as well as deliver other public image benefits; therefore, a large portion of businesses in Saskatoon already recycle without any specific legal requirements or City-run programs in

place. It is likely the ICI sector would also implement organics if appropriate facilities were in place.

In the meantime, ICI waste diversion is expected to improve based on the following anticipated changes:

- Establishment of Recovery Park to offer opportunities and potentially price incentives for the diversion of ICI waste.
- Development of a processing facility for organics that can also provide organics processing capacity for the ICI sector.

Similarities between Multi-Unit Residential Properties and the ICI Sector

Most multi-unit residential properties use communal waste containers and receive collections service similar to businesses in the ICI sector. However, there are a variety of unique considerations for these residential properties. Administration will prepare a separate report outlining these unique considerations.

Public and/or Stakeholder Engagement

Engagement will play an important role in the development of an ICI Waste Diversion Strategy. Research has shown that ICI programs with the highest success rates include robust education and advisory supports to help organizations overcome barriers to waste diversion. Administration recommends proceeding with extensive consultations with businesses and institutions, along with more in-depth meetings with waste haulers and facility operators to develop a Strategy and to implementation the mandatory recycling program.

Communication Plan

A communication plan utilizing the themes and many of the key messages outlined in the October report on Engagement Approach will be developed as part of the ICI Waste Diversion Strategy.

Environmental Implications

Greenhouse gas (GHG) emissions implications and other environmental protection measures will be estimated and reported on as the ICI Waste Diversion Strategy is developed.

Financial Implications

Approximately $150,000 is needed to begin development and implementation of an ICI strategy as described in this report; this includes 0.5 of an Environmental Coordinator, an Environmental Protection Officer (EPO), and $25,000 for communications and education. The Waste Minimization Reserve has a balance of $156,000 which could be transferred to Capital Project #2184 - Waste Characterization to be used for these initiatives and provide a very small contingency to avoid further delay in the design and implementation of the phased landfill ban for paper and cardboard already approved by City Council.

Policy Implications

The recommendations in this report align with Council Policy C03-003, Reserves for Future Expenditures.

Other Considerations/Implications

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

Due Date for Follow-up and/or Project Completion

Administration will provide a report to the Standing Policy Committee on Environment, Utilities and Corporate Services on the unique considerations for waste diversion at multi-unit residential properties in January, 2018. If funding for the ICI Waste Diversion Strategy is approved, engagement with businesses and institutions will begin in May 2018 and a report summarizing the results of this engagement will be prepared by September 2018.

Public Notice

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

Attachments

1. Current State of ICI Waste Management
2. Location of Saskatoon Area Landfills
3. Disposal Bans and Mandatory Recycling

Report Approval

Written by: Daniel Mireault, Environmental and Corporate Initiatives
Amber Weckworth, Education and Environmental Performance Manager
Reviewed by: Brenda Wallace, Director of Environmental and Corporate Initiatives
Approved by: Jeff Jorgenson, A/General Manager, Corporate Performance Department

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Current State of ICI Waste Management

In Canada, the responsibility for managing and reducing waste is shared among federal, provincial, territorial and municipal governments. In Saskatchewan, the Ministry of Environment regulates waste management and enforces landfill and transfer station compliance through province-wide legislation under The Environmental Management and Protection Act. All waste stewardship programs are also regulated under this Act.

In May 2017, the Government of Saskatchewan began engagement on a Solid Waste Management Strategy. The new strategy will serve as Saskatchewan's roadmap for waste reduction and management by outlining long-term goals and actions to support change.

Amongst provinces, Saskatchewan has the second highest waste disposal rate at 897 kilograms per person, while only 13 percent of waste is diverted from landfills, the lowest in Canada. With over 300 permitted landfills, Saskatchewan has more landfills per capita than any other province. This creates unique challenges for implementing policy and legislation that leads to better waste diversion outcomes for Saskatchewan municipalities.

Current Role of the City in ICI Waste Management (based on 2016 data)

Garbage and Landfill

The Saskatoon Regional Waste Management Centre received 99,800 tonnes of garbage (excluding clean fill and recyclables) from all sources. An estimated 17,500 tonnes was received from the ICI sector, 15,900 tonnes were from residential self-haul, and 6,400 tonnes from other City departments. Residential collections by the City accounted for approximately 60,000 tonnes or 60%.

The City currently has approximately 300 active contracts for garbage collection from the ICI sector. There are 10,800 licenced ICI locations in Saskatoon, meaning the City services less than 5% of the current market for waste hauling.

Food and Yard Waste

The Compost Depots received approximately 3,600 tonnes from commercial haulers comprised of primarily yard waste. This constituted 26% of the total material received at the depots.

Recyclables

The City does not collect recyclables from the ICI sector, and depots are technically for residential use only. However, the recycling depots are unstaffed and likely receive recyclables from commercial customers. In 2012 intercept studies were conducted at the recycling depots and found that businesses were using the depots at that time, there continues to be evidence of commercial usage at the depots.

Construction & Demolition

The City has no existing diversion opportunities for ICI (or residential) diversion of Construction and Demolition waste. However, plans are underway for the development of Recovery Park.

Education and Enforcement

The City currently has no programs specifically targeted at the ICI sector.

Part IV of the Waste Bylaw relates to Waste Collection from Commercial, Industrial and Institutional Premises. Section 28 states that all private waste haulers operating within the City are to provide annual reports on the volume and types of waste collected within city limits. The City has not previously enforced this clause due to resource constraints but will investigate this further as part of the development of an ICI waste strategy.

Waste Characterization

A characterization of waste in the ICI sector was completed as part of the 2016 Waste Characterization Study. The key waste streams that could be diverted include food waste (27%), paper and other recyclable packaging (22%) and C&D (6%) waste, as shown in Figure 1.

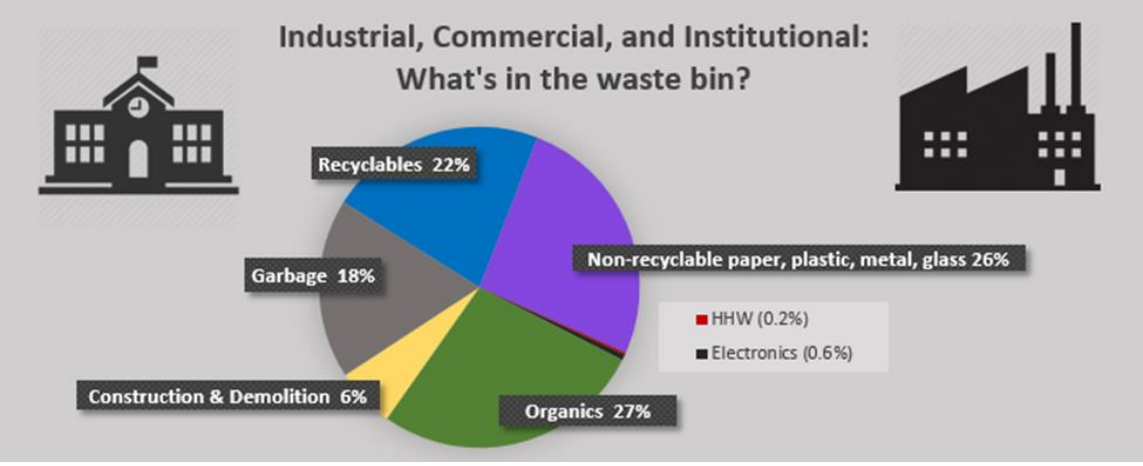
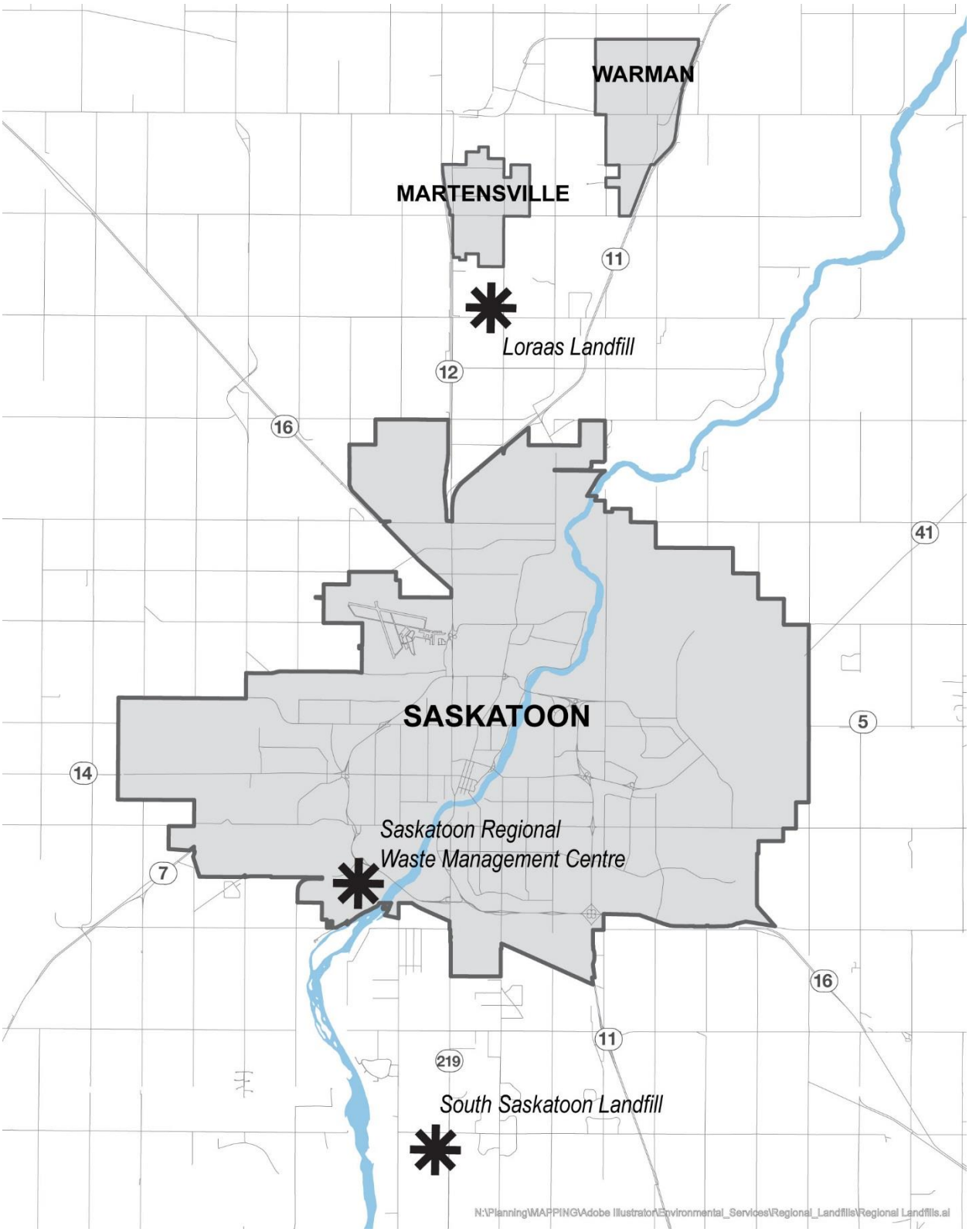


Figure 1: Waste characterization for ICI waste

Location of Saskatoon Area Landfills



Disposal Bans and Mandatory Recycling

There are two types of disposal bans that have been successfully used by other municipalities to prevent identified material from ending up in the landfill – landfill disposal bans and prohibitive (city-wide) bans. Disposal bans are defined as a range of measures to prevent or restrict the disposal of waste to landfills. A prohibitive ban aims to restrict material from entering the community to begin with.

Disposal bans are often implemented at the provincial or regional level. Bans implemented at the municipal level are challenging to enforce as there is a high potential for the material to be taken to other regional landfills not under the direct control of the City.

At its November 30, 2015 meeting, City Council resolved "That a phased landfill ban for paper and cardboard begin in 2016 as outlined in the report of the General Manager, Corporate Performance Department dated November 9, 2015." In that report, Administration outlined that the first phase of the ban would be based on mandatory source separation of recyclable materials for the ICI sector. This would involve a bylaw that requires all businesses to store recyclable materials separately from garbage (source separation) and ensure the collected materials are taken to a recycling facility either through a private recycling contract or to City-run depots like Recovery Park.

Stakeholder engagement and education was planned to be a large component of designing and implementing this program. There are currently 10,800 licensed businesses in Saskatoon. Of these, 6,276 are commercial/ industrial businesses and 4,524 are home based businesses.

The engagement and education program was delayed to allow for the study of the ICI sector as a component of the broader Waste Diversion Plan. As Administration developed the program components to be presented during engagement, it also became clear that additional resources would be required.

Program components for phase 1 (mandatory recycling) could be implemented through a range of options. Prior to engagement, further investigation is required to better understand the implications of each option or initiative:

- Source Separation: Requirement for recyclables to be stored on site and allow businesses to identify recycling options (including recycling depots or contracting a recycling service)

- Private recycling contract requirement: The City could require annual documentation from businesses confirming that recycling collection services are in place.

- Recycling collection opt-in: The City could investigate opportunities to fit the collection of recyclables from business into the parameters of the existing residential recycling programs.

The program will also include a number of direct and supportive/complementary options under the categories of education and enforcement.

Education and outreach

- Waste diversion assistance: Technical and information assistance to companies that may not have the technical knowledge or capacity to investigate diversion opportunities.

- Working group on waste diversion: An ICI working group with members of the ICI community that provide focussed discussions around common issues and challenges related to waste diversion in this sector.

Enforcement

- Disposal surcharges at the landfill: The Waste Bylaw currently allows for the collection of surcharges on loads containing more than 10% recyclable materials. Without the new scale at Recovery Park where load inspections can be accommodated, enforcement is very difficult. Additionally, the risk that haulers may haul loads to other landfills that do not surcharge must be considered.

- Site inspections: Environmental Protection Officers (EPOs) visit businesses to ensure appropriate source separation of recyclable materials is in place.

- Document audits: Confirmation of recycling hauler contracts through annual reporting by businesses.

Resource Needs

In order to develop and implement an ICI program as described above additional staff and funding is required including 0.5 of an Environmental Coordinator for program development and implementation; an additional EPO; and approximately $25,000 for education and engagement. The total funds required are $150,000 which can be made available from the Waste Minimization Reserve.

Next Steps in City-Wide (Mandatory) Organics and Waste Utility Program Development

Recommendation
That the report of the Acting General Manager, Corporate Performance Department, dated November 6, 2017, be forwarded to City Council for information.

Topic and Purpose
The purpose of this report is to outline the proposed approach and timelines for the development of a city-wide Organics Program and the design of an expanded Waste Services Utility.

Report Highlights
1. The next six months will see an unprecedented level of activity regarding changes to solid waste handling in Saskatoon. There is significant research, engagement, communications, planning and project management required to undertake advance organics and solid waste utility opportunities that will take steps towards the City's solid waste diversion target of 70%.
2. As the design for a variable-pricing utility for garbage, recycling and organic waste streams begins with the community in January, changes to existing systems and processes are required. These changes also provide important information about the design of the future program(s).
3. In order to move forward quickly, the Administration has developed a strategy to re-allocate existing resources, both financial and staff time, to complete the preliminary phase of work required by both programs. Additional resources will be required before the end of 2018 to complete future phases of planning and design work. A budget adjustment capital request will be prepared by the Administration following the community engagement process for consideration by City Council at that time.

Strategic Goal
The information in this report supports the four-year priorities to promote and facilitate city-wide composting and recycling, along with the long-term strategy to eliminate the need for a new landfill under the Strategic Goal of Environmental Leadership.

Background
City Council, at its meeting held on August 28, 2017, considered the Waste Utility Design Options report and resolved:

> "1. That the Administration continue to develop a program to expand the Waste Services Utility to include variable-pricing options; and
> 2. That the Administration engage citizens and stakeholders on variable-pricing options based on the information presented in this

> report, and report back in the first quarter of 2018 with a proposed design and timeline for implementation for a utility model."

At that same meeting, City Council also considered the Organic Opportunities report and resolved:

> "That Administration continue research and program development on an organics program for the Residential, Industrial, Commercial and Institutional sectors."

Report

Next Steps in Program Development for City-Wide Organics

There is significant work required to prepare for the next steps of organics-related decisions that City Council will be making. The City will begin the process of determining how to secure improved and appropriate organic material collection, processing and end use for the community to enable future organics diversion programs and opportunities. This work includes program planning, research, communications, engagement, program development and procurement of new collections and processing capacity.

A dedicated Project Manager will be assigned to lead this work, who along with additional temporary staff, will complete the majority of the work in-house. This team will possess the following specific skills:

- waste diversion and environmental programs
- communications and engagement

Existing staff will also be re-allocated to enable research and program development to proceed in alignment with the proposed expanded Waste Services Utility and the continuing work on the Waste Diversion Plan itself.

Preparing an Expanded Waste Services Utility

Parallel to the service design work that will begin with the community in January, changes to existing systems and processes are required to improve the current state of program delivery. These changes are also expected to help inform the design the utility.

This work includes improving utility processes and systems, and preparing options for ensuring the billing and tracking systems appropriately support the vision of a community co-designed variable-pricing mechanism for garbage, recycling and organic waste streams.

A Project Manager to lead this developmental work will be put in place. A re-allocation of existing staff and the addition of temporary staff with specific skills will also be required from the following divisions:

- Water and Waste Stream

- Environmental and Corporate Initiatives
- Corporate Revenue
- Information Technology
- Communications
- Finance
- Construction and Design
- Major Projects & Preservation

Public and/or Stakeholder Engagement

Engagement in the design of future waste services in Saskatoon will begin in January based on the approach outlined in the Environmental Sustainability – Engagement Approach report that went to Standing Policy Committee on Environment, Utilities and Corporate Services on October 10, 2017.

Communication Plan

The 30-Day Waste Challenge kick-started the communication and awareness plan that will continue to raise awareness about the importance of waste diversion and reduction; as well as the opportunities for waste diversion including organics, a waste utility and other items outlined in the Waste Diversion Plan. These plans were further outlined in the October report on Engagement Approach.

Financial Implications

Administration has estimated that between now and May 2018, $175,000 is required by the Organics Program and $275,000 for the Waste Services Utility.

Revenues from the Multi-Material Recycling Program (MMRP) generate a surplus within the Waste Services Utility that can be allocated along with existing resources to complete the preliminary phase of work required by both programs.

Actual implementation of program changes are expected to commence following completion of this first phase of work. Once program direction has been set for organics and solid waste, a detailed project budget and timeline will be developed. Administration will bring forward these plans and budget requirements before the end of 2018 so that City Council can choose when and how to begin implementation. Administration expects that there will be some urgency to commence implementation in 2018, and as such a detailed funding strategy will be brought forward for consideration by City Council following the community engagement process. While further work by the Administration is required to determine sufficient funding for this future capital request, some existing capital reserve funds have already been identified as available to support the next phase of work. If City Council chooses to proceed with one or both of these programs, Administration will seek necessary approvals on funding requests to complete program planning. The capital request will also include an outline of requirements associated with preparing cart inventory systems (for example field investigations, tagging or identifying carts) or purchase and deployment of additional carts in varying sizes, equipment, organics processing facilities and other capital expenditures.

Policy Implications

A review and amendment to The Waste Bylaw will be required to enable the introduction of a city-wide Organics Program and an expanded Waste Services Utility.

Other Considerations/Implications

There are no environmental, privacy or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

Administration will provide regular updates on these initiatives through reports to the Standing Policy Committee on Environment, Utilities and Corporate Services. The following is a preliminary schedule developed by Administration that outlines the focus and timing of these updates. This schedule is anticipated to change as the service design process begins with the community and decisions are made by City Council.

- April 2018 - Presentation of research/best practices and engagement results.
- May 2018 - Recommendations on city-wide Organics program design.
- June 2018 - Recommendations on the design and capital requirements to implement an expanded Waste Services Utility providing a comprehensive Waste Management plan for garbage, organics, and recycling.
- July 2018 - Update report.
- August 2018 - Recommendations on implementation (i.e. project outline of the various changes required to create the future service model for waste in Saskatoon).
- September 2018 - Update report.
- October 2018 - Details about program design, timing and approach to the rollout of changes, and communications plans.
- November 2018 - Rates Report outlining proposed fees associated with the expanded Waste Service Utility (including garbage, recycling and organics).
- March 2019 - Update/progress report on implementation.
- June 2019 - Update/progress report on implementation.
- September 2019 - Update/progress report on implementation.

Included in the 2018 reports (currently anticipated in June 2018) will be a post-budget request for capital funding to be spent beginning in 2018.

Public Notice

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

Report Approval

Written by: Brenda Wallace, Director of Environmental & Corporate Initiatives
Reviewed by: Russ Munro, Director of Water & Waste Stream
Clae Hack, Director of Finance
Approved by: Jeff Jorgenson, A/General Manager, Corporate Performance Department

CP EUCS BW Next Steps in City-Wide (Mandatory) Organics and Waste Utility Program Development

Closure of Capital Project #2186 – Waste Management Strategic Plan

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

1. That $408,000 be transferred from the Recycling Stabilization Reserve to Capital Project #2186 – Waste Management Strategic Plan to bring the account balance to zero, and that the Capital Project be closed; and
2. That $45,000 from the Recycling Stabilization Reserve be transferred to Capital Project #2184 - Waste Characterization to support waste diversion planning studies.

Topic and Purpose

The purpose of this report is to reallocate funds within the Recycling Stabilization Reserve to bring the balance below the allowable limit stated in Council Policy C03-003 and to close Capital Project #2186.

Report Highlights

1. The Residential Recycling Programs used Capital Project #2186 – Waste Management Strategic Plan to pay for pre-launch expenses and it is currently in a deficit position.
2. The Recycling Stabilization Reserve has a cap of 5% of budgeted annual revenue and currently has a balance that is $453,000 over the limit. These funds can be used to pay back and close Capital Project #2186 – Waste Management Strategic Plan.
3. The next phases of work related to implementing the Waste Diversion Plan will require capital funding which is the subject of a separate report. The remaining $45,000 of stabilization funding that is over the limit is recommended to be transferred to Capital Project #2184 – Waste Characterization to partially fund this work.

Strategic Goal

The information in this report supports the long-term strategy to eliminate the need for a new landfill under the Strategic Goal of Environmental Leadership.

Background

City Council, at its meeting held on November 13, 2012, considered the Residential Recycling Program Implementation report that outlined the delivery dates for curbside recycling carts, the collection calendar and the proposed recycling fees. The recycling education campaign commenced on November 26, 2012, in advance of the utility fees

being collected. Administration also recommended a contingency, in the form of a 3% contribution to a stabilization reserve, be established.

Report

Recycling Program Stabilization Reserve

When the Curbside Recycling Program was established, 3% of annual budgeted revenue was set aside as a contingency to offset program and contract increases. As per Council Policy C03-003 Reserves for Future Expenditures, these funds are transferred to the Recycling Stabilization Reserve in a separate fund under the Civic Utilities Stabilization Reserve. Annual surpluses have accumulated as follows:

- 2013 $159,000 surplus
- 2014 $88,000 surplus
- 2015 $194,000 surplus
- 2016 $225,000 surplus

The Reserve is capped at 5% of annual budgeted revenue resulting in an accumulated balance of $666,000 which is $453,000 over the allowed amount ($213,000).

Recycling Program Pre-launch Expenses

Costs associated with the work required prior to launch of the original single and multi-family recycling programs exceeded the available budget in Capital Project #2186 - Waste Management Strategic Plan. The Administration did not anticipate the length of time nor resources that would be required to fund the extensive public engagement, education, procurement, and contract finalization work. This placed the capital project in a total deficit position of $408,000, which has been reported annually in the capital status report.

Capital Project Closures

The intended funding for this project was partly to be covered from the recycling utility as well as the Landfill Replacement Reserve. However with pressures on the Landfill Replacement Reserve from reduction in landfill revenues alternate funding options are required to close out this project.

Surpluses have now grown in the stabilization reserve sufficient to cover the outstanding balance in the capital project, as well has maintain the necessary 5% of annual budgeted revenue. As of 2016 year-end, the capital project can now be funded from the reserve to complete project closure.

Administration recommends that a portion of the surplus within the Recycling Stabilization Reserve ($408,000) be transferred to Capital Project #2186 – Waste Management Strategic Plan to bring the balance to zero and that the Capital Project be closed.

The additional $45,000 in the stabilization reserve that is beyond the cap of 5% of budgeted revenues is recommended to be transferred to Capital Project #2184 – Waste

Characterization as this capital project funds planning activities and studies associated with the Waste Diversion Plan. This project funds initiatives that study and characterize the city's waste, develop the Waste Diversion Plan, as well as plan and engage the community on initiatives associated with the plan, including; ICI waste diversion opportunities, organics opportunities and the waste utility. Transferring $45,000 to this project will begin to fund program development in these areas. The Administration will be submitting reports outlining the complete funding requirements for development of these programs.

Options to the Recommendation

City Council could choose to divert overages in the Recycling Stabilization Reserve to other uses; however, uses must align with Council Policy C03-003 Reserves for Future Expenditures.

Financial Implications

The Curbside Recycling program had a surplus of $225,000 at the end of 2016 which was transferred to the Recycling Stabilization Reserve for a total balance of $666,000. This is $453,000 over the allowable cap of 5% of total revenues (which is $213,000 for 2016).

Reserve	Current Balance	Current Cap	Minimum amount to be allocated
Recycling Stabilization Reserve	$666,000	$213,000	$453,000

The requested amount of $408,000 closes the pre-launch utility expenses contained within Capital Project #2186 - Waste Management Strategic Plan.

Administration recommends that the remaining $45,000 be allocated to Capital Project #2184 - Waste Characterization to support the City's efforts in waste diversion.

Policy Implications

The recommendations in this report align with Council Policy C03-003, Reserves for Future Expenditures.

Other Considerations/Implications

There are no communications, public and/or stakeholder involvement, environmental, Privacy, or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

Follow-up reports on the Recycling Stabilization Reserve and other waste-related reserves will be developed in 2018 as part of the work of the Waste Utility.

Public Notice

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

Report Approval

Written by:	Amber Weckworth, Manager of Education & Environmental Performance
Reviewed by:	Brenda Wallace, Director of Environmental & Corporate Initiatives
Approved by:	Jeff Jorgenson, Acting General Manager, Corporate Performance Department

CP EUCS AW Admin Report - Closure of Capital Project 2186 – Waste Management Strategic Plan

Winter City Strategy Update

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

That this report be considered during the 2018 Business Plan and Budget Deliberations.

Topic and Purpose

The purpose of this report is to update City Council on the work required for 2018 to develop the Winter City Strategy (Strategy) for Saskatoon.

Report Highlights

1. Engagement of the community in the co-design of a Winter City Strategy for Saskatoon has generated enthusiasm for the Strategy among a significant number of stakeholders across the community. There is more work to be done to ensure engagement is inclusive of the entire community, such that the Strategy appropriately reflects the challenges and opportunities associated with the winter experience of all Saskatonians.
2. Based on the successes of the last year and the ideas generated through community engagement, Administration is requesting $350,000 from the Reserve for Capital Expenditures for the Strategy. Funding would be used to:
    - Maintain and expand the online inventory of existing assets;
    - Continue the community conversation about challenges and opportunities associated with winter;
    - Participate in the Winter Cities Institute;
    - Review and revise civic policies and procedures to better reflect the objectives of the Strategy and facilitate community initiative; and
    - Leverage increased winter activity by supporting investments in new winter assets.
3. The Strategy is intended to be co-owned by the community and the City. A Community Working Group has been formed and will continue to help identify critical success factors for Saskatoon.

Strategic Goals

This report supports multiple Strategic Goals, in particular:

- Quality of Life by providing opportunities for activities in a winter city;
- Sustainable Growth by ensuring our City Centre is vibrant in all seasons of the year;
- Moving Around by ensuring accessibility and connectivity continue to exist when snow and ice are present; and
- Economic Diversity and Prosperity by creating an environment for business sustainability through all seasons.

Background

City Council, at its meeting held on January 23, 2017, received the Saskatoon Winter Strategy Update report which provided an update and more detailed description of the components of a Winter City Strategy for Saskatoon. The Strategy was described as an intentional effort by the City of Saskatoon and community stakeholders to celebrate what makes Saskatoon unique as a four-season place that is inviting, vibrant and prosperous, even in the coldest months of the year.

Report

Status Update on the Development of a Winter City Strategy for Saskatoon

Attachment 1, Strategy Discussion Paper (September 2017), provides an overview of the four-step process by which the Strategy is being created with the community. The steps are implemented iteratively rather than sequentially and include:

- Building on the strength of existing assets;
- Engaging the community in change;
- Implementing actions; and
- Developing the Strategy.

Stakeholders gathered at a kick-off event in March 2016 identified the need to first inventory existing assets and improve awareness of them before embarking on further planned improvements to Saskatoon's 'winter experience'. Attachment 2, Online Winter City YXE Asset Inventory, provides a snap-shot of the online inventory created for the last winter season in response to this identified opportunity.

Continuing to Engage the Community in Change

Community Engagement in the co-design of a Winter City Strategy for Saskatoon began in January 2017 and enthusiasm for the Strategy has been communicated by a significant number of stakeholders across the community. Attachment 1 describes some of the specific opportunities that generated excitement among those engaged to date. These include:

- Improving mobility;
- Improving facilities and infrastructure;
- Providing more support to existing activities;
- Introducing new events and things to do; and
- Improving the promotion of events and activities.

The results of engagement activities between January and April were compiled into a brief (see Attachment 3, Engagement Results – Consolidated Report - April 25) shared with and discussed by stakeholders at a Community Workshop on April 27, 2017. The above list of priorities, along with a list of concepts that stakeholders felt would be important considerations as the Strategy developed, emerged from the Community Workshop and are elaborated in Attachment 1.

Continuing to learn from other communities has remained a theme throughout the strategy development process. Attachment 4, Selected Winter City Conference Observations, provides an overview of some of the observations from the Winter City

Shake-Up held in Edmonton in February where delegates from across North America, Europe, China and Japan shared their progress as Winter Cities.

There is more work to be done to ensure engagement is inclusive of the entire community to ensure the Strategy appropriately reflects the challenges and opportunities associated with winter. Also identified in Attachment 1 are some of the additional community engagement efforts the community identified as important next steps. These include:

- Making a special effort to hear from Saskatoon's youth, children, frail older adults, new Canadians, Indigenous peoples and restaurant owners as there have been fewer of these 'voices' or perspectives participating in the Winter City dialogue so far.
- Providing food, facilitators from within the community (rather than civic staff or professional facilitators) and meeting locations in community spaces when planning future engagement efforts, as these elements are critical to future success.
- Continuing to help community members understand what already exists (i.e. through further development of the asset inventory) as this is an important starting point to future conversations.

Engagement across divisions of the City of Saskatoon was also limited to date and significantly more is planned in order to identify and implement changes to current plans, policies and procedures that align with the goals of the Strategy and enable and facilitate community initiative.

'Quick Win' Actions

$35,000 was set aside to support community initiatives deemed to advance learning or move core concepts of the Strategy forward. $25,000 of this funding was used in a call for submissions, administered by the Recreation and Community Development Division in alignment with other community granting processes. Attachment 5, 2017 WinterCity YXE Grant Awards, provides a summary of the selected projects that the community intends to deliver this winter that will add a new dimension to existing initiatives and/or facilitate linkages between existing initiatives to create new outcomes.

From the emerging themes identified through engagement activities at the Community Workshop and in ongoing discussions with the Community Working Group, Administration proposes to undertake the following next steps throughout 2018 to achieve additional 'quick wins':

- Maintain and expand the online inventory of existing assets;
- Continue the community conversation about challenges and opportunities associated with winter, ensuring under-represented population segments have a voice in the further development of the Strategy;
- Review and revise civic policies and procedures to better reflect the objectives of the Strategy and facilitate community initiative by taking a less 'risk-averse' perspective; and

- Leverage (through capital funding) increased winter activity by supporting investments in new winter assets that may include:
    - Creatively designed warmup shelters;
    - Washrooms available through the winter;
    - Clear paths and sidewalks to support persons of all abilities;
    - Address accessibility barriers to active transportation (particularly for those with mobility challenges);
    - Winter festivals introducing new themes;
    - Intergenerational events;
    - Neighbourhood-level events;
    - More cultural events (particularly Indigenous);
    - Indigenous winter structures in parks (e.g. tipi with warm-up fire);
    - Coordinate efforts through partnerships and collaborative funding;
    - Heated outdoor patios;
    - Add more food and drink options to existing events;
    - Focus on affordability to enable participation by all Saskatonians;
    - Implement 'pop up' features to better utilize existing spaces; and
    - Continue to provide small amounts of community grant funding to support community innovation.

Public and/or Stakeholder Involvement

As outlined throughout this report, the focus of continuing community engagement activities are intended to create a common vision and a shared understanding of current assets and opportunities for creating a city that is more inviting, vibrant and prosperous, even in the coldest months of the year.

Prior to the 2017-18 winter season, a benchmark survey on current attitudes, perceptions and behaviours related to Saskatoon's winter season will be implemented to help in further refinement of the Strategy and provide insight on what initiatives, once implemented, may affect positive change.

Communication Plan

Communications and awareness about the Strategy will continue to be multi-channeled (as described in previous reports) and focus on core content developed for a webpage hosted on the City's website that acts as a resource hub for the community and provides information about:

- The goals and rationale for creating a Community Winter City Strategy;
- The ongoing process for developing the Strategy through engagement, 'quick win' actions, and learning from other centres;
- An inventory of winter-related assets;
- Descriptions of the potential economic and quality of life benefits achievable through the Strategy; and
- Continuing to provide opportunities for community innovation to collect a 'blizzard' of ideas on ways in which Saskatoon can achieve renown as a Winter City.

Policy Implications
A number of changes to existing policies as well as the development of new policies is anticipated as a result of the Strategy development process.

Financial Implications
Capital Project #2519 – Community Winter City Strategy Development received funding of $85,000 in the 2017 Budget. These funds supported engagement and awareness efforts ($50,000) and small-scale community initiatives ($35,000) including supporting community members to participate as delegates at the Winter City Shake-Up conference in Edmonton in February and six (6) small grants to support activities this upcoming winter.

Based on the successes of the last year and the ideas generated through community engagement, Administration is requesting $350,000 be allocated from the Reserve for Capital Expenditures for the Strategy. Funding would be used to:

- Hire temporary staff to conduct reviews of civic policies and draft amendments and new policies supportive of Winter City themes where necessary, develop winter design guidelines and participate in internal civic service and process reviews to ensure the objectives of the Strategy are internalized and community initiative is facilitated as effectively as possible;
- Maintain and expand the online inventory of existing assets;
- Continue community dialogue, communications and outreach to promote existing assets and new community initiatives;
- Continue to provide a small amount of funding to community groups to support community-led initiatives that generate learnings for the Strategy; and
- Invest in new assets that support outdoor winter activities (such as warming huts or some of the other priorities identified in this report).

The Administration will also continue to commit existing operating resources (most specifically in the form of staff time) to facilitate the development of the Strategy as described in this report.

Other Considerations/Implications
There are no environmental, privacy or CPTED implications or considerations at this time.

Due Date for Follow-up and/or Project Completion
The Administration will report back to the Standing Policy Committee on Environment, Utilities and Corporate Services in May 2018 to provide an update on work-to-date, initial engagement results and options for moving the Strategy forward.

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

Attachments

1. Strategy Discussion Paper (September 2017)
2. Online Winter City YXE Asset Inventory
3. Engagement Results – Consolidated Report - April 25
4. Selected Winter City Conference Observations
5. 2017 WinterCity YXE Grant Awards

Report Approval

Written &
Reviewed by: Brenda Wallace, Director of Environmental and Corporate Initiatives
Approved by: Jeff Jorgenson, Acting General Manager, Corporate Performance Department

CP EUCS Admin Report - Winter City Strategy Update.docx

Strategy Discussion Paper (September 2017)

What is the Winter City Strategy about?
A Winter City Strategy is an intentional effort by a community to celebrate what makes Saskatoon unique as a four-season place that is inviting, vibrant and prosperous, even in the coldest months of the year. Facilitated through the City of Saskatoon's (City) leadership and engaging the interest and efforts of motivated stakeholders and the entire community, the Saskatoon Winter City Strategy will articulate the changes necessary to help residents, businesses and visitors 'embrace' winter with as much enthusiasm as they currently demonstrate for the summer season.

Why is a Winter City Strategy being developed for Saskatoon?
An idea that has been around within the planning and urban design professions since the early 1980's, the concept of a Winter City capitalizes on opportunities to mitigate the real and perceived negative effects of the winter season (such as inconvenience and added expense) and reinforce positive ones (such as unique activities, beauty, and sense of coziness). The outcome can be a more vibrant, sustainable, prosperous and livable community. A Winter City requires a creative approach to addressing the problems associated with snow, ice and cold while enhancing the advantages, opportunities and beauty of the season. A positive approach has been found to benefit the attitudes of residents, and bolster the community's ability to attract new business and residents.

In the last three years in particular, a Winter City movement has been growing rapidly, in Western Canada based on factors such as:

- The idea of a strategy: In addition to design, an expanded focus including mobility, recreation, culture and vibrancy. In place of one-off actions, integrating actions into a co-ordinated strategy and raising the profile of winter-specific needs and opportunities.
- A broad movement: No longer limited to official circles, ideas and actions are now being generated by community groups, neighbourhoods, the creative sector as well as leading cities.
- The Prairies as a leading region: Key events such as the 2nd annual international Winter Cycling Congress (Winnipeg, 2014) and international Winter Cities Shake-Up Conference (Edmonton, 2015 and 2017) attended by members of the Saskatoon community, City Councillors and civic staff.

The overarching objectives most Winter City Strategies attempt to achieve include:

- Creating a compassionate community. Addressing community inclusion and social isolation issues that are exaggerated by inclement weather. This includes issues of community equity in terms of individual mobility and barriers to participation and accessibility resulting from income, language or other factors.

- Supporting healthy lifestyles. Addressing structural barriers to healthy choices, particularly related to active transportation, outdoor comfort in all seasons, and accommodation for a variety of active pursuits.

- Economic resilience through diversity and activity. Identifying and supporting business opportunities that sustain the community and generate further opportunities for innovation, creativity and employment.

These objectives align well with the City of Saskatoon Strategic Goals of Quality of Life, Sustainable Growth, Moving Around and Economic Diversity and Prosperity.

Specifically, Saskatoon's Winter City Strategy is being developed to improve broader community accessibility, inclusion, activity and energy, and lead to greater economic vitality (particularly within service, accommodation and retail sectors) as the opportunities of winter are realized and the challenges mitigated. The intent of the Strategy is to be broad, responding to opportunities associated with winter life, winter design and winter economy; as well as addressing perceptions, attitudes and behaviours of citizens to generate a positive winter culture.

What has been the process for developing the Strategy so far?
In an attempt to build on the successes and learnings of other cities who are further along in the development and implementation of their Winter City Strategies, the City of Saskatoon has approached the development of the Strategy as an iterative process where community stakeholders co-design the Strategy with the City.

This co-design process began with a Stakeholder Breakfast. An interactive breakfast workshop was held on March 15, 2016, at Le Relais, attended by 45 community members. An orientation to the concept and potential of a Winter City Strategy was provided (based largely on recent work by the City of Edmonton), and key steps for moving forward a Strategy forward in Saskatoon was discussed. Stakeholders identified the need to first inventory existing assets and improve awareness of them. There was strong stakeholder interest in engaging in the next steps in a Winter City Strategy, either through volunteering with tasks and events or on a project committee.

As a result of this feedback, the following four-step process for developing a Saskatoon Community Winter City Strategy was developed and implemented between January and May 2017.

<u>Step One - Building on the strength of existing assets</u>
With a small amount of capital funding ($6500) to hire a communications consultant and the support of existing civic staff (approximately 15 hours), an inventory of existing assets was developed. The purpose of the inventory is to provide a foundation from which the City and community stakeholders can promote what already exists, seek synergies through cooperative efforts, and identify gaps to be filled by the Strategy.

The inventory is located at Saskatoon.ca/WinterCityYXE.

The online inventory currently contains the following features:

- An interactive map of civic facilities and amenities that support outdoor activity.

- A list (and supporting maps where available) of community-developed outdoor recreational facilities
- A 'calendar' (list by date) of events throughout the winter season.

Engaging the community in change

The notion of a Winter City Strategy can seem vague and intangible. The purpose of community engagement and awareness was (and remains) to make the concept real through stakeholder and community conversations, a digital presence through a central webpage, and by starting the work to create new and/or promote and strengthen existing winter experiences. Spending associated with all communications and awareness activities to date (including design, production and ad placements costs) has been approximately $25,000.

The City developed an engagement plan that could be implemented during the winter season to gain the interest and attention of the community. The hope was that if community co-design for winter occurred in the winter season it would achieve additional benefits as barriers are more physically evident and opportunities are more perceivable. The engagement process was supported by a contracted communications consultant (contract value including all costs for meeting logistics: $14,000) and 100 hours of civic staff time.

The engagement process to date has involved the following approaches to help generate a 'blizzard' of ideas for inclusion in the Strategy:

- *Share precedents from other places to help citizens, stakeholders and businesses envision new possibilities.*

Phase one of this approach involved funding four (4) delegates from the community-at-large to attend the Winter Cities Shake-Up in Edmonton, Alberta in February. To apply for funding, applicants were asked to identify how they would contribute to the development and implementation of a Winter City Strategy in Saskatoon as well as how their commitment fit into the four key pillars of the Strategy: Winter Design, Winter Life, Winter Culture, and Winter Economy. The cost to send delegates to the conference was approximately $10,000.

The following community representatives attended the conference and shared their learnings and observations by producing a video (viewable at Saskatoon.ca/WinterCityYXE):

- Kirby Wirchenko, Broadway Theatre – Winter Culture
- Tannis Millar, Downtown YXE – Winter Economy
- PJ Bell, Saskatoon Cycles / Liveable YXE / EACCA – Winter Design
- Chris Standing, Wanuskewin – Winter Life

These delegates have remained involved in the Strategy and act as champions from the community to share their vision and help craft a new story about winter in Saskatoon. They are also members of a Community Working Group formed to provide ongoing guidance on the Strategy development process.

- *Host roundtables with stakeholders to discuss opportunities, gaps, 'quick wins' and strategies.*

  Lively and insightful conversations were held with community representatives from arts, culture, and festival groups, newcomers and settlement groups, seniors, advocacy groups for the mobility challenged, environmental groups, bus riders, cyclists, business groups, community associations, Indigenous students, and sports and recreation groups.

- *Conduct online engagement to gather ideas and feedback.*

  An open-ended survey tool to document ideas and advice from community members received 531 responses.

- *Empower self-directed 'kitchen-table-talks' utilizing online discussion guides and workbooks.*

  This type of engagement approach has not been widely utilized in Saskatoon before. Several groups used the workbook to guide their discussions, recording their results using the online survey. One group (of 17 individuals) submitted a completed workbook.

- *Host a Community Workshop.*
  Not originally included in the engagement plan, as conversations with the community evolved, the stakeholders, as well as individuals from the community-at-large,

expressed interest in having a broader session where dialogue on the results of targeted stakeholder engagement could be discussed. Stakeholders gathered for a Community Workshop held at the Royal Canadian Legion Saskatoon Branch 63 Hall (606 Spadina Crescent West) on April 27, 2017.

The workshop format involved a modified world café-style session where stakeholders reviewed and comments on the 'blizzard' of ideas already gathered, circulated through the 'café' again to participate in an exercise to develop a general consensus on priorities among those participating, and a plenary discussion on themes.

The goals of the workshop were to:

- Identify the big ideas (new things) to be included in the Strategy. Some ideas receiving significant support at the workshop included:
  - Creatively designed warmup shelters
  - Washrooms available through the winter
  - Clear paths and sidewalks to support persons of all abilities
  - Address accessibility barriers to active transportation (particularly for those with mobility challenges)
  - Winter festivals introducing new themes
  - Intergenerational events
  - Neighbourhood-level events
  - More cultural events (particularly Indigenous)
  - Indigenous winter structures in parks (e.g. tipi with warm-up fire)

- Establish a sense of the priority actions to undertake immediately (i.e. supporting or growing existing initiatives and initiating small changes). The ideas receiving the strongest consensus at the workshop included:
  - Coordinate efforts through partnerships and collaborative funding
  - Heated outdoor patios
  - Add more food and drink options to existing events
  - Focus on affordability to enable participation by all Saskatonians
  - Implement 'pop up' features to better utilize existing spaces
  - Continue to provide small amounts of community grant funding to support community innovation

The plenary discussion highlighted the following concepts that participants felt important to develop further through the Strategy:

- Focus on accessibility of all types
  - Cultural
  - Affordability
  - Mobility
- Recognize the importance of equity and its relationship to accessibility
  - Individual mobility

        - Income
        - The goal is a caring, compassionate community
    - Focus on becoming a diverse city
        - Recognize not every initiative can be all things to all people all the time but that in aggregate everyone is well serve
        - Some initiatives should be broad while others should be specialized and targeted
    - There is tremendous benefit to be realized from focussing on making the city walkable
    - Light is important to creating an atmosphere of warmth and sociability
    - The riverbank is the heart of the community and a network of sites with connections should be a priority
    - People seek opportunities to gather together
        - More opportunities should be created to take advantage of the full spectrum of winter activities and themes
        - Improve assets to accommodate small or large events, whether formal or informal
    - Invest in infrastructure
        - Permanent
        - Pop-up and/or Mobile
    - Include initiatives that focus on continuous improvement (i.e. accessibility improvements) and also include entrepreneurial ideas that are innovative and a departure from our current norms (i.e. take risks)
    - Continue to support community learning through workshops, speakers, etc.

- *Create a Community Working Group.*
  Volunteers representative of a variety of community sectors that relate to the themes of the Strategy helped the Administration by guiding the plans for the Community Workshop, debriefing on the results of engagement activities to date, and will continue to meet to guide further community engagement.

<u>Evaluation of the success of engagement so far</u>
Engagement of the community in the co-design of a Winter City Strategy for Saskatoon has generated enthusiasm for the Strategy among a significant number of stakeholders across the community. However, there is more work to be done to ensure engagement is inclusive of the entire community such that the Strategy appropriately reflects the challenges and opportunities associated with the winter experience of all Saskatonians.

The Community Working Group has noted there have been fewer ‘voices’ or perspectives participating in the Winter City dialogue so far among Saskatoon’s youth, children, frail older adults, new Canadians, Indigenous peoples, and restaurant owners.

Elements critical to the success of future engagement efforts were identified to include food, facilitators from the community (rather than civic staff or professional facilitators), and meeting locations in community spaces.

Helping community members understand what already exists (i.e. through further development of the asset inventory) was identified as an important starting point to future conversations.

The success of the Strategy requires momentum among stakeholders capable of demonstrating the Winter City concept through initiatives. The Community Working Group is willing to continue to participate with the City to keep this momentum going and have identified that the small amount of grant funding provided through the Strategy has been a useful method for engaging and supporting community initiative

'Quick Win' Actions

$25,000 was used in a call for submissions to support community initiatives deemed to advance learning or move core concepts of the Strategy forward. The community cash grant process was administered by the Recreation and Community Development Division in alignment with other community granting processes.

Funding criteria: Projects that further the four areas of WinterCityYXE: Winter Life, Winter Design, Winter Culture, and Winter Economy. Specifically, grant dollars were made available for new winter program or design initiatives where a gap was verified and need demonstrated. Funding was targeted to meet specific Strategy outcomes focussing on initiatives that:

- add a new dimension to existing initiatives;
- pilot an urban design concept in a high-use public area; and/or
- facilitate linkages between existing initiatives to create new outcomes

Grant awards: Six (6) grants were provided to community groups. The minimum grant available was $500; the maximum $5,000. There were 15 applications at the April 21, 2017 deadline requesting a total of $62,354.99. Only one project and one application was considered from a given organization.

From the emerging themes identified through engagement activities, at the Community Workshop, and in ongoing discussions with the Community Working Group, it has been identified that further work on 'quick win' actions is critical to the success of the Strategy. By continuing to implement actions in parallel with the iterative Strategy development process, the community can capitalize on the current momentum and continue to build community understanding of what is possible.

Quick win actions to be explored beginning in 2018 as the Strategy continues to develop include:

- Theme of improving mobility
  - Work with civic divisions and utilize the Snow Angel promotional program to focus on clearing paths and sidewalks to support persons of all abilities
  - Determine where accelerated enhancements anticipated under the City's Accessibility Action Plan may be required to address accessibility barriers to active transportation (particularly for those with mobility challenges)

- Theme of improving facilities and infrastructure
    - Invest in creatively designed warmup shelters.
    - Invest in washrooms available through the winter, particularly noting that the riverbank is the heart of the community and a network of connected sites with winter amenities should be a priority.

- Theme of providing more support to existing activities
    - Work with community event organizers and winter programs and facilities on opportunities to enhance affordability to enable participation by all Saskatonians and opportunities to add more food and drink options to existing events.
    - Continue to provide small amounts of community grant funding to support community community-led initiatives that generate learnings for the Strategy.
    - Coordinate efforts through partnerships and collaborative funding (e.g. 'blankets and mugs' program similar to the 'bikes for hotels' launched last summer).
    - Work with civic approving authorities to review and revise civic policies and procedures to better reflect the objectives of the Strategy and facilitate community initiative by taking a less 'risk-averse' perspective.
    - Explore to opportunity to provide summer student ambassadors

- Theme of introducing new events and things to do
    - Continue to provide a small amount of funding to community groups to support community-led initiatives that generate learnings for the Strategy
    - Bring community event organizers together to explore the potential to expand existing winter festivals by introducing new themes or introduce new festivals with new themes, including a focus on:
        - Winter lighting;
        - Intergenerational events;
        - Neighbourhood-level events; and
        - More cultural events (particularly Indigenous and French).
    - Invest in new assets that support outdoor winter activities such as:
        - Indigenous winter structures in parks (e.g. tipi with warm-up fire);
        - 'Pop up' features to better utilize existing spaces; and
        - Mobile event supports (i.e. water, power, washrooms, warming facilities).
    - Facilitate the creation of heated outdoor patios.

- Theme of improving the promotion of events and activities
    - Maintain and expand the online inventory of existing assets.
    - Conduct a benchmark survey on current attitudes, perceptions and behaviours related to Saskatoon's winter season.
    - Continue to study the potential economic and quality of life benefits achievable through the Strategy.

- Continue the community conversation, guided by the Community Working Group, about challenges and opportunities associated with winter, ensuring under-represented population segments have a voice in the further development of the Strategy.

Online Winter City YXE Asset Inventory

WinterCityYXE: Saskatoon's Winter City Strategy

Check Out What Our Winter City Already Has to Offer!

There is already so much to do in Saskatoon in the winter! From outdoor winter activities like skating and cross country skiing, to PotashCorp Wintershines, one of Canada's Best Winter Festivals, to attending a winter camp.

Want to get out of the cold? The Saskatoon Civic Conservatory offers is a free place to warm up! Or check out the City of Saskatoon Winter 2017 Leisure Guide for a listing of hundreds of indoor and outdoor winter activities!

Outdoor Recreational Facilities

Check out our WinterCityYXE interactive map that shows the locations of outdoor skating rinks, dog parks and other facilities. PLUS amenities to support these activities like public washrooms and places to warm up!

Meewasin Trail
The Meewasin Trail is home to beautiful pathways that wind along the South Saskatchewan riverbank and displays stunning views of both downtown and the forested riverbank.

http://meewasin.com/map/

Cross Country Ski Trails

Kinsmen Ski Trail

Wildwood Ski Trail

Willows Ski Trails

The City of Saskatoon thanks the Saskatoon Nordic Ski Club for their efforts in creating and maintaining the trails at these locations.

City Groomed Trails

Holiday Park Golf Course: Access at Avenue U South Outside loop 3.5 km double classic track & skating lane

Lower Meewasin Park: Access at Pinehouse & Whiteswan Drives Loop 4.8 km single classic track

Upper Meewasin Park: Access at Pinehouse and Whiteswan Drives Loop 3.4 km single classic track

Meewasin Park to Adilman buffer: Access at eastend of Adilman Drive or Meewasin Park 2 km single classic track

Diefenbaker Park: Access at Ruth Street & St. Henry Avenue 2.6 km single classic track

Forest Park: Access at Lowe Rd, Nelson Rd & Forest Dr. 3.0 km single classic track. Connecting link to Silverspring Park

Cross Country Ski Trails in Varsity View:

President Murray Park (Wiggins Avenue & Aird Street)

Grosvenor Park (Copland Crescent & Leslie Avenue)

River Landing
River Landing is located on the banks of the beautiful South Saskatchewan River. In addition to the Meewasin Trail running through River Landing, an Outdoor Adult Fitness Circuit and Pavilion Building public washrooms are open all year round. A Ceremonial Fire Vessel is available for rent as a warming and gathering place.

Do you have a winter facility you would like to add to our interactive map? Email (All submissions will be reviewed to ensure they fit within our Winter City Strategy themes prior to posting).

Outdoor Winter Events

November 19 – January 7: Enchanted Forest Holiday Light Tour
For 18 years, the Enchanted Forest Holiday Light Tour has been making the winter season sparkle.

January 19 - 22: Winterruption
Seven venues in Saskatoon are running more than 17 shows to give you a great reason to get out of your house in the longest, coldest, darkest month of the year. There will be music, comedy, podcasts and more.

January 28 – February 5: PotashCorp Wintershines
Called one of Canada's Best Winter Festivals by the Globe and Mail, Wintershines

offers something for the whole family. From ice carving to winter camping to scavenger hunting at the snow park, the event is sure to warm your heart!

Activities include:

- Winter Camp in the City
- International Ice Carving Events
- Outdoor Petting Zoo
- Warm the Heart Soup Cookoff
- Wintershines Snow Park
- And more!

January 29: PotashCorp Skating Party

February 4: SRRA & STCI Wintershines Blizzard Triathlon

February 5: WinterFest and Skate with the Blades, hosted by the Lawson Heights Community Association

February 12: Hypo1/2
Join in the Hypothermic ½ Marathon

February 11: Free King George Winter Carnival (1:00 pm to 4:00 pm)
Skating, snowshoeing, crafts, bouncy castle, sleigh rides, hot dogs, coffee, hot chocolate and more!

February 18 - 20: Frosted Gardens at the Zoo.
Open 10 am to 4 pm daily. Fee will be by donation.

The Professional Ice Carving Society of Saskatoon (PICSS) President, Peter Fogarty, is very pleased to have Frosted Gardens move to the Zoo. Come on out to the Forestry Farm Park & Zoo on Feb 18th through the 20th to enjoy viewing snow sculpture displays and various ice carvings. From 11 am to 3 pm each day you will see professional Live Ice Carving demonstrations.

Children aged 4 - 10 can enjoy the "Little Chippers" activity where they will have the opportunity to chip and carve their own ice sculpture. The fee for the Little Chippers activity is $5 per child or $8 for a family of 2 children. This activity will run every 1/2 hour which will be on a first come basis. Parental accompaniment is required.

Buckeye Café will have a satellite concession selling Hot Chocolate, Coffee, Cold Beverages and Cookies throughout the 3 day weekend!

The Paws Inn Gift Shop will be open 12 noon to 3:30 pm each day.

February 20: Saskatoon SCOA Globe Walk
Gather your team together for a walk in the park. 1:00 to 3:00 pm at the Forestry Farm Park and Zoo. Meet in front of the Superintendents Residence. Hot chocolate will be served! Call 306-651-2255

February 26: East College Park Community Association - Winter Day in the Park

February 26: Montgomery Place Family Fun Day (2:00 to 4:00 pm)

Montgomery Place Community Association is hosting a Family Fun Day for its residents at the Montgomery Park Rink.

Residents are welcome to bring their sleds, skates, cross country skis and/or snowshoes for an afternoon of fun in the park. The event will include an official grand opening of the newly renovated Montgomery Park rink and a celebration of the volunteers who worked so hard to make it happen. Hot chocolate and cookies will be provided at the rec building near the rink.

February 20: Cameco Family Day Skating Party

March 4: South Nutana Park Winter Carnival
South Nutana Park is partnering with the École Canadienne-Française to host a winter carnival that will feature curling, sleigh rides, snowshoeing and more!

March 5: Brainfreeze
Run the 5K, 10K or Half-marathon at the 2017 Brainfreeze by Brainsport.

Do you have a winter event or activity you would like to add to our inventory? Email (All submissions will be reviewed to ensure they fit within our Winter City Strategy themes prior to posting).

Outdoor Programs and Activities

Cross Country Skiing Events
Saskatoon Nordic Ski Club hosts a number of skiing programs including:

- Grapefruit Cup races (Tuesday nights at Wildwood Golf Course in January and February)
- Saskatoon Loppet (5 - 50 km race)
- Sask Cup Races (provincial race series)
- Blind Skier Events

View the full calendar of events.

Cross Country Skiing Programs
Saskatoon Nordic Ski Club programs include:

- Jackrabbits: 165 children (ages 3 - 12) enrolled in Skills Development programs
- A section for blind and low-vision skiers
- HiPer Adult (age 19+) race team
- HiPer Junior (ages 14 - 19) race team
- HiPer Youth (ages 8 - 14) race team
- Sunday and mid-week group ski to Eb's Trails and other locations
- Adult ski lessons

- Ski at School for grades 4, 5 & 6

View the full calendar of events.

FatBiking
FatBiking, or snowbiking on 3.7-5 inch wide tires, is becoming a popular winter activity in Saskatoon and many recreational fat bike riders become winter commuters! The Fatlanders FatTire Brigade hosts a number of events and activities to try out the sport.

Kicksledding
A kicksled consists of two skinny runners attached to a handle bar at about waist height. The runners have a rubberized spot to rest your foot and keep your balance and some have seats for transporting small children. You can even harness a dog to the sled and attach a brake.

Outdoor Running
Get out and run and discover how great winter running can be!

Brainsport offers a Run Academy Winter Session where courses are interactive and fun filled. Great coaches provide training in healthy running techniques and injury prevention.

Saskatoon Roadrunners' Running Club offers ski and/or snowshoe crossing training Sundays at Holiday Park Golf Course

Tobogganing
Diefenbaker Park and Pest Hill in the George D. Archibald Memorial Park North are great places for the whole family to toboggan. Parks, including Harold Tatler North and South in South Nutana Park, also have small tobogganing hills. http://www.snpca.ca/

There are also two tobogganing hills in Willowgrove University Heights.

Winter Kids Camp
Book your kids into winter camp at Wanuskewin Heritage Park February 21-24, where they'll take guided trail walks, take part in archeology digs, build outdoor tipis and more!

Outdoor Public Art
Winter is a great time explore Saskatoon's public art, both permanent and temporary.

These artworks particularly shine in winter:

- Land of Berries - Neon Light Installation by Tony Stallard, Joi Arcand, Joseph Naytowhow and Kenneth T Williams. Located on the North Side of Persephone Theatre
- Moose Jaw Trail by Jill Anholt & Susan Mavor – Located in Mark Thompson Park in Stonebridge

New public art installations coming this winter:

- An Eastern Dream of the West, Little Chief Station Riversdale. A lit sculptural installation of the shell of a boat by contemporary artist Jeremy Tsang
- Jason Gress, Broadway & Downtown - installation to be covered in ice as an ice-sculpture this winter.

Browse our public art collection.
Browse our public art collection using our Placemaker Program

Do you have a winter event or activity you would like to add to our inventory? Email (All submissions will be reviewed to ensure they fit within our Winter City Strategy themes prior to posting).

Perform an online search for Winter Sports Equipment in Saskatoon to find a listing of retailers who rent equipment.

ENGAGEMENT RESULTS
April 2017

THANK YOU!

Thank you to all 770 individuals who provided ideas and feedback to Saskatoon's Winter City Strategy!

- Online survey: 531
- Facebook posts: 18
- Kitchen Table Talks: 17 individuals representing 1 group
- 9 Roundtable Groups: 60 individuals representing 48 groups
    1. Arts/Culture/Festivals
    2. Newcomers/Settlement Groups
    3. Seniors/Advocacy/Persons with Disabilities Groups
    4. Environmental Groups/Bus Riders/Cyclists
    5. Business Groups
    6. Community Associations
    7. Aboriginal Students
    8. Sports & Recreation
    9. Miscellaneous Groups

Organizations Who Participated in Roundtable Sessions:

1. La Troupe du Jour
2. Shakespeare on the Saskatchewan
3. Children's Discovery Museum
4. On Purpose Events/WinterShines
5. Broadway Theatre
6. Gordon Tootoosis Nikaniwin Theatre
7. Nuit Blanche/Void Gallery
8. Saskatoon Symphony
9. Saskatoon Open Door Society
10. Federation des Francophones
11. International Women of Saskatoon
12. Global Gathering Place
13. Newcomer Information Centre
14. U of S Language Centre
15. Saskatchewan German Council
16. Saskatoon Council on Aging
17. Saskatoon Senior Fitness Association
18. Saskatchewan Abilities Council
19. Saskatoon Services for Seniors
20. Saskatchewan Environmental Society
21. Meewasin Valley Authority
22. Saskatoon Cycles
23. Nature City Festival
24. Tom Brown (Cyclist)
25. Sutherland Business Improvement District
26. Broadway Business Improvement District
27. On Purpose Leadership Inc.
28. Koopman Architecture
29. Downtown YXE (Business Improvement District)
30. Tourism Saskatoon
31. Confederation Park CA
32. Hudson Bay Park/Mayfair CA
33. King George CA
34. Lakeridge CA
35. Sutherland/Forest Grove CA
36. Willowgrove/University Heights CA
37. City Park CA
38. U of S Students (8)
39. City Council Member Sarina Gersher
40. Saskatoon Cycles
41. Saskatoon Health Region
42. YWCA
43. Saskatoon Public Health Evaluation Research Unit
44. Optimist Club
45. Canoeski
46. Crosby Hanna & Associates
47. Escape Sports
48. Fatlanders FatTire Brigade

EXECUTIVE SUMMARY

Thank you to all 770 individuals who provided feedback and ideas to Saskatoon's Winter City Strategy! This report provides a summary of engagement results.

The engagement process consisted to City-hosted Roundtable Sessions attended by various stakeholder groups, and an online survey. The City's social media tools were the main tools used to promote the online survey.

Participants were asked questions about winter in Saskatoon according to four main themes: Winter Life, Winter Design, Winter Culture and Winter Economy.

In examining the engagement results, particularly the opportunities for improvements that were identified, new themes began to emerge. These new themes revolved around improving mobility, improving infrastructure and facilities, providing more support to existing activities, and introducing new events and things to do. Improving the promotion of events and activities was also a common theme that emerged throughout the engagement.

This report provides a summary of the top things people love about Saskatoon (for each initial pillar), and the most common opportunities identified by stakeholder groups through the in-person 1.5 hour-long Roundtable Sessions. A summary of the main ideas identified for each new theme, and a list of activities currently taking place in other cities that Saskatoon could learn from is also included. Finally, all of the raw results from the engagement process are listed by strategic pillar.

TOP TEN THINGS PEOPLE LOVE ABOUT WINTER IN SASKATOON (BY STRATEGIC PILLAR)

WINTER LIFE:
Celebrating the inviting and fun quality of life we have here, even in the coldest months of the year.

The community was asked to talk about ways to expand the opportunities for getting out in winter. Winter Life is about embracing the winter season, and celebrating the unique activities and opportunities available in our city that make life fun and interesting.

Saskatoon is vibrant and inviting in the summer season with a wide variety of things to do outside. What if our winter season was equally inviting? There are already many ways to adopt an active lifestyle in the winter months – skating, cross country skiing, fatbiking, outdoor running, tobogganing, and the list goes on!

A winter lifestyle also includes simply getting out, even if it means to head back inside again to the many indoor leisure opportunities available in Saskatoon! Walking to the library, Conservatory or to the same locations you would walk to in summer also contributes to enhancing Winter Life in our community.

1. Trails for Cross-country Skiing, Walking, Fatbiking
2. Community Association Skating Rinks
3. Sledding/Tobogganing hills (Parks and Diefenbaker Hill)
4. Cameco Meewasin Skating Rink @ PotashCorp Plaza
5. Leisure Centres/Indoor Skating Rinks/Indoor Pools/Libraries
6. Meewasin Trail
7. Ice Skating (any location)
8. Potash Corp WinterShines Event
9. Walking by the River
10. The Beauty of Winter (crisp bright sunny weather/big clear sky/stars/snow/river views)

WINTER DESIGN:
Improving community comfort and accessibility for everyone, even in the ice and snow.

Winter Design refers to things we can do to plan, design and maintain our communities better; to make the winter months more enjoyable. Some examples include:

- *Ensuring water, washrooms and warming locations are built into the design of parks and public spaces.*
- *Ensuring new buildings are built to take advantage of the winter sun.*
- *Installing lighting to make the darker winter season inviting and beautiful.*
- *Creating public spaces that take advantage of the sun and block out the cold wind (this is called creating a micro-climate and can be part of permanent designs for public or private spaces, or can be created seasonally by creating snow or ice walls or bringing in designed wind breakers).*

1. Snow Removal on Meewasin Trail is Timely
2. Snow Removal is Usually Timely/Improving

3. Snow Removal in Parks and on Pathways/Bridge Sidewalks is Good
4. Getting Around the City to Activities is Easy and Fast/Good Locations
5. Cross-Country Ski Trails are Groomed
6. Residents/Businesses Have to Clear their Own Snow
7. Heated Shack at Meewasin Rink
8. Outdoor Lights and Winter Decorations
9. Warm Up Facilities are Available in Some Locations
10. Indoor Leisure Centres

WINTER CULTURE:
Building enthusiasm for winter, taking advantage of winter opportunities, and telling the story of our winter city.

The City of Edmonton is a great example of a city that is changing its winter culture so that citizens embrace winter. Edmonton is being recognized around the world for its Winter City Strategy, and citizens have proclaimed that it's time they celebrate the joy of winter and embrace the season. They have a plan in place that sees the community working together, and thinking differently, so they can become a great world-leading winter city.

Other examples of Canadian cities where citizens look forward to winter are Quebec City and Ottawa. In Quebec City, the Winter Carnival offers a diverse program of winter activities and is one of the world's largest winter carnivals, drawing thousands of visitors to the city each year. In Ottawa thousands of citizens look forward to skating to work each day during the winter on the Rideau Canal Skateway, the largest naturally frozen skating rink in the world.

In cities that are embracing a Winter Culture, it is the contributions of businesses, community arts and culture groups, community sports and recreation groups, and the positive attitude of citizens themselves that makes all the difference.

1. Wintershines
2. Ice Sculptures
3. There Are Lots of Options to Enjoy Culture
4. Music (Symphony/Bassment Concerts/Music Festivals)
5. Winterruption Event
6. Enchanted Forest
7. Other Winter Festivals
8. Events at Cameco Meewasin Skating Rink @ PotashCorp Plaza
9. Events at Cross Country Ski Trails, Including Winter Triathlon, Fatbiking, Loppets
10. The People/People Gathering

WINTER ECONOMY:
Addressing challenges associated with winter to create a more vibrant economy in the winter. It is common throughout many cities for things to slow down in the winter season (outside the Christmas shopping period). Let's talk about ways in which Saskatoon's Winter Economy could be made more vibrant to sustain our small businesses, attract visitors to new and existing events and festivals, and create a fun and inviting atmosphere that entices people to get out and connect with each other.

Some examples for expanding our Winter Economy include:

- *Hosting a "dine-around" within one of Saskatoon's shopping districts where citizens and visitors can take advantage of great deals or new exciting experiences by stopping in to participating restaurants for warm-up appetizers, hot meals, or a warm after dinner drink!*
- *In Winnipeg, a "pop-up restaurant" is developed each winter, hosted by the top chefs in the city. This unique event is sold out each year and diners enjoy both top-quality food and drink, and the opportunity to eat outside at a big community table with their friends, family, and new acquaintances!*
- *In Edmonton, entrepreneurs are being encouraged to investigate business opportunities that would thrive in the winter, like the manufacture and sales of warm clothing and toque/mitt stores, etc.*

1. Dining Out (Lots of Dining/Restaurant Options)
2. Good Shopping & Sales
3. I Don't Notice a Difference Between the Economy in the Winter Versus the Summer
4. Broadway Area
5. Indoor Malls
6. Year Round Farmer's Market
7. Going to Movies
8. Great Coffee Shops
9. Heated Underground Parking at Malls
10. Riversdale Area

MOST COMMON OPPORTUNITIES IDENTIFIED BY STAKEHOLDER GROUPS (BY STRATEGIC PILLAR)

WINTER LIFE:

1. Improve event promotion
2. Improve snow clearing from roads/sidewalks/pathways
3. Build more winterized public washrooms
4. Free or cheap equipment for winter activities
5. More warm up locations
6. Build more places to park indoors
7. Free or cheaper activities and equipment rentals
8. Improve transit and transportation system
9. Educate people about activities and how to do them
10. Create 'bootrooms' in public buildings

WINTER DESIGN:

1. Add colours to designs – including art, murals, etc.
2. Include art in winter design; Indigenous art
3. Build pedestrian walkways
4. Build outdoor ice castle at the Bessborough
5. Have local artists help promote events like Wintershines
6. Build narrow, walkable spaces to create the necessary micro-climate/wind-break
7. Introduce more lighting (dark sky compliant); add lighting to pathways and ski trails; put lights in bus shelters and at bus stops; light up the trees in Civic Square year-round
8. Replace aging decorations
9. Clear snow and ice from sidewalks; introduce residential snow clearing
10. Ensure infrastructure includes heat/water/power for pop-up venues or winterized washrooms

WINTER CULTURE:

1. Better promotion of cultural events/activities
2. Decrease City's risk-aversion to new ideas
3. Hold a light festival, displays (eg. Victoria Butchart Gardens)
4. Extend public art program beyond static art installations to include a stage podium for concerts/performances
5. Create a continuity of events throughout the year (mix of themes, brands, demographics, etc.)
6. Hold an annual New Year's eve event
7. Increase partnership (eg. francophone community, First Nations, newcomers) to share cultures through events (eg. Global Village at U of S)
8. Partner with Community Associations and seniors groups to hold events
9. Create an annual city-wide winter event people can connect to and be proud of
10. Hold more walking tours (eg. Enchanted Forest)

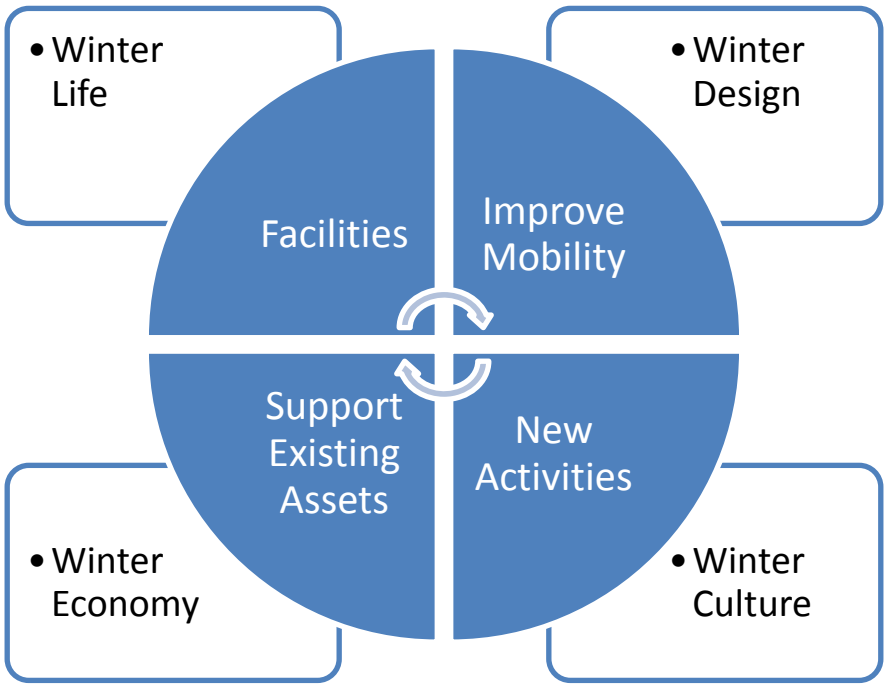
WINTER ECONOMY:

1. Sell hot chocolate at outdoor events/activities like Enchanted Forest
2. Set up temporary, seasonal businesses in Meewasin jurisdiction
3. Add outdoor washrooms and warm up shacks along river
4. Hold more family events

5. Heat key sidewalks in front of business locations
6. Hold big events that will result in retail/restaurant sales
7. Have businesses support art programs and vice versa using coupons, etc.
8. Use existing parking lots for events (i.e. biggest street hockey tourney in Canada?)
9. Open a pop-up, or outdoor theatre
10. Build smaller portable stage for businesses to use for events

NEW THEMES EMERGE

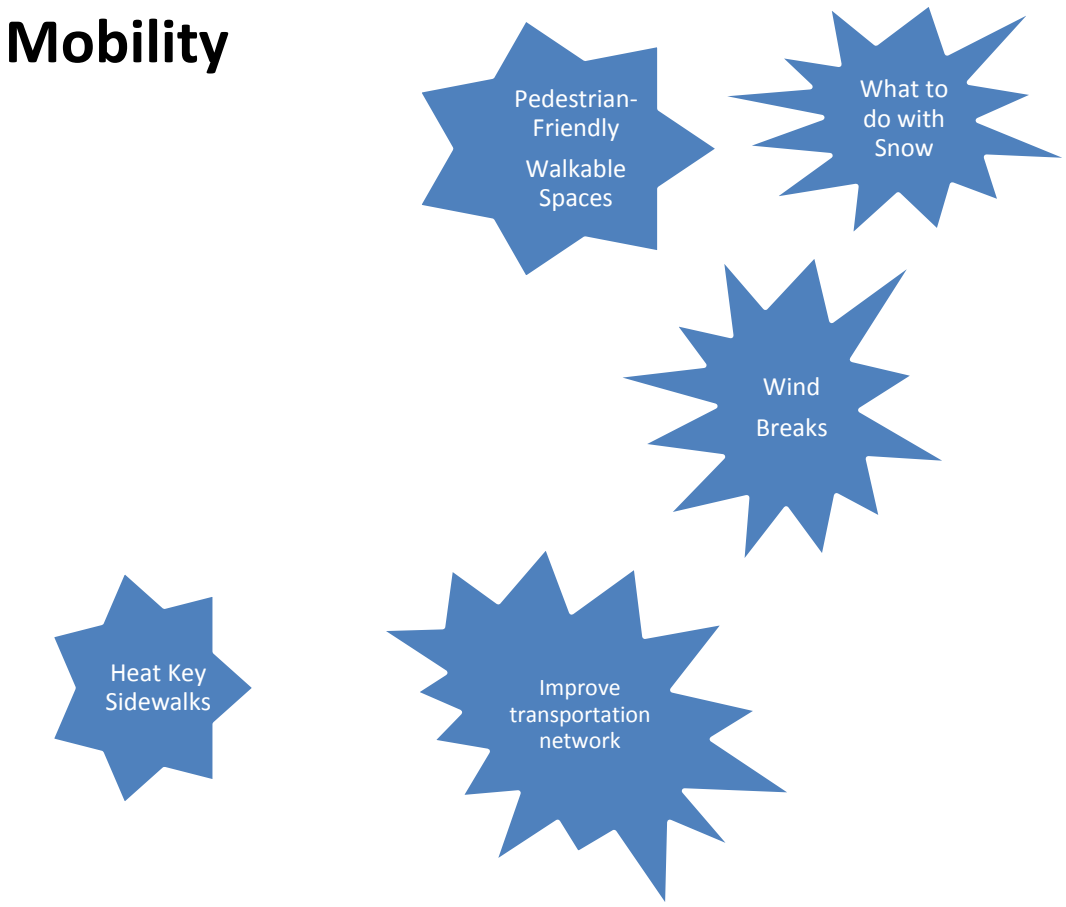
The four pillars proved somewhat useful in guiding discussions during the community engagement phase of the Winter City Strategy. However, as citizens and stakeholders identified ideas for action, new Action Themes emerged.



MAIN ACTION ITEMS WITHIN NEW THEMES

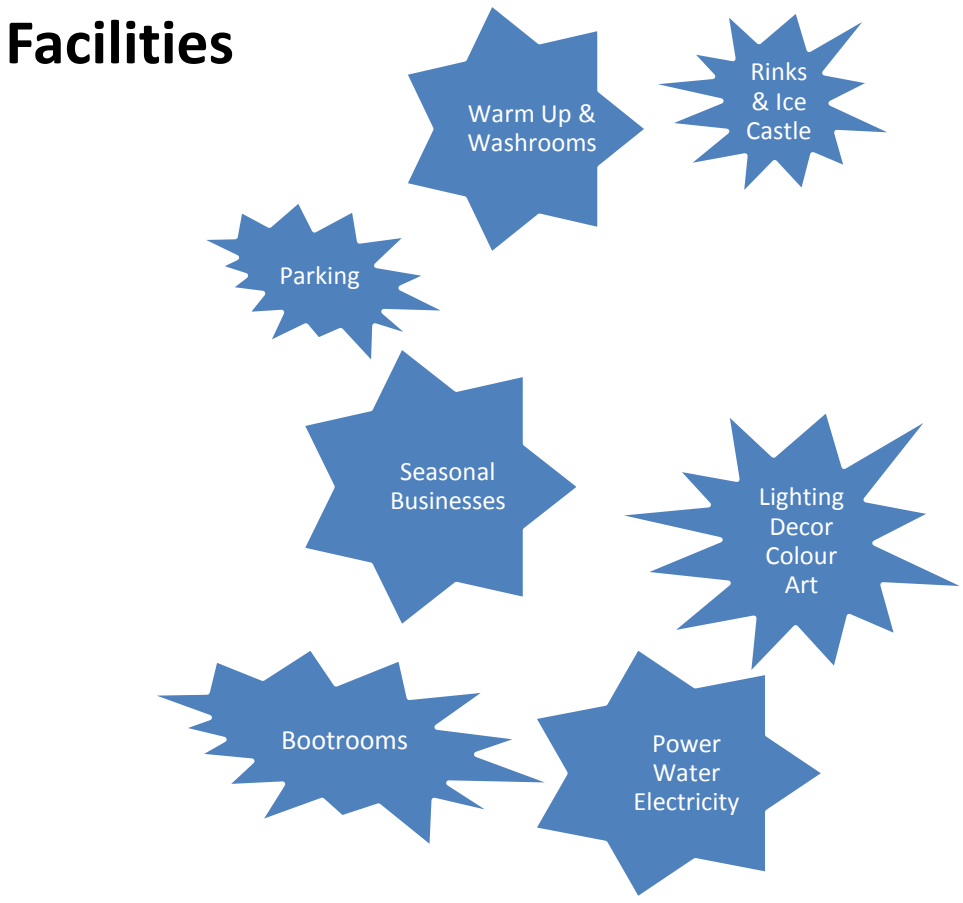
IMPROVE MOBILITY

- Better snow clearing
  - roads, sidewalks, residential, pathways
- Build pedestrian walkways
- Improve transit system
- Improve overall transportation system
- Build narrow, walkable spaces to create the necessary micro-climate/wind-breaks
- Heat key sidewalks in front of business locations



IMPROVE INFRASTRUCTURE & FACILITIES

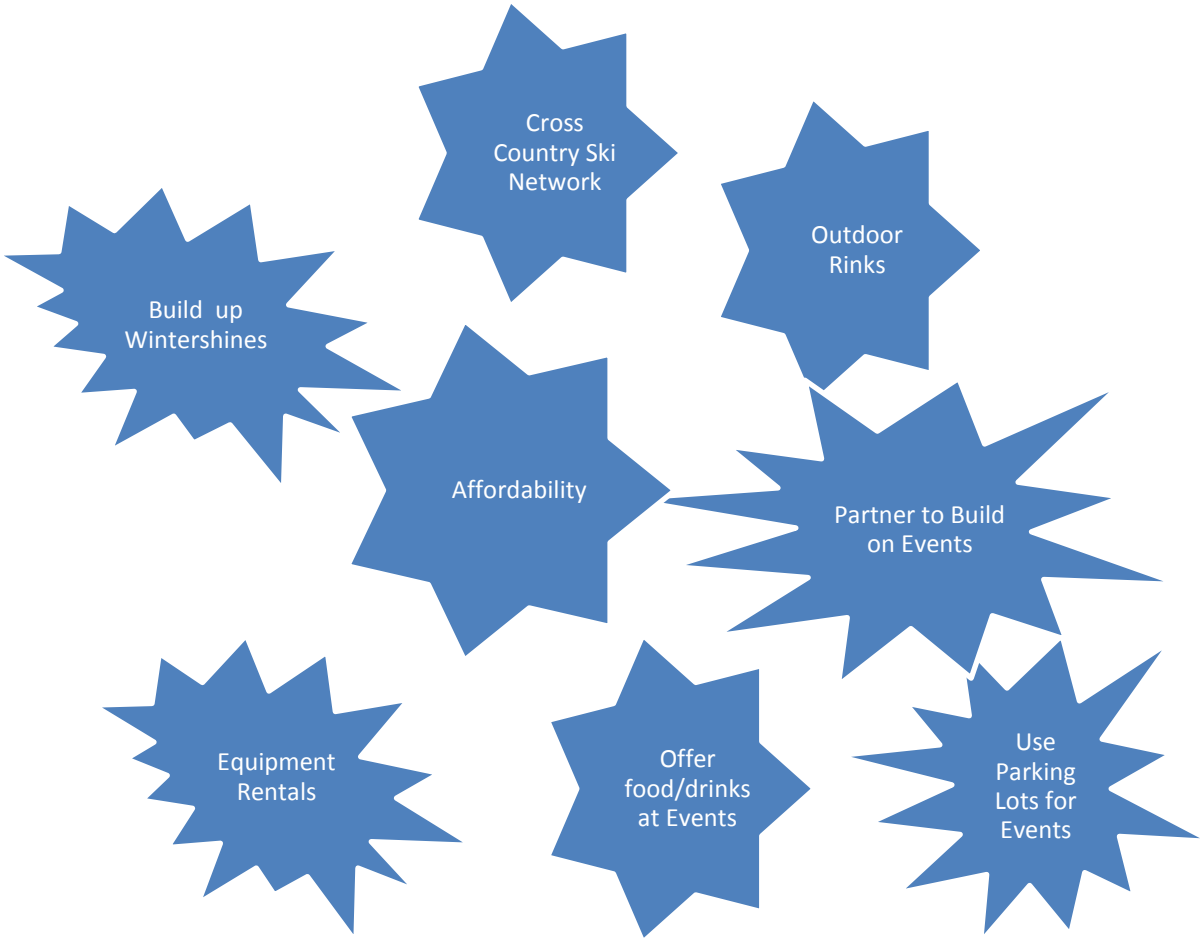
- Warm up shelters
- Winterized washrooms
- Add power/electricity/water to support outdoor facilities
- Add infrastructure for rental equipment where activities occur
- Support outdoor rinks
- Build “bootrooms” in public buildings
- Add colour, art (Indigenous art) and murals to outdoor facilities
- Include art in winter design; Indigenous art
- Build outdoor ice castle at the Bessborough
- Introduce more lighting (dark sky compliant); add lighting to pathways and ski trails; put lights in bus shelters and at bus stops; light up the trees in Civic Square year-round
- Replace aging decorations
- Set up temporary, seasonal businesses in Meewasin jurisdiction
- Build smaller portable stage for businesses to use for events
- Better parking (more indoor parking lots, underground lots)



SUPPORT EXISTING ACTIVITIES

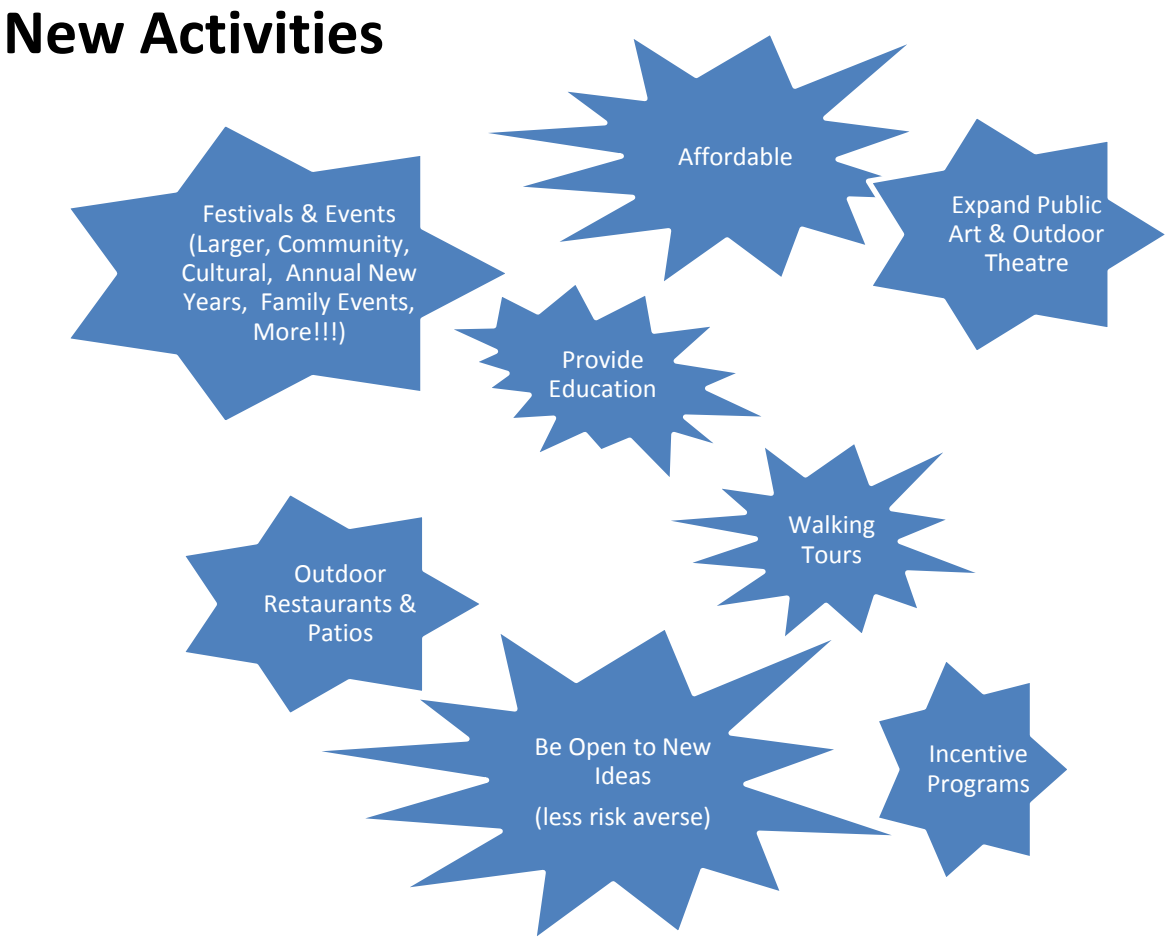
- Invest in cross-country skiing (more trails, warm up shelters, outdoor washrooms, facilities in Kinsmen Park)
- Grow and expand Wintershines
- Increase partnership (eg. francophone community, Community Associations, First Nations, newcomers, seniors) to hold events and share cultures (eg. Global Village at U of S)
- Sell hot chocolate at outdoor events/activities like Enchanted Forest
- Use existing parking lots for events (i.e. biggest street hockey tourney in Canada)
- Offer free/affordable equipment rentals near activities

Support Existing Assets



EVENTS/THINGS TO DO

- More events (larger, community, cultural, family, annual New Years, fatbiking, Indigenous events)
- More affordable events/activities
- Free or inexpensive equipment rentals (cross-country skis, fatbikes, sleds, skates)
- Heated restaurants/outdoor cafes
- Educate people about activities and how to do them
- Decrease City's risk-aversion to new ideas
- Hold a light festival, displays (eg. Victoria Butchart Gardens)
- Extend public art program to include a stage podium for concerts/performances
- Create a continuity of events throughout the year (mix of themes, brands, demographics, etc.)
- Hold more walking tours (eg. Enchanted Forest)
- Open a pop-up, or outdoor theatre
- Have businesses support art programs and vice versa using coupons, etc.



Note: Improving the promotion of winter activities/events in one location (online, app), and supporting others to promote their own activities/event was another common theme identified by both stakeholder groups and individual participants.

WHAT CAN WE LEARN FROM OTHER CITIES?

1. Edmonton - Great winter festivals, Ice Castle, Snowboarding Hill, Commuting Ski or Skate Trail, Food Festival,
2. Winnipeg - SkateTrack Through Park, Festival de Voyager
3. Ottawa - Skating on Canal
4. Kingston – Floods Parks for Skating
5. Yellowknife - Big Bonfire Party, Large Ice Castle
6. Vancouver – Hope On Hop Off Trolley
7. Victoria - Horse Drawn Sleigh Rides
8. Toronto – Christmas Market, Skating Paths
9. Calgary - Hot Chocolate Festival (Month-Long, City-Wide With Proceeds to Charity)
10. Quebec City – Carnival
11. Prince Albert - Winter/Summer Lodge to Host Activities
12. Canmore – X-Country Ski Track w/ Free Rentals so people can try the sport. Involve Collette Bourgonje, Food Festival
13. Grande Prairie: Pool, Gym, and Indoor Playground
14. Scandinavia – Outdoor Christmas Markets, Outdoor Food Festival
15. Calgary, Vancouver – Bike Lane Network
16. Calgary and Coquitlam – Walk Through Light Display
17. Charlottetown – Burger Festival
18. Research Umea, Sweden (Sister City)
19. Winnipeg/Montreal – Underground Connections/Tunnels
20. Edmonton/Calgary – Conservatories

RAW RESULTS

WHAT DO YOU LOVE?

WINTER LIFE:

1. Cross-country Skiing
2. Community Association Skating Rinks
3. Sledding/Tobogganing hills (Parks and Diefenbaker Hill)
4. Cameco Meewasin Skating Rink @ PotashCorp Plaza
5. Leisure Centres/Indoor Skating Rinks/Indoor Pools/Libraries
6. Meewasin Trail
7. Ice Skating (any location)
8. Potash Corp WinterShines Event
9. Walking by the River
10. The Beauty of Winter (crisp bright sunny weather/big clear sky/stars/snow/river views)
11. Lots of Low Cost Things To Do
12. Beaver Creek
13. Clarence Downey Oval
14. Cycling/Fatbiking
15. Festivals/Fireworks
16. Hockey
17. Snowshoeing
18. Lots of Parks
19. Pathways are Cleared of Snow
20. Off Leash Dog Parks
21. Farmers Market
22. Outdoor Lights
23. Walking Paths in the Community
24. Triathlon Races/Winter Running/ Running Clubs
25. Saskatoon Conservatory (old Mendel building)
26. Skate Rentals
27. Winter Hiking
28. Enchanted Forest
29. Neighbourhood Events/Activities
30. Indoor events like Sports and Leisure Shows/Gardenscape, etc.
31. Reasonable access fees for facilities/affordable activities
32. Curling Clubs
33. Blades/Rush Games
34. Saskatoon Forestry Farm Park and Zoo
35. Skating Rink at Boffins
36. Saskatoon Cycles Event (Ice Cycles)
37. Downtown Area
38. Broadway Area/Winterruption
39. City Park Area
40. U of S Campus Area
41. Art Events - Concerts/Theatre
42. Vibrant Music Scene
43. Sheltered/Protected Outdoor Facilities
44. Snowball Fights

45. Remai Modern
46. Western Development Museum
47. Our Streets Are Safe
48. Festival of Trees
49. Innovation Place
50. People are friendly in winter and help each other
51. Winter events are well-run
52. Lots of indoor programs by Community Associations
53. City maximizes use of bridges
54. Good bird watching/feeding
55. Christmas lights
56. The City is Trying to Address Barriers for Seniors
57. Mall Walking
58. Protected Bike Lanes

WINTER DESIGN:

1. Snow Removal on Meewasin Trail is Timely
2. Snow Removal is Usually Timely/Improving
3. Snow Removal in Parks and on Pathways/Bridge Sidewalks is Good
4. Getting Around the City to Activities is Easy and Fast/Good Locations
5. Cross-Country Ski Trails are Groomed
6. Residents/Businesses Have to Clear their Own Snow
7. Heated Shack at Meewasin Rink
8. Outdoor Lights and Winter Decorations
9. Warm Up Facilities are Available in Some Locations
10. Indoor Leisure Centres
11. Lots of Fun Winter Activities
12. Protected Bike Lanes
13. Availability of Underground Parking
14. The City has Linked Natural Resources Well to the River Area/Riverbank
15. Washroom Facilities at Meewasin Rink and Trail
16. Parks With Ski Trails and Tobogganing Hills
17. Skating Oval
18. Heated Shack at Clarence Downey Oval
19. Access Transit
20. Off Leash Dog Parks are Designed with Natural Scenery and Diversity
21. Snow Angel Program
22. Free Parking at City Facilities
23. Public Transit is Good/Improving
24. Nice Public Space Design at Farmers Market
25. Outdoor Rinks Are Lit
26. There Are Some Wind Shelters
27. Hiking trails
28. Snowshoeing
29. Urban tree canopy (extend it)
30. Farmer's Market has Indoor & Outdoor Activities
31. Diefenbaker Hill
32. Innovation Place – Large Windows, Plants and Sunlight Inside
33. Lots of Bus Shelters
34. Outdoor Fitness Facility at River Landing

35. Lots of Places to Gather in the Community (esp. New Neighbourhoods with Green Spaces)
36. Beaver Creek

WINTER CULTURE:

1. Wintershines
2. Ice Sculptures
3. There Are Lots of Options to Enjoy Culture
4. Music (Symphony/Bassment Concerts/Music Festivals)
5. Winterruption Event
6. Enchanted Forest
7. Other Winter Festivals
8. Events at Cameco Meewasin Skating Rink @ PotashCorp Plaza
9. Events at Cross Country Ski Trails
10. The People/People Gathering
11. Some Events are Interactive
12. Community Association Events
13. Sleigh Rides/Festivals at the Western Development Museum
14. Shows at Persephone Theatre and TCU Place
15. Canada 150/New Years Eve Celebration/Fireworks
16. Farmer's Market
17. Blades and Rush Games
18. Lots of Indoor Activities for Kids & Adults
19. Meewasin Valley Trail and Other Trails
20. Fatbiking Club Events
21. Shoes at Prairieland Park
22. Christmas Lights
23. Blizzard Triathlon
24. Hockey Games
25. Forestry Farm
26. Wanuskewin
27. Conservatory
28. Worlds Biggest Snowball Fight Event
29. Lions Speedskating Events
30. Carnavale fransaskois!
31. Round dances
32. Displays at Innovation Place
33. Cultural Holiday Celebrations
34. Arts Events
35. Our Spirit of Perseverance and Enjoying Life, No Matter the Weather
36. IceCycle by Saskatoon Cycles
    - Minus 20 isn't that cold
37. Strong Cultural Engagement in Saskatoon
38. Sutherland Education Program
39. No Elevated Pedestrian Networks Support “Get Outside” Culture
40. Broadway Shops
41. Public Art Program
42. River Culture is Great – People Love and Connect with the Rive
43. BIDS Support Culture and Programs
44. Community Association Annual Events

45. Good Winter Cycling Culture
46. World Record for Largest Snowball Fight
47. Great Library System
48. Good Relationships Between CA' and Seniors Groups
49. We Are "Prairie-Hardy"

WINTER ECONOMY:

1. Dining Out (Lots of Dining/Restaurant Options)
2. Good Shopping & Sales
3. I Don't Notice or Understand the Difference Between the Economy in the Winter Versus the Summer
4. Broadway Area
5. Indoor Malls
6. Year Round Farmer's Market
7. Going to Movies
8. Great Coffee Shops
9. Heated Underground Parking at Malls
10. Riversdale Area
11. Downtown Area
12. Seasonal Menus
13. Underground Parking
14. Pubs & Live Music
15. Craft Fairs and Trade Shows
16. Economy never shuts down for Snow Days
17. Speciality Stores Like Cabelas and Lee Valley Hardware/Sports Stores
18. Rush Games
19. Blades Games
20. Symphony
21. Christmas Shopping on Broadway
22. Winterruption
23. Libraries
24. Indoor Pool Facilities
25. Growing brewery scene
26. Good Music Facilities
27. Good Theatre
28. Creative Restaurants
29. Holiday/Seasonal Lights Help Economy
30. Small Festivals Have Room to Grow
31. Fundraising
32. Street Hockey Tournaments
33. Mall Walking Gets Seniors Into the Malls
34. Cultural and Arts Events Help Restaurants
35. Business Owners are Receptive to Events
36. BIDS Help Promote Things
37. Entrepreneurs and Arts Organizations are Finding Creative Ways to Work Together
38. Businesses Support the Arts

WHAT OPPORTUNITIES CAN WE SEE? (STEMMING FROM CHALLENGES?)

WINTER LIFE:

1. Hold More and Larger Events and Activities (Eg. Big Snowball) Fight
2. We Need More Public Washrooms at Outdoor Recreation Sites
3. Build More Warm-Up Locations at Outdoor Recreation Sites
4. Build More Indoor Facilities for Hockey, Skating, Ringette, etc.
5. Washroom and Warm Up Facilities (Kinsmen Park Specifically)
6. Increase Promotion About Existing Winter Events/Festivals/Activities
7. Clear Sidewalks of Snow and Ice
8. Better Snow Clearing
9. Build More Cross Country Ski Trails
10. Provide More Funding to Community Associations to Maintain Outdoor Rinks
11. Build More/Better Places to Park
12. Improve Transit System
13. Offer Low-Cost Lessons/Free Equipment So People Can Try New Activities
14. Decrease Prices at Leisure Centres
15. Hold More Free Winter Events
16. Build Tubing/Snowboarding/Skiing facility
17. Use Snow Making Machines to Make Snow
18. Build a Permanent Facility for Nordic Ski Club
19. Add More Lighting at Outdoor Recreation Sites
20. Create a Place for Skijoring
21. More Promotion and Integration of Indigenous Culture and Activities (Traditional First Nations/Metis Activities like Round Dances, Dog Sled Races, Snowshoeing, etc.)
22. Let Restaurants Have Outdoor Patios at Coffee Shops with Seat Covers, Warming Devices
23. Build White Water Park.
24. Build Heated Bus Shelters
25. Build More Outdoor Rinks
26. Build Heated Shelters for the Homeless
27. Hold More Activities for Seniors
28. Ask Schools to Offer Programs to Teach New Winter Activities
29. Use Snow and Ice to Our Advantage/Have Fun With Instead of Taking Away
30. Build an Indoor Area to Walk Dogs
31. Better Parking - Offer Free Parking in Winter
32. Decrease Vehicle Idling
33. Plan More Activities Specific for Teens
34. All Food Trucks to Operate in Winter (warm food and drinks)
35. Celebrate the Arts During the Winter
36. Fill Empty Spaces to With Lights
37. Build Outdoor Hot Tubs Along the River
38. Hold More Music Festivals
39. Better Snow Clearing on Bike Lanes
40. Improve Taxi System
41. Improve Accessibility for Seniors and Persons with Disabilities
42. Create a Sheltered Market Area
43. Reduce Reliance on Cars in Winter
44. Use Man-Made Lakes as Skating Ponds
45. Enforce Sidewalk Clearing
46. Clean Snow Off Protected Bike Lanes

47. Improve the Field House – Crowded and Old
48. Offer Cultural Events During the Daytime
49. Hold a Winter Food Festival
50. Would love to see the Man of the Trees area by Cedar Villa and the new City Yards as a protected Urban Forest and Winter Recreation area. I am on the board of the Fatlanders Fat Tire Brigade advocating for this area to be recognized and managed by our group and other stakeholders eager for this winter wonderland and natural area
51. Need an Arena Closer to Downtown – SaskTel Centre is Too Far Out
52. Shorter Days Create a Challenge
53. Build More Wind Breaks
54. Our River Doesn't Freeze – Use it in Winter
55. People Tend to Hibernate and Stay Home More
56. Educate People About Activities and How to Do Them
57. Create 'Bootrooms' in Public Buildings
58. Support the Building of Volunteer Groups and Capacity
59. Reduce City Regulations So We Can Try New Things
60. Have a 'Winter Street' for Festivals
61. Create More Community Partnerships to Create More Opportunities
62. More Activities for Single People (Without Kids)
63. Build Winter Market Like the Distillery District in Toronto
64. Build an "Art Placement Alley" Protected from Wind; Nuit Blanche-type
65. Purchase Snow Making Equipment
66. Build a Luge
67. More Winter Play Programs to Get Youth Out
68. Enchanted Forest – Create More Walk-Through Days
69. Create Activity Hubs in Neighbourhoods
70. Increase Access to Good Winter Clothing (wool, etc.)
71. Prohibit People From Leaving Cords on Sidewalks
72. More Fire Pits in Public Areas
73. Promote Winter Fashion
74. Hold a Winter Clothing "Swap"
75. Hold More Family-Friendly Events – Newcomers Won't Come Without Their Kids
76. Make Pedestrian Walk Lights Longer in the Winter
77. Offer More Daytime Activities For Seniors

<u>WINTER DESIGN:</u>

1. Snow Clearing on Streets
2. Snow Clearing on Sidewalks
3. Public Transit System
4. Lack of Warming Shelters
5. Lack of Parking
6. Lack of Space for Cyclists
7. Lack of Winterized Public Washrooms
8. Lack of Heated/Insulated Bus Stop Shelters
9. Poor Accessibility for Wheelchair Users b/c of Snow
10. No Support for Cross Country Skiers (washrooms and warm up shelters)
11. Enforce Sidewalk Clearing
12. Not Enough Lighted Areas (for safety)
13. Need More Skating Rinks
14. Need Protection From Wind

15. Some Areas Have No Sidewalks
16. Too Much of a Vehicle First Culture
17. Too Much Sand Salt For Bikes
18. Need More Indoor Facilities
19. Better Promotion of Winter Activities
20. Better Promotion of Different Ways to Commute in Winter
21. Prevent Water Main Breaks
22. Don't Let Businesses Put Snow Onto Bike Lanes
23. Encourage People to Gather in Public Places in Winter
24. Design and Build Roads with Winter in Mind
25. Need More Sledding/Skiing Hills
26. More Pedestrian Crossings
27. Buy a Snow Making Machine
28. More Amenities in Parks like Restaurants and Cafes
29. Create a Pedestrian Friendly Core Area for Idylwyd and 22nd
30. Improve Taxi System
31. Build More Covered Pedestrian Walkways
32. Need ONE Go To Centre for Winter Activities
33. Build a Drop in Centre for Homeless
34. Get Rid of Bike Lanes
35. Amenities Should be Spread Out Across City, Not Just Downtown/Broadway
36. Encourage Pedestrian Safety
37. Longer Turning Signals
38. More/Better Décor on Store Fronts
39. Build Fire Pits
40. Need More Events
41. Design a Skating Trail Through Major Parks
42. Allow Uber to Operate Here
43. Need More 4 Season Trees
44. Build a Conservatory
45. Build a Light Canopy Downtown
46. Street Art Using Lights
47. Design Sidewalks for Solar Access
48. Make Better Use of River (Winter Dragon Boat Races)
49. Winter Gardens and Landscaping
50. Develop Optimist hill
51. Build Giant Outdoor Heat Lamps
52. Add Colour to Designs (Art, Murals, etc.)
53. Include Indigenous Art in Designs
54. Build Outdoor Ice Castle at the Bessborough
55. Have Local Artists Promote Events like Wintershines
56. Build Narrow, Walkable Spaces to Create the Necessary Micro-climate/Wind-break
57. Introduce More Lighting (Dark Sky Compliant)
58. Replace Aging Decorations
59. "Start From Where We Stand, What is Unique About Where We Are"
60. Create "Parklets" with Heaters, Seating, etc.
61. Plant Trees for Shelterbelts Instead of Retaining Walls
62. Plant Trees in Parking Lots
63. Have Music Playing Outdoors
64. Hold a Night Parade

65. Build Wider Streets in New Developments to Better Manage Snow Clearing
66. Create innovative warming huts and heat bus shelters using solar energy
67. Include Natural Shelter Belts in New Planning/Designs
68. Design Parks With a 'Sled Trail' to Transport Kids in Sleds
69. Design for Winter Instead of Summer (will work in summer)
70. Build More Dog Parks
71. Build canopies over streets to lets the sun in, but protect from snow and rain
72. Decrease Amount of 'Red Tape' From the City
73. Build heated glass domes
74. Use signage to inform people of events/activities
75. Build a dedicated winter trail network (fatbiking) out at Richard St. Barbe Baker Afforestation area.

WINTER CULTURE:

1. Hold More Larger Events & Be Creative (eg. Round Dances, Sled Dog Races, Winter Triathlons, Cross Country Skiing Events, Outdoor Concerts, Outdoor Food Festival, Celebrate Chinese New Year, Comedy Festival, Music Festivals, Light Festival, November Festival,Croco-Curl Events, Ididacylce Winter Triathlon, Lacrosse Tournament, Indigenous Games - Indian Rubber Ball, Traditional Dene Hand Games, making dream catchers, Expand Wintershines, Global Fatbiking Day, Fatbiking at Wintershines)
2. More Promotion
3. Events Are Expensive
4. More Skating Rinks
5. Make it Easier for People to Walk or Bike to Events
6. Events Are Only Focussed on Family (eg. Ice Bar, Sporting Events)
7. Provide More Funding to Hold Neighbourhood Events
8. Improve Transit
9. Improve Parking
10. Lack of Sense of Community & Diversity
11. Improve Ski Trail Facilities at Kinsmen Park, Add Lights
12. Build Warm Up Shelters
13. Too Much Negative Speak Around Winter
14. Improve Outdoor Facilities
15. Events Should be Held in More Communal Open Spaces
16. Reduce Vehicle Idling
17. Better Snow Clearing
18. More Kid-Friendly Events Needed
19. Build a Winter Park (tubing, skiing, boarding, etc.)
20. Hold a Large Cross Country Ski Race in Saskatoon and Promote It
21. Need Better Lighting
22. Improve Accessibility for People With Mobility Issues
23. Work With Schools to Create New Events
24. Build Shelterbelts
25. Less Focus on Alcohol at Events
26. More Outdoor Public Washrooms
27. Offer More Affordable Housing
28. Invest in Snow Making Equipment
29. Offer Winter Equipment To Try Out
30. Offer Demonstration Events
31. People Don't Dress Properly For Winter

32. Too Much Light Pollution
33. Need to Educate Newcomers So They Feel Safe
34. Provide More Funding to the Arts
35. More Free Events
36. Raw Almond Restaurant (Winnipeg)
37. Outdoor Cooking Stations
38. Decrease City's risk-aversion to new ideas
39. Annual New Years' Eve Event
40. Increase Partnerships (eg. Francophone Community, First Nations, Newcomers) to Share Cultures Through Events (eg. Global Village at U of S)
41. Partner with Community Associations and seniors groups to hold events
42. Hold more walking tours (eg. Enchanted Forest)
43. Educate newcomers about the weather and support them in buying clothing
44. Promote Winter Canadian Sports (curling, hockey, lacrosse)
45. Build Quinzes
46. Build a Large Outdoor Winter Market (Germany
47. Give Newcomers Opportunities to Showcase Their Activities to Others
48. Use School Gyms for Warm-Up Locations

<u>WINTER ECONOMY:</u>

1. Better Parking (esp. Underground)
2. More Snow Clearing on Roads Needed
3. Improve Sidewalk Clearing
4. Difficult to Access Shopping Areas If There are Mobility Issues
5. Prices Are High in Winter
6. Improve Public Transit
7. Pop-up Snowshoe and Ski Rentals Along Meewasin Trail
8. More Practical Parking Meters
9. Heated Restaurant Patios (Blankets Sponsored by Companies)
10. Ice Restaurant/Hotel
11. Outdoor Winter Market
12. Offer Food (Food Trucks, Hot Chocolate) in Winter
13. More Rinks
14. Warm Up Shacks
15. Better Shopping with Trendy Stores
16. Winter Food Festival
17. Outdoor Public Washrooms
18. Not Enough Variety in Stores
19. Make Downtown More Vibrant (Arena)
20. Implement Shelters In Back Alleys and Corridors to Create Useable Space
21. Have More Winter Sales
22. Stores Should be Open Longer
23. More Art
24. Build More Ski Trails
25. Build a Skating Track
26. Promote Local Merchants
27. Have More Bonfires to Keep People Out
28. Hold More Winter Events/Attractions to Bring People In
29. Improve Atmosphere in Shopping Areas with Better Lighting/Decor
30. Too Much Light Pollution

31. Build the White Water Park
32. Building Tubing Park
33. Ban Vehicle Idling
34. Winter Fashion Show
35. Reduce Negative Talk About Winter
36. Purchase Snow Making Equipment
37. Have More Pedestrian Only Areas (Broadway, Victoria Bridge)
38. Provide Opportunities to Try New Sports
39. Create Opportunities for Community to Be Involved
40. Hop On Hop Off Shuttle
41. Decrease Panhandling
42. Better Support for Homeless
43. More Local Pubs
44. Have More Places to Put Your Coat and Boots Once Inside Stores and Restaurants
45. Dine Around Events
46. Outdoor Movies
47. More Affordable Taxi's
48. Offer Better Quality Warm Clothing
49. Bike Lanes Are Impeding Parking
50. Update our "Saskatoon Shines" Slogan
51. Have a Large Christmas Tree Like Other Cities
52. Link Buildings with Skywalks
53. Events Need to be Shorter
54. Set up temporary, seasonal businesses in Meewasin jurisdiction
55. Heat key sidewalks in front of business locations
56. Have businesses support art programs and vice versa using coupons, etc.
57. Use existing parking lots for events (i.e. biggest street hockey tourney in Canada?)
58. Build smaller portable stage for businesses to use for events
59. Hold a winter street dance
60. Have lanterns along the river at night.
61. Build Optimist hill for tubing, toboganning, sledding
62. Build snow tunnel with vendors with hot chocolate, food
63. Encourage vendors to sell good winter clothing ie buckskin mitts
64. Hold an outdoor art show
65. Hold an event like Nuit Blanche—snow village with shops and restaurants open; huts with snow covering them; lights, snow sculptures
66. Create a January event so people have something to look forward to in January
67. Hold a winter parade on Broadway
68. Have a business passport system (coupons)
69. Show movies outdoors in a heated tent
70. Have businesses create inviting outdoor spaces using lighting, music
71. Hold a moveable feast
72. Need adequate power for events
73. Move the bus terminal to Midtown
74. Advertise more to high income seniors
75. Create more unique places to shop (like Broadway)

WHAT CAN WE LEARN FROM OTHER CITIES?

Cities/Activities Mentioned:

1. Edmonton - Great winter festivals, Ice Castle, Snowboarding Hill, Commuting Ski or Skate Trail, Food Festival,
2. Winnipeg - SkateTrack Through Park, Festival de Voyager
3. Ottawa - Skating on Canal
4. Kingston – Floods Parks for Skating
5. Yellowknife - Big Bonfire Party, Large Ice Castle
6. Vancouver – Hope On Hop Off Trolley
7. Victoria - Horse Drawn Sleigh Rides
8. Toronto – Christmas Market, Skating Paths
9. Calgary - Hot Chocolate Festival (Month-Long, City-Wide With Proceeds to Charity)
10. Quebec City – Carnival
11. Prince Albert - Winter/Summer Lodge to Host Activities
12. Canmore – X-Country Ski Track w/ Free Rentals so people can try the sport. Involve Collette Bourgonje, Food Festival
13. Grande Prairie: Pool, Gym, and Indoor Playground
14. Scandinavia – Outdoor Christmas Markets, Outdoor Food Festival
15. Calgary, Vancouver – Bike Lane Network
16. Calgary and Coquitlam – Walk Through Light Display
17. Charlottetown – Burger Festival
18. Research Umea, Sweden (Sister City)
19. Winnipeg/Montreal – Underground Connections/Tunnels
20. Edmonton/Calgary – Conservatories

Other Ideas Stated:

1. Improve Snow Removal (Roads, Sidewalks, Pathways)
2. Invest in Cycling and Pedestrian-Friendly Areas: More and Better Bike Lanes, Wider Sidewalks, Build Pedestrian Walkways, Heated Sidewalks in Key Areas, Clear Snow from Bike Lanes, More Crosswalks, More Sidewalks, Enforce Sidewalk Clearing Bylaw, Covered or Semi-Covered Pedestrian and Bike Bridge
3. Invest in Skating Rinks: Large Ice Hockey Centre (Regina) to Host Large Tournaments, Build More Indoor and Outdoor Rinks
4. Invest in Cross- Country Skiing: Express Ski Path, More Trails, Facilities to Support Skiing, Collaborate with Golf Courses and Ski Clubs to Host Masters World Cup of Cross Country Skiing, Light Ski Trails, Host Western Canadian Cross Country Ski Championships
5. Warm-up Huts
6. Improve Promotion of Events & Activities
7. Improve Transit
8. Ideas for Festivals/Events: Food Festival, Skate with Local Celebrities, Street Party w/ Live Music, Winter Drink Festival, Dine Arounds, Ice Garden Massive Christmas Tree at Ceremony at City Hall
9. Winterized Washrooms
10. Develop Diefenbaker Hill for Tubing, etc.
11. Heated Bus Shelters
12. More Outdoor Winter Cafes, Pubs and Snack Bars
13. Ideas for Signature Winter Event: Build on Wintershines, City-Wide International Food Festival, “Celebrate Life on the Prairies”, Indigenous Festival/Games, City-Wide Event that Moves Around Neighbourhoods Each Month

14. Ideas for Outdoor Activities: Winter Crokinole, Longer Running Trails, Build White Water Park, Ice Climbing Wall
15. Provide More Free/Low Cost Activities
16. Better Shelterbelts
17. Improve Parking
18. Use Colour in Designing City
19. Buy Snow Making Machine
20. Run a Large Winter Marketing Campaign to Create Hype Over Winter
21. Winter Market/Enhance Farmer's Market
22. Improve Taxi Services (Uber)
23. More Funding to Arts Organizations to Host Events
24. Bonfire Pits
25. Walk Through Version of Enchanted Forest
26. Free Equipment Rentals
27. Improve Promotion of Indigenous Culture
28. Develop Riverbank (Restaurants, Library)
29. Housing for the Homeless
30. Allow People to Bike on Sidewalks
31. More Benches by Skating Rinks
32. Encourage Media to Be Positive About Weather/Winter
33. Create Places for People to Gather – Old Bus Barn
34. More Activities for Teens
35. More Neighbourhood Events
36. Make Remai Modern a Hub for Activities
37. Cancel Bike Lanes
38. Provide SAD Lamps at Libraries, Schools
39. Flood the Meewasin Trail for Skating
40. Outdoor Pubs
41. Public Sweat Lodge
42. Reduce Red Tape (City's Risk Aversion Attitude)

TOP IDEAS FOR ACTION:

1. Better Snow Clearing (Roads, Sidewalks, Pathways)
2. Warm Up Shelters
3. Better Transit System
4. Outdoor Washrooms
5. Develop Kinsmen Park with Washrooms and Indoor Facility
6. More Promotion/Advertising
7. Build Diefenbaker Hill (Optimist Hill)
8. More Free or Affordable Events/Activities
9. Build More Rinks
10. Improve Parking (location, accessibility)
11. Invest in Cross Country Skiing, More Trails
12. Expand Wintershines/Large Festival
13. Upgrade Sidewalks for Accessibility
14. Home for Nordic Ski Club
15. Heated Bus Shelters
16. More Festivals (Food & Cultural Festivals)
17. Spread Events Throughout City Into Neighbourhoods
18. Cheap/Free Equipment Rentals in Good Locations
19. More Funding to Community Associations Neighbourhood Rinks
20. Make Snow
21. Enforce Sidewalk Clearing Bylaw
22. Light Ski Trails
23. More Leisure Centers (northeast side)
24. Ideas for Activities/Events: Snowman Making Contest, Decoration Contests, Annual Snowball Fight, Snow Day Celebration, Ice Sculpture Exhibits, Kite Festival, Geocaching, Winter Photo Contest; Try a New Activity Events, Snow Golf, Pickleball, Free Day at the Forestry Farm, Hay Rides, Dog Sledding, Winter Olympics Event, Shinny Tournament, Sleigh Rides, Mascot, Indigenous Winter Games, Snow Village with Lots of Vendors, Winter Food Festival, Expand Wintershines to Include Lots of Activities Like Curling, Annual New Years' Event, Ididacycle, Winter Corporate Challenge
25. Build Homeless Shelters/Restore Lighthouse Funding
26. Allow Food Trucks in Winter
27. Invest in Facilities for Fatbiking (Trails)
28. Provide Better Lighting in Parks and on Trails
29. More Cafés and Ice Bars on Riverbank (And Pop Up Restaurants)
30. Build Large Ice Rink Facility
31. More/Better Cross Country Ski Trails
32. Focus More On Cyclists and Pedestrians When Planning
33. Make the Meewasin Trail a Priority
34. Build More Bike Lanes to Connect City
35. Neighbourhood Shuttle System
36. Canopied Sidewalks
37. Create a More Vibrant Downtown
38. Transit Park and Ride
39. Develop Trails at Cedar Villa (Protected Urban Forest/Designated Winter Recreation Area)
40. Build Snowshoe Trails
41. Enhance Transportation Options with Uber
42. Celebrate Indigenous Culture (Round Dances, Feasts)

43. Offer More Events That are Affordable For Seniors
44. Build up Farmers' Market/More Markets
45. Heated Sidewalks
46. Move Folkfest to Winter
47. More Fire Pits in Outdoor Public Areas
48. Stop Using Sand and Salk on Roads
49. Clear Neighbourhood Ponds for Skating
50. Walking Tours (eg. Forestry Farm)
51. Build White Water Park
52. More Indoor Events: Music Festival
53. Get Rid of Bike Lanes
54. Open School Gyms on Weekends for Free Use
55. Encourage Media To Decrease Negative Talk re: Weather
56. Champion the Arts
57. Indoor Water Park/Amusement Park
58. Create Pedestrian Only Zones Downtown and Broadway
59. More Tobogganning Hills
60. Educate Kids About Outdoor Physical Activity in Winter
61. Expand Bessborough Ice Surface
62. Pedestrian walkway (skywalk)
63. Integrate Colour Into City Design; Improve Architectural Design
64. Include Power/Water Near Outdoor Facilities
65. Free Shuttles to Blades and Rush Games
66. Winter Cycling Workshops
67. Build Ice Huts
68. Promote Safety in Winter
69. Outdoor Hot Tubs
70. Enhance Conservatory
71. More Running Trails
72. Work With BIDs to Challenge Businesses to Get People Outside
73. Ice Park at the Children's Museum
74. More Windbreaks and Shelterbelts
75. Stop Vehicle Idling
76. Outdoor Kitchen
77. Winter Patios
78. Work With Other Cities on International Event to Draw Tourists
79. Preserve Northeast Swale
80. Support Saskatoon Cycles/Ice Cycles Event
81. Winter 5 and 10K Runs Along Meewasin Trail
82. Restrict Panhandling
83. Service Co-ops for Seniors – snow shovelling, garbage placement, etc.
84. Businesses Beautify Storefronts
85. Walking Route At Enchanted Forest
86. Get Rid of the Weir
87. New Public Library/Conservatory at River Landing;
88. Flood Meewasin Trail for Skating
89. Build for Winter First, Summer Second
90. Underground Tunnels
91. Need more supporting infrastructure outdoors (power, shelters, washrooms, water)
92. Clear Signage on Meewasin Trail

93. Create a Points/Reward System City-Wide
94. Attach Downtown Bus Mall to the Midtown Plaza
95. Create More Partnerships between Community Associations, Businesses and City

OTHER FEEDBACK/COMMENTS

1. Develop Diefenbaker Park Hill; Pickleball Courts
2. Lower Senior Rates at Civic Facilities
3. More Festivals (Kites, Geocaching)
4. More Promotion and Advertising
5. Be Creative and Think Big
6. Involve U of S Students and Youth in Planning
7. Plan Outdoor Activities/Rinks in Existing Parks
8. Better Snow Clearing on Roads, Sidewalks and Paths
9. Plan Indoor Programs for all Age Groups, Include Culture
10. East Side Needs More Facilities
11. Winter Photography Contest
12. Make Winter Recreation more accessible; Provide Equipment Rentals
13. Growth will Stimulate Business and Opportunity
14. More Promotion and Marketing
15. Winterruption
16. Involve Indigenous People (Nehiyawak People of Treaty 6, Metis and the Dakota).
17. Winter Folkfest
18. Big Winter Festival
19. Wintershines
20. More Activities like Summer on Broadway, Fringe festivals, etc.
21. Look to Eastern Canada and Europe for Ideas
22. Support Existing Activities With More City Funding
23. Encourage All Age Groups to Cross Country Ski
24. More Warm-up Shacks
25. More Multi-use Trails
26. Make the Meewasin Trail a priority
27. Light Areas for Night Skiing
28. Winterize Existing and Future Parks
29. Better Facilities at Kinsmen Park
30. Build More Rinks to Attract Tournaments
31. Build Another Holiday Park/Skating Oval
32. Get Blackstrap Ski Hill Going Again
33. Get Rid of the Weir; it Discourages River Recreation
34. Hot Chocolate Stations Around Trail
35. Another Conservatory
36. Fund CAs to Build Warming Shacks for Rinks
37. Invest in Snow Making Machines
38. Provide Facilities to Match City's Growth.
39. Find Winter City Champions Work With Existing Groups (CA's, Tourism, BIDS) to Promote Activities
40. Support Nordic Ski Club and Fat Tire Brigade
41. Subsidize Winter Activity Programs by Lowering Facility Fees Affordability/Low Income
42. Promote Winter Reading for Kids and Adults.
43. Prohibit Idling in School Zones

44. More Activities and Support for Seniors
45. Build More Cycling Routes
46. Improve Transit System with Heated Bus Shelters
47. Enforce Sidewalk Cleaning Bylaw
48. Have Events in Neighbourhoods; Spread Out Events
49. Make City Less Reliant on Vehicles
50. Build a Homeless Shelter
51. Change Way of Thinking to Embrace Winter

Positive/General Comments:

52. Let's make it better to be saskatooning in the winter
53. Yay for initiatives to make Saskatoon a winter-proud city!!!
54. I love saskatoon winter.
55. Fantastic; excited
56. Let's celebrate winter!!
57. I love the new winter marketing strategy
58. More happening all of the time, keep it up!
59. I'm glad you are looking at this!
60. Excited for Saskatoon to be more winter friendly!
61. Embrace our winter identity like Scandinavia has. Hygge!
62. Let's embrace winter and stay active!
63. I'm glad citizens are being asked what changes they would like to see.
64. It would be nice to celebrate our winters
65. Pleased the COS is taking this on, it's much needed!
66. River landing is nice
67. Thanks for developing one!!!!!
68. Thank you for this survey
69. Thanks for this opportunity!
70. Thanks and good work Charlie!
71. Thanks for launching this strategy initiative.
72. Good Job; Good Luck
73. This is great, good for community to embrace winter
74. Good idea, put it into action!
75. Good that the City is thinking about this.
76. Good idea, good luck
77. I like the idea!
78. A great idea
79. This is a great initiative
80. Great idea to get people involved
81. A great idea
82. Keep it going
83. Love to see more families remain active in all seasons.

Selected Winter City Conference Observations

- City of Tromsø, Norway
    - 350 kms north of the arctic circle with a two-month long 'polar night' (meaning the sun does not come above the horizon from November 28th to January 14th) – it is located at 69º latitude (compared to Saskatoon at 52 º) but is milder than Saskatoon as a result of its location near open seas
    - Called 'Paris of the North' (much like Saskatoon may be considered 'Paris of the Prairies')
    - Researchers have completed a study focussed on determining why Seasonal Affective Disorder (SAD) is not much of a factor affecting the population of Tromsø. Findings highlighted that appreciation and mindset are key. The culture of Tromsø has a strong influence on this and can be intentionally cultivated elsewhere. Leaders in Tromsø actively promote positive mindset and optimism among several important themes:
        - 'get outside' – Civic design and infrastructure, as well as an overall focus on integration with nature creates a compelling invitation for citizens to live an 'open air life' connected to nature; a 20 minute walk is considered a normal part of a winter activity that would occur regularly (this is not unlike the principle that guided neighbourhood development surrounding an elementary school from 1963 until recently). Boot rooms at the entrances to restaurants and shops encourage arrival on-foot and getting comfortable for being indoors again.
        - 'make it special' – The overall design of the community, individual sites, and program decisions focus on creating a sense of cozy (called 'hygge') and includes incorporating fireplaces, candles, blankets and a focus on food and beverage services.

Image courtesy: WBUR Boston Radio

        - 'appreciate' – Make a cozy ('hygge') culture a conscious focus, combatting negative perceptions of winter with conscious changes to

the tone of ‘small talk’ (the idea that people might complain about the dark or the weather was likened to racist ideas that, when heard should be challenged rather an allowed to remain in the conversation).

- ‘deal with the weather you have’ – Sometimes there is beautiful, crisp, bright snow, but mostly there is slushy, icy, brown sludge. It is important to design and plan for all conditions to make them as appealing as possible. At the individual level, there is no bad weather, only poor clothing decisions.

- https://www.visitnorway.com/places-to-go/northern-norway/tromso/

Image courtesy: http://www.travelltheworld.info/travel-destinations/tromso-norway/

Image courtesy: uponarriving.com

Images courtesy: Tromso Northern Lights day tour

Image courtesy: Kari Leibewitz - Winter Cities Shake-Up 2017

- Fort St. John, British Columbia
    - Fort St. John is a city in northeastern British Columbia. Located at Mile 47 along the Alaska Highway, the community is the oldest European-establishment in BC (1794). The winter season for Fort St. John is comparable to Saskatoon with temperature norms of -16C (Saskatoon is -19C) but more cloudy with 46% of days overcast (Saskatoon has only 32%).
    - The leaders of Fort St. John have created plans focussing on the concept of 'winter citizenship'. To gain community acceptance, plans focus on:
        - Addressing real community challenges in a manner authentic to the Fort St. John context.
        - Using 'block captains' as champions and introducing things like prizes for the best maintained property in winter.
        - Viewing snow as a resource rather than a waste.
        - Clearly articulating public and private responsibilities.
        - Changing the community relationship to winter by no longer trying to make winter streets the same as summer streets.
        - Introducing temporary shelters in parks, as collectors for snow
    - Design guidelines focussed on winter were approved in 2000. http://www.wintercities.com/Resources/Fort%20St.John%20Winter%20Cities%20guidelines.pdf. A report card on 53 micro-projects to winterize various spaces was produced in 2017.

Dancing in the Snow event - Image courtesy: Northern Lights College

Crystal Cup Pond Hockey Tournament - Image Courtesy: Energeticcity.ca

- The importance of Lighting to a Winter City
    - Light defines one's experience of reality and its properties affect both human biology and psychology. Living creatures (including humans) have evolved on the basis of biological and behavioural (psychological) requirements for night and day as well as seasonal cycles.
    - Light Festivals are popping up in cities in a variety of countries.
    - Many cities are creating Master Lighting Plans as an important component of the community landscape to create atmosphere and contribute to livability and identity. These plans regulate the following elements to enable the public and private sectors to co-create the city landscape:
        - Amount of light
        - Location for light
        - Lighting 'temperature' (colour spectrums)
        - Collateral effects (managing light pollution and spill-overs to ensure light goes only where it is intended)
        - Managing darkness with an emphasis on embracing darkness – recognizing that 'darkness' only exists in built environments as there is always some light in nature (i.e. moon, stars)

Image courtesy: Darío Nuñez Salazar - Winter Cities Shake-Up 2017

Berlin is a low-light city - Image courtesy: BsnSCB.com

Image courtesy: Sabine De Schutter - Winter Cities Shake-Up 2017

Ghent Light Festival - Image courtesy: Travel Gifts Ideas blogpost

Image courtesy: AvenueCalgary.com

Toronto Cavalcade of Lights - Image courtesy: Wheels.ca

- The importance of focussing on a walkable community
    - Vision Below Zero: Goal of zero accidental deaths and injuries related to urban mobility (https://etouches-appfiles.s3.amazonaws.com/html_file_uploads/1c191cbc6e7f5d8e0d235dfbf823d4aa_010_Firth.pdf?response-content-disposition=inline%3Bfilename%3D%22010_Firth.pdf%22&response-content-type=application%2Fpdf&AWSAccessKeyId=AKIAJC6CRYNXDRDHQCUQ&Expires=1508708516&Signature=rE1V7FqGN4kw2EnoW9fffZsf%2B24%3D)
    - Analysis of police and hospital data in Stockholm revealed that roadway maintenance turns out to be a 30% contributing factor to pedestrian and cyclist accidents. $75 Million is spent on hospital visits but only $30 Million on snow clearing, so Stockholm is looking at ways to orient their spending to the 'preventative-end' of the system.
    - Walk21 – International Charter for Walking (https://www.walk21.com/) is rising in popularity among cities, driven in part by Canadian Institute of Health Information findings that obesity 6% for every hour spent in a car and decreases 5% for every kilometer walked.
    - There is 'Safety in Numbers' and this relationship has proven to be true in relation to:

- People's perception of safety
- People's perception of dark
- People's willingness to walk/cycle
- The amount of attention drivers pay to pedestrians or cyclists (i.e. the more pedestrians or cyclists are encountered in the community, the more drivers will be aware of, pay attention to, and respect these people whom they share the right-of-way with)

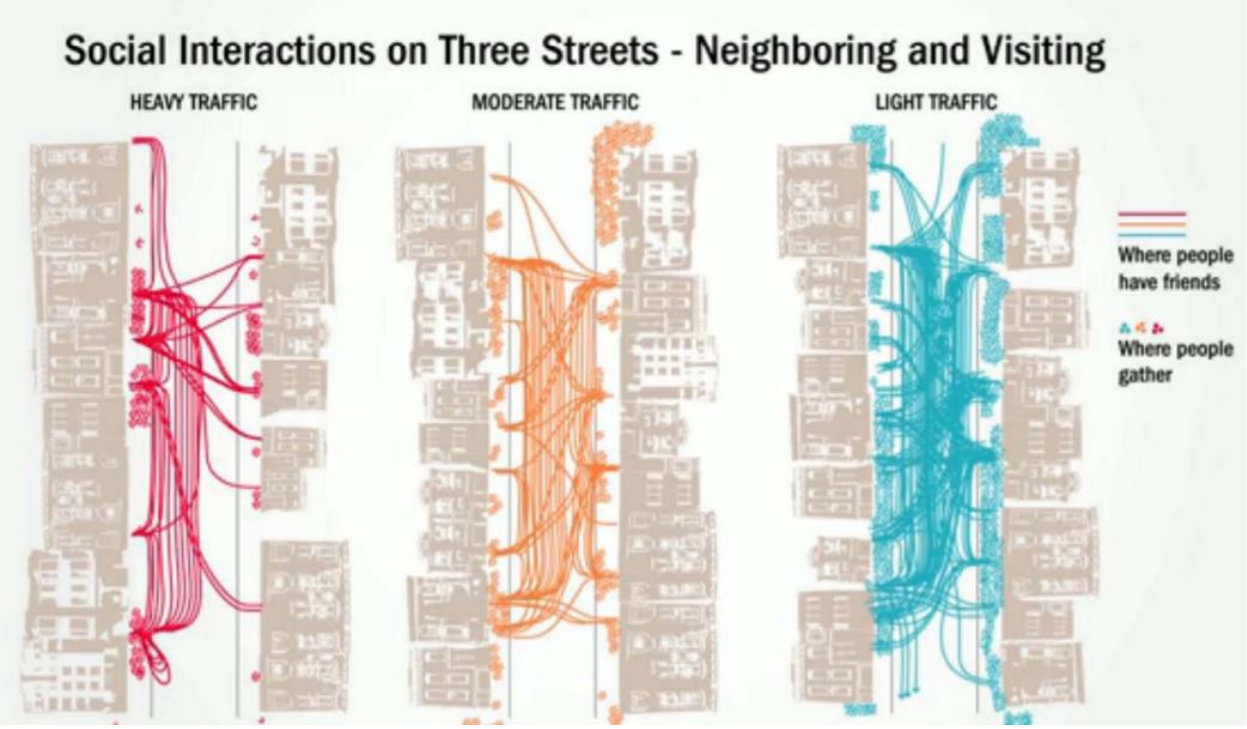


Image courtesy: Livable streets, Donald Appleyard (1981)

- Examples of community winter events
  - Ice lantern festivals
  - School art installations
  - World snow day (a celebration of various cultural experiences of the winter season - like a winter Folkfest)
  - Long-john jamboree
  - Ice castles or hotels
  - Food focus
  - Winter or Christmas markets

Image courtesy: Festivals Toronto

Yellowknife castle of the snow king - Image courtesy: Frozentrini.com

Canmore Winter Carnival - Image courtesy: FestivalSeekers.com

Image courtesy: Notey.com

Image courtesy: DiscoverCharlottetown.ca

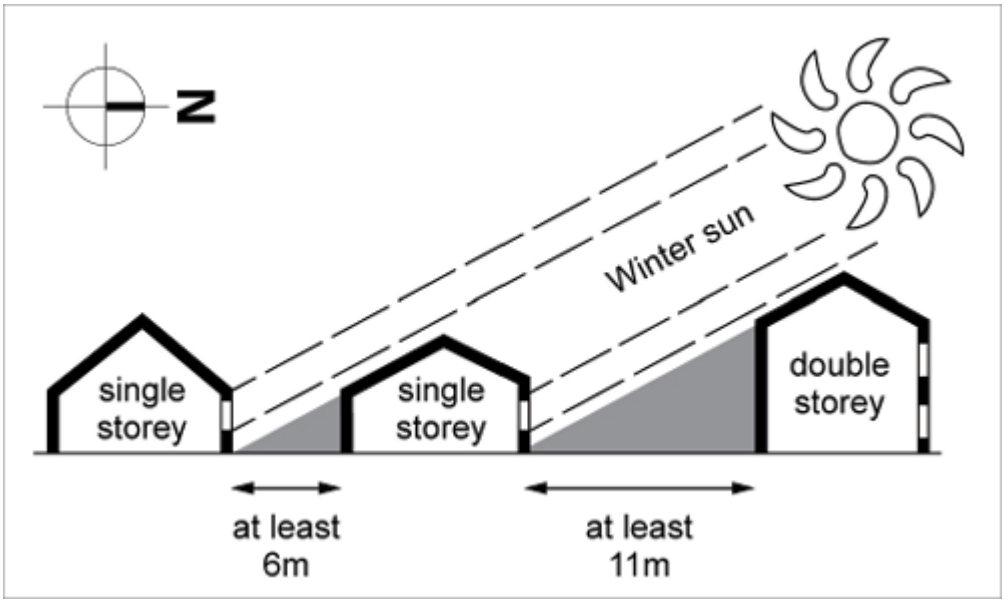
Image courtesy: MommaOnTheMove.ca

- Heated sidewalks
    - Examples of cities with installations can be found in Sapporo, Holland, Michigan, and Reykjavik
    - Emerging technology: conductive concrete contains 20% steel fibre or carbon material (making it a good end-use for scrap metals) and is applied as a top-coat
        - While a number of cities are starting to heat highly pedestrian-oriented areas of their downtowns using hydronic heating, this new technology is emerging that can be used in wider applications because of its higher strength, cheaper cost (approximately 50% cheaper to install and 90% cheaper to operate, with no risk associated with leaks) and longer life
        - Concrete features can be heated prior to a weather event and left on well past to avoid snow accumulation and icing

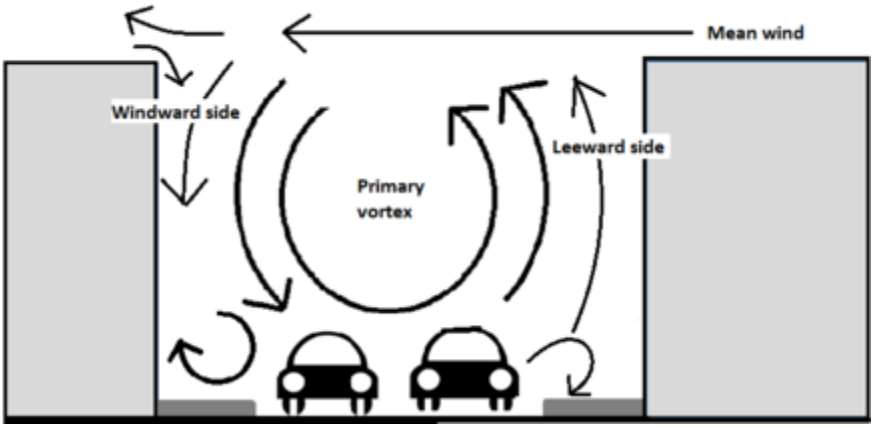
- Creating micro-climates (i.e. pedestrian-oriented areas providing comfort in winter)
    - Thermal comfort – strategies for reducing effects of wind, maximizing exposure to sun, or simply providing heating elements such as heaters or blankets

Images courtesy: Urban Traveler

- Solar radiation – design guidelines or standards to protect solar penetration to the sidewalk



- Wind protection - using awnings or other design elements to prevent winds from tunnelling to the sidewalk; it is recognized (through evidence) that Winter Cities gain more from a focus on wind protection than solar penetration



- Humidity – protecting pedestrians from rain and snow
- Human activity level – designing areas where pedestrians are encouraged to sit and/or linger with greater thermal comfort and protection, considering wind-breaks and other sheltering along areas where people are encouraged to walk or cycle
- Communicating the importance of proper seasonal clothing

- Place-making principles
  - Cozy places – pedestrian orientation and scale
  - Desired paths – pedestrian priority culture and areas

- Comfortable streets and ‘urban rooms’ – sometimes these are outdoor plazas and patios, sometimes these are street-level windows with active uses where people can see other people
- Delightful distractions – visual interest and unique views and vistas
- Luminous life – paying attention to lighting as a means for creating an ambience of welcome
- Worthwhile outings – programming (public and/or private spaces – i.e. the more private spaces are programmed to attract people, sometimes the less need there is for public programming)

Sample warming huts

Image courtesy: Inhabitat.com

Image courtesy: University of Manitoba

Image courtesy: University of Manitoba

2017 WinterCity YXE Grant Awards

A total of $25,000 was awarded to 6 organizations:

Broadway Business Improvement District	$4,840	Winter Economy: Crokicurl combines two iconic Canadian pastimes, crokinole and curling, to become an exciting outdoor sport and winter placemaker to draw people to Broadway.
Friends of the Broadway Theatre	$5,000	Winter Culture: An outdoor festival featuring storytelling, winter activities and live performances.
Saskatchewan Cycling Association c/o Fatlanders FatTire Brigade	$4,925	Winter Life: To create a network of well signed and reliably groomed trails in an under-utilized urban forest that will initially support winter fatbiking and snowshoeing.
Saskatoon Cycles	$3,100	Winter Life: " Ice Cycle 2.0" is a collection of events from January to March that will bring together local organizations, businesses, and community groups to celebrate winter cycling culture in Saskatoon.
Sum Theatre Corp	$2,135	Winter Culture: To create and perform a live theatrical winter walk outdoors along Saskatoon's Meewasin trail with a combination of professional artists, including Indigenous and Newcomer performers.
Wanuskewin Heritage Park	$5,000	Winter Culture: Wanuskewin's Winter Festival is a family event with programming centred around Indigenous games, activities, and trapping skills. Activities will be inside and outside.