

2020

Integrated Waste Management Report

Sustainability | Water and Waste Operations



Towards 70%
SASKATOON'S WASTE DIVERSION TARGET

MAY 2021

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Introduction

What is Integrated Waste Management?

Integrated waste management refers to the strategic approach to managing all sources and all aspects of solid waste, including generation, segregation, transfer, sorting, treatment, recovery, and disposal in an integrated manner.¹ The City of Saskatoon takes an integrated approach to waste management in an effort to balance human and environmental health, affordability, and convenience with efficient use of resources.

Delivering Integrated Waste Management Services

The City of Saskatoon's (City) integrated waste management services fall within the Environmental Health and Utilities Business Lines. In 2020, management was provided by the Water & Waste Operations Department (W and WO) and the Sustainability Department (Sustainability) through the Sustainability Service Line, Waste Handling Service Line, Waste Reduction Service Line, and Waste Services Utility Service Line. The City's integrated waste management services are funded through a combination of property tax revenues, utility fees, program generated revenues, and stewardship funding from Multi-Material Stewardship Western (MMSW). In 2020, 2.7% of property taxes collected were used to fund garbage handling and environmental initiatives. MMSW funding and revenue collected through the programs is used to offset reliance on property taxes. Utility fees and MMSW funding were used to fund the recycling programs.

The City's integrated waste management activities are directed by the City's *Strategic Plan 2018-2021*, which identifies the following actions under the goal of Environmental Leadership:

- ▶ Implement a mandatory city-wide organics program for single-family and multi-unit residences;
- ▶ Implement mandatory recycling and organics programs and policies for the Industrial, Commercial and Institutional (ICI) sectors;
- ▶ Begin work to ensure Recovery Park is operational for day-to-day receipt of household hazardous waste and other waste diversion materials; and
- ▶ Implement a long-term funding and program strategy for solid waste management and waste diversion.

Working toward these actions will maximize solid waste diversion, while optimizing landfill operations management and financial sustainability.

¹ https://sustainabledevelopment.un.org/content/dsd/csd/csd_pdfs/csd-19/learningcentre/presentations/May%202%20am/1%20-%20Memon%20-%20ISWM.pdf

In 2020, the core services that comprised the City's integrated waste management approach included:

Waste Diversion Services

- ▶ Collection of recyclables from single-family residential households (curbside collection);
- ▶ Collection of recyclables from multi-unit residential households;
- ▶ Collection of recyclables from the City's four recycling depots;
- ▶ Collection of recyclables from public space containers (e.g. bottle baskets);
- ▶ Collection of recyclables from civic facilities;
- ▶ Recycling opportunities at the Saskatoon Landfill;
- ▶ Provision of containers and collection of organics for the Green Cart program;
- ▶ Management of seasonal Christmas tree drop-off sites;
- ▶ Operation of yard waste depots and compost facility; and
- ▶ Management of the Household Hazardous Waste Collection Program.

Waste Disposal Services

- ▶ Provision of containers and collection of garbage from single-family residential households (curbside collection);
- ▶ Collection of garbage from many multi-unit residential households and some commercial customers;
- ▶ Landfilling of garbage at the Saskatoon Regional Waste Management Centre; and
- ▶ Collection and utilization of landfill gas.

Education, Outreach, and Enforcement

- ▶ Webpage, social outreach, mobile App, and Waste Wizard;
- ▶ Online Collection Calendar and App;
- ▶ Recycling communications campaigns during spring, fall, and winter;
- ▶ Recycling Education Unit and the Let's Roll Recycling Team;
- ▶ Newcomer recycling and composting education workshops;
- ▶ Home composting education;
- ▶ Saskatoon Curbside Swap;
- ▶ School education programs at the Loraas Recycle and Cosmopolitan Industries material recovery facilities (MRF);
- ▶ Annual blitz for landfill customers on safe tarping of loads;
- ▶ Waste bylaw education and enforcement; and
- ▶ Engagement and surveys to understand attitudes and awareness about current and future programs.

Staff

In addition to supporting the services highlighted above, W and WO is responsible for managing the following functions at the Saskatoon Regional Waste Management Centre: a waste transfer station, a waste diversion area, and a landfill gas collection system. W and WO also provides education and enforcement of *Bylaw No. 8310, The Waste Bylaw*. W and WO had the following resources allocated to waste management in 2020:

- ▶ Under the Environmental Operations Manager, there is an Operations Superintendent for Collections and Containers with 45 summer staff and 29 winter staff, an Operations Superintendent for the Landfill with 28 summer staff and 21 winter staff, and an Operations Superintendent for Quality.
- ▶ Under the Environmental Projects & Protection Manager, there is an Operations Superintendent, an Operations Engineer, a Project Engineer, a Waste Diversion Supervisor, an Instrumentation Technician for Landfill Gas, 3 Environmental Protection Officers, and an Engineer II.
- ▶ A Senior Project Management Engineer is assigned to support the curbside organics program project.

In addition to supporting the services highlighted above, Sustainability is responsible for waste reduction planning, programming, education, and reporting. Included in this list are engagement, strategy development, and technical support for new waste diversion initiatives including: the *Solid Waste Reduction and Diversion Plan*, Recovery Park, and the *Industrial, Commercial and Institutional (ICI) Waste Diversion Strategy*. Sustainability had the following resources allocated to waste management in 2020:

- ▶ Under the Community Leadership and Program Development Manager there is a Project Geoscientist supporting the Recovery Park operations planning, a Project Manager to implement the Industrial, Commercial and Institutional sector Recycling and Organics Regulation, and an Environmental Coordinator to deliver recycling education programs.
- ▶ Under the Climate, Strategy and Data Manager there is an Environmental Coordinator responsible for tracking and reporting progress on waste reduction and diversion initiatives, and overseeing the household hazardous waste program.

The work of both divisions is directly supported by Finance, Corporate Revenue², and Communications and Engagement staff.

Environmental Performance Targets

The City has set performance targets relating to waste diversion and greenhouse gas (GHG) emissions. The targets are intertwined as successful waste diversion initiatives correspond directly to reductions in GHG emissions. In addition to waste diversion and GHG emission reduction targets, the *Solid Waste Reduction and Diversion Plan* recommended additional performance measures for waste management. These measures – material capture rate and

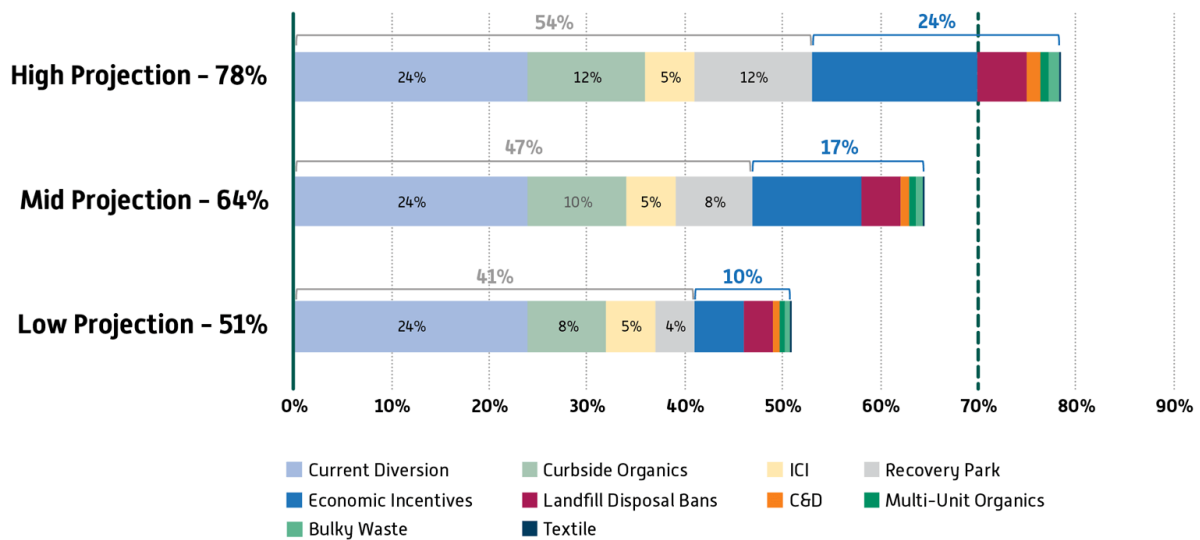
² Especially for recycling programs.

waste generation – will help identify the effectiveness of Saskatoon’s recycling programs and waste reduction initiatives moving forward. The City became a member of the National Zero Waste Council in 2016, signifying the intent to substantially reduce waste and the associated environmental and economic costs of waste management through product design and behaviour change. The National Zero Waste Council is a cross-sector leadership group that brings together governments, businesses and non-government organizations to advance waste prevention in Canada.

Waste Diversion Target

The City’s waste diversion target is to divert 70% of Saskatoon’s waste from the Saskatoon Landfill. The *Solid Waste Reduction and Diversion Plan* was received by City Council on January 11, 2021, and outlines the actions needed to meet the 70% waste diversion target, which may be feasible as early as 2030.

Solid Waste Diversion Rate Projections



Greenhouse Gas Emission Reduction Target and Milestones

The City’s GHG emission reduction target for both Corporate and Community emissions is 80% below 2014 levels by 2050. The City’s *Low Emissions Community Plan* was developed in 2019 and outlines the actions needed for Saskatoon to meet its GHG emission reduction target by 2050. The *Low Emissions Community Plan* includes two waste actions and milestone targets:

- ▶ Reducing organics by 90%, plastics by 95%, and paper by 90% to achieve cumulative emissions reduction by an estimated 1.3 million tonnes CO₂e by 2050; and
- ▶ Expanding the capture and destruction of landfill gas at the Saskatoon Landfill to achieve cumulative emissions reduction by an estimated 1.9 million tonnes CO₂e by 2026.

Greenhouse Gas Emission Reduction Progress

Waste diversion initiatives result in a net reduction in GHG emissions compared to landfilling the same waste. This means the emission reductions associated with recycling and composting materials exceed the emissions produced in collection, processing, and landfilling activities.

In 2020, the City's waste diversion programs reduced GHG emissions by an estimated 50,000 tonnes CO₂e, relative to if the same materials were landfilled. Of this total, approximately 63% of the emission reductions resulted from composting and recycling generated 37% of the emission reductions. This is equivalent to removing 10,800 cars from Saskatoon roadways for the year.³

Emissions associated with the landfilling of solid waste decreased by 21% between 2014 and 2019. The decrease was driven by more accurate reporting of emissions from regional landfills, although an increase in the City's waste diversion rate and continuous improvements in the capture of landfill gas from the Saskatoon Landfill also contributed to the overall decrease in emissions. An additional 12 vertical extraction wells were installed in the northwest quadrant in the fall of 2020, bringing the total number of vertical wells connected to the existing landfill gas collection system to 41. Net emissions from landfilled waste were 97,600 tonnes CO₂e in 2020. This value considers overall emissions from buried waste at 145,300 tonnes CO₂e and emission reductions associated with landfill gas enclosed flare destruction and power generation of 47,700 tonnes CO₂e.

A report presented to City Council in April 2021 – *Climate Action Plan: Progress Report 2020* – provided updates on Corporate and Community GHG emissions for 2018 and 2019, as well as updates on progress made in 2020 toward actions identified in *The Low Emissions Community Plan*.

Triple Bottom Line Decision-making Framework

Council Policy No. C08-001, the *Triple Bottom Line (TBL) Policy*, came into effect on January 1, 2020. The policy aims to transform the way decisions are made, requiring City staff and City Council to evaluate new initiatives by considering the initiatives' impacts on environmental healthy and integrity; social equity and cultural well-being; economic prosperity; and good governance. The TBL framework – which includes the policy and a decision-making tool – was considered in the development of the *Solid Waste Reduction and Diversion Plan*, and will be incorporated into all waste planning.

³ GHG emissions savings were estimated using Environment and Climate Change Canada's Greenhouse Gases Calculator for Waste Management (October 2009). The life-cycle methodology of the calculator is based on the United States Environmental Protection Agency's Waste Reduction Model (WARM), and compares GHG emissions for baseline and alternative waste management scenarios (e.g., landfilling vs. recycling and composting). An updated version of the calculator is expected in 2021.

Trends in Waste

COVID-19 Impacts on Waste Management and Diversion

2020 was marked by the onset of the COVID-19 global pandemic, with impacts to both waste management operations and waste generation observed across North American. Some of the impacts on operations experienced by municipal waste services in other cities included service disruptions due to outbreaks, adapting operating procedures to be able to provide disposal and diversion services safely, increased expenditures, reduced revenues, and in some cases suspending recycling programs to prioritize garbage collection. In Saskatoon, impacts to waste service levels faced minimal disruption to date. There were a few weeks' delay in moving from bi-weekly to weekly garbage collection in May, the landfill stopped accepting cash payments, two Household Hazardous Waste events were cancelled, and compost depot openings were delayed by a couple of weeks. Waste education programs were moved online where possible and in some cases cancelled for 2020 to comply with COVID-19 restrictions.

There was also a shift in waste generation. With more people working from home and shopping online, many places have observed increased residential waste generation by an average of 5%. At the same time commercial waste generation decreased by about the same amount. There have also been increases in personal protective equipment in the waste streams, including masks and gloves.

Recycling Markets

At the start of COVID-19, options for getting recycling to market were limited. This resulted in a higher volume of material being stockpiled until Q2 2020. Global recycling markets continued to struggle throughout 2020 but there was some stability for paper and cardboard. Cardboard prices, in particular, saw an increase as demand increased.

The majority of material collected in the City's residential recycling programs went to mills in North America for recycling. By weight, approximately 87% of the recyclable material recovered in the City's recycling programs was paper and cardboard; while approximately 7% was plastic. The most difficult category of plastic in the program to find markets for was non-deposit Plastic #1. Plastic #1 is most commonly clear plastic clamshells that are used to package items like strawberries, baked goods, and other food goods are packaged in. At the end of the year, a large portion had to be stockpiled due to a lack of demand.

The City is taking the following steps to help adapt to changing market conditions:

- ▶ Working with provincial stewardship organizations to help fund recycling and put responsibility on the producers of paper and packaging;
- ▶ Working with residents to decrease aspirational recycling (wish-cycling) to lower contamination; and
- ▶ Working with both recycling service providers to process clean material, deliver effective education to residents, and respond to a changing recycling industry.

The new reality for recycling is one of fewer market options for paper and plastic and an overall demand for higher quality material. At the same time, recycling programs in Saskatoon and across Canada are seeing a rise in contamination rates. Contamination rates remain high across North America. On average, 20% of collected materials are non-recyclable items that have been placed into residential recycling programs.⁴ The reasons for this are complex and include more hard-to-recycle plastics or multi-material packaging being generated, changes in what materials are accepted by programs, inconsistencies across jurisdictions or sectors which creates confusion, and an increase in wish-cycling.⁵

Plastic Reduction

The federal and provincial governments have taken a leadership role in developing plans to reduce and eliminate plastic waste.

In 2020, the Government of Canada released a discussion paper on a proposed integrated management approach to plastic products and engagement took place in November and December. The discussion paper outlined three proposed approaches:

- ▶ Manage single-use plastics, including banning or restricting certain single-use plastics that cause harm, where warranted and supported by scientific evidence;
- ▶ Establish performance standards for plastic products to reduce or eliminate their environmental impact and stimulate demand for recycled plastics; and
- ▶ Ensure end-of-life responsibility, so that companies that manufacture or import plastic products or sell items with plastic packaging are responsible for collecting and recycling them.

The City of Saskatoon provided a technical response to this engagement focused on experiences with managing plastics in our waste streams, finding from statistical surveys and our recent public engagements on waste diversion, and the directions anticipated from the Solid Waste Reduction and Diversion Plan.

In Saskatchewan, the City of Prince Albert has announced a ban on plastic retail shopping bags in 2019, where retailers are prohibited from distributing single use plastic carry-out bags. Implementation was planned for the summer of 2020 but suspended as a result of COVID-19. In 2020, Regina approved a plastic checkout bag ban. Implementation has also been delayed until after the pandemic restrictions are lifted. The City of Saskatoon is monitoring the developments from the provincial and federal governments and is recommending a continued focus on developing policies and programs with a larger diversion impact and an absence of leadership from other levels of government.

⁴ https://www.waste360.com/business/top-10-trends-solid-waste-over-next-10-years?utm_source=Sailthru&utm_medium=email&utm_campaign=Issue:%202020-12-23%20Waste%20Dive%20Newsletter%20%5Bissue:31633%5D&utm_term=Waste%20Dive

⁵ The act of placing an item in a recycling bin in the hopes it will be recycled but not knowing if it is accepted.

The Province of Saskatchewan: Solid Waste Management Strategy

In January 2020, the Government of Saskatchewan released the Solid Waste Management Strategy with goal to reducing waste to 589 kg/person by 2030⁶ and 421 kg/person by 2040.⁷ To do this, the Strategy outlines six goals and 39 commitments to action in the short, medium and long term. The six goals of the Strategy are:

1. Enhance education, awareness and technical understanding of waste management best practices and the risks of improper practices across Saskatchewan;
2. Encourage regional collaboration to enhance the cost effectiveness of waste management infrastructure;
3. Provide a robust and flexible regulatory system for waste disposal and management;
4. Enhance waste diversion across Saskatchewan;
5. Foster innovative and sustainable solutions to manage waste; and
6. Demonstrate government leadership in waste management.

In 2020, the province also moved a step closer to launching its Household Hazardous Waste Product Stewardship Regulation. Call2Recycle's plan for consumer batteries was approved in April 2020 and was launched in January 2021. The plan submitted by Product Care Association of Canada for other household hazardous waste, such as flammable, corrosive, toxic, or environmentally hazardous materials and pesticides, was approved in June 2020 and was launched in April 2021.

In early 2021 the Province of Saskatchewan began engagement on *The Household Packaging and Paper Stewardship Program Regulations*. The provincial regulations govern the distribution of packaging and printed paper to Saskatchewan households by businesses with the goal of a successful, efficient and sustainable program to handle the recycling of packaging and printed paper. The City prepared a corporate position as a response that supported a move to full extended producer responsibility for residential recycling programs, which would see administrative and financial responsibility for operating recycling programs rest with producers and distributors of materials instead of municipalities.

Zero Waste and Circular Economy

Zero waste is a focus on waste prevention and reduction. The term zero waste can be misunderstood because it actually means reaching 80-90% waste reduction and diversion. The goal with zero waste is to reduce, reuse and recycle to the greatest extent possible.

The circular economy is about changing how our economy uses materials. Traditionally we extract resources, manufacture and use products for a short time, and then dispose of them as

⁶ 30% reduction

⁷ 50% reduction

waste. In a circular economy, the way we design, produce, and use products is transformed to eliminate waste, keep materials in high-value use, and regenerate natural systems.

In 2020, Canada was set to host the World Circular Economy Forum before it was postponed to 2021 due to COVID-19. The Canadian Circular Cities and Regions Initiative has been just established to advance knowledge sharing and capacity building among the Canadian local government sector, led by the National Zero Waste Council, the Federation of Canadian Municipalities, Recyc-Quebec and the Recycling Council of Alberta. It is accepting its first cohort of 15 Canadian local government and Saskatoon has applied to participate.

Waste-to-Energy

Through the development of the *Solid Waste Reduction and Diversion Plan* the City has prioritized research into the viability of alternative waste processing technologies, including waste-to-energy.

Environment and Climate Change Canada's Waste Management and Energy Division outlines the following conditions when waste-to-energy facilities may be environmentally sound and preferable decisions:

- ▶ Waste reduction measures have been implemented and are yielding results.⁸
- ▶ High recycling and diversion rates have been achieved, including hazardous wastes.⁹
- ▶ Energy and/or chemical recovery is viable.
- ▶ Recovery of additional metals or other materials is viable.
- ▶ Appropriate air pollutant emissions controls are included.
- ▶ Experienced and skilled operators are available, properly trained, supervised.
- ▶ Protocols for operation, maintenance, and monitoring are clearly defined and adhered to.

The following drawbacks were also identified:

- ▶ Significant financial investment that typically works best at larger scale.
- ▶ Energy and/or chemical recovery may be limited or not possible at smaller scale.
- ▶ May become undesirable competition for recycling and diversion.
- ▶ Limited experience in Canada.
- ▶ Waste streams with high energy and low moisture are generally preferred.

Canadian municipalities have been using waste-to-energy options since the 1970s as an alternative to landfilling. There are currently seven waste-to-energy facilities operating in Canada in municipalities with robust diversion programs and where active landfills continue to play a roll in waste management.

Appendix A provides more information on these waste-to-energy facilities, including location, type, capacity, costs, as well as the other waste programs currently implemented in the communities served by waste-to-energy facilities.

⁸ e.g., prevention, reuse

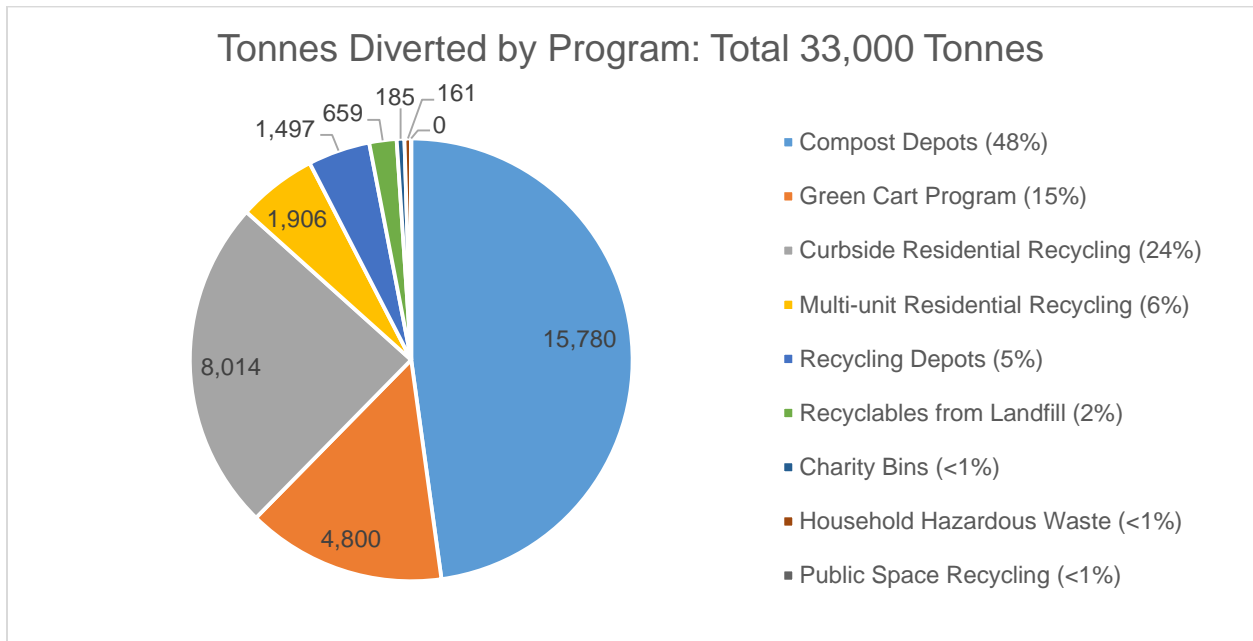
⁹ e.g., lamps containing mercury

Waste Diversion Services

Waste Diversion in Saskatoon

A variety of programs and initiatives including recycling, composting, hazardous waste collection, and reuse of gently-used items, help to divert waste from regional landfills. Outreach and education supports these programs and raises awareness about the importance of waste reduction and diversion. The figure below shows the diversion by program, totalling 33,000 tonnes, and how each initiative contributed to the 2020 diversion rate.

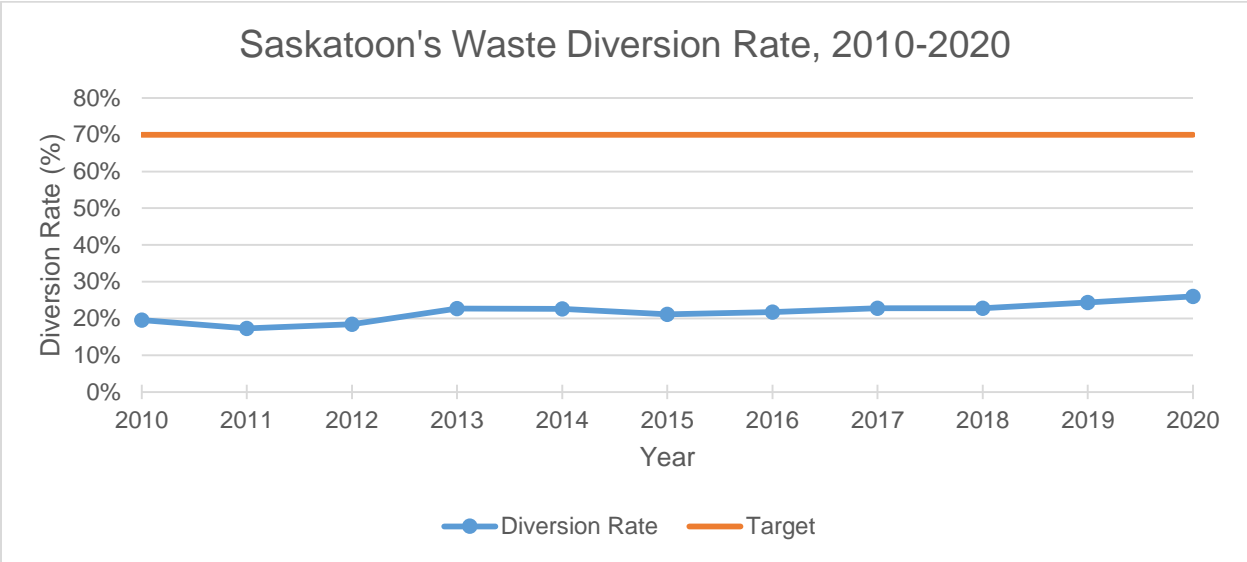
Tonnes Diverted by Program in 2020



Saskatoon's Waste Diversion Rate

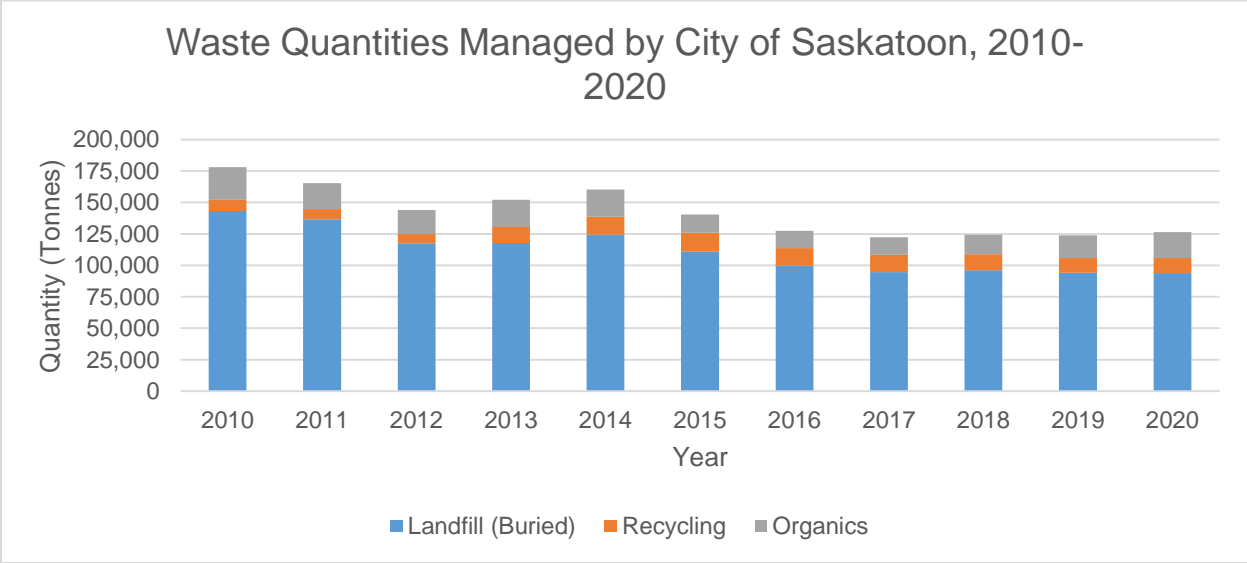
The City's waste diversion rate for 2020 is 26%, an increase from 24.3% in 2019 and 22.8% in 2018. The waste diversion rate calculation considers only City-run diversion and disposal programs. It does not include reduction, reuse, recycling, or disposal through non-City programs, such as deposit beverage containers, e-waste, nearby landfills, or by the private sector.

Saskatoon's Waste Diversion Rate, 2010-2020



The total amount of waste managed by the City in 2020 was slightly higher than in 2019. Tonnes of recyclables and organics increased by approximately 1.5% and 14%, respectively, while the tonnage of waste buried decreased by less than 1%. The annual quantities of garbage, recyclables, and organics¹⁰ are shown in the figure below.

Waste Quantities Managed by City of Saskatoon, 2010-2020



¹⁰ Yard and food waste

The City's waste diversion rate of 26% continues to place below many other Canadian municipalities, as indicated in the following table. The median diversion rate among cities and regions participating in Municipal Benchmarking Network Canada is 45%.¹¹

Diversion Rates of Other Canadian Cities and Regions, 2018 and 2019¹²

City/Region	2018 Diversion Rate	2019 Diversion Rate	Change from 2018
Metro Vancouver	64% ¹³	63% ¹⁴	-1%
York Region	60%	59%	-1%
City of Halifax	55%	53%	-2%
Niagara Region	56%	56%	0%
Region of Durham	49%	48%	- 1%
Region of Waterloo	65%	65%	0%
City of Toronto	52%	53%	+1%
City of Edmonton	36% ¹⁵	21% ¹⁶	- 15%
City of Hamilton	36%	41%	+5%
City of London	44%	45%	+1%
City of Sudbury	45%	41%	-4%
City of Windsor	40%	40%	0%
City of Montreal	40%	40%	0%
City of Winnipeg	33%	32%	-1%
City of Calgary	50%	47%	-3%
City of Thunder Bay	29%	29%	0%
City of Saskatoon¹⁷	22.8%	24.3%	+1%
City of Regina	23%	23%	0%

¹¹ 2018 MBNCanada Performance Measurement Report, Municipal Benchmarking Network Canada (<http://mbncanada.ca/practice/waster-management/>)

¹² The 2020 data from Municipal Benchmarking Network Canada was not available when this report was prepared.

¹³ Metro Vancouver Performance Dashboard (<http://www.metrovancouver.org/dashboards/services/solid-waste/Pages/Waste-diversion-rate.aspx>)

¹⁴ Ibid.

¹⁵ Edmonton Falls Short of Waste Diversion Goal by 20 Per Cent in 2019 Citing Composting Centre Closure (May 2020), Dusting Cook, The Edmonton Journal (<https://edmontonjournal.com/news/local-news/edmonton-falls-short-of-waste-diversion-goal-by-20-per-cent>)

¹⁶ Ibid.

¹⁷ City of Saskatoon diversion rate for 2020 was 26%

Recycling

The City's residential recycling services are contracted to Loraas Recycle and Cosmopolitan Industries (Cosmo), who are responsible for collection, processing, and marketing of recyclables generated by residents.

Single-family Residential Households: Curbside Collection

Loraas Recycle has been providing curbside recycling service to single-family households in Saskatoon since 2013.¹⁸

Each household - including secondary suites - in Saskatoon is provided with a blue cart that is collected from their curb every second week based on a published collection schedule. Households can also request a second cart for additional recyclables for a fee. In 2020, there were approximately 71,700 active carts in the single-family residential recycling program. Residents paid an annual per household utility fee of \$88.56 for this program.

In 2020, a total of 10,101 tonnes of materials were collected through the curbside collection program; 12% of this was contamination, which is when materials are placed in the cart that are not recyclable and therefore landfilled.

This is an increase in the rate of contamination from 10% in 2019 and 2018, 8% in 2017, 6% in 2016, and 4% in 2015. The remaining 8,014 tonnes of recyclable materials were marketed to be recycled into new products. Recyclables captured through the curbside collection program contributed 6.3% toward the City's waste diversion rate of 26%. This is down slightly from 2019 when 8,018 tonnes were recycled.

The average set-out rate for the curbside recycling collection program was around 70%, which provides a snapshot of what occurs on each collection day. This does not indicate how many people use their blue carts since many do not necessarily put them out each collection.¹⁹

Carts not being collected due to incorrect placement or overfilling continue to occur. In 2020, there were an average of 588 non-compliant carts per month, representing 0.8% of all carts. This is an increase from 2019, which saw an average of 469 non-compliant carts per month or a non-compliance rate of approximately 0.7%. Other concerns continue to be carts left out in back lanes for more than 24 hours. Back lane issues are addressed through communications

Residential Recycling Curbside Collection



¹⁸ 2020 was the first year of a new eight-year agreement between the City and Loraas.

¹⁹ The 2019 Waste & Recycling Survey found that 79% of households with individual blue carts claim to recycle all or most of their recyclable items.

such as the Waste and Recycling Collection Calendar and through education letters, warnings, and tickets issued by the City's Environmental Protection Officers.

Material Capture Rate

The *Solid Waste Reduction and Diversion Plan* recommends reporting on the material capture rate to provide a more detailed assessment of recycling program performance. Capture rate is determined by calculating the amount of material captured in a recycling program compared to the overall amount of material generated. A high capture rate means residents are using the program correctly; for instance, putting recyclables in the recycling cart instead of the garbage cart. A downside to measuring the capture rate, and the reason it is not used regularly, is that it can only be calculated through a comprehensive waste audit, which needs to be conducted regularly.

In 2019, the overall capture rate in the curbside program for recyclables was 66%, meaning that of all the recyclable material generated, 66% by weight was placed correctly in the blue cart and the other 34% was thrown in the garbage²⁰. Moving forward, this performance measure will be reported after the completion of a Waste Characterization Study, typically every 3-5 years.

Multi-Unit Residential Recycling Collection

The Multi-Unit Residential Recycling (MURR) program was launched on October 6, 2014 and was fully operational in 2015. The service is provided by Cosmopolitan Industries. In 2020, residents paid an annual per household utility fee of \$44.52 for this service.

In 2020, a total of 2,391 tonnes of materials were collected through the MURR program; 19% of this was contamination.²¹ This is a minor decrease from 20% in 2019. The remaining 1,906 tonnes of recyclable materials were marketed to be recycled into new products. Recyclables captured through the multi-unit collection program contribute 1.5% toward the 2020 waste diversion rate of 26%.

In 2019, the capture rate in the MURR program for recyclables was 43%.²²

Recycling Program Customer Service

Resident inquiries regarding the curbside collection program increased in 2020, with Customer Service receiving 2,536 phone inquiries and 111 email inquiries for a total of 2,647 inquiries.²³ This number is an increase from 192 inquiries per month in 2019. Inquiries for the MURR program increased in 2020, with Cosmo receiving and responding to 343 phone inquiries and 151 email inquiries throughout the year.²⁴

²⁰ When we look at capture rates for specific material types we can infer that Saskatoon residents properly recycle newspaper (95% capture rate) but there is room to improve steel food can recycling (56% capture rate).

²¹ Materials placed in the bins that are not recyclable.

²² The 43% capture rate in the Multi-Unit program means that of all the recyclable material generated, 43% by weight was placed correctly in the blue cart and the other 57% was thrown in the garbage.

²³ 2,647 inquiries is an average of 221 inquiries per month.

²⁴ 2020 averaged 41 inquiries per month, 2019 averaged 39 inquiries per month.

Recycling Depots

In 2020, 1,497 tonnes of material were collected at the depots. Recyclables captured through the recycling depots contributed 1.2% to the City's diversion rate of 26%. It is estimated that 289 tonnes or 19% of this material was contamination. In addition, a total of 84 bins from the recycling depots were characterized as 'contaminated' in 2020, with the contents of the bins transported to the Saskatoon Landfill for proper disposal. These loads were separate from the collections used to calculate the contamination rate from recyclables collected at the depots.

The four City-operated depots and recycling programs at civic facilities accept the same materials as the curbside collection and multi-unit recycling programs in a single-stream with no sorting²⁵. Illegal dumping is often a problem since the depots are unstaffed, and as such employees from W and WO spend a considerable amount of time servicing the sites.

SARCAN Glass Recycling Partnership

The Glass Recycling Partnership between SARCAN Recycling and the City of Saskatoon started in 2019 as an expanded recycling option, allowing residents to bring household glass to Saskatoon SARCAN depots for recycling. 107 tonnes of household glass were captured through the program in 2020, with approximately 95 tonnes of clear glass recycled as reflective glass beads²⁶ and approximately 12 tonnes of coloured glass.²⁷ SARCAN depots were closed for almost 3 months in 2020 as a result of COVID-19. In comparison, 112 tonnes of glass were recycled during the first year of the program.

Public Space Recycling

The City maintains a contract with Creative Outdoor Advertising of Canada for the collection of recycling at 230 transit stops across the city. After removing contaminated items from the total weight of materials collected at the transit stops, 60 kg of recyclables were captured through the program in 2020.

Recyclables – beverage containers and paper – are also collected through 'self-servicing' baskets located in pedestrian-oriented commercial areas including Downtown, Broadway Avenue, Central Avenue, and 22nd Street West. These materials are collected by the City, recycled by Cosmo, and included within the total reported for the City's recycling depots.

²⁵ The bins at the depots remain the property of Cosmo. All materials are collected by the City and are processed at Cosmo's Material Recovery Facility.

²⁶ Used in road paint

²⁷ Used to manufacture fiberglass insulation

The self-servicing model for beverage container and paper recycling continues to be successful and allows the City to expand recycling beyond the City's core areas into areas such as parks. To date, 127 bottle and can baskets and 33 paper recycling baskets have been installed in business improvement districts (BIDs), and 64 bottle and can baskets have been installed in civic parks since 2013.

In 2021, an additional 11 bottle and can baskets will be installed in civic parks, and an additional five bottle and can baskets will be installed in

BIDs. Due to the poor quality and low quantity of recyclables generated in the paper baskets, six paper baskets are being removed from the Sutherland BID.

The City continues to explore opportunities to expand recycling in public spaces. Collaboration between Departments ensures that recycling amenities are given appropriate consideration during early stages of streetscape or public space design projects.

Bottle 'Basket' (purple), Paper Recycling Container (blue), and Garbage Bin (black)



Multi-Material Recycling Program

The *Waste Packaging and Paper Stewardship Plan*²⁸ is the waste packaging and paper stewardship program administered by Multi-Material Stewardship Western. The program was launched on January 1, 2016 in response to provincial regulations. Municipalities and regional waste authorities are compensated for some portion of the cost of collection and processing of recyclables. In 2020, the City received \$25.75 per unit for a total of \$2,882,684. The funds were used toward the Multi-Unit Residential Recycling Program, and for the research and development of additional waste diversion programs, as well as research and development of other environmental initiatives.

²⁸ Often referred to as the Multi-Material Recycling Program

Organics

The City's organic collection programs include green carts for yard and food waste, compost depots, and Christmas tree drop-off sites.

Green Carts for Yard and Food Waste

The Green Cart program for yard and food waste is an optional fee-for-service program available to households with curbside cart collection.²⁹ In 2020, the number of subscribers to the Green Cart program reached an all-time high of over 11,000 which equates to approximately 14% of eligible households. In addition, there were 29 community gardens and nine civic facilities subscribed to the program. The total amount of material diverted through the Green Cart program in 2019 was approximately 4,800 tonnes. Organic materials captured through the Green Cart program contributed 3.8% toward the City's waste diversion rate of 26%.

The City owns and maintains the green roll-out carts provided to program subscribers, provides collection service, and processes the material at the Highway 7 West compost depot. During the 2020 Green Cart season, the City of Saskatoon delivered over 1,800 new green roll-out carts to program subscribers and over 41 were removed from service.

The program fee was \$65 per year prior to May 1, 2020, and \$85 per year after May 1st. Fourteen bi-weekly collections were provided from May through early November. The cost to the resident, if they registered prior to May 1, 2020, was approximately \$4 per collection.

Green Cart (Yard and Food Waste) Collection



²⁹ Not available for multi-unit buildings or commercial customers.

Compost Depots

In 2020, the City operated two compost depot locations for drop off of leaves, grass, non-elm tree and shrub branches, as well as food and garden waste that would otherwise end up in a landfill. The composting sites, located at the Highway 7 West depot and at the Highway 5 East transfer station³⁰ are available to residents at no charge and to commercial haulers by permit.³¹ In 2020, an estimated 20,580 tonnes of organic material were diverted through the compost sites. Organics captured through the compost depots contributed 12.4% toward the City's diversion rate of 26%. This total included 8,800 tonnes of leafy material³², 8,300 tonnes of woody material³³, 3,300 tonnes of sod and topsoil mixtures, and 180 tonnes of food waste.

Yard Waste Drop-off at Compost Depot



Depots operate from mid-April to early November.³⁴ In 2020, a total of 68,877 vehicle visits were made to the compost depots, representing an increase of approximately 10% compared to 2019. 50,366, or 73% of the visits were to the West Depot and 18,511, or 27% of visits were to the East Depot. Of this total, 61,228 or 89% of visits were made by the public³⁵, commercial customers were 5,040 or 7% of visits; and 2,609 or 4% of visits were from internal City

³⁰ The East Depot serves as a transfer station and all materials are hauled to the West Depot for processing. Both compost sites are considered temporary as they are located in areas designated for future development.

³¹ \$150 for the season

³² Leaves and grass

³³ Branches, logs, and woodchips

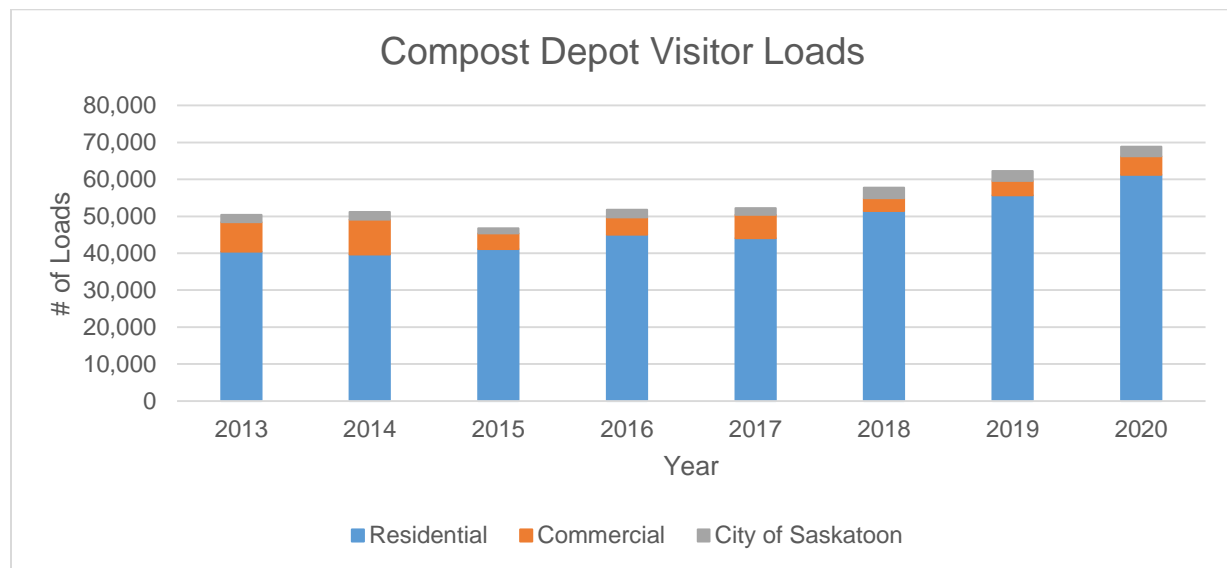
³⁴ In 2020, the West Depot was open seven days a week and the East Depot was open five days a week (Thursday to Monday). Both depots were open on statutory holidays.

³⁵ 51,742 were drop-off customers and an additional 9,486 participated in the free Dig-Your-Own compost program.

customers.³⁶ The graph below illustrates the number of visits made to the compost depots by these three sectors for the past seven years.

The Dig-Your-Own compost pilot program continued in 2020 whereby finished compost and mulch was made available to residents at no-charge. Interested residents were able to visit the West Depot during regular hours and access up to 1 cubic yard of compost from the public self-loading area. Approximately 9,500 customers participated in the program – an increase of 41% compared to 2019 – and removed over 2,700 cubic yards of materials from the depot.³⁷ The Dig-Your-Own compost pilot program significantly reduced costs associated with staffing and cash handling requirements of a public compost sale, while still providing residents with the opportunity to benefit from the community compost inventory. The removal of finished materials also helps provide additional space to accept new materials in 2021.

Compost Depot Visitor Loads, 2013-2020



Christmas Tree Drop-Off

Temporary drop-off sites are set-up from December 26 to January 31 to collect discarded, natural trees which are then chipped and taken to the City compost depot. On average, 5,000 to 6,000 trees are dropped off every year. In 2020, an estimated 43 tonnes of material were collected through this program.

³⁶ Including the Green Cart program, Parks Department and Roadways and Operations.

³⁷ Regular updates were provided to residents through social media and the City website regarding the availability of compost and mulch.

Other Waste Diversion Initiatives

Recycling Opportunities at the Saskatoon Regional Waste Management Centre (Landfill)

The City also manages a waste diversion area at the Saskatoon Regional Waste Management Centre, providing the opportunity to recycle and properly dispose of a variety of items including metals, batteries, and used oil and antifreeze.

In total, 660 tonnes of material – including mixed metals, propane tanks, batteries, white goods or appliances, used oil, oil filters, and used antifreeze – were diverted from landfilling in 2020. Recyclables diverted at the landfill contributed 0.5% toward the City's diversion rate of 26%.

The EcoCentre, under contract with the Saskatchewan Association for Resource Recovery Corporation, is one of nearly 200 collection facilities across Saskatchewan for used engine oil, filters, containers, and used antifreeze. The City accepts these materials at no charge to residents.³⁸ In 2020, the total quantities of used oil and antifreeze collected at the EcoCentre were 76,550 litres and 5,265 litres, respectively.

Bicycle Diversion Area at the Saskatoon Regional Waste Management Centre



In 2017, a program was implemented to divert bicycles from the landfill. Many of these bicycles are in poor condition and not recoverable; however, some of the bicycles are recoverable for either their parts or for complete refurbishment. The City partnered with a local, non-profit organization to collect bicycles delivered to the landfill and to re-use or refurbish them for use in the community. Of the 763 bicycles collected in 2020, 37% were successfully recovered for re-use, 28% were used for parts to fix other bikes, 19% were recycled as scrap metal, and 16%

³⁸ Up to 500 litres of oil, 100 litres of antifreeze. Costs are covered under the landfill operating budget.

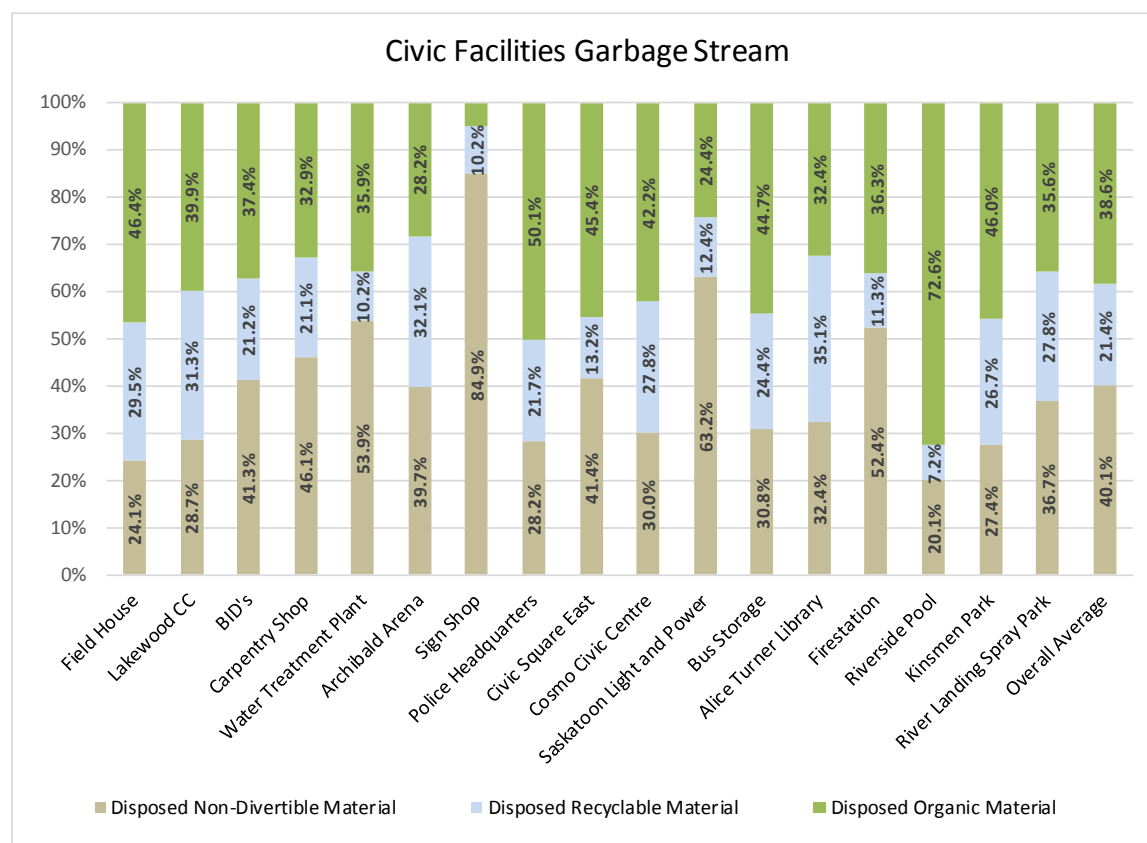
remain in storage for future uses. The ‘bike diversion rate’ or the percentage of bicycles that were diverted from the waste and recycling streams was 81%.

Waste Diversion in Civic Facilities

Recycling opportunities are available in most civic facilities. In 2019, 92 of 108 facilities had recycling collection systems in place; an inventory of civic facilities was not completed in 2020. Of facilities that have public facing waste containers, only eight did not have public facing recycling. Recyclable materials from civic facilities are collected with material from the depots or by private waste haulers, so exact tonnages generated by civic facilities are not available. In 2020, there were nine civic facilities that subscribed to the Green Cart program and five that had year-round contracted organics collection.

The following figure illustrates the compositions of the waste samples collected from 17 locations, in terms of garbage, recyclables, and organics. As the figure shows, the average amount of recyclable material in the sample was 21%, and the average amount of organic material³⁹ was 39%.

Garbage Profiles from Civic Facilities and Public Bins in Business Improvement Districts in 2019



³⁹ Food waste, yard waste, and compostable paper.

A number of other materials from civic sources are diverted from the waste stream annually. In 2020, these included 78 tonnes of scrap metal, 262 tonnes of electrical transformers, over 7 tonnes of electronic waste, 370 kilograms of batteries, and over 8,500 light bulbs/tubes.⁴⁰

Household Hazardous Waste Collection Program

Household hazardous waste (HHW) is the discarded, unused, or leftover portion of household products containing chemicals that can cause illness or death to people, plants, and animals.⁴¹ Common HHW products include aerosols, cleaning solvents, oils, paints, pesticides, and batteries. These, and many other types of hazardous materials, should not be put in garbage or recycling bins, dumped on the ground, or poured down the drain. The City typically provides free drop-off events between April and November, for Saskatoon residents to safely discard of HHW.⁴² The events scheduled for April and May in 2020 were cancelled due to the COVID-19 pandemic.

In 2020, 161 tonnes of hazardous materials were collected from 3,569 participants. HHW captured through the program contributed 0.1% to toward the City's total diversion rate of 26%. Overall participation was down compared to 2019, due to cancellation of the April and May events. However, average participation per event, average weight collected per event, and average weight collected per participant set new records for the program. The average cost per event and average cost per participant also rose in 2020 with contract costs totalling \$305,915.

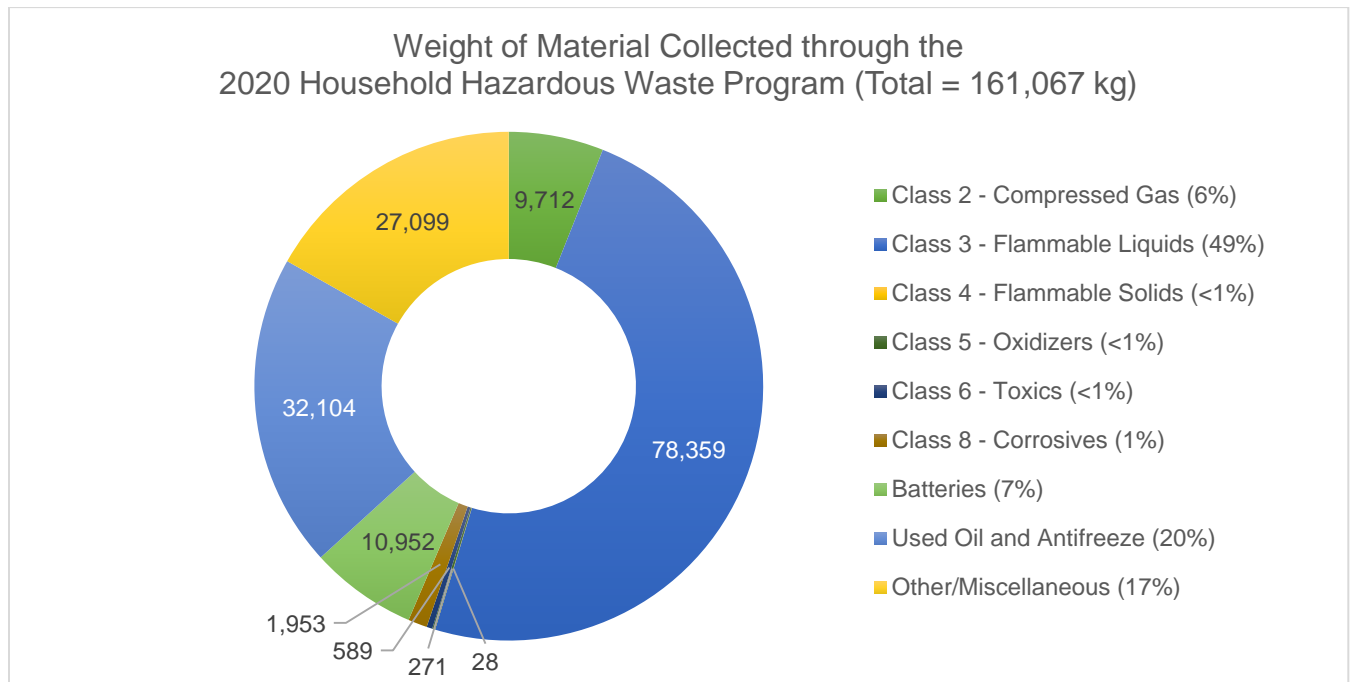
Household Hazardous Waste Collection Event at Civic Operations Centre



⁴⁰ For comparison to previous years, materials captured through these additional sources were not included in the City's diversion rate calculation.

⁴¹ These products are often labeled CAUTION, WARNING, CORROSIVE, EXPLOSIVE, FLAMMABLE, POISONOUS or TOXIC.

⁴² This program is for residential or HHW only; hazardous waste from businesses or other organizations is not accepted.



Class 2 (Compressed Gas): aerosols, propane tanks, inhalers, fire extinguishers

Class 3 (Flammable Liquids): flammable liquids, paint and paint-related materials, adhesives, printing ink

Class 4 (Flammable Solids): flammable solids

Class 5 (Oxidizers): oxidizing solids and liquids, organic peroxide

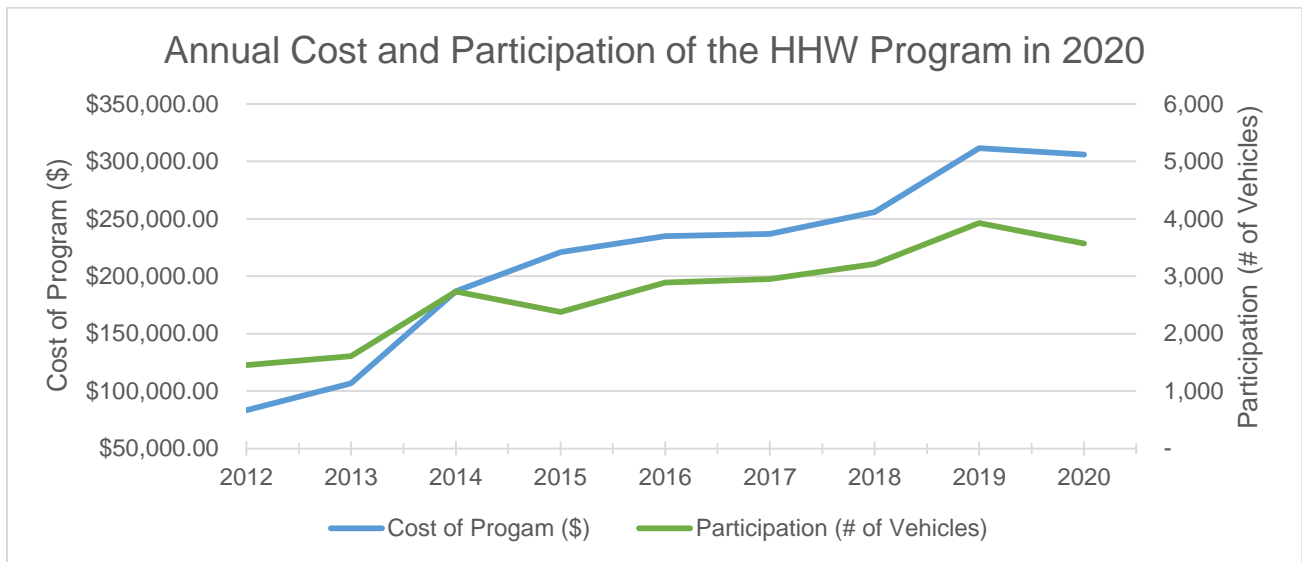
Class 6 (Toxics): toxic liquids, pesticides, pharmaceuticals

Class 8 (Corrosives): corrosive liquids and solids, mercury, ammonia solution

Batteries: alkaline, lead-acid, lithium

Used oil and antifreeze: used oil, used antifreeze, used oil filters

Other/miscellaneous: fertilizers, liquid cleaners, non-PCB light ballasts, fluorescent tubes, CFL bulbs, ink cartridges, lighters, treated railway ties, PCB light ballasts, sharps, smoke detectors, e-waste, test samples (unknowns)



Charity Bins

In 2020, 185 tonnes of textiles, or clothing, were collected at drop-off bins located at the City-operated recycling depots. Textiles captured through the collection bins at these four locations contributed 0.1% toward the City’s total diversion rate of 26%. The bins at the City’s recycling depots were provided by Community Living and Diabetes Canada in 2020.

Solid Waste Reduction and Diversion Plan

The *Solid Waste Reduction and Diversion Plan* (SWRDP) was completed in 2020 and received by Council in January 2021. The SWRDP provides 27 actions for program and policy development to optimize service delivery and reach the waste diversion target of 70% from the Saskatoon Landfill. This could be achieved as early as 2030 if the recommended timelines are followed.

The vision for the SWRDP is to produce less waste overall and recycle or compost as much as possible. This includes waste which would have been delivered to the Saskatoon Landfill, as well as other waste operations servicing the Saskatoon area. The plan's mission is to establish Saskatoon as a leader in waste reduction and diversion in the Prairie region.

Industrial, Commercial and Institutional Waste Strategy

In early 2020, City Council approved a regulatory approach for recycling and organics for the Industrial, Commercial, and Institutional sector. All businesses and organizations will be required to have a separate container for recycling, and those that generate food or yard waste as part of their operations will be required to have a separate organics waste container. The implementation for recycling will start in 2022 with a phased approach focused on education and assistance with early compliance, before enforcement begins in 2023. Organics will take a similar approach, with a phase in started in mid-2023 and enforcement in place in mid-2024.

The milestones for implementation of the ICI strategy include:

- ▶ Hiring a project manager to implement the ICI Recycling and Organics Regulation.
- ▶ Review and update of *Bylaw No. 8310, The Waste Bylaw*.

2021 will see the forming of an ICI Working Group, and the Bylaw and implementation plan presented to Council.

Curbside Organics Program

Implementation planning is underway for the approved Curbside Organics Program with the program planned to start in 2023.

In March 2019, City Council resolved to fund the Curbside Organics Program and waste collections through a multi-year funding strategy, allocating 1% of property tax each year for 2020, 2021, and 2022. In 2023, the property tax allocation is to be 0.93% and will be the first year of the curbside organics program and new waste service level of bi-weekly collections in the summer.

Precise timing for the deployment of the Curbside Organics Program in 2023 and the role of the organics processor in collections will be determined by the terms of the successful proposal from the organics processor procurement and request for proposals (RFP) process.⁴³

⁴³ At budget deliberations in November 2019, City Council resolved to direct \$10M of the Federal Gas Tax Fund in 2020 towards the Curbside Organics Program for cart procurement.

Recovery Park

On December 16, 2019, City Council approved the concept plan for Recovery Park and on February 24, 2020, approved additional funding. The plan provides an efficient layout, replaces landfill infrastructure, and accommodates increased traffic while allowing for future expansion. The project includes construction of a diversion area accessed before the scales, a four-lane scale and scale house, an after-scales diversion and garbage transfer area, staff and equipment facilities, a new access road to join to Dundonald Avenue, and a storm water retention pond.

When completed and fully operational, the new facility will offer users a combined service for waste disposal and recovery. Material acceptance has yet to be finalized, but Recovery Park is being designed to accommodate:

- ▶ **Construction & Demolition (C&D) waste** – Recovery Park will allocate space for residents and businesses who separate their C&D materials by type. Materials the City could accept include lumber, drywall, concrete and brick, ceramics, glass, porcelain, and asphalt shingles;
- ▶ **Elm wood** – The City landfills roughly 2,500 tonnes of elm each year to prevent Dutch elm disease. With the necessary precautions and approvals, the City could recover this valuable material for composting or other uses;
- ▶ **Blue bin recycling and clothing** – Recovery Park will provide users with the opportunity to drop off recyclables currently accepted at the City's existing recycling depots;
- ▶ **Household Hazardous Waste** – Recovery Park will provide a dedicated paved area to host household hazardous waste collection day events and space for a future collection building;
- ▶ **Provincial Product Stewardship programs** – The Province supports the recycling of used oil and antifreeze, batteries, tires, and paint. These materials can be collected at Recovery Park;
- ▶ **Continued landfill recovery** – Current services offered by the City including drop-off of mixed metals, used appliances, batteries, compressed gas cylinders, bicycles, and used oil and antifreeze, will be relocated to Recovery Park;
- ▶ **Waste transfer station** – Recovery Park will house a new public drop-off area for garbage which will then be transferred to the landfill in bins. Only City garbage trucks and commercial haulers will continue to access the active face of the landfill; and
- ▶ **Future material recycling** – There is room for growth in the variety of materials collected for recycling at Recovery Park. Materials such as gently used furniture, mattresses, yard waste, Styrofoam and others may be accepted in the future. The Administration is further exploring these opportunities.

The design-build portion of the project is currently being procured with the contractors submitting pricing in May, 2021. The project is intended to be fully operational in the third quarter of 2023.

Accessibility Program

Administration will continue the review of accessibility considerations for curbside collection and will provide an update on any changes proposed for the Special Needs Garbage Collection Service, as directed by City Council.

Multi-Unit Residential Sector

Recommended changes to multi-unit waste management are expected by the end of 2020-early 2021, including a new organics program, continuous improvement of garbage and recycling programs, and additional waste diversion opportunities.

Saskatoon Regional Waste Management Centre



Waste Disposal Services

Weigh Scale at Saskatoon Regional Waste Management Centre



Waste Disposal in Saskatoon

Waste disposal services provided by the City include landfilling of garbage at the Saskatoon Regional Waste Management Centre, provision of containers and collection of garbage from single-family residential households⁴⁴ and collection of garbage from many multi-unit residential households and some commercial customers.

Saskatoon Regional Waste Management Centre (Landfill)

The Saskatoon Regional Waste Management Centre has been in operation since 1955. It is a sophisticated facility that is designed and operated to maximize available space and ensure solid waste is managed in a safe and environmentally sound manner. The Saskatchewan Ministry of Environment currently regulates the operations of the facility under a *Permit to Operate a Waste Disposal Ground*. On April 2, 2018, the City received a renewed permit based on a successful submission to the Ministry of Environment; the permit will expire on March 31, 2023.

⁴⁴ Curbside collection

In 2020, approximately 174,600 tonnes of material were accepted at the Saskatoon Regional Waste Management Centre. Of this total, approximately 93,900 tonnes required burial or garbage, and 80,000 tonnes were used as clean fill for landfill cover, while approximately 600 tonnes of material were separated for outbound recycling. As shown in the figure below, City collection trucks were responsible for approximately 65,800 tonnes, or 70% of the material landfilled.

City Collections Relative to Total Waste Landfilled, 2010-2020



The Saskatoon Regional Waste Management Centre is open to the public every day of the year except for December 25 and January 1. The site is a secure compound with fencing and security checks after-hours. Six transfer bins are located on site for public waste disposal. Also, as outlined earlier in this report, several public drop-off areas are provided.⁴⁵

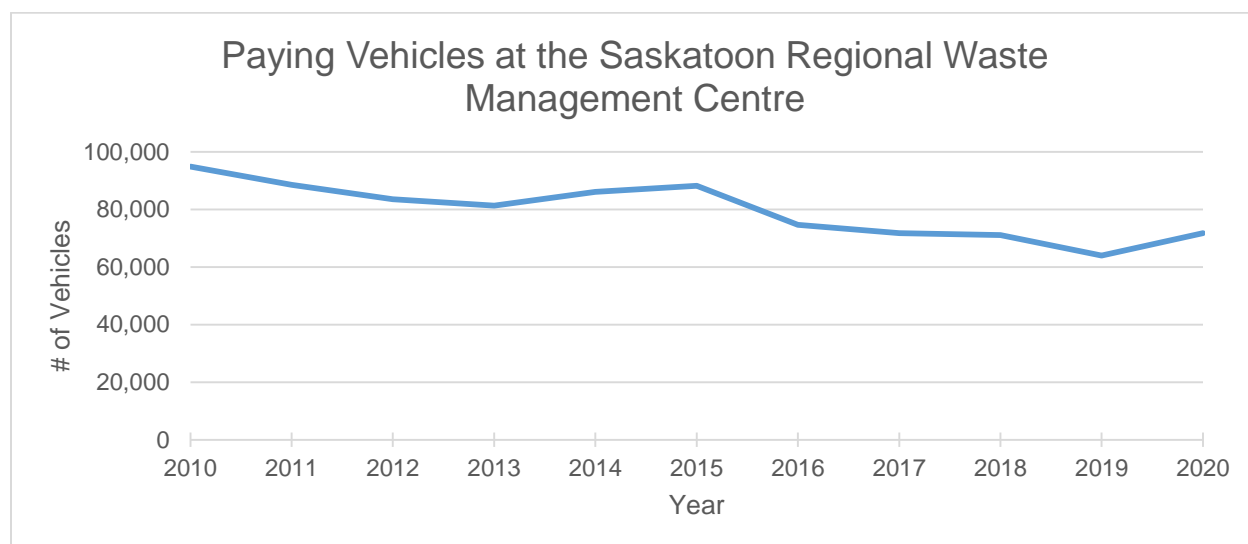
Landfill Customers

The overall number of landfill visits increased between 2019 (79,056) and 2020 (87,755). The number of chargeable vehicles⁴⁶ entering the Saskatoon Regional Waste Management Centre also increased. In 2020, there were 71,776 unique payment transactions, compared to 63,961 in 2019. The balance of customer visits were non-chargeable loads including soil, used oil, and City collection vehicles.

⁴⁵ For metals, white goods/appliances batteries, propane tanks, used oil, containers, used filters, and used antifreeze.

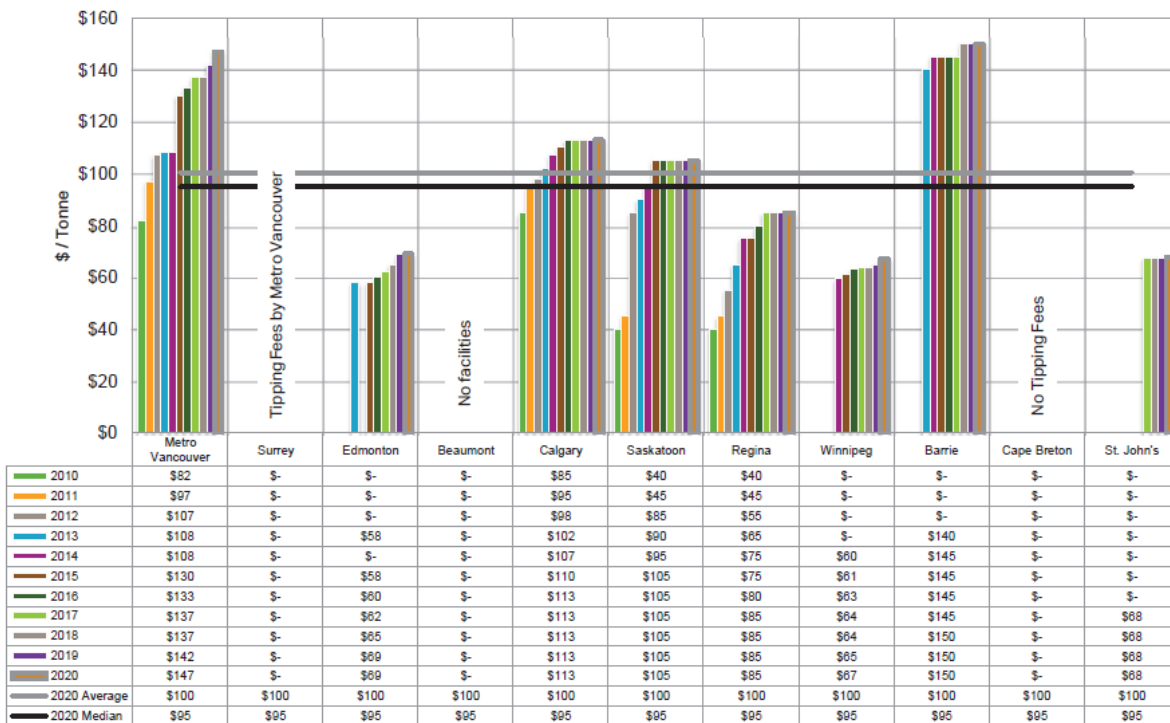
⁴⁶ Paying customers

Number of Paying Vehicles at the Saskatoon Regional Waste Management Centre, 2010-2020



Historically, the quantity of garbage that is hauled to the Saskatoon Regional Waste Management Centre as a result of municipal garbage collections has been tracked, but 2020 was the first year where the costs of disposal were incurred by the operating budget for collections. Of the 174,600 tonnes of material brought to the Saskatoon Regional Waste Management Centre in 2020, only 28,400 tonnes, or 16%, were chargeable tonnes. The non-chargeable or “free” tonnes included approximately 80,000 tonnes of clean fill. On March 25, 2019, City Council approved a moderate phase-in on funding for curbside waste and organics programs over the next four years. In 2020, the operating costs associated with landfilling residential garbage collected by City trucks was accounted for through this phase-in. In future years, the full operating and capital cost of landfilling garbage collected by the City will be accounted for in the garbage collections operating budget.

Tipping fees at the Saskatoon Regional Waste Management Centre are \$105/tonne plus an entry fee of \$15 per vehicle; loads weighing less than 150 kg are only charged the \$15 entry fee. According to nation-wide benchmarking for 2020, the range of tipping fees for garbage was \$67 to \$150 per tonne, with an average of \$100 per tonne and a median of \$95 per tonne. Saskatoon’s tipping fee of \$105 per tonne falls within this range, and remains unchanged since 2017.



Note - Tipping fees 2010-2013 are not specific to size of load.
Tipping fees after 2013 are for loads sized 501 kg - 1 tonne.

Environmental Monitoring and Protection

A number of environmental protection measures are part of the regular operations at the Saskatoon Regional Waste Management Centre.

- ▶ **Surface water management** ensures that any storm water that may have come in contact with garbage does not flow off-site. Storm water management infrastructure also helps minimize the creation of leachate and protects roadways and other customer-serving assets of the site. Improvements to storm water infrastructure are integrated into the capital improvement plan for the site.
- ▶ **Ground water monitoring** results are reviewed by an independent party each year to ensure the landfill is not impacting the environment beyond its site. In 2020, there were 59 monitoring locations analyzed.⁴⁷
- ▶ **Fire prevention and suppression** is critical. Materials within the mound have the potential to burn for prolonged periods and to release toxins into the atmosphere. Landfill staff are trained in fire prevention and suppression and operate a water truck on-site to respond to incidents in a timely manner. A strong relationship with the Saskatoon Fire Department has also been developed as landfill fires pose a unique challenge.

⁴⁷ Groundwater, surface water, and leachate.

- ▶ **The Landfill Gas Collection and Power Generation Facility** operated full-time in 2020, extracting a total of 200,000,000 standard cubic feet of landfill gas. Of this total, approximately 95% was utilized for electricity generation and 5% was destroyed within the facility's enclosed flare. In addition, approximately 10,600 MWh of electricity was produced in 2020 as a result of power generation from landfill gas.

Landfill Gas Collection and Power Generation Facility



Collections

Total Garbage Collected and Disposed

As a general trend, the amount of garbage collected by the City has been decreasing. However, the total amount of waste collected by City trucks increased from 59,000 tonnes in 2019 to over 65,000 tonnes in 2020, with collections by the City accounting for 70% of the material landfilled in 2020. Single-family and multi-unit residential sources make up the majority of waste collected by City trucks; however, some commercial collections are combined with collections from multi-unit residential properties.

Garbage Collection for Single-family Residential Households

In 2020, garbage collection services were provided to approximately 72,700 single-family households; an estimated 54,440 tonnes of residential garbage were collected and there were more than 2.6 million scheduled black cart lifts.⁴⁸

Scheduled garbage collection occurred from Monday to Friday, including public holidays, except December 25 and January 1. In 2020, these collections were completed the weekends following December 25 and January 1. Weekly collections were provided from May to September, with the remainder of the year on a bi-weekly collection schedule.

Garbage Collection for Multi-unit Residential Properties

The City provides one collection per week for each multi-unit residential property as part of regular service supported by property taxes. A multi-unit residential property may have a black cart or a metal waste bin depending on the configuration of the site. Approximately 86%⁴⁹ of multi-unit residential properties are collected by the City; the remaining properties contract their garbage collections to private service providers. Additional levels of service may be contracted with the City or through a private waste management company.

Garbage Collection for Commercial Customers

Garbage collection is provided to commercial customers, including internal City of Saskatoon customers and residents who contract for additional carts and collections. In 2020, there were approximately 355 external commercial customers⁵⁰ and 33 internal City of Saskatoon customers.⁵¹

⁴⁸ Tips

⁴⁹ 758 out of 877 sites.

⁵⁰ Total of 392 locations

⁵¹ Total of 42 locations

Containers

Black Carts

The City owns and maintains the black roll-out carts provided to street-oriented residential properties. In 2020:

- ▶ An estimated 72,700 black carts were managed in the field;
- ▶ 985 new carts were delivered to new homes; and
- ▶ 825 carts were repaired and 4,150 carts were replaced.

Multi-Unit Residential Containers

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

The grant provides \$8 per year per residential unit. In 2020, 77% of eligible properties⁵² submitted an application and received the grant payment, for a total value of \$226,952.00.

Residential Garbage Collection



⁵² 28,369 units out of 36,839 units

Education, Outreach, and Enforcement

Education and Communications

Education and communications work to deliver the information needed for residents to encourage participation in the City's various waste diversion programs. The goal is to build awareness, educate, and generate enthusiasm around waste diversion by communicating to residents in an engaging and informative manner.

With the announcement of the COVID-19 pandemic in March 2020, original plans for education and communications were impacted and either delayed to 2021 or alternative strategies were completed.

Webpage and Online Engagement

Information about the City's waste diversion programs are available online through the City's website⁵³ and are also communicated through various video and social media platforms, and through the *Saskatoon Recycle and Waste* app, recently renamed the *Saskatoon Waste Wizard*.

In 2020, there were 580,177 unique pageviews to the Waste & Recycling webpages. The Collection Calendar was the most visited waste-related webpage with 316,096 unique pageviews.

Student Programs – Recycling Education Centres

- ▶ **Loraas Recycle** provides recycling education for Saskatoon students in Grades 4 and up and the public. A total of 24 tours with 700 students and adults visited the Education Centre at Loraas' material recycling facility in 2020, to learn how material is processed, to increase awareness on how and why to recycle, and to emphasize the importance of waste diversion and environmental stewardship. Public tours were suspended in March 2020 due to a combination of job action in the public school system and COVID-19; no in-person tours were offered until December 2020.
- ▶ **Cosmopolitan Industries** launched its Education Centre in 2017, providing information on the benefits of recycling, including the opportunities that recycling provides in the community to adults with intellectual disabilities. There were seven guided group tours provided to 110 students and adults.

⁵³ [Saskatoon.ca/waste](https://www.saskatoon.ca/waste)

2020 Collection Calendar

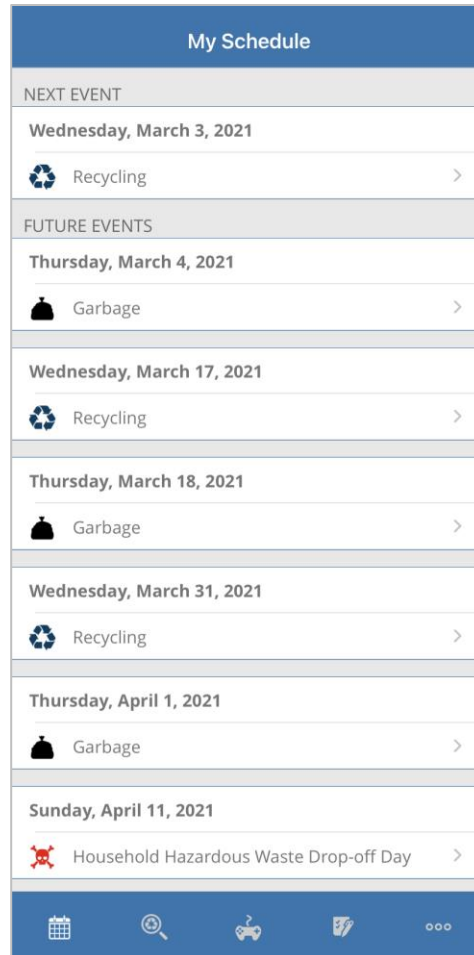
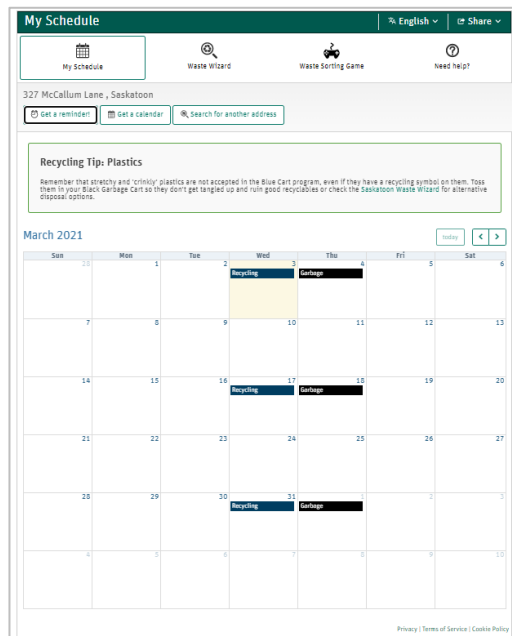
After successfully rolling out the paperless approach in 2019, the City continued to make use of its digital assets in 2020 for delivering the annual collection calendar to residents.

Residents were given the option to:

- ▶ View their calendar online,⁵⁴
- ▶ Download a PDF calendar from the website,
- ▶ Sign up for collection reminders by e-mail, phone, or twitter,
- ▶ Add their collection calendar to their own digital calendar,⁵⁵ or
- ▶ Download the *Saskatoon Waste Wizard* mobile app.

By the end of 2020, there were a total of 35,006 curbside addresses set up with collection reminders.

Collection Calendar Promotion and Schedule Look-up via Website and App



⁵⁴ [Saskatoon.ca/collectioncalendar](https://www.saskatoon.ca/collectioncalendar)

⁵⁵ e.g. Outlook, Google, etc.

Waste Wizard and Waste Sorting Game

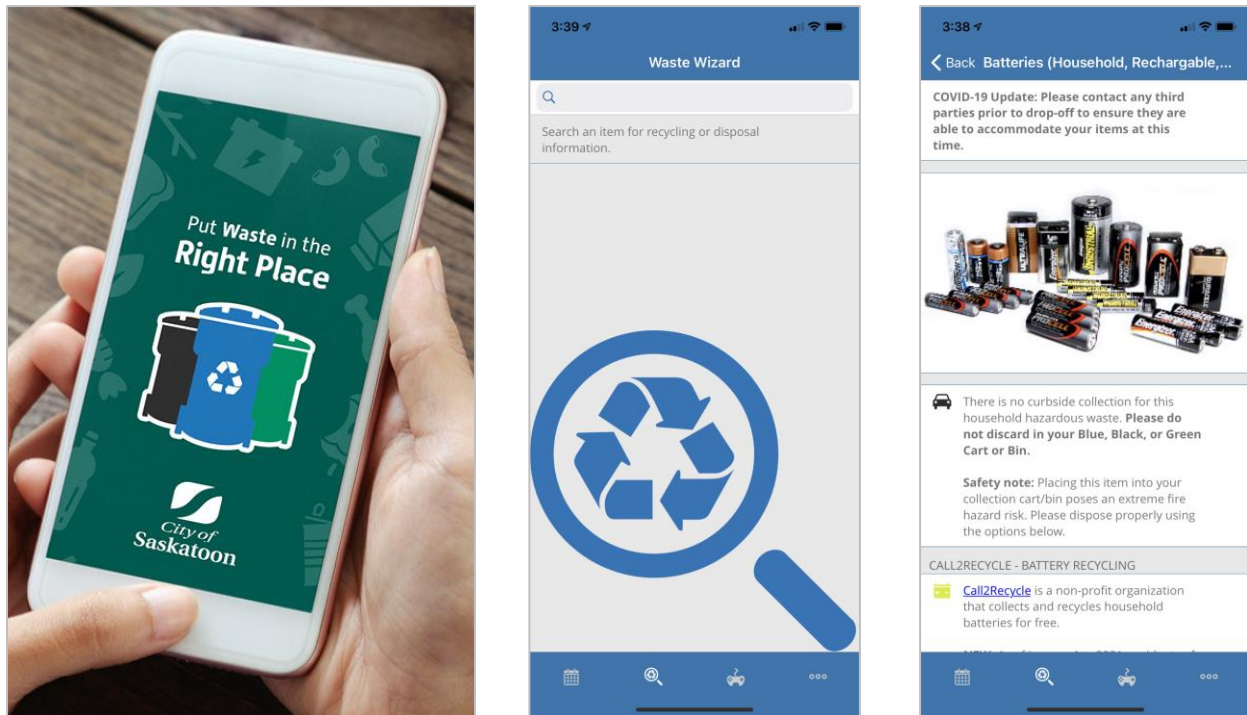
The Waste Wizard continues to help residents figure out how to properly dispose of or recycle their waste materials. Residents type in any item and the tool tells them how to best manage it through a City or non-City program. In 2020, 47,906 materials were searched on the Waste Wizard with glass bottles/jars, plastic grocery bags, Styrofoam, paint/paint cans and batteries being the top five searched materials.

The online Waste Sorting Game is an additional education tool that helps residents identify the proper waste stream for common household items. In 2020, the game was played 4,848 times with 2,245 completions and 66 certificates printed.

The Waste Wizard underwent an audit in 2020 to ensure all information was up-to-date and accurate, as well as identifying the need to add more searchable items to the database. Updates to content and imagery have continued through 2021.

The public can also find out about other local recycling opportunities through the Saskatchewan Waste Reduction Council's province-wide online database of information on where to recycle a variety of materials.⁵⁶

Material Look-up on Saskatoon Waste Wizard App



⁵⁶ The City partners with the Saskatchewan Waste Reduction Council (SWRC) in promoting this online tool: saskwastereduction.ca.

Waste Guide

Updates were made to the Waste Guide in 2020 to reflect changes to the residential recycling program. Printed guides were sent out to all curbside residents as a utility bill insert. Magnet-back versions of the guide were printed and intended to be handed out at events through the spring and summer; however, this effort was put on hold due to the COVID-19 pandemic. The magnets will remain in storage until events are permissible again or if another need is identified.

Waste Guide Printed Handout

Put Waste in the Right Place

IMPORTANT RECYCLING CHANGES INSIDE!

City of Saskatoon WASTE GUIDE

What's in our trash?

More than just garbage.

Help extend the life of the landfill by putting your waste in the right place.

57% organics
food scraps and yard waste

8% recyclables

7% other*

28% garbage

*hazardous waste, electronics, construction waste
Curbside Residential (2019 Waste Characterization Study)

Still don't know where it goes?

Ask the Wizard!

Visit saskatoon.ca/wastewizard to search an item for recycling and disposal information.

<h3>Recycling</h3> <ul style="list-style-type: none"> Plastic Containers (milk and drink cartons, remove cap) Beverage Containers (paper coffee cups, to-go soup containers) Cardboard Mixed Paper Aluminum Foil and Tin Cans Household Glass <p>NOT ACCEPTED</p> <ul style="list-style-type: none"> Black Plastic (NEW) Polycoat (NEW) Styrofoam Plastic #999 Hazardous Waste Food Waste Batteries Electrical Cords Styrofoam Plastic #999 Food Waste Hazardous Waste Needles <p>THINGS TO REMEMBER</p> <ul style="list-style-type: none"> Empty, rinse, and flatten all containers. Do not bag items; toss them loosely into your Blue Cart or Bin. Place shredded paper in a clear, tied plastic bag. Anything smaller than a credit card is too small to be sorted into recycling. Glass is still accepted at SARCAN and in your Blue Cart or Bin. <p>CUSTOMER SERVICE</p> <ul style="list-style-type: none"> Loosan Recycling: 306 262 2200 Competition Industries: 306 955 9100 City of Saskatoon: 306 975 2486 <p>For more information visit saskatoon.ca/recycling</p>	<h3>Organics</h3> <ul style="list-style-type: none"> Unbagged Yard Waste Fruits and Vegetables Bread, Noodles, and Other Grains Coffee Grounds, Paper Filters and Paper Teabags Eggs and Eggshells Food-Sorted Paper Products <p>NOT ACCEPTED</p> <ul style="list-style-type: none"> Plastic Bags Flint Tree Wood Lumber Wood Products Tree Branches larger than your finger in diameter Logs or Stumps Roofs or Dirt Garbage Products Fats or Cooking Oils Dressings, Sauces or Liquids Meat, Seafood or Bones <p>THINGS TO REMEMBER</p> <ul style="list-style-type: none"> Place your food and yardwaste loosely in your Green Cart or use a paper bag. Green Cart is front street collection only. <p>ABOUT THE PROGRAM</p> <p>The Green Cart Program is an optional program for residential yard and food waste, available for a small fee to curbside residential households with Blue and Black Carts. The City collects Green Carts every two weeks from May through the first week of November on your scheduled collection date.</p> <p>For more information visit saskatoon.ca/organics</p>	<h3>Garbage</h3> <ul style="list-style-type: none"> Non-Recyclable Household Waste Diapers and Wipes Food Waste that doesn't go in your Green Cart <p>NOT ACCEPTED</p> <ul style="list-style-type: none"> Recyclables Liquids Furniture Over-sized Materials Construction Waste Batteries Propane Tanks Used Oil Household Hazardous Waste <p>THINGS TO REMEMBER</p> <ul style="list-style-type: none"> Bag and tie all garbage. Take auto parts and other metal to the Landfill for metal recycling (less apply) or to a local metal recycler. <p>For more information visit saskatoon.ca/garbage</p>	<h3>Household Hazardous Waste</h3> <p>LOCATION 57 Valley Rd. • Civic Operations Centre</p> <p>DROP-OFF DAYS Once per month, from April to November. Visit the website for specific dates and times.</p> <p>ACCEPTED ITEMS</p> <ul style="list-style-type: none"> ✓ Aerosols ✓ Automotive Fluids ✓ Batteries ✓ Cleaners ✓ Cylinders ✓ Light Bulbs ✓ Medications ✓ Used Chemicals ✓ and more! <p>For more information visit saskatoon.ca/hazardouswaste</p>
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Landfill and Compost Depots

Regular communications were carried out regarding openings, temporary closures, site conditions, etc. to ensure residents were always made aware of the accessibility of the City landfill and compost depots. Communications regarding modified services and/or procedures due to the pandemic were also communicated. PSAs, service alerts, website updates, and social media posts were primarily used to communicate to residents.

Landfill and Compost Depot Updates via Social Media



Household Hazardous Waste Drop-off Days

Promotion of Household Hazardous Waste Drop-off Days continued through the City website, social media, and PSAs, as well as MyCity for internal audiences. Site signage was updated monthly, and event wait times were also introduced through the Facebook events to help residents better manage their time and avoid the long line-ups.



City of Saskatoon - Your Local Government
5 July 2020

11:15 am - Approximate wait time is 30 mins.

Like Comment

City of Saskatoon - Your Local Government
5 July 2020

10:00 am - Approximate wait time is 1 hr 15 mins. Line extending to Valley Road.

1 comment

Like Comment

HHW Drop-off
Sunday, June 7
[CIVIC OPERATIONS CENTRE] 57 Valley Road, Saskatoon
City of Saskatoon GFL

SUNDAY, 7 JUNE 2020 FROM 09:00 CST-15:30 CST

Household Hazardous Waste Drop-off Day
Free - 57 Valley Rd, Corman Park No 344, SK S0K, Canada

Details

- 471 people responded
- Event by City of Saskatoon - Your Local Government
- 57 Valley Rd, Corman Park No 344, SK S0K, Canada
- Sunday, 7 June 2020 from 09:00 CST-15:30 CST
- Price: free · Duration: 6 hr 30 min
- Public · Anyone on or off Facebook

HHW DROP-OFF DAYS ARE BACK!

After a bit of a delay, we're happy to announce that our first event of the season will be on SUNDAY, JUNE 7 (9am-3:30pm) at the Civic Operations Centre (57 Valley Road) bit.ly/HHWmap.

Common HHW materials include aerosols, automotive fluids, batteries, cleaners, cylinders, light bulbs, medications, yard chemicals, vaping products, and more. These and many other types of hazardous materials require safe disposal and should not be put in your garbage or recycling containers, dumped on the ground, or poured down the drain. A list of acceptable materials and information on future events can be found at saskatoon.ca/hazardouswaste.

COVID-19 UPDATE: Please visit saskatoon.ca/hazardouswaste for important guidelines and restrictions that will be in place to help reduce the spread of the virus.

To avoid potentially long line-ups and wait times, visit saskatoon.ca/wastewizard to find other means of recycling and safe disposal. See less

Insights
Last 7 days: 25 Feb - 4 Mar

People reached 13,390 +0 last 7 days	Responses 471 +0 last 7 days
Audience Women 35-44 23% of total responses	Track ticket sales Track ticket sales on your next event by adding a ticket link

See More

Recycling Awareness Campaigns

Two educational awareness campaigns ran in 2020 (Fall and Winter) with the third (Spring) being cancelled due to the pandemic. Campaigns were promoted through various traditional and digital marketing channels.

Don't be a wish-cycler

- ▶ In market: Fall – September and October.
- ▶ An evolution of the recycling contamination campaign that launched in 2019 encouraging residents to recycle safe, right, and clean. This campaign brought extra attention to certain “trouble items” and the volume of contamination in the recycling stream and introduced some playful and sometimes absurd headlines to grab the attention of residents and bring the necessary awareness to this ongoing problem. Statistical information for this campaign was provided via an audit from one of our service providers.



Recycle Better in Your Ugly Sweater

- ▶ In market: Winter – December and January.
- ▶ This campaign focused on providing residents with tips on how to reduce, reuse, and recycle effectively over the holiday season.
- ▶ Continuing with the campaign developed in 2019, ugly sweaters were used as a playful, entertaining, and seasonally relevant way of delivering our key messages.
- ▶ The partnership with Saskatoon Transit continued, using the Jingle Bell Express buses as a means to help deliver our holiday waste messaging. On-bus engagement had to be cancelled due to the pandemic, so focus shifted toward engaging with residents through social media with videos, contests, etc.
- ▶ The City also partnered up with several Christmas tree lots around the city to help promote the City's drop-off sites for tree composting, and with the Midtown Plaza to do a takeover of their waste diversion wall at the Midtown Common.



Holiday Recycling Campaign Artwork



Black Cart (Garbage) Education

To help promote efficient and effective garbage collection services, the City began an education campaign in the fall of 2019. Non-compliance with cart usage or placement guidelines⁵⁷ was followed-up by delivering an informational cart tag for residents. In these instances, the contents of the black carts were collected; however, this friendly reminder was left to help ensure successful collections in the future.

Black Cart Non-compliance Notification Tag

We were in the neighborhood...

CART PLACEMENT TIPS:

- ✓ Set out your cart by 7 a.m. on your collection day.
- ✓ Make sure your lid is completely closed.
- ✓ Place your cart according to the guidelines below.
- ✓ Return your cart to your property by 7 p.m. to prevent fines, theft, or damage.
- ✓ Please ensure only the appropriate items are placed in your cart.

Front Street Collection

Back Lane Collection

For cul-de-sac collection scenarios and more information, visit:
saskatoon.ca/cartplacement

saskatoon.ca/waste

24/7 Customer Care Centre: 306-975-2486

...and we noticed some things about your cart:

- Your cart was **not accessible** to our collection vehicles and employees.

- Your cart was **overfilled**, preventing the lid from closing.

- Your cart was **not four feet away** from surrounding obstructions.

- There was **waste on your cart lid** and/or on the ground.

Comments

.....

.....

.....

.....

Normally these issues would prevent us from emptying your cart, but we collected it this time and left this note to ensure that we're able to serve you in the future.

See tips on reverse to help us serve you better.

⁵⁷Overfilled carts, lack of appropriate spacing at the curb, etc.

Recycling Depot Education

In an effort to address the issues happening at City recycling depots regarding overfilled bins, contamination, and illegal dumping, Environmental Protection Officers were equipped with educational handouts to give to residents. Updated bin decals were also developed with installation continuing through 2021. The updated decals provide additional information on non-accepted materials, bylaw information and illegal dumping, and point to the Waste Wizard as a recycling resource.

Recycling Depot Blitz Handouts

Recycling Depot Tips

Help us minimize contamination, run an efficient and successful recycling program, and ensure the safety of all the people that handle these materials.



1. Only place accepted material in the bins.
2. Flatten all cardboard, rinse all containers and place loosely into the bin. Please do not use bags.
3. Place recyclables fully in the bin. Do not leave items outside or on top of bins.
4. For your safety, never climb into recycling bins or remove materials from bins.
5. Depots are for residential use only.

We're here to help!
If you have any questions please contact the 24/7 Customer Care Centre:
☎ 306-975-2486
✉ garbage@saskatoon.ca

Illegal dumping of unaccepted items or misuse of the recycling depots can result in fines of up to \$1,000 under the Waste Bylaw #8310. Please report these offenses at saskatoon.ca/illegaldumping.

Recycle Safe. Recycle Right. Recycle Clean.

Dirty items ruin recycling, hazardous items can cause damage and injuries, and unrecyclable items have no value and contaminate the recycling stream.

ACCEPTED		NOT ACCEPTED
 Plastic Containers <small>NEW: no black plastic</small>	 Beverage Containers <small>milk and drink cartons remove all caps</small>	<ul style="list-style-type: none"> ❌ Black Plastic NEW ❌ Polycoat NEW paper, coffee cups, ice cream cartons, to-go soup containers ❌ Hazardous Waste ❌ Electronics ❌ Batteries ❌ Electrical Cords ❌ Styrofoam ❌ Plastic Bags ❌ Food Waste ❌ Needles ❌ Wood ❌ Tires ❌ Propane Tanks ❌ Paint ❌ Furniture ❌ Other Household Garbage
 Cardboard	 Mixed Paper	
 Aluminum Foil and Tin Cans	 Household Glass	
<p>Don't know where it goes? Don't guess. Ask the Wizard! Visit saskatoon.ca/wastewizard to search an item for recycling and disposal information.</p>		





Recycle!



Plastics #1-7 	Beverage Containers 	Flattened Cardboard 
Household Glass 	Foil and Cans 	Mixed Paper 

NOT ACCEPTED

 Electronics	 Plastic Bags	 Styrofoam	 Black Plastic	 Hazardous	 Furniture	 Appliances	 Yard & Food Waste	 Wood & Metal	 Household Garbage
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By City of Saskatoon Bylaw #8310, these items are not accepted. NO ILLEGAL DISPOSAL. Violators will be prosecuted. To report illegal dumping call 306-975-2486.



Creating Opportunities for Persons with Disabilities
marr@cosmoindustries.com • 306 955 9300

Don't know where it goes? Ask the Wizard!
saskatoon.ca/wastewizard

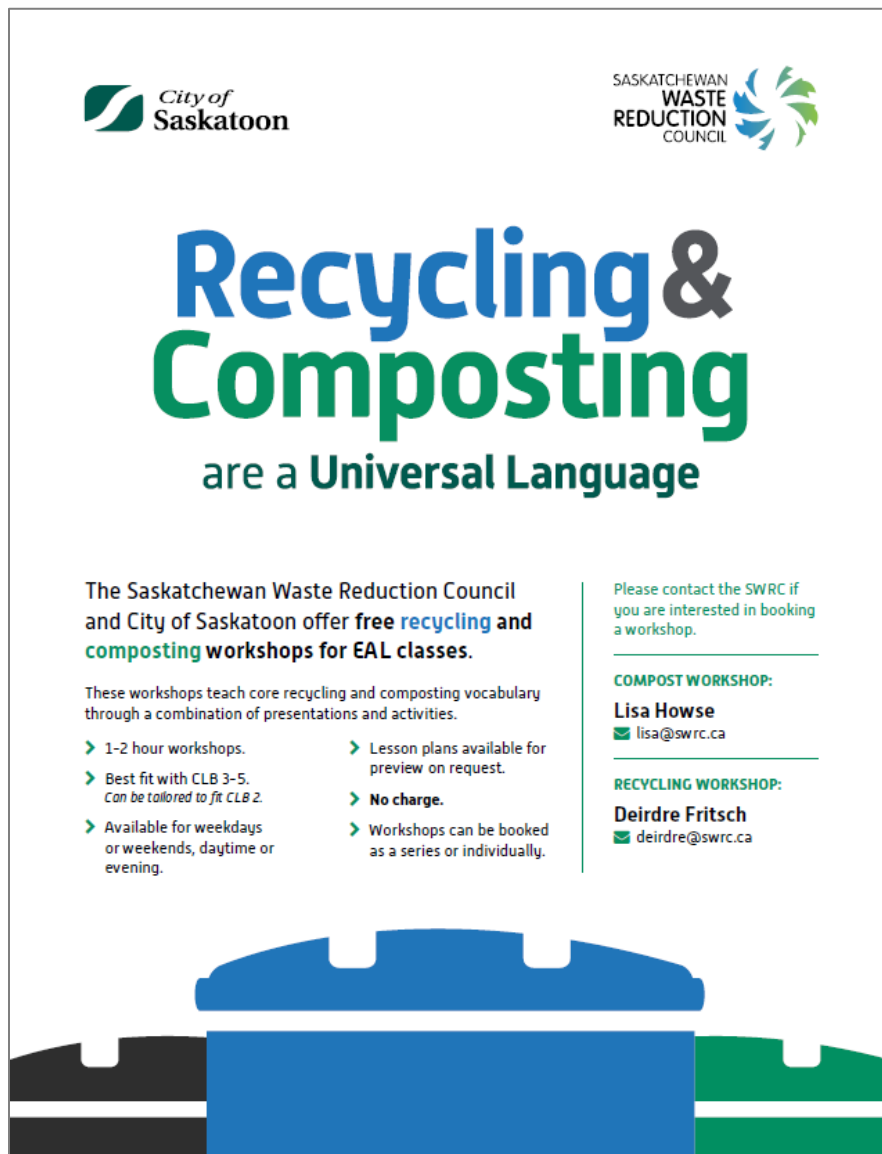


Newcomer Workshops

Using recycling and composting awareness as the subject for 'English as an Additional Language' training, new Canadians were provided both language training and information about the City's recycling and composting programs during 15 workshops in 2020. Traditionally, 40 workshops are completed annually but COVID-19 restrictions paused this program and with the additional time a virtual program is being developed in 2021 with focus on level C2 to C5 students.

As an additional tool for this program, the procurement of translation services were completed for the English 2020 Waste Guide. Continuing in 2021, a one-page downloadable poster will be available in five alternative languages including: Arabic, Cree, French, Mandarin, and Spanish.

Newcomer Workshop Ad



The poster features the City of Saskatoon logo on the top left and the Saskatchewan Waste Reduction Council logo on the top right. The main title 'Recycling & Composting are a Universal Language' is centered in large, bold, blue and green fonts. Below the title, there is a section of text describing the workshops, followed by two columns of bullet points detailing workshop specifics. On the right side, there are contact details for Lisa Howse (Compost Workshop) and Deirdre Fritsch (Recycling Workshop). At the bottom, there is a stylized graphic of a recycling bin and a compost bin.

City of Saskatoon

SASKATCHEWAN WASTE REDUCTION COUNCIL

Recycling & Composting are a Universal Language

The Saskatchewan Waste Reduction Council and City of Saskatoon offer **free recycling and composting workshops for EAL classes.**

These workshops teach core recycling and composting vocabulary through a combination of presentations and activities.

- > 1-2 hour workshops.
- > Best fit with CLB 3-5. Can be tailored to fit CLB 2.
- > Available for weekdays or weekends, daytime or evening.
- > Lesson plans available for preview on request.
- > **No charge.**
- > Workshops can be booked as a series or individually.

Please contact the SWRC if you are interested in booking a workshop.

COMPOST WORKSHOP:
Lisa Howse
✉ lisa@swrc.ca

RECYCLING WORKSHOP:
Deirdre Fritsch
✉ deirdre@swrc.ca

Multi-Unit Residential Recycling Program Awareness

The City and Cosmopolitan Industries worked together to develop a community based social marketing program that would identify multi-unit buildings experiencing high recycling contamination rates and conduct regular audits and education to help residents in their recycling efforts. This program was put on hold due to the pandemic, but all creative development was completed in 2020.

Multi-Unit CBSM Material and Multi-Unit Recycling Bin

Put your waste in the right place.

We know that recycling is not always top of mind, so we're giving you something to help sort your recycling.

- Fill up your blue tote with accepted materials.
- Take it outside.
- Toss the loose contents in the blue bin.

Help: Recycling and clean items are not accepted for people recycling. It makes it less more exciting though, don't you think? Please re-use your stuff.

Don't know where it goes? Ask the Wizard! saskatoon.ca/wastewizard

Great Job!

Thanks for putting your waste in the right place! You're helping us keep plastic bags and other unaccepted material out of recycling.

Here are a few things to keep in mind:

- Don't bag or box items. Shredded paper is the only material that is accepted in clear bags.
- Don't put plastic film in the blue bin. Only plastics #1-7 are accepted and all other plastics should be placed in the garbage.
- Don't be a wish-cycler. The materials that can be recycled are listed on your new tote. If you put something else in the recycling bin, it makes it harder for us to recycle your plastic and could make it unsafe for the people collecting and sorting recycling.
- Use your blue tote. It can help you to sort and dispose of your recycling.

Questions or comments? cosmoindustries.com 306-955-9100 cityofsaskatoon.ca 306-975-2486 recycling@saskatoon.ca

Need help?

It looks like some of your waste isn't going in the right place. Please help us keep plastic bags and other unaccepted material out of recycling.

Here are a few things to keep in mind:

- Don't bag or box items. Shredded paper is the only material that is accepted in clear bags.
- Don't put plastic film in the blue bin. Only plastics #1-7 are accepted and all other plastics should be placed in the garbage.
- Don't be a wish-cycler. The materials that can be recycled are listed on your new tote. If you put something else in the recycling bin, it makes it harder for us to recycle everything else and could make it unsafe for the people collecting and sorting recycling.
- Use your blue tote. It's an easy way to sort and dispose of your recycling.

Questions or comments? cosmoindustries.com 306-955-9100 cityofsaskatoon.ca 306-975-2486 recycling@saskatoon.ca

Congrats!

We're happy to see that your blue tote has made a difference.

Since you've had your blue tote, the amount of incorrect materials in your building's blue bin has decreased by:

But it doesn't end here. Keep up the great work and keep recyclables out of the landfill.

Thanks for putting your waste in the right place!

Questions or comments? cosmoindustries.com 306-955-9100 cityofsaskatoon.ca 306-975-2486 recycling@saskatoon.ca

What goes in the blue bin?

Plastics 1-7
Please reuse and remove lids

- Reusable food containers, cleaning & toiletry bottles
- NO plastic baggies, film, styrofoam, bubble cups & straws, or black plastic

Mixed Paper
Please reuse

- Shredded paper (in clear bag), papers & newspapers, and some gift wrap supplies
- NO wax or laminated paper, coated tissue paper, napkins, diapers, paper coffee cups, or soap containers

Cardboard
Please flatten

- Cardboard boxes, paper egg cartons, milk & juice cartons
- NO sealed food containers, wood products, or coffee notebooks

Aluminum Foil & Tin Cans
Please reuse

- Pap cans, food & pet food tins, pie plates, and aluminum foil
- NO batteries, automotive parts, tools, appliances, needles, or furniture

Household Glass
Please reuse and remove lids

- Beverage bottles and food grade jars
- NO windows, mirrors, ceramics, or porcelain

Take a don't break it! Drop off your household glass at SARC as it doesn't break during the blue bin collection process.

Don't know where it goes? Ask the Wizard! saskatoon.ca/wastewizard

Please, keep plastic bags and film out of the blue bin!

WE'RE BAGGING YOU!

Plastic bags and film stay in your material and can't be recycled. They keep your recycling clean and safe.

Don't know where it goes? Ask the Wizard! saskatoon.ca/wastewizard

Recycle!

Plastics #1-7 Beverage Containers Flattened Cardboard Household Glass Foil and Cans Mixed Paper

NOT ACCEPTED

Hazardous Appliances Tires Dryer Washers Dryers Stoves Dishwashers Freezers A/C Units

Don't know where it goes? Ask the Wizard! saskatoon.ca/wastewizard

Cosmopolitan Industries continues to provide outreach to building managers and residents. The education program in 2020 (pre-pandemic) included 33,000 door hangers placed in multi-unit buildings throughout the city and 40 recycling classes with 876 students. Updated bin decals were also updated at all multi-unit buildings.

Recycling Education Unit

In 2020, the City partnered with the Saskatchewan Waste Reduction Council (SWRC) to provide waste and recycling education to the community through the City's Recycling Education Unit. The program was greatly affected by the pandemic as all but three of the planned in-person events were cancelled. In place of in-person events and activities, the plan pivoted to a digital direction, and that's where the YXE Waste Tour was created.

Recycling Education Unit from 2019



YXE Waste Tour

In collaboration with the SWRC, two summer students went on a journey around Saskatoon to learn about all of the waste diversion opportunities in the City and share their experience through an online video series. Ten different videos were shared on the City website, YouTube, and all social media channels from July through September.

Stops on the tour included:

- ▶ Recycling Depots;
- ▶ Compost Depots;
- ▶ City Landfill;
- ▶ SARCAN;
- ▶ Loraas Recycle;
- ▶ Cosmo Industries; and
- ▶ Household Hazardous Drop-off Day event.



Tune in
to the
Tour

saskatoon.ca/yxewastetour

f y



Home Composting Education

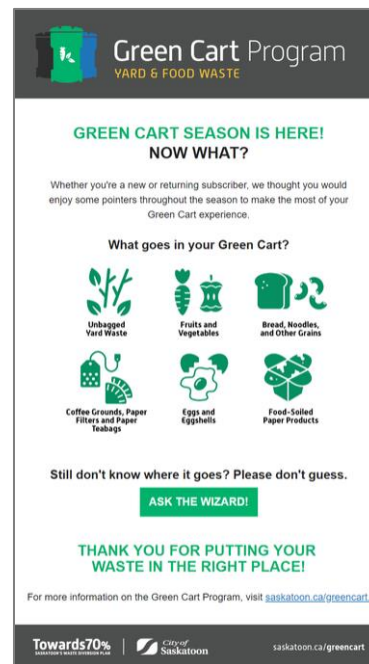
The SWRC has been running composting education programs since 1993 and in partnership with the City since 1995. Composting programs and services are included within the City's Healthy Yards program. The 2020 program included the following:

- ▶ 41 compost bin rebates of \$20;
- ▶ 27 home visits for residents seeking one-on-one composting support;
- ▶ 2 community events/presentations and 23 workshops;
- ▶ 11 new Compost Coaches;
- ▶ 'What's your Composting Style?' quiz; and
- ▶ A Compost Hotline, accessible by phone or email, received 92 inquiries.

Green Cart Program Education and Marketing

In 2020, the number of Green Cart subscribers reached an all-time high of 11,180.⁵⁸ Promotional efforts focused on encouraging previous subscribers to renew but to also encourage new subscriptions. This was done through direct mail letters and emails to previous subscribers, social media and PSAs to reach a broader audience, and messaging campaigns attached to weekly collection reminders. Regular communication with subscribers was maintained throughout the season through monthly emails delivering Green Cart tips and program-related information.

Green Cart Program Promotion and Subscriber Education



⁵⁸ Over 9,300 returning and over 1,800 new subscribers.

Saskatoon Curbside Swap

The objective of the Curbside Swap is to encourage residents to pass along reusable household items, reduce the number of items ending up in the landfill, and to build a sense of community in the same way that garage sales do. The City provides information, guidelines, and customizable marketing materials on its website to help residents plan and promote their own Curbside Swaps.

Promotions were limited to one city-wide event on September 19, 2020 due to pandemic-related restrictions on garage sales. This event was promoted using the City website, social media, PSAs, and the Saskatoon Waste Wizard app. 430 recorded listings were held on September 19 and the website received 8,300 unique pageviews during the promotional period.

Curbside Swap Campaign Artwork



Waste & Recycling Workers Week (Week of June 17)

Water & Waste Operations continued its priority of recognizing the amazing staff of the solid waste industry during Waste & Recycling Workers Week (WRWW). This was particularly relevant during the pandemic which saw frontline workers of all kinds, putting themselves at risk to keep the City moving during a difficult time. In addition to promoting this through internal channels, communications were focused more heavily online and through social media to help generate awareness among residents. Opportunities to surprise and delight some of our biggest (little) fans was also a welcomed addition to this week of celebration and community appreciation.

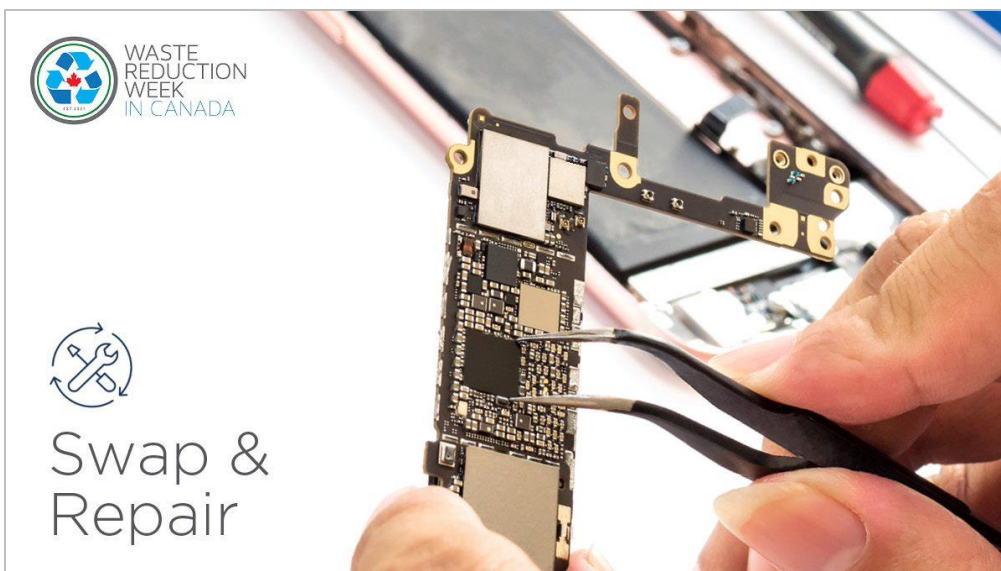
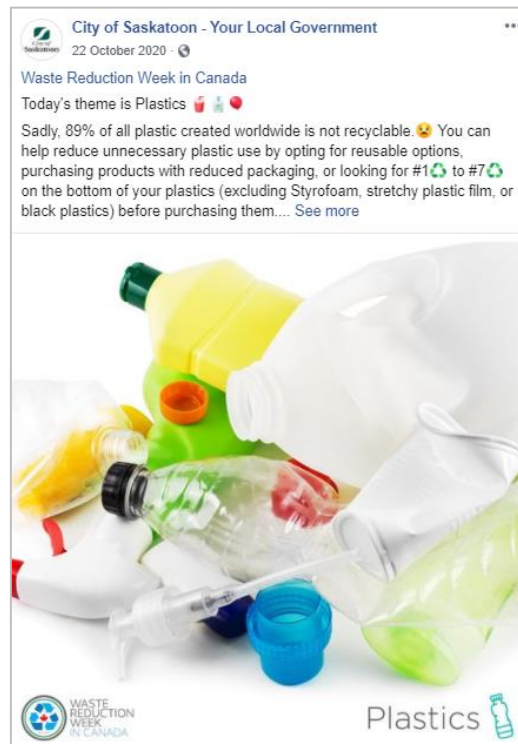
Waste & Recycling Workers Week Campaign Artwork



Waste Reduction Week in Canada (October 19–25)

The City helped generate awareness around Waste Reduction Week in Canada by promoting the daily topics on social media. The purpose was to challenge people to look at their waste reduction and diversion practices in various areas, provide them with interesting facts, and give them with access to local resources to help in their reduction and diversion efforts. Daily topics included: Circular Economy, Textiles, E-Waste, Plastics, Food Waste, Sharing Economy, and Swap & Repair.

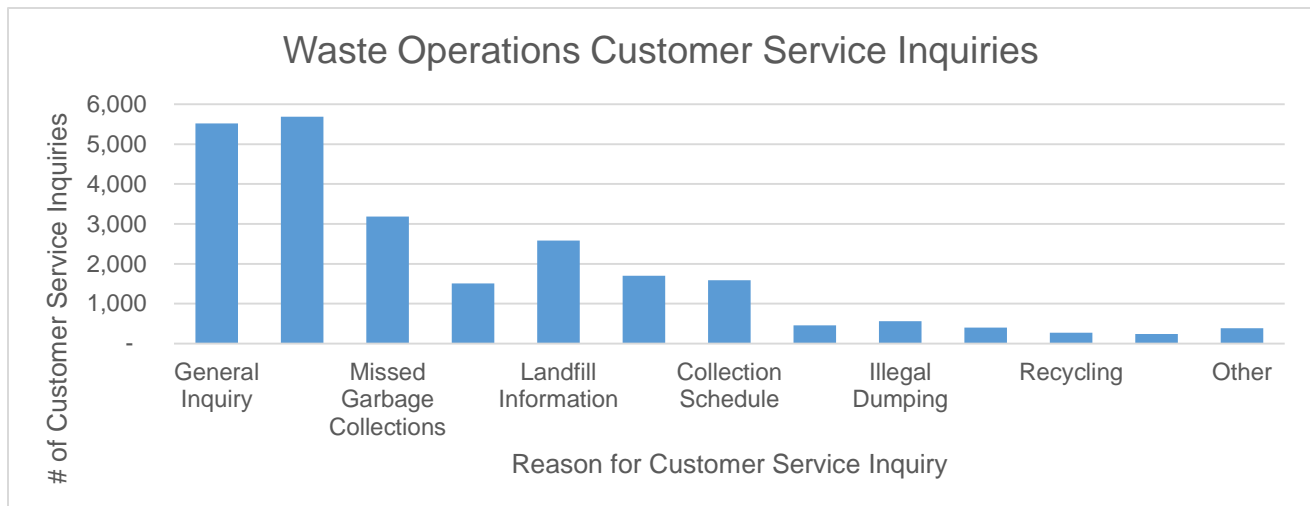
Waste Reduction Week Social Campaign Artwork



Customer Service

In 2020, approximately 18,300 waste-related calls and over 5,800 emails were addressed by the City's Customer Service Representatives. A breakdown of the categories is provided below.

Waste Operations Customer Service Contact Inquiries in 2019



Waste Bylaw Enforcement

The City's Environmental Protection Officers focus on issues in the community related to Bylaw No. 8310, The Waste Bylaw. In addition to education and enforcement of The Waste Bylaw, Environmental Protection Officers are also responsible for responding to hydraulic spills, illegal dumping, and waste and recycling container complaints, as well as conducting bylaw related education initiatives for the general public.

The Waste Bylaw specifies that carts must be removed from the public right-of-way after collection day, to reduce the potential for illegal dumping, theft, damage, scavenging, misuse, unsightliness, and congestion for residents and collection trucks.

The neighbourhood cart education and enforcement initiative consists of three phases including: initial inspections and an education letter to non-compliant homeowners, a follow-up inspection and warning letter, and ultimately a final inspection with a Notice of Violation including a \$100 ticket issued for any carts still remaining in the public right of way.

Neighbourhood inspections, although resource intensive, showed a significant decline in the number of carts that remain in the public right-of-way. In 2020, a total of 371 education and warning notices were delivered and only one ticket was issued, demonstrating a compliance rate of greater than 99% as a result of the education-first approach. The Riversdale and Pleasant Hill neighbourhoods have not yet been addressed through the cart placement education and enforcement initiative; these neighbourhoods are scheduled to be inspected in 2021 or 2022.

Appendix A – Waste-to-Energy

Waste-to-Energy Facilities in Canada

There are currently seven operational waste-to-energy facilities in Canada, as outlined in the chart below.⁵⁹ Incinerators are the most common technology in five of the facilities, four of which currently generate energy and the fifth is in the process of adding energy generation. The other two facilities use gasification or pyrolysis. Gasification is a process that transforms a carbon-based material, such as municipal solid waste, into other forms of energy through a chemical reaction and in the absence of combustion. Pyrolysis is the heating of an organic material in the absence of oxygen, in which the chemical compounds that make up that material thermally decompose into combustible gases and charcoal.

Name	Type of Facility	Waste Type	Location	Year Commissioned	Comments
L'incinérateur de la Ville de Québec	Incinerator with Energy Recovery	Post-recycled MSW; wastewater sludge	Québec, QC	1974	Heat used to dry wastewater sludge prior to incineration
Covanta Burnaby Renewable Energy	Incinerator with Energy Recovery	Post-recycled MSW	Burnaby, BC	1988	25% of Metro Vancouver's waste
Emerald Energy From Waste	Gasification with Energy Recovery	MSW	Mississauga, ON	1992	Excess steam sold to neighboring paper mill
Durham York Energy Centre	Incinerator with Energy Recovery	Post-recycled MSW	Durham Region, ON	2016	
Sustane Chester	Waste Separation Technology and Pyrolysis	Post-recycled MSW	Chester, NS	In Progress	Facility expected to be fully operation by summer 2021
PEI Energy Systems EFW	Incinerator with Energy Recovery	Post-recycled MSW	Charlottetown, PEI	1981	District heating and hot water system
L'incinérateur municipal de Lévis	Incinerator	Post-recycled MSW; hospital waste	Lévis, QC	1976	In the process of being retrofitted to generate energy

⁵⁹ The tables and data in this section builds on content from the presentation: ENERGY, RESOURCES AND GREENHOUSE GAS REDUCTION FROM MUNICIPAL SOLID WASTE, Waste to Energy Workshop, Saskatchewan Waste Reduction Council and, SWANA Northern Lights, December 3, 2020, Matt Hamilton, Waste Reduction and Management Division, Environment and Climate Change Canada.

Waste-to-Energy Facility Capacities and Costs

Facility capacity, energy recovery, capital costs, operational costs⁶⁰ and revenue from energy generation are provided in the table below. Not all costs are publicly available. For most facilities, capital costs to build are unavailable since they were built and operated by the private sector and only charged the municipality for processing or are not relevant due to the age of the facility. The costs per tonne are for the facility's operations only and exclude collections and other administrative costs.⁶¹ For context, the City of Saskatoon's landfill accepted 94,067 tonnes of material for burial⁶² in 2019, and landfill operations costed \$40 per tonne.⁶³

Name	Capacity (tonnes/year)	Energy Recovery		Capital Cost to Build	Annual Operating	
					Costs	Revenue
L'incinérateur de la Ville de Québec	312,000	Steam	-	-		
Covanta Burnaby Renewable Energy	285,000	Electricity	28 MW	N/A	\$20.5M (2019); net cost of \$57.45 per tonne	\$5.8M energy; \$0.3M metal
Emerald Energy From Waste	187,000	Steam, Electricity	9.3 MW	Privately operated – contract with Peel Region ended in 2012.		
Durham York Energy Centre	140,000	Electricity	17.5 MW	\$284.2M	\$16.8M (2020); net cost of \$120 per tonne	\$8.5M energy; \$0.7M recovered materials
Sustane Chester	70,000 (when fully commissioned)	Biomass Pellets, and Synthetic Diesel	-	\$16M (planned cost)	-	-
PEI Energy Systems EFW	25,784 tonnes (2018)	Steam, Electricity, Hot Water	-	-	\$1.1M (2018); \$44 per tonne (paid by Island Waste Management Corporation)	-
L'incinérateur municipal de Lévis	26,800	-	None	-	\$1.4M (2013); \$52/tonne (paid by Lévis)	-

⁶⁰ Total and net cost per tonne to process waste.

⁶¹ Such as reserve contributions.

⁶² Excluding clean fill.

⁶³ Excluding collections and other administrative costs.

Complementary Programs in Municipalities with Waste-to-Energy Facilities

The following chart shows the other waste programs that communities served by waste-to-energy facilities have in place. It also shows the diversion rate, as reported by the community. All communities served by waste-to-energy facilities have collections of residential recycling, organics, and Eco Centres that are the same model as Recovery Park. All communities where diversion rates were available have a rate of diversion at least twice as high as the City of Saskatoon, demonstrating that waste-to-energy facilities typically complement diversion programs, not replace them.

Name	Landfill	Residential Recycling Collection	Residential Organics Collection	Eco Centre	Diversion Rate
L'incinérateur de la Ville de Québec	100,000 tonnes/year (65% ash)	Yes	In development (anaerobic digestion)	Yes	55% (2017)
Covanta Burnaby Renewable Energy	75% of Metro-Vancouver's garbage is landfilled	Yes	Yes	Yes	63% (2019)
Emerald Energy From Waste	Privately Operated – contract with Peel Region ended in 2012.				
Durham York Energy Centre	41,190 tonnes (2018); 22% of total waste York Region – 20,183 tonnes (2018); 6% total waste landfilled	Durham Region (Yes) York Region (Yes)	Durham Region (Yes) York Region (Yes)	Durham Region (Yes) York Region (Yes)	Durham Region: 63% (2018) York Region: 65% (2018) before waste-to-energy; 94% including waste-to-energy
Sustane Chester	-	Yes	Yes	Yes	-
PEI Energy Systems EFW	10% residual from facility (6,900 tonnes/year)	Yes	Yes	Yes	64%
L'incinérateur municipal de Lévis	6,100 tonnes residual	Yes	Yes	Yes	