

2019

Integrated Waste Management Report



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Introduction

What is Integrated Waste Management?

Integrated Waste Management is a strategic approach to managing waste by combining waste handling and reduction strategies that include reducing, reusing, recycling, composting, and disposal. An effective Integrated Waste Management system considers how to prevent, recover and manage waste in ways that protect human and environmental health. The goals of an effective Integrated Waste Management system are to be affordable, convenient, and maximize efficiency.

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 2019, management was provided by the Water & Waste Operations Division (W&WO) and the Sustainability Division (Sustainability) through the Waste Handling Service Line, the Waste Reduction Service Line, and the Waste Services Utility Service Line.

In 2019, 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 Regional Waste Management Centre;
- ▶ Provision of containers and collection of organics for Green Cart program;
- ▶ Management of seasonal Christmas tree drop-off sites;
- ▶ Operation of yard waste depots and compost facility; and
- ▶ Management of 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; and
- ▶ Landfilling of garbage at the Saskatoon Regional Waste Management Centre.

Education and Engagement Services

- ▶ Webpage, social outreach, mobile App, and Waste Wizard;
- ▶ Online Collection Calendar and App;
- ▶ Recycling communications campaigns during spring, fall, and winter;
- ▶ Rolling Education Unit and the Let's Roll Recycling Team;
- ▶ Newcomer recycling education workshops;
- ▶ Home composting education;
- ▶ Saskatoon Curbside Swap;
- ▶ School education programs at the Loraas Recycle and Cosmopolitan Industries material recovery facilities;
- ▶ Single-family and multi-unit recycling cart inspections and education blitzes;
- ▶ Waste bylaw education and enforcement; and
- ▶ Engagement and surveys to understand attitudes and awareness about current and future programs.

In addition to supporting the services highlighted above, W&WO was 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&WO also provides education and enforcement of *Bylaw No. 8310, The Waste Bylaw*. W&WO had the following resources dedicated solely to waste management in 2019:

- ▶ Under the Environmental Operations Manager, there was an Operations Superintendent for Collections and Containers with 45 staff (summer) and 29 staff (winter), an Operations Superintendent for the Landfill with 28 staff (summer) and 21 staff (winter), and an Operations Superintendent for Quality.
- ▶ Under the Environmental Projects & Protection Manager, there was 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 Engineering Intern.
- ▶ A Senior Project Management Engineer and a cross-divisional team was assigned to support the curbside organics program project.

In addition to supporting the services highlighted above, Sustainability was responsible for waste reduction planning, programming, education, and reporting. Included in this list were engagement, strategy development, and technical support for new waste diversion initiatives including: Recovery Park, curbside organics, and the *Industrial, Commercial and Institutional (ICI) Waste Diversion Strategy*. Sustainability had the following resources at the end of 2019:

- ▶ a Director, a Secretary, an Education & Environmental Performance Manager (also Acting as Climate Change Manager) with six staff, an Environmental Protection Manager with five staff, and an Energy & Sustainability Engineering Manager with five staff. In addition to Waste Reduction efforts, Sustainability managed work in: Environmental Programs, Water Conservation, Environmental Protection, Green Infrastructure Strategy, Energy and Facilities Management, and Climate Action.

The work of both divisions is directly supported by Finance, Corporate Revenue (especially for recycling programs), 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.

Waste Diversion Target

The City's waste diversion target is to divert 70% of Saskatoon's waste from the Saskatoon Landfill by 2023. The City is working on a *Solid Waste Reduction and Diversion Plan* that will outline the steps required and the expected timeline for meeting the 70% waste diversion target.

GHG Reduction Target

The City's GHG emission target is to reduce corporate (municipal government) and community emissions by 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. In order to meet this target, emissions from waste would need to be reduced by 1.303 million tonnes of CO₂e by 2050 by diverting or reducing organics by 90%, plastics by 95%, and paper by 90%. Emissions from waste would also need to be reduced by 1.891 million tonnes CO₂e by 2026 by expanding the capture and destruction of landfill gas at the Saskatoon Landfill.

National Zero Waste Council

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 Services

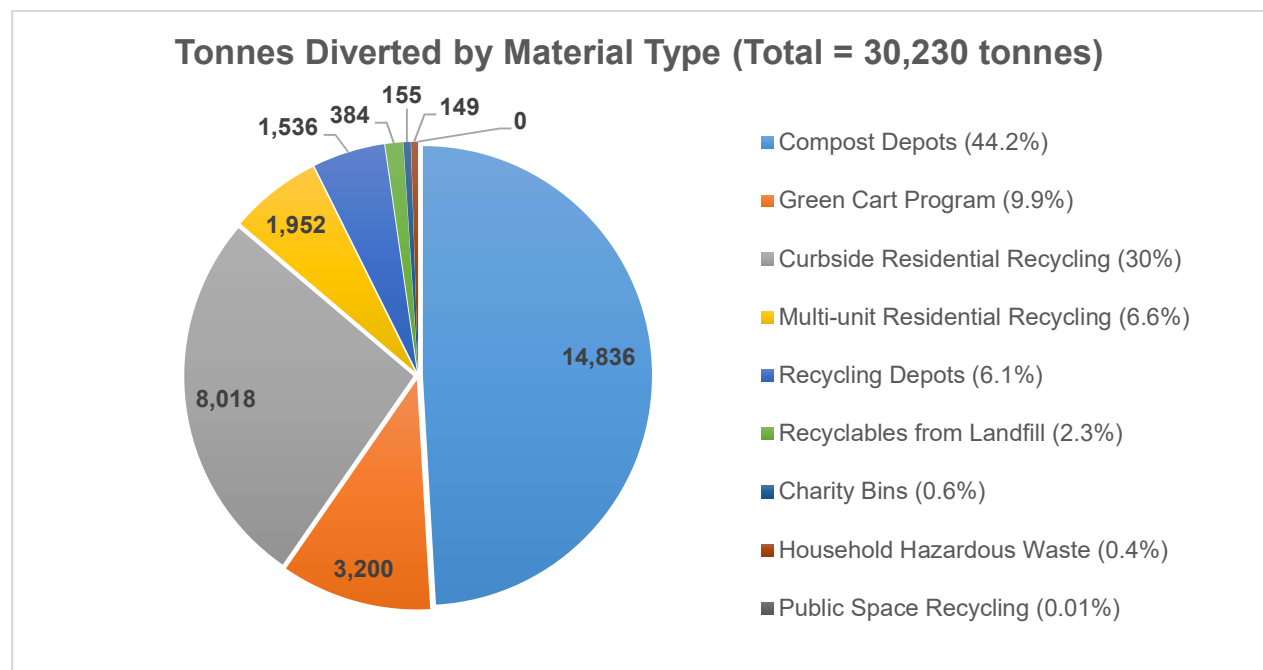
Photo 1 - Compost Windrow Turner at West Compost Depot



Waste Diversion in Saskatoon

A variety of programs and initiatives including recycling, composting, hazardous waste collection, and reuse of gently-used items, help to divert waste from regional landfills. Outreach and education supports these programs and raises awareness about the importance of waste reduction and diversion. The figure below shows the tonnes of materials diverted by each of the City's waste diversion initiatives (total of 30,230 tonnes) and how each initiative contributed to the diversion rate of 24.3% in 2019.

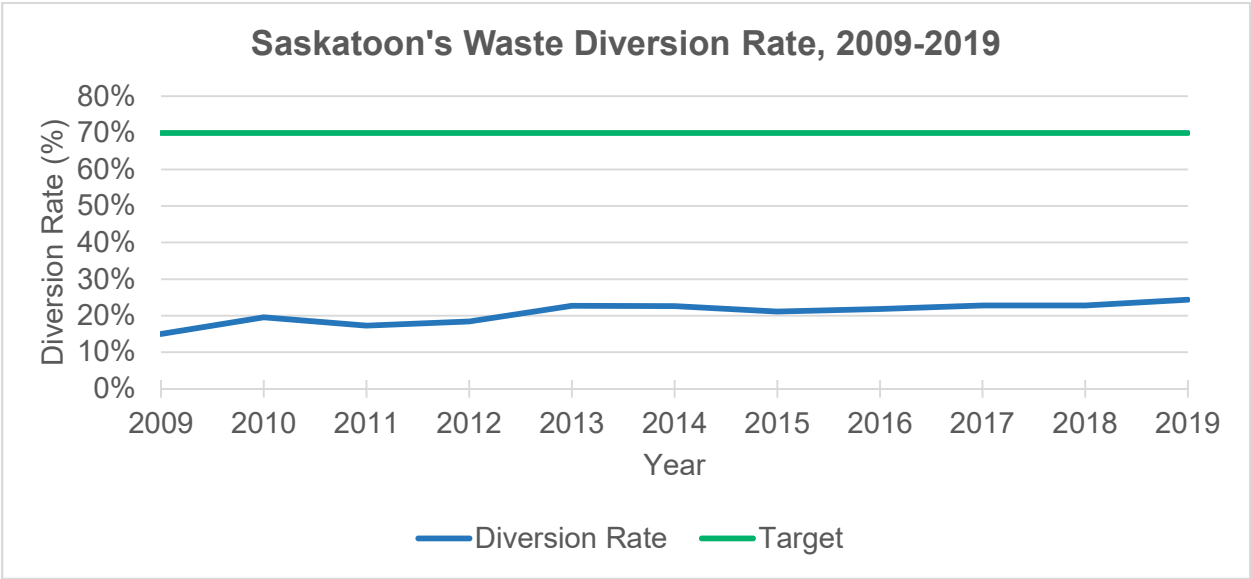
Figure 1 - Tonnes of Materials Diverted in 2019



Saskatoon's Waste Diversion Rate

The City's Waste Diversion Rate for 2019 was 24.3%, an increase from 22.8% in 2018. This performance indicator remains below the target of 70% that has been established for 2023.

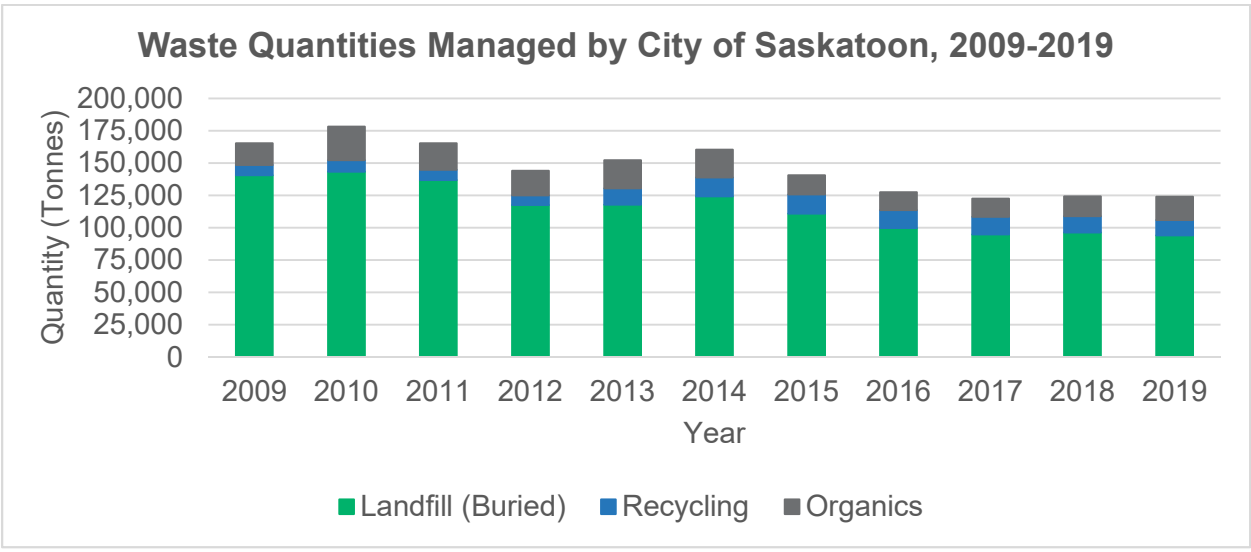
Figure 2 - Saskatoon's Waste Diversion Rate, 2009-2019



The City currently calculates the waste diversion rate considering 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.

The total amount of waste managed by the City in 2019 was slightly lower than in 2018. The annual quantities of garbage, recyclables, and organics (yard and food waste) are shown in the figure below.

Figure 3 - Waste Quantities Managed by City of Saskatoon, 2009-2019



The City's waste diversion rate of 24.3% 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%.

Table 1 - Diversion Rates of Other Canadian Cities and Regions

City/Region	2017 Diversion Rate	2018 Diversion Rate	Change from 2017
Metro Vancouver	63%*	64%*	+1%
York Region	60%	60%	0%
City of Halifax	60%	59%	-1%
Niagara Region	57%	56%	-1%
Region of Durham	51%	49%	- 2%
Region of Waterloo	60%	65%	+5%
City of Toronto	53%	52%	-1%
City of Edmonton	44%**	44%**	- 8%
City of Hamilton	44%	36%	-8%
City of London	45%	44%	-1%
City of Sudbury	45%	45%	0%
City of Windsor	38%	40%	+2%
City of Montreal	38%	40%	+2%
City of Winnipeg	33%	33%	0%
City of Calgary	36%	52%	+16%
City of Thunder Bay	28%	29%	+1%
City of Saskatoon	22.8%***	24.3%****	+0%
City of Regina	21%	25%	+4%

Source: 2018 MBNCanada Performance Measurement Report, Municipal Benchmarking Network Canada

(<http://mbncanada.ca/app/uploads/2019/11/2018-Waste-Management.pdf>)

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

**Source: City of Edmonton Waste Services 2017 Annual report

(https://www.edmonton.ca/programs_services/documents/PDF/Waste_Services_2017_Annual_Report.pdf)

***City of Saskatoon diversion rate unchanged for 2018 at 22.8%

****City of Saskatoon diversion rate for 2019 was 24.3%

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. 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 2019, there were approximately 71,200 active carts in the single-family residential recycling program. Residents paid an annual per household utility fee of \$67.92 for this program.

In 2019, a total of 9,986 tonnes of material were collected through the curbside collection program; 10% of this was contamination (materials placed in the cart that are not recyclable). This is the same as 2018 but an increase from 8% in 2017, 6% in 2016, and 4% in 2015. The remaining 8,018 tonnes of recyclable materials were marketed to be recycled into new products, contributing 6.5% toward the City's waste diversion rate of 24.3%. This is down from 2018 when 8,536 tonnes were recycled.

The average set-out rate for the curbside recycling collection program was 67%, 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. The 2019 Waste & Recycling Survey found that 79% of households with individual blue carts claim to recycle all or most of their recyclable items.

Carts not being collected due to incorrect placement or overfilling continue to occur. In 2019, there were an average of 469 non-compliant carts per month, representing 0.7% of all carts. This is a slight increase from 2018, which saw an average of 408 non-compliant carts per month or a non-compliance rate of approximately 0.6%. Other concerns continue to be carts left out in back lanes for more than 24 hours and scavenging of high value materials (beverage containers and milk jugs). Back lane issues are addressed through communications such as the Waste and Recycling Collection Calendar and through education letters, warnings, and tickets issued by the City's Environmental Protection Officers.

Photo 2 - Residential Recycling Curbside Collection



The City and Loraas Recycle have signed an eight-year agreement for Curbside Recycling services for 2020 through 2027. The program will continue to have year round bi-weekly collection, and have the same collection routes and days. The cart used for the program will remain blue and be the 365L (96 gallon) size.

Global recycling restrictions have led to less international demand for material and resulted in higher quality standards. The City's response to the global recycling market is summarized in the 'Trends in Waste' section at the end of the report.

Multi-Unit Residential Recycling Collection

The Multi-Unit Residential Recycling (MURR) program was launched on October 6, 2014 and was fully operational in 2015. Service is provided by Cosmopolitan Industries (Cosmo). In 2019, residents paid an annual per household utility fee of \$37.32 for this service.

In 2019, a total of 2,437 tonnes of materials were collected through the MURR program; 20% of this was contamination (materials placed in the bins that are not recyclable). This is an increase from 19% in 2018. The remaining 1,952 tonnes of recyclable materials were marketed to be recycled into new products, contributing 1.6% toward the City's waste diversion rate of 24.3%.

The 2019 Waste & Recycling Survey found that 62% of households serviced by communal metal recycling bins claim to recycle all or most of their recyclable items. In contrast, 79% of households serviced by individual recycling bins (blue carts) claim to recycle all or most of their recyclable items.

Recycling Program Customer Service

Resident inquiries regarding the curbside collection program decreased in 2019, with Customer Service receiving 2,261 phone inquiries and 44 email inquiries for a total of 2,305 inquiries (or an average of 192 inquiries per month). This is an improvement from an average of 233 inquiries per month in 2018.

Inquiries for the MURR program also decreased in 2018, with Cosmo receiving and responding to 405 phone inquiries and 57 email inquiries throughout the year (or an average of 39 inquiries per month). This is an improvement from an average of 49 inquiries per month in 2018.

Recycling Depots

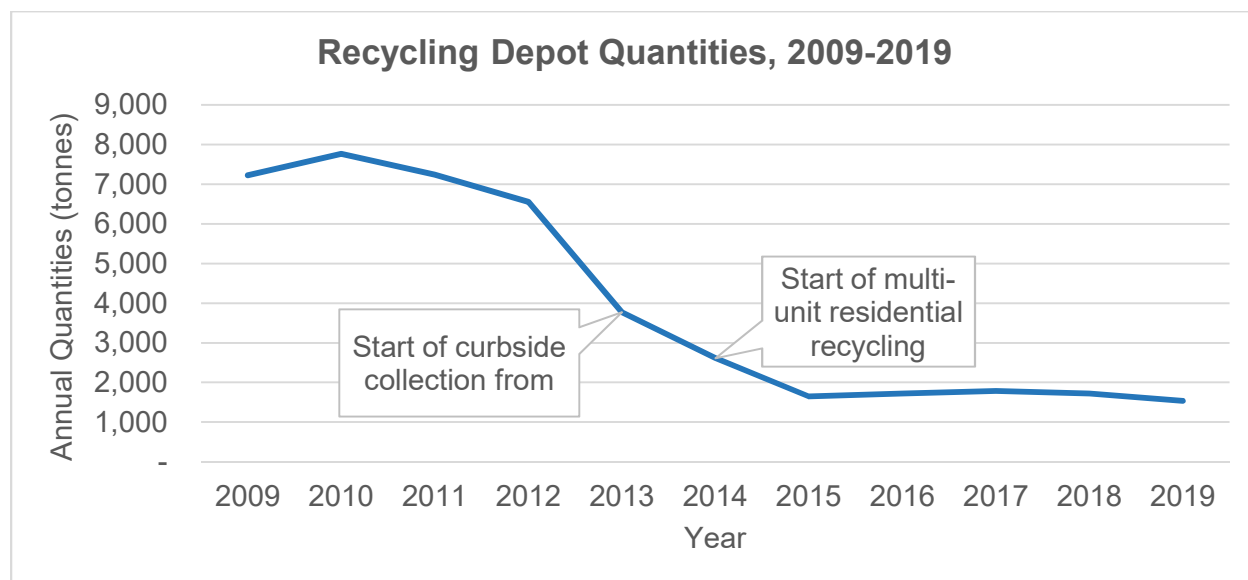
In 2019, 1,536 tonnes of material were collected at the depots contributing 1.2% to the City's diversion rate of 24.3%. It is estimated that 305 tonnes or 20% of this material was contamination.

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 sorting. 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.

City staff use front loader trucks to collect recyclables from the depots (stored in metal bins) and rear loader trucks to collect illegally dumped waste. Illegal dumping is often a problem since the

depots are unstaffed, and as such employees from W&WO spend a considerable amount of time servicing the sites.

Figure 4 - Recycling Depot Quantities, 2009-2019



SARCAN Recycling Glass Partnership

In 2019, SARCAN Recycling and the City of Saskatoon entered into a pilot program to accept household glass at SARCAN depots for recycling. The introduction of the program has been well received by the public and communication efforts have helped spread awareness of the program. 112 tonnes of household glass were captured through the program in 2019, with approximately 100 tonnes of clear glass recycled as reflective glass beads (used in road paint) and approximately 12 tonnes of coloured glass used to manufacture fiberglass insulation. Based on the results of this pilot program, the City and SARCAN have extended the program.

Public Space Recycling

In 2019, the City's contract with Creative Outdoor Advertising for metrobin containers on civic right-of-ways ended and all remaining bins were removed in December 2019. A contract with the same vendor for recycling at transit stops remains in place. Three hundred kilograms of recyclables were collected through both programs in 2019.

Since 2015, metrobins have gradually been phased out in favour of self-servicing bottle 'baskets' and paper recycling containers fitted to garbage bins. Paper is collected by the City and recycled by Cosmo. These quantities are included within those reported for the City's recycling depots. Together these programs offer separation of paper and beverage containers (bottles and cans) from regular garbage in pedestrian-oriented commercial areas including Downtown, Broadway Avenue, Central Avenue, and 22nd Street West.

The self-servicing model for beverage container 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, 92 bottle and can baskets and 33 paper recycling baskets have been installed in business improvement districts, and 64 bottle and can baskets have been installed in civic parks since 2013.

In 2019, six paper baskets were replaced with updated designs as part of ongoing maintenance. The City was also awarded a SARCAN grant to purchase an additional 40 bottle and can baskets for streetscape improvements that are planned to occur in the first half of 2020 within Downtown and Broadway Avenue business improvement districts. The work is being led by the City's Urban Design Division.

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

Photo 2 - Bottle 'Basket' (purple) , Paper Recycling Container (blue), and Garbage Bin (black)



Multi-Material Recycling Program

The Waste Packaging and Paper Stewardship Plan (often referred to as the Multi-Material Recycling Program) 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 2019, the City received \$25.75 per unit for a total of \$2,815,658. The funds were used toward the Multi-Unit Residential Recycling Program, and for the research and development of additional waste diversion programs.

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 (not available for multi-unit buildings or commercial customers). In 2019, the number of subscribers to the Green Cart program reached an all-time high of over 9,700 which equates to approximately 14% of eligible households. In addition, there were 32 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 3,200 tonnes, contributing 2.6% toward the City's waste diversion rate of 24.3%.

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 2019 Green Cart season, the City of Saskatoon delivered over 1,600 new green roll-out carts to program subscribers and over 400 were removed from service.

The program fee was \$55 per year prior to May 1, 2019, and \$75 per year after May 1st. Bi-weekly collections (14 total) were provided from May through early November. Each collection costs the resident approximately \$4 if they registered prior to May 1, 2019.

Photo 3 - Green Cart (Yard and Food Waste) Collection



Compost Depots

In 2019, the City operated two compost depot locations for drop off of leaves, grass, non-elm tree and shrub branches, as well as 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 station are available to residents at no charge and to commercial haulers by permit (\$150 for the season). In 2019, approximately 14,800 tonnes of material were diverted through the compost sites, contributing 11.9% toward the City's diversion rate of 24.3%.

Photo 4 – Yard waste drop-off at Compost Depot



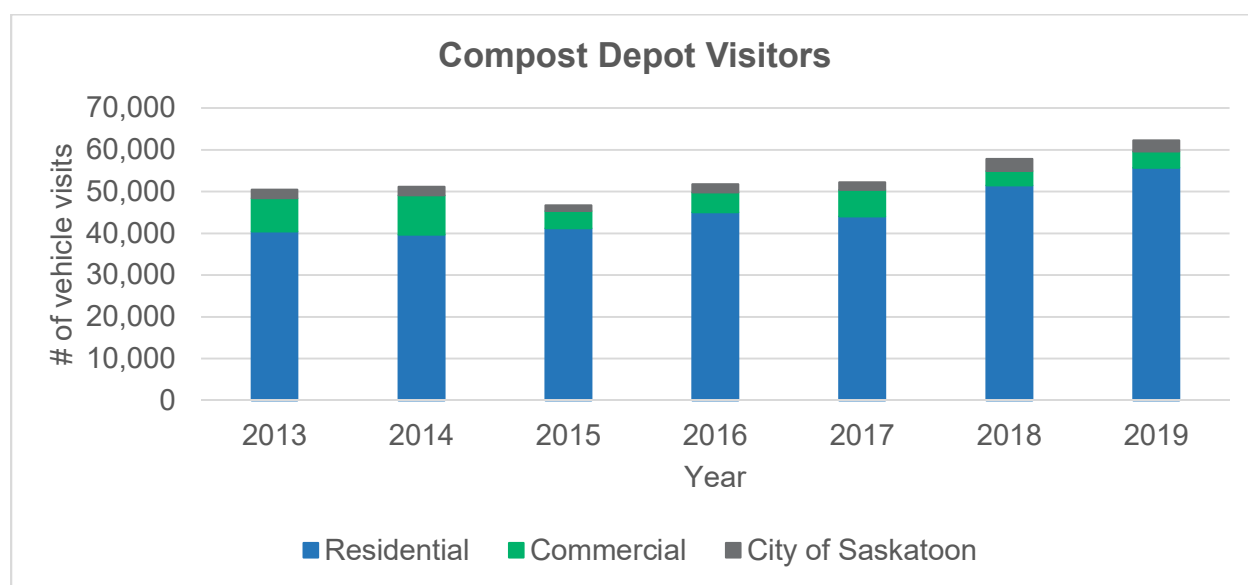
The Highway 5 (East) compost site serves as a transfer station and all materials are hauled to the Highway 7 (West) compost site for processing. Both compost sites are considered temporary as they are located in areas designated for future development.

The two depots operate every season from mid-April to early November. In 2019, the Highway 7 (West) depot was open seven days a week and the Highway 5 (East) depot was open five days a week (Thursday to Monday). Both depots were open on statutory holidays.

In 2019, a total of 62,300 vehicle visits were made to the compost depots, representing an increase of approximately 8% compared to 2018. Of this total, 55,700 or 89% of visits were made by the public (48,200 were drop-off customers and an additional 7,500 participated in the free Dig-Your-Own compost program representing a 44% increase in the Dig-Your-Own participation compared to the 2018 season); commercial customers were 3,900 or 6% of visits; and 2,700 or 5% of visits were from City crews including the Green Cart program, Parks, and Saskatoon Light & Power. 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 2019 whereby finished compost and mulch was made available to residents at no-charge. Interested residents were able to visit the Highway 7 - West depot during regular hours and access up to 1 cubic yard of compost from the public self-loading area. Approximately 7,450 residents participated in the program and removed approximately 3,750 cubic yards of materials from the compost depot. Regular updates were provided to residents through social media and the City website regarding the availability of compost and mulch. 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 2020.

Figure 5 - Compost Depot Visitor, 2013-2019



Christmas Tree Drop-Offs

Temporary drop-off sites are set-up from December 26 to January 31, to collect natural trees and keep them out of landfills. Trees dropped off at these locations are chipped and taken to the City compost depot. On average, 5,000 to 6,000 trees are dropped off every year. In 2019, an estimated 51 tonnes of material were collected through this program.

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, 380 tonnes of material – including mixed metals, propane tanks, batteries, white goods (appliances), used oil, oil filters, and used antifreeze – were diverted from landfilling in 2019, contributing 0.3% toward the City's diversion rate of 24.3%.

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 (up to 500 litres of oil, 100 litres of antifreeze) at no charge to residents (costs are covered under the landfill operating budget). In 2019, the total quantities of used oil and antifreeze collected at the EcoCentre were 87,250 litres and 5,500 litres, respectively.

Photo 5 - 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. In 2019, more than 164 bicycles were collected, with approximately 55% of these successfully recovered for re-use at the local shop, and another 34% recoverable in storage.

Waste Diversion in Civic Facilities

Recycling opportunities are available in most civic facilities, with 92 of 108 facilities having recycling collection in place. 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 2019, there were also nine civic facilities that subscribed to the Green Cart program and five that had year-round contracted organics collection.

A number of other materials from civic sources are diverted from the waste stream annually. In 2019, these included 535 tonnes of scrap metal, 72 tonnes of electrical transformers, over 2 tonnes of electronic waste, 290 kilograms of batteries, and over 5,500 light bulbs/tubes.

Household Hazardous Waste Collection Program

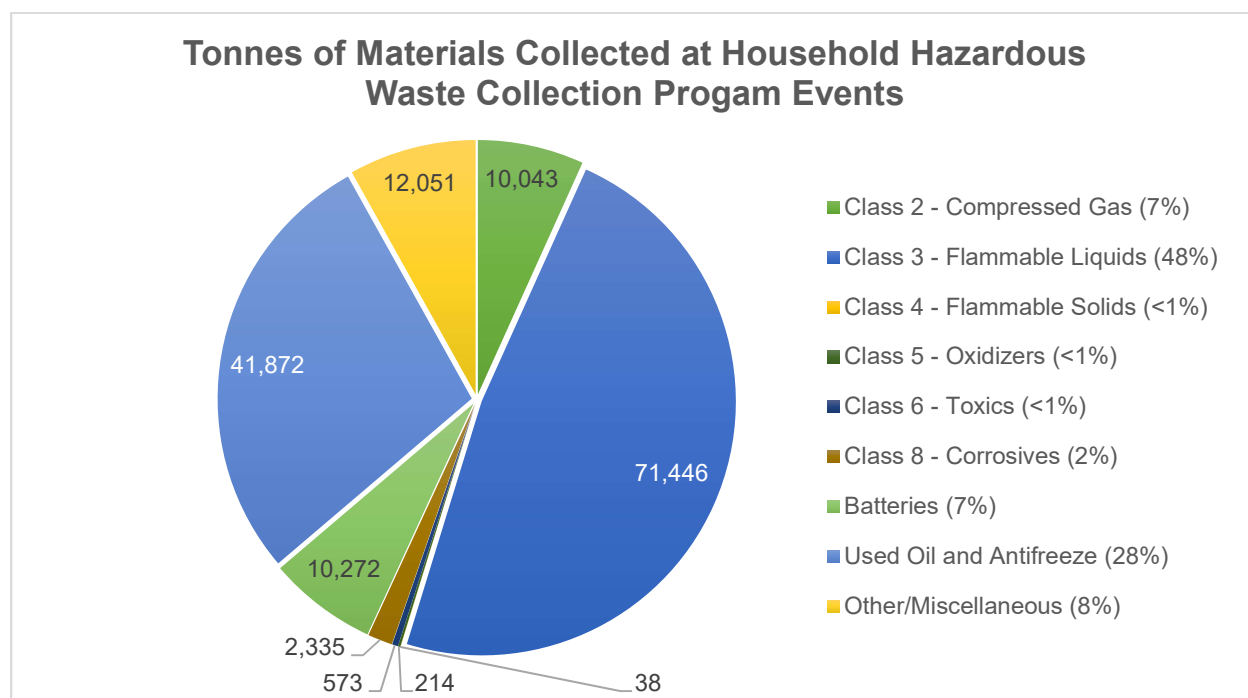
Household hazardous waste is the discarded, unused, or leftover portion of household products containing chemicals that can cause illness or death to people, plants, and animals. These products are often labeled CAUTION, WARNING, CORROSIVE, EXPLOSIVE, FLAMMABLE, POISONOUS or TOXIC. Common household hazardous waste 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 provides free drop-off events between April and November, for Saskatoon residents to safely discard of household hazardous waste. This program is for residential or household hazardous waste only; hazardous waste from businesses or other organizations is not accepted.

In 2019, 149 tonnes of hazardous materials were collected from 3,930 participants, setting new records for both indicators. The overall cost of the program also continues to rise – primarily due to increasing participation in the program – with 2019 contract costs totaling \$311,495.

Photo 6 - GFL Environmental staff at a Household Hazardous Waste Collection Program Event



Figure 6 - Tonnes of Materials Collected at Household Hazardous Waste Collection Program Events in 2019



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

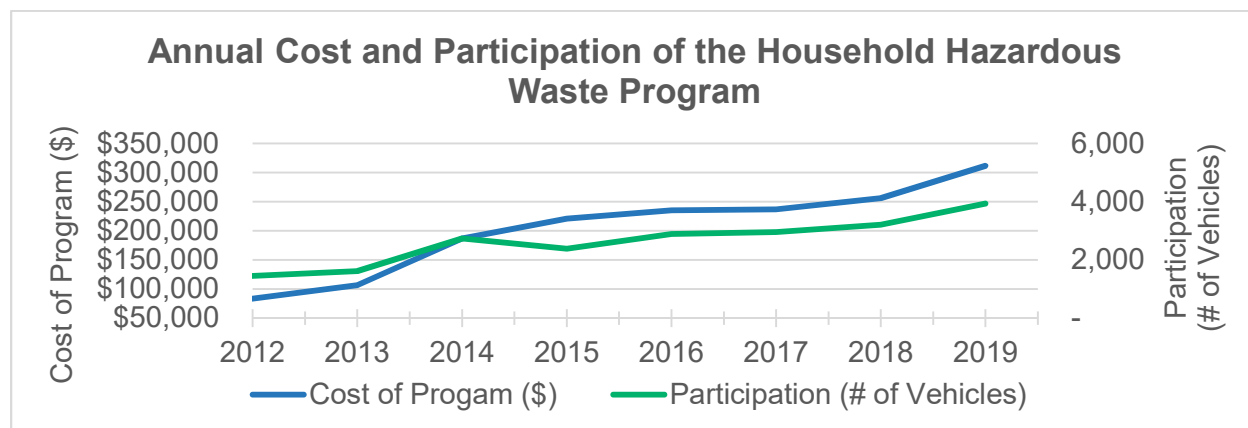
Class 8 (Corrosives): corrosive liquids and solids, mercury, ammonia solution

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)

Figure 7 - Annual Cost and Participation of the Household Hazardous Waste Program



Charity Bins

In 2019, 155 tonnes of material were collected at drop-off bins located at the City-operated recycling depots, contributing 0.1% toward the City's total diversion rate of 24.3%. The bins at the City's recycling depots were provided by Community Living and Diabetes Canada in 2019.

Planning New Initiatives for Waste Diversion

To achieve the 70% waste diversion target, the City is actively involved in the initiatives summarized below. The initiatives are supported 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.

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 mid-2021 with a phased approach focused on education and assistance with early compliance, before enforcement begins in mid-2022. Organics will take a similar approach, with a phase in started in mid-2022 and enforcement in place in mid-2023.

The milestones in 2020 for implementation of the ICI strategy include:

- ▶ Update *Bylaw No. 8310, The Waste Bylaw* to include the requirement for businesses and organizations to have recycling and organics waste containers, with an approval report planned for early 2021.
- ▶ Develop a communications and education plan to begin implementing once the approval report is endorsed.
- ▶ Develop an enforcement plan, focused on education by Environmental Protection Officers starting with recycling in mid-2021.

Solid Waste Reduction & Diversion Plan

In 2019, work on the *Solid Waste Reduction & Diversion Plan* began, including reviewing previous waste management planning efforts, public engagement results, and Council directives. Additional best practice research from other municipalities as well as engagement

with internal and external stakeholders, were used to develop a vision, mission and a list of actions.

The *Solid Waste Reduction & Diversion Plan* will aim to provide strategic direction for future waste program and policy development. Its goal will be to bring Saskatoon's waste management system in line with comparable Canadian municipalities and make Saskatoon a leader in solid waste policy and regulation across the Prairie Provinces by:

- ▶ Providing a framework for decision making;
- ▶ Communicating the City's goals, priorities, and actions to the public;
- ▶ Ensuring changes to existing services and new actions are moving in a desired direction; and
- ▶ Identifying infrastructure and resource needs.

The Plan is expected to be complete in 2021.

Curbside Organics Program

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

On March 25th, 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. 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 one of four revised concept plans for Recovery Park and on February 24, 2020, approved additional funding. Option 3 allows for most of the vision for Recovery Park to be achieved, while allowing the project to proceed amidst ongoing negotiations for the City's organics processing contract and Provincial HHW stewardship program. The revised concept provides an improved layout, replaces landfill infrastructure, and accommodates increased traffic while allowing for future expansion.

City Administration, with the help of its Owner's Engineer, has updated the concept plan for Recovery Park and is now finalizing technical requirements for detailed design and construction. Construction is planned to begin in the third quarter of 2020 and estimated to take two years to complete. 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.

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, including a new organics program, continuous improvement of garbage and recycling programs, and additional waste diversion opportunities.

Greenhouse Gas Implications

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

In 2019, the City's waste diversion programs reduced greenhouse gas emissions by an estimated 46,500 tonnes of carbon dioxide equivalents (CO₂e), relative to if the same materials were landfilled. Of this total, approximately 85% of the emission reductions resulted from recycling and 15% of the emission reductions resulted from composting. This is equivalent to removing 10,000 cars from Saskatoon roadways for the year.

Waste Disposal Services

Photo 7 - Weigh Scale at Saskatoon Regional Waste Management Centre



Waste Disposal in Saskatoon

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

Saskatoon Regional Waste Management Centre (Landfill)

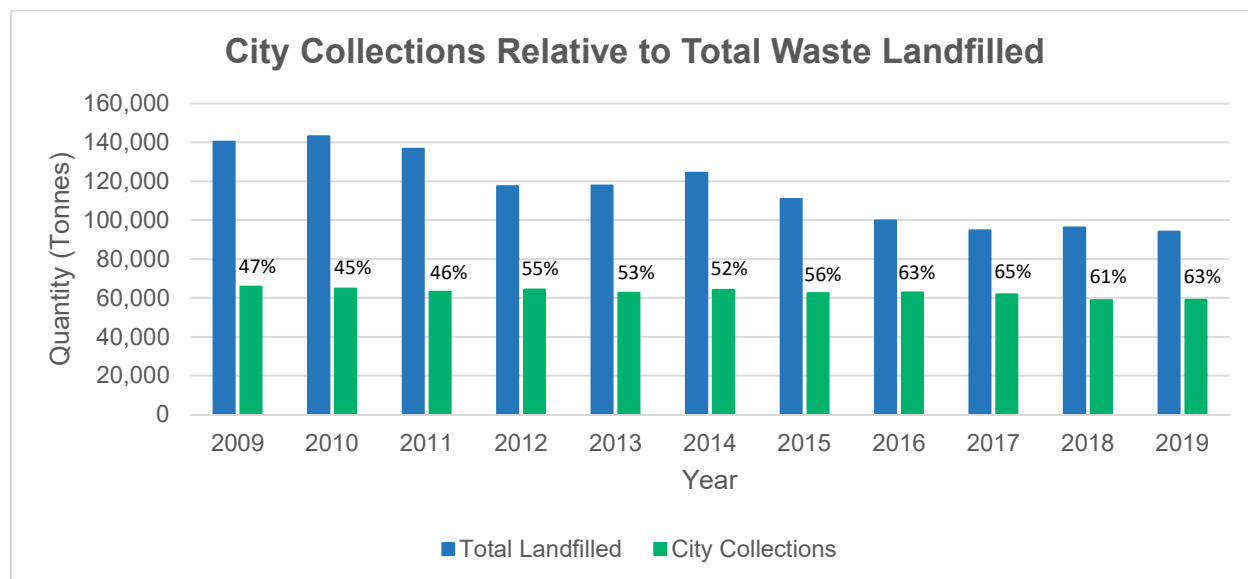
The Saskatoon Regional Waste Management Centre has been in operation since 1955. It is a sophisticated facility that is designed and operated to maximize available space and ensure solid waste is managed in a safe and environmentally sound manner. The Saskatchewan Ministry of Environment currently regulates 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.

Photo 8 - Saskatoon Regional Waste Management Centre



In 2019, approximately 141,300 tonnes of material were accepted at the Saskatoon Regional Waste Management Centre. Of this total, approximately 94,100 tonnes required burial (garbage) and 46,800 tonnes were used as landfill cover (clean fill), while approximately 380 tonnes of material were separated for outbound recycling. As shown in the figure below, City collection trucks were responsible for approximately 59,000 tonnes (63%) of the material landfilled.

Figure 8 - City Collections Relative to Total Waste Landfilled

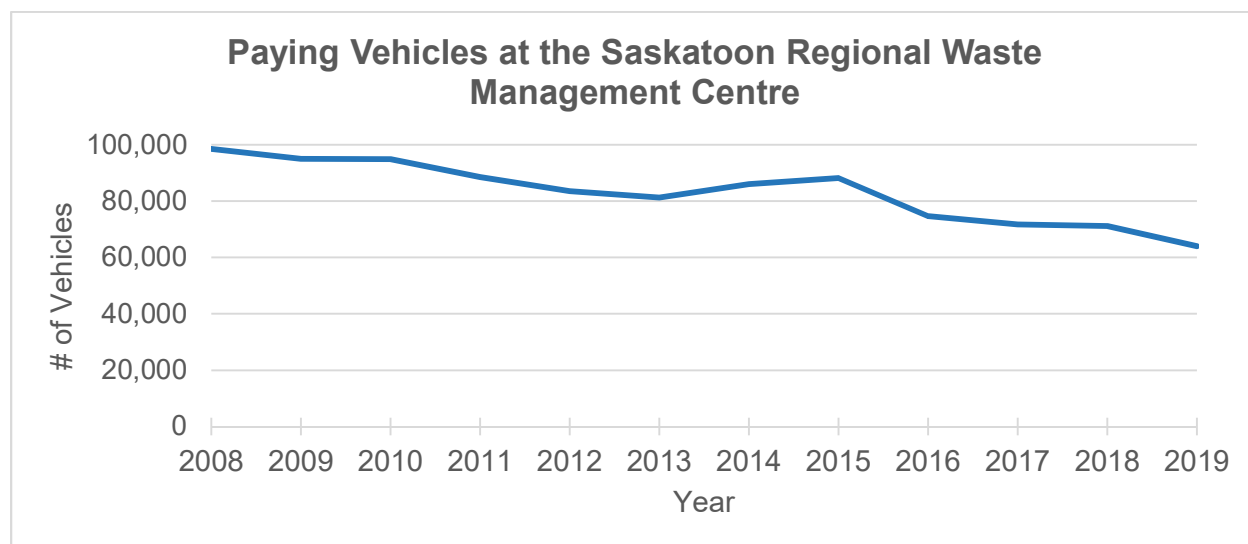


The Saskatoon Regional Waste Management Centre is open to the public every day of the year except for December 25 and January 1. The site is a secure compound with fencing and security checks after-hours. Six transfer bins are located on site for public waste disposal. Also, as outlined earlier in this report, several public drop-off areas are provided for metals, white goods (major appliances), batteries, propane tanks, used oil, containers, used filters, and used antifreeze.

Landfill Customers

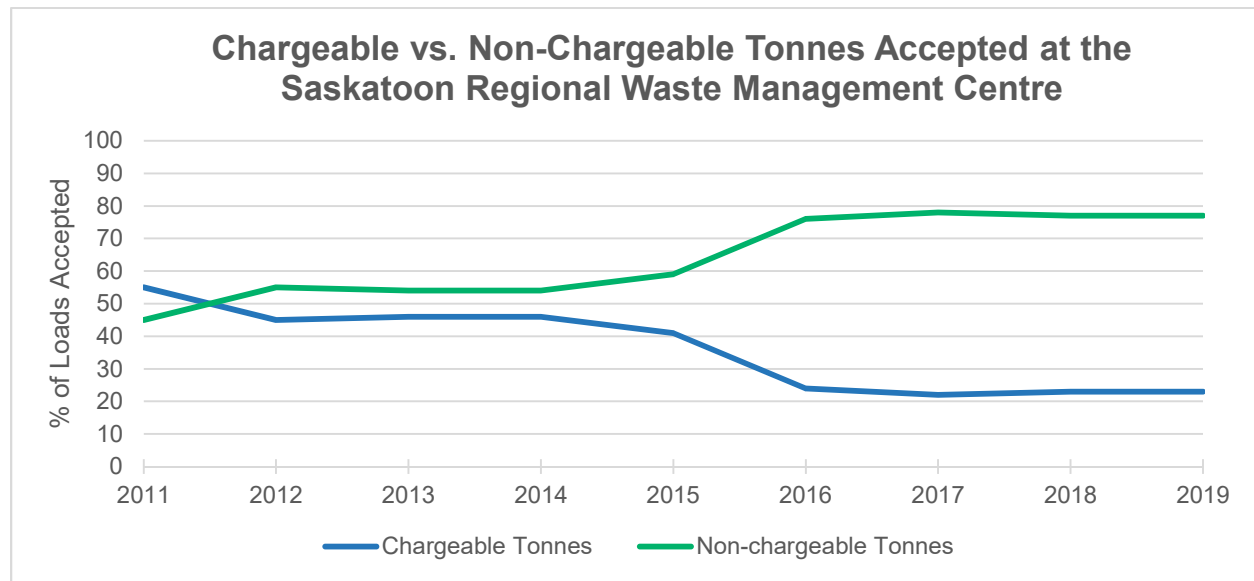
The overall number of landfill visits decreased between 2018 (81,500) and 2019 (78,972). The number of chargeable vehicles (i.e. paying customers) entering the Saskatoon Regional Waste Management Centre also decreased. In 2019, there were 64,027 unique payment transactions, compared to 71,160 in 2018. The balance of customer visits were non-chargeable loads including soil, used oil, and City collection vehicles.

Figure 9 - Number of Paying Vehicles at the Saskatoon Regional Waste Management Centre



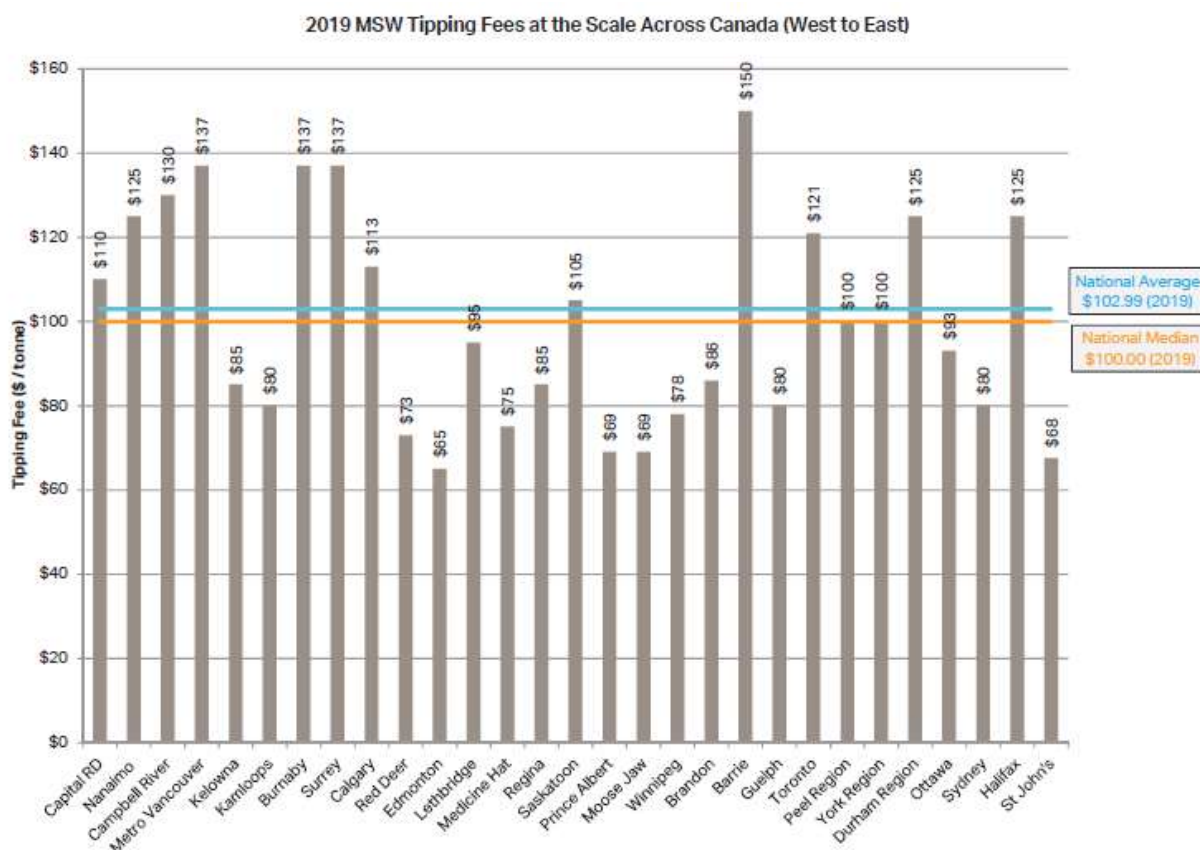
The quantity of garbage that is hauled to the Saskatoon Regional Waste Management Centre as a result of municipal garbage collections is tracked, but the costs of disposal are not incurred by the operating budget for collections. The amount of chargeable tonnes as a percentage of the total tonnes declined since 2011, but remained steady over the last four years, as shown in Figure 10. This has created a financial risk to the sustainability of landfill operations. Of the 141,300 tonnes of material brought to the Saskatoon Regional Waste Management Centre in 2019, only approximately 32,200 tonnes (23%) were chargeable tonnes. The non-chargeable or “free” tonnes included approximately 46,800 tonnes of clean fill and 59,000 tonnes from City collection vehicles. On March 25, 2019, City Council approved a moderate phase-in on funding for curbside waste and organics programs over the next four years. The decision, among other things, will allow the cost of landfilling garbage collected by the City to be accounted for in future years.

Figure 10 - Chargeable vs. Non-chargeable Tonnes Accepted at the Saskatoon Regional Waste Management Centre



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 based on 2018 data, the range of fees for tipping waste among 29 municipal landfills across Canada is \$65 to \$150 per tonne, with an average of nearly \$103 per tonne. Saskatoon's 2019 fee of \$105 per tonne falls within this range, and remains unchanged since 2017.

Figure 11 - Tipping Fees at the Scale Across Canada. Source: AECOM, National Solid Waste Benchmarking Initiative 2019



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 (garbage juice) and protects roadways and other customer-serving assets of the site. Improvements to storm water infrastructure are integrated into the capital improvement plan for the site.
- ▶ **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 2019, there were 59 monitoring locations analyzed (groundwater, surface water, and leachate).
- ▶ **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.

- **The Landfill Gas Collection and Power Generation Facility** operated full-time in 2019, extracting a total of 191,000,000 standard cubic feet of landfill gas. Of this quantity, approximately 151,000,000 standard cubic feet was utilized for electricity generation, and approximately 41,000,000 standard cubic feet was destroyed within the facility's enclosed flare. In addition, approximately 8,500 MWh of electricity was produced in 2019 as a result of power generation from landfill gas.

Net emissions from landfilled waste were 97,783 tonnes CO₂e in 2019. This value considers overall emissions from buried waste (144,703 tonnes CO₂e) and emission reductions associated with landfill gas enclosed flare destruction and power generation (46,920 tonnes CO₂e).

In November 2019, City Council approved a capital budget to construct vertical extraction wells in the northwest quadrant of the landfill, which will result in additional emissions reductions.

Photo 9 - Landfill Gas Collection and Power Generation Facility

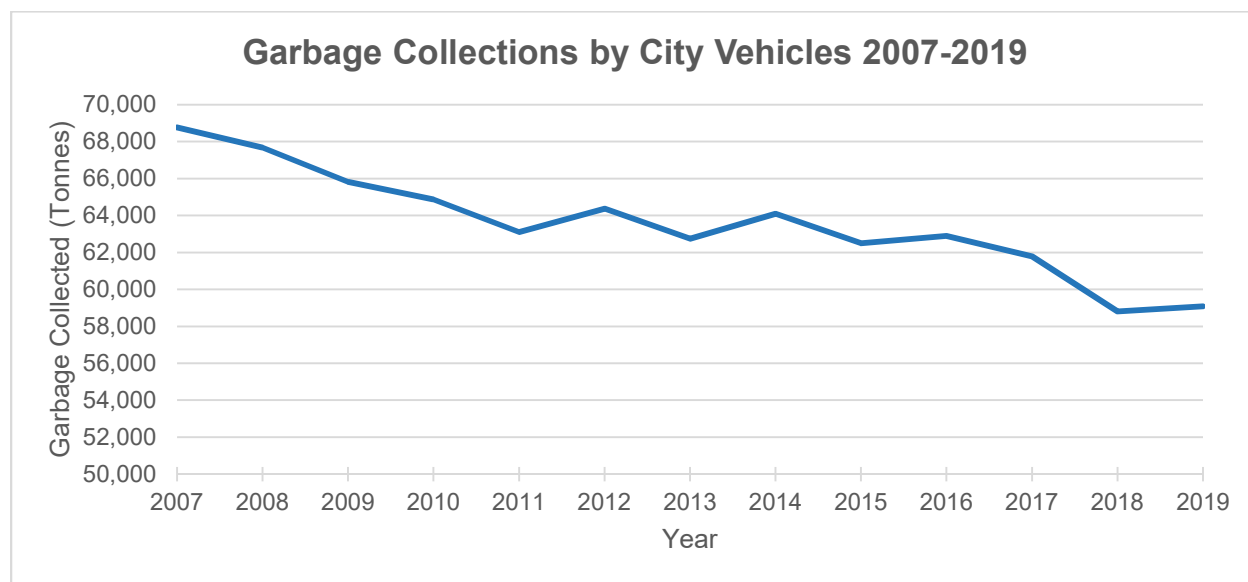


Collections

Total Garbage Collected and Disposed

As a general trend, depicted on Figure 13, the amount of garbage collected by the City has been decreasing in recent years. There was no decrease from 2018 to 2019, however. As described earlier in this report, the 59,000 tonnes of garbage collected by the City accounted for 63% of the material landfilled in 2019. 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.

Figure 12 - Waste Collections by City Vehicles, 2007-2019



Garbage Collection for Single-family Residential Households

In 2019, garbage collection services were provided to approximately 71,200 single-family households; an estimated 45,800 tonnes of residential garbage were collected and there were more than 2.6 million scheduled black cart lifts (tips).

Scheduled garbage collection occurs from Monday to Friday, including public holidays, except December 25 and January 1. In 2019, weekly collections were provided from May to September, with the remainder of the year on a bi-weekly (i.e. every second week) collection schedule.

Photo 10 - Residential Garbage Collection



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 62% (719 out of 1,159 sites) 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 2019, there were approximately 345 external commercial customers (total of 396 locations) and 22 internal City of Saskatoon customers (total of 50 locations).

Containers

Black Carts

The City owns and maintains the black roll-out carts provided to street-oriented residential properties. In 2019:

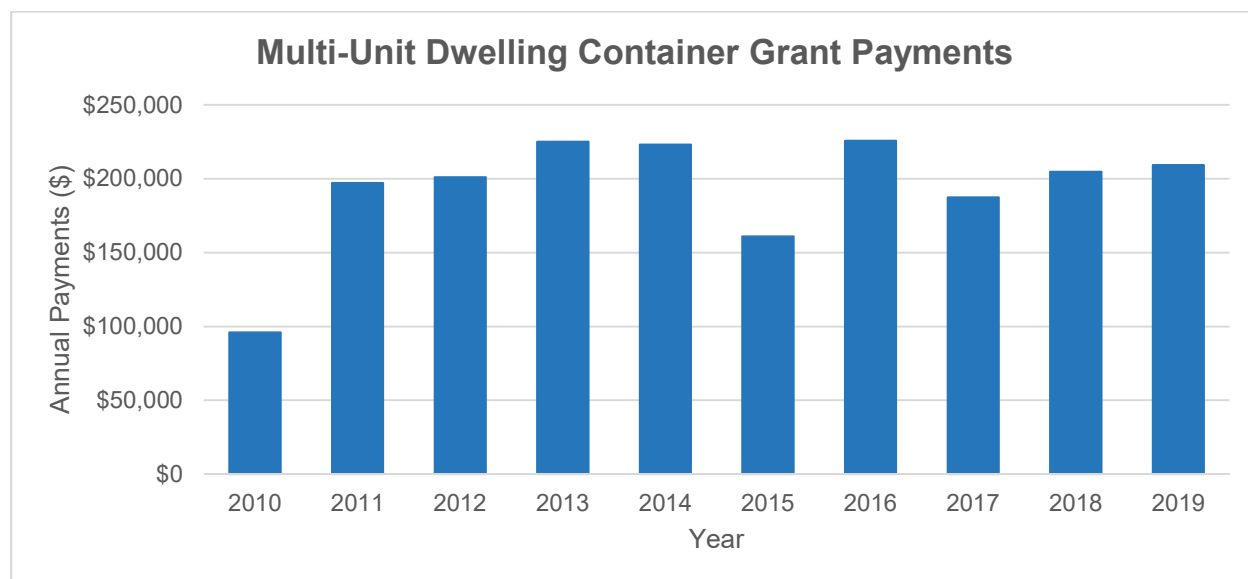
- ▶ An estimated 71,200 black carts were managed in the field;
- ▶ 863 new carts were delivered to new homes; and
- ▶ 789 carts were repaired and 4,166 carts were replaced.

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 2019, 72% of eligible properties (26,163 units out of 36,402 units) submitted an application and received the grant payment, for a total value of \$209,304. Figure 14 outlines the annual grant payments since 2010.

Figure 13 - Multi-unit Dwelling Container Grant Payments



Education, Engagement, and Enforcement

2019 Engagement on Industrial, Commercial and Institutional Waste Diversion

The City took a multi-phase approach to develop the Industrial, Commercial and Institutional (ICI) Waste Diversion Strategy and design a regulatory approach for ICI sector recycling and organics. Stakeholders were engaged multiple times during the development of options and a recommendation, as outlined below.

Phase 1: Option Identification

During engagement, the most preferred requirement was to require separate bins. In the July engagement workshop, which was based on a design-your-own-program activity, the most used program components for requirements were education and separate bins and for enforcement were business license and proof of compliance.

Phase 2: Draft Options

Three draft options were developed based on the results of Phase 1. Two workshops and an online survey were used to collect feedback on the draft options. Option 3 was considered the option that would work best with no changes, with 34% of participants indicating that selection. However, for all options over 60% of participants indicated either the option needed to change or wouldn't work at all.

Photo 11. Feedback from ICI Engagement Workshop



Phase 3 - Final Options

The final options that were developed based on the results of Phase 2 and summarized in the table below.

	Option 1 - Separate Waste Containers (verified by City)	Option 2 - Separate Waste Containers (business submits proof)	Option 3 - Waste Diversion Plan (business submits form)
Requirements & Responsibilities – ICI Sector			
Separate Containers for Garbage, Recycling, and Organics*	✓	✓	
Diversion Plan for Recycling and Organics			✓
Submission through business licensing**		✓	✓
Provide education to employees/tenants	✓	✓	✓
Potential Verification By Waste Bylaw Enforcement			
Complaint Follow-up	✓	✓	
Screening Follow-up		✓	✓
Education Blitzes	✓	✓	✓
Recycling and Organics Education			
Education Program	✓	✓	✓
Annual Operating Cost (to City) – Preliminary Estimates***			
2022+	\$	\$\$	\$\$

*Only if food or yard waste is generated as part of operations.

** Or a parallel process for organizations that do not require a business license

*** \$ = between \$220,000 and \$340,000; \$\$ = between \$490,000 and \$620,000

The final preference survey with stakeholders indicated that the preferred approach was voluntary (62%), followed by Option 1 (22%), and Options 2 and 3 (8% each).

Education and Communications

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

Webpage and Online Engagement

Information about the City's waste diversion programs are available online through the City's website ([Saskatoon.ca/waste](https://saskatoon.ca/waste)) and are also communicated through various social media platforms, and through the *Saskatoon Recycle and Waste* app.

In 2019, there were 537,292 unique pageviews to the Waste & Recycling webpages. The Collection Calendar was the most visited waste-related webpage with 221,635 unique pageviews.

2019 Collection Calendar and App

In 2019, the City went paperless with its Collection Calendar. This was an effort to cut back on significant expenses related to printing, postage, and administrative duties associated with providing all single-family households with a personalized print calendar in previous years. A multi-media campaign ran through 2019 informing people of the upcoming change and encouraging them to download the *Saskatoon Recycle & Waste* app to ensure they never missed pick-up days for their blue, black, and green carts, and to stay on top of all information related to waste reduction and diversion.

Figure 14 - Collection Schedule Look-up



Collection Schedules and Reminders [Need help?](#)

Please type your home address:

Search

Example: 222 - 3rd Avenue North, Saskatoon

Powered by **ReCollect**

Residents were given the option to:

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

At the end of 2019, there were a total of 54,162 active collection reminder users via e-mail, phone, twitter or the app. In addition, there have been over 1,000,000 schedule views and

81,348 print downloads since the online reminder and calendar options have been available to residents. In 2019, nearly 10,000 households viewed their collection calendar for the first time, and there were 4,033 Android and 5,894 iOS (Apple) mobile installs.

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 simply type in any item and the tool tells them how to best manage it through a City or non-City program. In 2019, 75,390 materials were searched on the Waste Wizard with air mattresses, plastic bags, Styrofoam, and glass bottles/jars being the top four searched materials.

The online Waste Sorting Game, launched in August of 2018, is an additional education tool that helps residents identify the proper waste stream for common household items. Players are given an item to sort and must then drag and drop the item in the appropriate waste stream. The available waste stream options are, recycling, compost, garbage, landfill, and household waste collection days. Players move through five levels of the game, and earn rewards as they advance. Users can access the Waste Sorting Game on Saskatoon.ca. In 2019, the game was played 5,448 times with 2,977 completions and 203 certificates printed.

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

Figure 15 - Waste Wizard Search Results



Waste Guide

An important part of the printed collection calendar was the information and education that it presented to residents regarding the City's waste programs and tips for effective waste diversion. By going paperless with the collection calendar, we still had the obligation of delivering that important information to residents. In 2019, we developed the Waste Guide; a quick-reference guide to all things waste in Saskatoon.

This guide doubled as a magnet which could be stuck to people's fridges, ensuring a higher retention rate and keeping it in the area of their homes where a significant amount of waste diversion is possible. These were handed out by the Rolling Education Unit staff at various public events throughout the spring and summer, and also distributed through various education programs and workshops conducted by the City, Loraas Recycle, and Cosmopolitan Industries. While not distributed to every household, all the education and content in these guides were made available on the City's website, and in some cases they were emailed to various organizations to distribute digitally.

Figure 16 - Waste Guide



Landfill & Compost Depots

Following the lead of the Waste Guide, a pocket guide was also developed for the City Landfill and Compost Depots to provide residents and commercial customers with more detailed information on fees, acceptable items, and best practices. These were handed out to visitors of all three sites.

Figure 17 - Landfill & Compost Depot Guide

Landfill Guide

The City Landfill is located off Valley Road, south of 11th Street.

- Summer Hours: 7:30 am – 5:30 pm
- Winter Hours: 7:30 am – 5:00 pm
- 7 days a week, year-round, except December 25 and January 1
- Weekends are busy, especially after 9:30 am. Arrive early and avoid line-ups.

Fees

A detailed list of fees can be found at saskatoon.ca/landfill

Entry fees are charged for each visit and apply to all vehicles and loads.

Additional charges will apply based on the weight and type of waste you are unloading.

We accept major credit cards, debit and cash.

Clean fill (soil) is accepted at no charge. Refer to the website for pre-approval information.

saskatoon.ca/landfill

Prohibited Materials

For the safety of our workers and the environment, we cannot accept the following materials:

- Lithium-Ion Batteries of any type
- Tires
- Liquids of any type
- Household Hazardous Waste
- Railroad Ties
- Slaughterhouse Waste
- Infectious Waste
- Asbestos
- Explosive, Flammable, Toxic, Radioactive, or Corrosive Materials

Diversion & Recycling

To help divert recyclables from getting into the landfill, we are pleased to accept the following materials onsite:

- Used engine oil, filters and containers*
- Used antifreeze and containers*
- Diesel exhaust fluid containers*
- Newspapers and magazines
- Old appliances and scrap metal
- Propane tanks
- Car batteries

*See website for guidelines and maximum allowable quantities.

Safety

The City Landfill is a work zone where large vehicles and potentially dangerous materials are present. Protect yourself and others by making safety a priority.

- Bring someone to help with heavy or awkward loads
- Keep children and pets inside vehicles
- Follow the signs and directions from staff
- Place loads in designated areas or bins
- Wear proper clothing and closed-toe footwear
- Do not smoke onsite
- No scavenging

ALL LOADS MUST BE PROPERLY SECURED OR COVERED. IMPROPERLY SECURED LOADS MAY BE SUBJECT TO A FINE. WASTE BYLAW #8310

For more information visit saskatoon.ca/landfill or call 306-975-2485.

Don't know where it goes? Ask the Wizard!

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

Compost Depot Guide

Compost depots are open from mid-April to early November to drop off your yard waste free of charge.

WEST DEPOT

- Highway 7, 1.8 km south of 22nd Street
- 9:00 am – 6:00 pm, 7 days a week

EAST DEPOT

- Highway 5
- 11:00 am – 5:00 pm, Thursday – Monday
- Closed Tuesdays and Wednesdays

Note: Dump trucks and tip trailers must use the West Depot.

Fees

Saskatoon Residents: NO CHARGE

Businesses & Commercial Haulers: An annual fee applies. Please refer to saskatoon.ca/compostdepots for details.

saskatoon.ca/compostdepots

Accepted Materials

- Leaves
- Grass
- Sod
- Topsoil
- Garden refuse
- Halloween pumpkins
- Non-elm branches, stumps and tree trimmings*

*Elm branches, limbs, logs, or stumps can only be disposed of at the Landfill. Any mixed load with even small quantities of elm branches, limbs, logs or stumps will be turned away.

Reminder: It is illegal to cut or prune elm from April 1 to August 31.

Prohibited Materials

- Elm wood
- Sawdust
- Treated and untreated lumber
- Building materials: stone, brick, clay, sand, gravel, concrete, asphalt, etc.
- Animal litter and feces
- Garbage and any other waste product
- Food waste**

**Food waste is NOT accepted for drop off at the compost depots. Please dispose of your food waste in your subscription Green Cart.

Dig-Your-Own Compost & Mulch

Only available at the West Compost Depot.

Residents can pick up 1 cubic yard of high quality, nutrient-rich compost and mulch for free. Limited quantities available.

Bulk quantities are also available for a fee. Call 306-975-2486 for more information.

This is a self-serve depot, so please remember to bring your own shovels and containers.

ALL LOADS MUST BE PROPERLY SECURED OR COVERED. IMPROPERLY SECURED LOADS MAY BE SUBJECT TO A FINE. WASTE BYLAW #8310

For more information visit saskatoon.ca/compostdepots or call 306-975-2485.

Don't know where it goes? Ask the Wizard!

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

Enhancements were also made to site signage to ensure clear communication with visitors.

Figure 18 - Landfill & Compost Depot Signage

Saskatoon Regional Waste Management Centre

Landfill

RATES

Entry Fee: **\$15**

Applies to ALL LOADS

General Disposal Fee: **\$105/tonne**

Applies to loads 150 kg and over

FRIDGES, FREEZERS, AIR CONDITIONERS: **\$20 each**

+ disposal fee if applicable

*REQUIRES PRE-APPROVAL FOR DISPOSAL. PHONE 306-975-2565

OTHER ITEMS: Please Inquire at Scale House

NOTICE: CITY OF SASKATOON IS NOT RESPONSIBLE FOR ANY DAMAGE TO VEHICLES OR PROPERTY ON THIS SITE

City of Saskatoon

24-Hour Customer Service & Emergencies: **306-975-2486**

saskatoon.ca/landfill

OPEN 7 DAYS A WEEK

Winter Hours: 7:30 am – 5:00 pm

Summer Hours: 7:30 am – 5:30 pm

CLOSED: DECEMBER 25 & JANUARY 1

PROHIBITED MATERIALS

- Lithium-Ion Batteries of any type
- Tires
- Liquids of any type
- Household Hazardous Waste
- Railroad Ties
- Slaughterhouse Waste
- Infectious Waste
- Asbestos
- Explosive, Flammable, Toxic, Radioactive, or Corrosive Materials

All loads must be properly secured or covered

City of Saskatoon

Improperly secured loads may be subject to a fine. **WASTE BYLAW #8310**

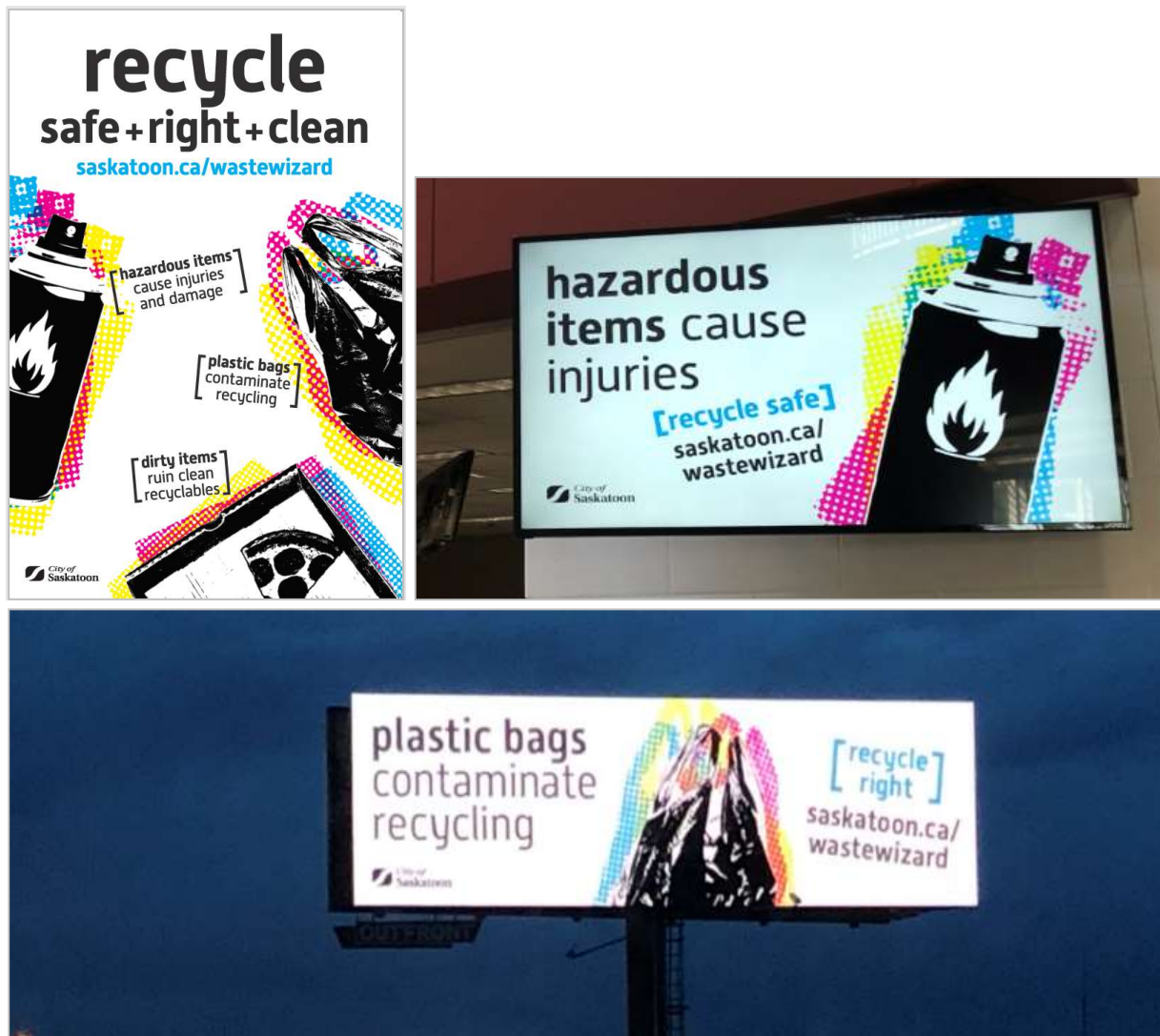
Recycling Awareness Campaigns

Three educational awareness campaigns ran in 2019, and were promoted through various traditional and digital marketing channels.

Recycle Safe + Right + Clean

- ▶ In market: Spring (May/June).
- ▶ Educating residents on what doesn't belong in the recycling stream and the consequences of these items from a contamination and safety standpoint.
- ▶ Particular focus was given to HHW material, plastic bags, and dirty items.
- ▶ The key message to residents was to 'Recycle Safe + Right + Clean' by utilizing the online Waste Wizard tool (saskatoon.ca/wastewizard).

Figure 19 - Spring Recycling Campaign



Don't be a wish-cycler (Recycle Safe + Right + Clean)

- ▶ In market: Fall (September/October).
- ▶ A continuation of the spring campaign, which introduced some new non-recyclable items into the mix, but also brought focus to the idea of 'wish-cycling' and how it can have serious impacts on recycling contamination.
- ▶ This campaign brought extra attention to encouraging people to do their homework and not just guessing which cart/bin an item goes into, and assuming it will get sorted out on the other end.

Figure 20 - Fall Recycling Campaign



Recycle Better in Your Ugly Sweater

- ▶ In market: Winter (December/January).
- ▶ This campaign focused on providing residents with tips on how to reduce, reuse, and recycle effectively over the holiday season.
- ▶ The new 'Recycle Better in Your Ugly Sweater' theme and creative treatment was introduced to grab residents attention and engage with them in a fun and informative way.
- ▶ In addition to traditional and digital tactics, the campaign partnered with the Saskatoon Transit's Jingle Bell Express. An Ugly Sweater team was assembled to ride the festive bus and spread some holiday cheer, handout Ugly Sweater SWAG and educate riders on some fun holiday waste reduction and diversion tips.

Figure 21 - Winter Recycling Campaign



Student Programs – Recycling Education Centres

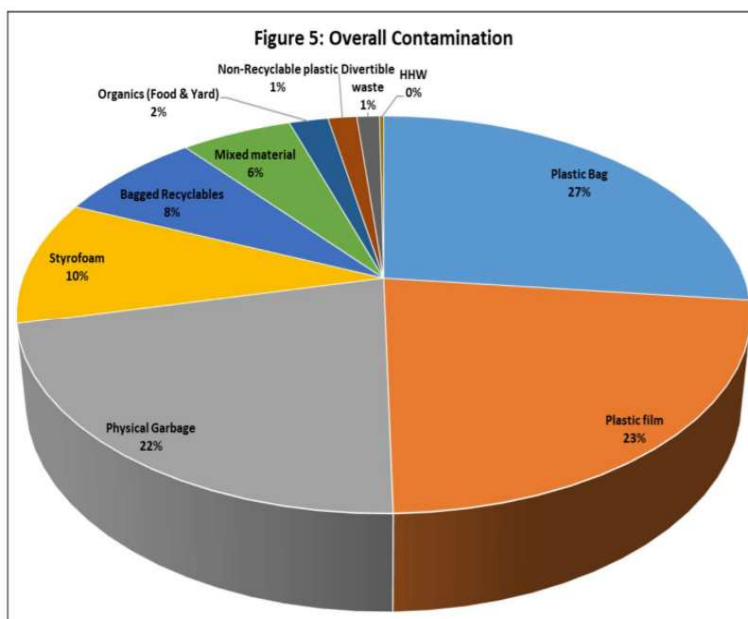
- ▶ **Loraas Recycle** provides recycling education for Saskatoon students in Grades 4 through 7. A total of 3,264 elementary students visited the Education room at Loraas' material recycling facility in 2019, to learn how material is processed, to increase awareness on how and why to recycle, and to emphasize the importance of waste diversion and environmental stewardship.
- ▶ **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. Guided group tours were provided to 1,639 students and adults, giving visitors a glimpse of Cosmo's various programs.

Curbside Recycling Blue Cart Blitzes

In 2019, the Saskatchewan Waste Reduction Council conducted cart blitzes in eight neighbourhoods in an effort to reduce contamination rates in curbside residential recycling carts. They inspected approximately 600 carts in each of eight neighbourhoods over three collection periods; a total of 4,908 inspections were conducted. Each cart was tagged with either a green happy-face emoji tag for proper recycling behaviour or an orange sad-face emoji tag if contamination or other issues were found; tags also included tips for proper recycling. A contamination audit was also conducted after each survey.

The chart shows the overall categories of contamination materials over the course of the cart blitz, with plastic bags and plastic film making up the majority of contamination. The number of green tags issued, indicating good recycling behaviour, increased 8.6 percent over the three visits. The number of orange tags, indicating incorrect recycling behaviour, decreased 14.5 percent over the three visits. The number of households that didn't put their bin out increased 6 percent over the study period.

Figure 22 - Curbside Recycling Cart Contamination Identified Through the Cart Blitz Program



Black Cart 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 guidelines (e.g. overfilled carts, lack of appropriate spacing at the curb, etc.) was followed-up by delivering an informational cart tag for residents (Figure 25). 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.

Figure 23 - Black Cart Education 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.

Recycling Depot Education

In an effort to address the issues happening at City recycling depots regarding overfilled bins, unacceptable material, and illegal dumping, Environmental Protection Officers took the opportunity to get some face-time with visitors of the recycling depots and provide education on proper waste diversion and guidelines around depot usage.

Figure 24 - 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>plastic bottles and jugs</small>	 Beverage Containers <small>milk and drink cartons</small>
 Cardboard	 Mixed Paper
 Aluminum Foil and Tin Cans	 Household Glass

NOT ACCEPTED

- ✗ Hazardous Waste
- ✗ Electronics
- ✗ Batteries
- ✗ Electrical Cords
- ✗ Styrofoam
- ✗ Plastic Bags
- ✗ Food Waste
- ✗ Needles
- ✗ Wood
- ✗ Tires
- ✗ Propane Tanks
- ✗ Paint
- ✗ Furniture
- ✗ Other Household Garbage

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.

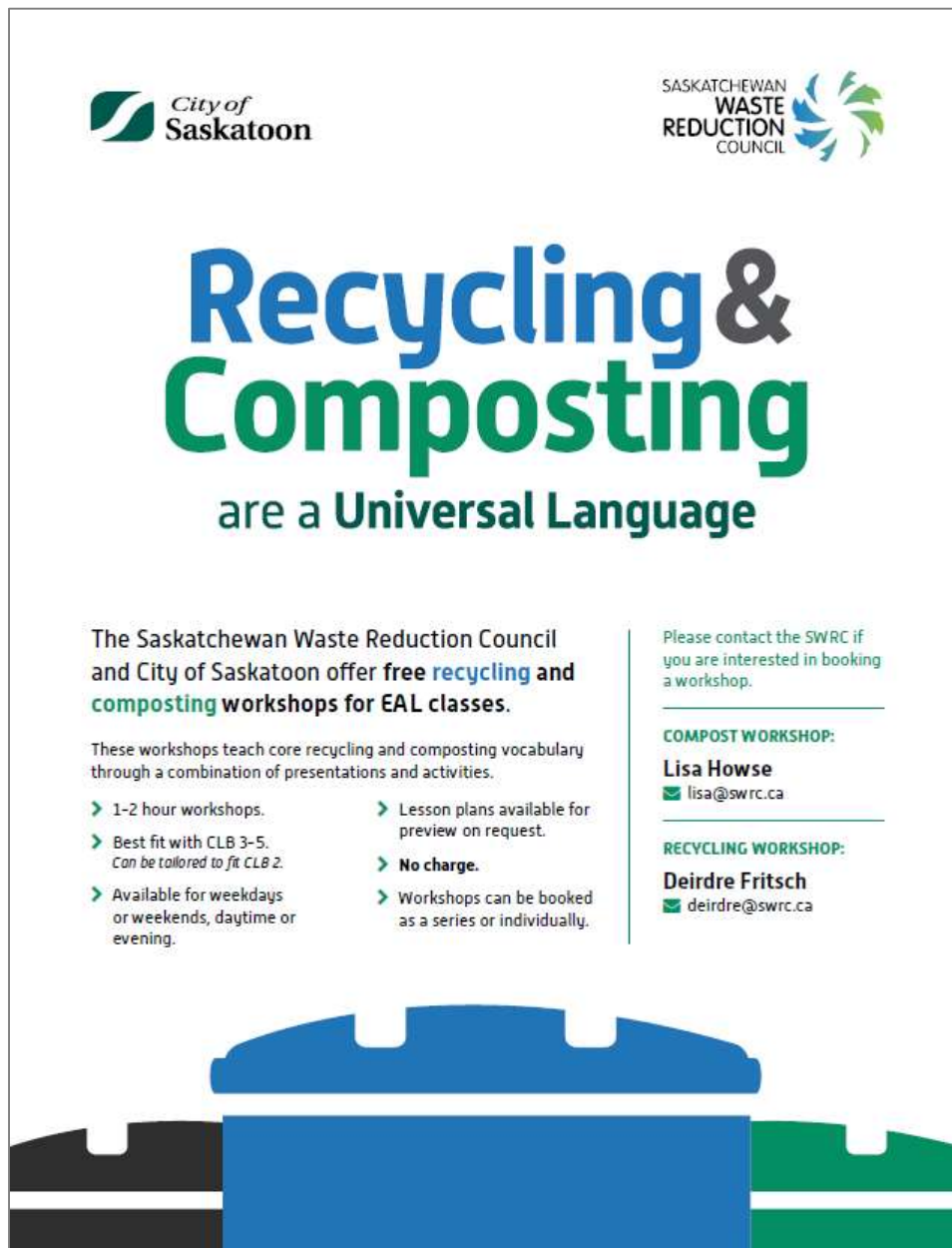





Towards 70%
SASKATOON'S WASTE DIVERSION PLAN

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 34 workshops. In 2019, artwork was developed for them to use for print and online promotion.

Figure 25 - Newcomer Workshop Ad

The graphic is a promotional flyer for 'Recycling & Composting are a Universal Language' workshops. It features the City of Saskatoon logo on the top left and the Saskatchewan Waste Reduction Council logo on the top right. The title is in large, bold, blue and green letters. Below the title, there is a paragraph stating that the City and SWRC offer free recycling and composting workshops for EAL classes. This is followed by a list of workshop details: 1-2 hour workshops, best fit with CLB 3-5 (can be tailored to CLB 2), available for weekdays or weekends, no charge, lesson plans available for preview, and workshops can be booked as a series or individually. 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 illustration of a recycling bin (blue) and a compost bin (green) with a black recycling symbol on the left.

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 on education and communications specifically for the multi-unit recycling program to inform building owners and managers on how the program works and encouraging them to work with their tenants and condo residents. Cosmopolitan Industries continues to provide outreach to building managers. The education program in 2019 included 33,000 door hangers placed in multi-unit buildings throughout the city and 40 recycling classes with 876 students.

Figure 26 - Door Hanger Distributed to Multi-unit Residences

If we don't recycle...

We're hurting our community and the planet. Here's how:

-  **Opportunities for persons with disabilities may be lost**
-  **Almost 250,000 trees will be lost each year**
-  **Valuable resources will be wasted each year**
-  **Our landfill will fill up costing tax payers \$125M**



Questions or comments?

Cosmo Industries
306 955 9100
cosmoindustries.com

City of Saskatoon
306 975 2476
saskatoon.ca/recycle




RECYCLE + COMPOST

BEFORE TRASH

Can I recycle that?

For an extended list visit: saskatoon.ca/wastewizard

Clean Plastics Numbers ♻️ through ♻️



Beverage & food containers
Cleaning supply bottles



No plastic bags & wrap
Styrofoam
Bottle caps & straws
Black plastic

Mixed Paper If it rips, it's recyclable



Shredded paper (in clear bag)
Paper cups
Flyers and newspaper



No wax or plasticized paper
Soiled kleenex, napkins or diapers

Cardboard Please flatten



Cardboard boxes
Paper egg cartons
Milk & juice cartons



No soiled food containers
Wood products
Coiled notebooks

Household Tin & Aluminum Please rinse



Aluminum pop cans
Food & pet food tins
Pie plates



No lawn furniture
Car parts
Tools/appliances

Household Glass Rinse and remove lids



Beverage bottles
Food grade jars



No windows & mirrors
Ceramic/porcelain

Rolling Education Unit and the Let's Roll Recycling Team

In 2019, the City partnered with the SWRC to provide waste and recycling education to the community through the City's Rolling Education Unit. Three students were hired for 16 weeks to be the Let's Roll Recycling Team, where they attended 35 events and interacting with 5,624 people. Activities included the "Spin to Win", "Toss and Sort", and iPad sorting games.

Photo 12 - Rolling Education Unit in Action!



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 2019 program included the following:

- ▶ 77 compost bin rebates of \$20;
- ▶ 59 home visits for residents seeking one-on-one composting support;
- ▶ 39 community events, presentations and 25 workshops;
- ▶ 13 new Compost Coaches;
- ▶ 'What's your Composting Style?' quiz; and
- ▶ A Compost Hotline, accessible by phone or email, received 89 inquiries.

Green Cart Program Education and Marketing

In 2019, the number of Green Cart subscribers reached an all-time high of over 9,700 (over 8,100 returning and over 1,600 new subscribers). Promotional efforts focused on encouraging previous subscribers to renew but to also encourage new subscriptions. This was done through direct mail letters and email to previous subscribers, social media and PSA's 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. The Green Cart program was also promoted through a number of other City-led education efforts, including the Rolling Education Unit and the Healthy Yards program.

Figure 27 - Green Cart Program Promotions



The image is a composite of two promotional materials for the City of Saskatoon's Green Cart Program. On the left is a photograph of a green recycling bin in a snowy environment. The bin has a white lid and a white message that reads "Subscribe EARLY and save!". The City of Saskatoon logo is visible at the bottom of the bin. On the right is a flyer titled "Green Cart Program YARD & FOOD WASTE". The flyer includes the following text and graphics:

- GREEN CART SEASON IS HERE! NOW WHAT?**
- Whether you're a new or returning subscriber, we thought you would enjoy some pointers throughout the season to make the most of your Green Cart experience.
- What goes in your Green Cart?**
- Six icons representing acceptable waste items: Unbagged Yard Waste, Fruits and Vegetables, Bread, Noodles, and Other Grains, Coffee Grounds, Paper Filters and Paper Teabags, Eggs and Eggshells, and Food-Soiled Paper Products.
- Still don't know where it goes? Please don't guess. ASK THE WIZARD!**
- THANK YOU FOR PUTTING YOUR WASTE IN THE RIGHT PLACE!**
- For more information on the Green Cart Program, visit saskatoon.ca/greencart.
- Footer: Towards 70% Saskatoon's Waste Diversion Plan, City of Saskatoon, and saskatoon.ca/greencart.

Saskatoon Curbside Swap

The objectives of the Saskatoon Curbside Swap are to encourage residents to pass along reusable household items, to raise awareness of the importance of reuse, to build a sense of community, and to reduce the number of items ending up in the landfill. The City provides information, guidelines, and customizable marketing materials on its website to help residents plan and promote their own Curbside Swaps. The City also promotes a city-wide swap event each September.

The annual Saskatoon Curbside Swap was advertised and promoted using City website, social media, google ads, and posters. The city-wide swap was held on September 7, 2019. There were 8,650 visits for the Saskatoon Curbside Swap webpages on the City website. Participation in the city-wide event was evident by the 130 Curbside Swap listings and “Free Stuff” posters downloaded by residents.

Figure 28 - Curbside Swap Social Campaign Artwork



Waste Week

In 2018, the City introduced Waste Week, an annual event which followed the lead of Waste & Recycling Workers Day celebrated on June 17th every year. Waste Week is a way to ‘recognize the amazing staff of the solid waste industry who get their hands dirty every day keeping Saskatoon vibrant and clean.’ In 2019, efforts were increased to bring attention to Waste Week. Various internal and external channels were used to promote this including social media, posters and digital displays in civic facilities, MyCity news articles, as well as a video series that focused on some of the key sections within solid waste management. The week long recognition of city staff was topped off by a special staff event held at the Landfill.

Figure 29 - City Employees at the 2019 Waste Week Recognition Event

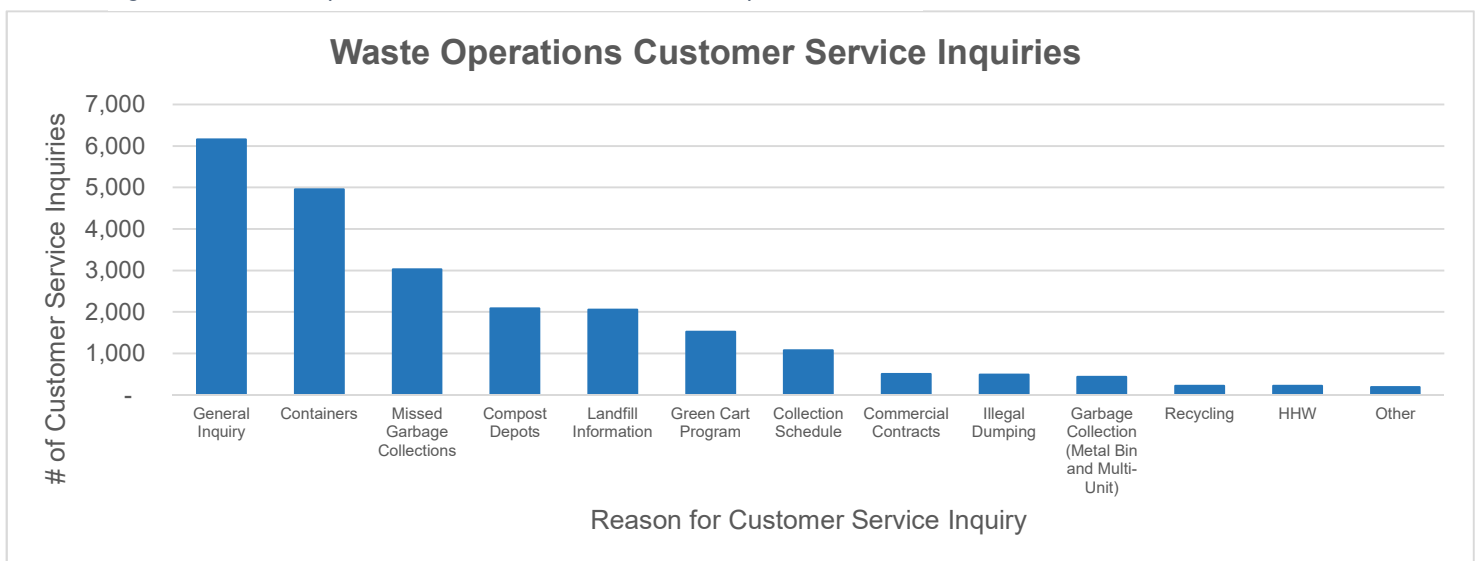


Customer Service

In 2019, approximately 19,200 waste-related calls and over 3,700 emails were addressed by the City's Customer Service Representatives.

A breakdown of the categories is provided below.

Figure 30 – Waste Operations Customer Service Contact Inquiries in 2019



Waste Bylaw Enforcement

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

The City's Environmental Protection Officers focus on issues in the community related to *Bylaw No. 8310, The Waste Bylaw*. In addition to enforcing 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.

Neighbourhood cart blitzes consist of three phases including initial inspections and an education letter to non-compliant homeowners, a follow up inspection and warning letter, and ultimately a final inspection with a Notice of Violation including a \$100 ticket issued for any carts still remaining in the public right of way. Neighbourhood inspections, although resource intensive, show a significant decline in the number of carts that remain in the public right-of-way.

In 2019, a total of 682 education and warning notices were delivered and only 9 tickets were issued, indicating compliance of greater than 98% as a result of the education-first approach. The Riversdale, King George, and Pleasant Hill neighbourhoods have not yet been addressed through the cart placement education blitz; these neighbourhoods are scheduled to be inspected in 2020 and 2021.

Trends in Waste

COVID-19 Impacts on Waste Management and Diversion

At the time this report was prepared, it was unclear what the full impacts of COVID-19 would have on integrated waste management in 2020. Waste management has an essential role to public health which means many services will be continued, but there will be changes in how they are operated to ensure worker safety. In Saskatchewan, waste management has been designated as an essential service. However, despite similar declarations of waste management as an essential service in the United States, there have been over 65 municipalities that have suspended their recycling programs while maintaining garbage programs. In Canada, Saint John, New Brunswick has suspended recycling collections and St. John's, Newfoundland suspended recycling collection for one month but announced plans to resume. Philadelphia has had to reduce frequency of garbage collection due to worker absences, while other cities in the United States have had to temporarily pause garbage collection when an employee tested positive for COVID-19. Waste generation is expected to change due to the increased time residents are at home. Residential waste generation has been projected to increase by 30%, while commercial waste generation is anticipated to decrease (Resource Recycling, <https://resource-recycling.com/recycling/2020/03/31/republic-covid-19-brings-uncontrollable-challenges/>). Jurisdictions that had single-use item restrictions in place, such as plastic bag bans, are relaxing or temporarily reversing restrictions due to concerns of the virus spreading through reusable items.

In Saskatoon, a number of services have already been adjusted including changes to payment methods at the Saskatoon Landfill (no longer accepting cash), cancellation of the April and May 2020 Household Hazardous Waste Collection Program events, and adjustments to many recycling and composting community education programs. Additional instructions have been provided to residents to ensure safe and continued collections including bagging garbage, not overfilling carts or leaving loose materials on the ground, not placing used tissues or napkins loose into garbage containers, and disposing of recyclable materials that may have come in contact with a sick person in the garbage container instead of the recycling container.

Recycling Markets

Global recycling restrictions have led to less international demand for material and resulted in higher quality standards. In 2019, the majority of material collected in the City's residential recycling programs went to mills in North America for recycling.

In response, the City removed black plastic and polycoat (i.e. beverage cups) from the list of acceptable items for all residential recycling programs in 2020. Black plastic has always been a lower value material and is difficult to recycle because of its pigment. With higher quality standards for cardboard and mixed paper, polycoat is frequently being viewed as a contaminant in bails of material. Polycoat deposit beverage containers will continue to be accepted in programs, as this material can be recycled through SARCAN.

By weight, approximately 73% of the material recovered in the program was Paper and Cardboard. Approximately 5% was Plastic. The most difficult Plastic category in the program to find markets for was non-deposit Plastic #1. Plastic #1 is most commonly clear plastic clamshells that 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 the provincial stewardship program 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.
- ▶ 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.

Plastic Reduction

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

In 2018, the Government of Canada proposed the Ocean Plastics Charter as host of the G7 summit. The Charter looks to a more efficient and sustainable approach to plastic management by ensuring plastics are designed for reuse and recycling. It is endorsed by 21 countries and 63 businesses and organizations.

On June 10, 2019, the federal government announced nine steps to reduce plastic pollution. Among these steps is a ban on harmful single-use plastics as early as 2021 (such as plastic bags, straws, and cutlery, plates, and stir sticks) where supported by scientific evidence and warranted, and take other steps to reduce pollution from plastic products and packaging. Specifics on the materials and measures will be developed following a State of the Science assessment on plastic pollution in the environment that is currently underway.

The Government of Saskatchewan is also an active member of the Canadian Council of Ministers of the Environment (CCME) who, on June 27, 2019, released phase 1 of the Canada-Wide Action Plan on Zero Plastic Waste. The CCME Plan emphasises the importance of plastic in our daily lives and acknowledges that zero waste does not mean zero plastic. The ideal result is better life-cycle management for plastic through reduction, redesign and improved recycling. Phase 1 of the CCME Plan identifies six priority areas including single-use and disposable products. The CCME is planning to provide a roadmap to identify problematic single-use items, promote solutions and identify sustainable alternatives by the end of 2021.

In Saskatchewan, the City of Prince Albert has announced a ban on plastic retail shopping bags in advance of provincial or federal policy or programs, where retailers are prohibited from

distributing single use plastic carry-out bags. 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.

Food Waste Reduction

In Canada, 58% of all food produced is wasted. To support residential education, the National Zero Waste Council (a partnership of businesses, governments and community groups) has developed the 'Love Food, Hate Waste' campaign (Second Harvest Food Rescue, <https://secondharvest.ca/research/the-avoidable-crisis-of-food-waste/>). In 2019, the Federal Government budget committed to developing a national food policy for Canada, with one of the four priority areas identified as food waste reduction. New research was also released in early 2019 (The Avoidable Crisis of Food Waste: The Roadmap by Second Harvest) that points to 86% of food waste occurring before food reaches households, greater than previously estimated and potentially shifting the focus from households to production, processing, manufacturing, and hotel, restaurants and institutions.

Food waste reduction was an option that stakeholders were interested in when the City engaged on regulation of organics collection for businesses and organizations that generate food and yard waste. The City is taking initial steps to reduce food waste through a successful Research Junction project announced in early 2020, that will develop resources to support donating surplus edible food from businesses and organizations that otherwise would be landfilled.

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 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.

2019 Studies and Surveys

Residential Waste and Recycling Survey

In June of 2019, the City contracted Inshtrix Research Inc. to conduct a quantitative study with residents to understand waste-related awareness, behaviour and satisfaction, along with feedback on depot usage and potential program changes. Below is a summary of findings from the study.

Recycling

A strong majority (75%) continue to say they recycle most or all of their recyclable items. Residents who report recycling less waste include: those who use communal recycling bins, younger residents, and newcomers to Canada.

Resident knowledge of what can be recycled improved this year, although satisfaction in this area and with education and informational materials provided by the City has declined. Satisfaction with other aspects of recycling programs remains generally high, including overall program satisfaction.

Foils remains the area of least knowledge with just one half correctly identifying that this type of waste can be recycled. Additionally, knowledge gaps continue to exist regarding bagged shredded paper, plastic bags, glass, Styrofoam and plastic toys.

On a positive note, most state that if their recycling cart or bin is full, they typically wait until the next collection period rather than placing items in the garbage.

Organics

The garbage continues to be the most common disposal method for yard, garden, and vegetable/fruit waste. On a positive note, the overall proportion of respondents who do not compost any food or yard waste has decreased since 2017. Green Cart subscribers continue to be the most likely to compost this kind of organic waste although a modest proportion of these subscribers say they put overflow organic waste in the garbage rather than their green cart.

Garbage

Almost one half of respondents report having a full or overflowing black carts with bi-weekly collection, a number that has increased since 2017. This metric drops substantially with weekly collection and for users who subscribe to Green Cart service. Larger households (skewing towards younger aged people) tend to report reaching or exceeding black cart capacity more frequently.

Depots Use for Items not Designed for Blue or Black Carts/Bins

The majority of respondents visit the City recycling depots infrequently or never. Fabric and plastic bags most commonly end up in the garbage while most other waste that can be accepted at depots is either recycled or upcycled (electronics, appliances, furniture, oil, paint, etc.) with the exception of hazardous waste where 4 out of 10 say they place such items in the garbage.

Waste in Public Locations

Satisfaction with waste and recycling options in public locations is moderate. Residents suggest increasing the quantity of recycling bins, improving access to waste disposal bins, and improving knowledge for what can and cannot be recycled in these locations.

New Programs

Residents are supportive of the City creating opportunities to reduce and divert food and yard waste and single-use items from landfills, with younger residents tending to be more supportive than their older counterparts. Residents are supportive of a city-wide organics program, but are unclear about their preference of program funding. The large majority support banning recyclable and organic items from residential and non-residential garbage bins. Modest proportions are supportive of the City taking action to reduce most single-use items within the city. Items respondents are less willing to live without include takeout containers and utensils.

Insightrix Research Inc. completed two statistically representative waste and recycling surveys in Saskatoon between June and August 2019. For the residential survey, also completed in 2015 and 2017, the methodology moved to being completely online.

ICI Waste and Recycling Survey

In June 2019, the City contracted Insightrix Research Inc. to conduct a quantitative study with organizations in the Industrial, Commercial and Institutional (ICI) sector. This was the first time the ICI sector was surveyed about waste behaviours.

Key takeaways from this study include:

- ▶ Opportunities exist to develop programming to further support the ICI sector diverting waste from the landfill, particularly with edible food waste and organics, although there are also opportunities to prevent recyclable waste from entering the landfill and residential stream.
- ▶ On the positive side, ICI businesses are largely in favour of mandatory diversion programs and are supportive of new programs proposed by the City. This suggests that once opportunities to divert waste become more available, many will likely be receptive to adopting the new approaches.
- ▶ Once options become available, organizations and their employees will need to be educated about what can and cannot be recycled or composted in order to maximize program effectiveness.

- ▶ Satisfaction with current City waste diversion and management services is moderate. Further investigation may be necessary to fully understand pain points.
- ▶ Reduction or elimination of single-use items may present some challenges, particularly in the area of low-cost substitute options. Further dialogue with the ICI sector in this area may be required as emerging alternatives become available.
- ▶ Cost and space for on-site recycling bins and carts will be important considerations for future waste programs for the ICI sector.

2019 Waste Characterization Study

AET Group Inc. conducted a multi-sector waste characterization study in Saskatoon between May and December 2019, and included the following results for each sector.

Curbside Residential Customers

- ▶ Set out rates for curbside garbage and recycling were 79% and 67%, respectively.
- ▶ An average of 18.19 kilograms of waste were collected per household per week. Of that, a total of 21% of the waste was diverted from landfill through the City's curbside recycling programs.
- ▶ Curbside garbage samples contained 65% divertible material (57% food waste/yard waste/compostable paper, and 8% recyclable material).
- ▶ Curbside recycling samples had an overall contamination rate of 12%; Green Cart (organics) samples had an overall contamination rate of 0.01%.

Multi-Unit Residential Customers

- ▶ An average of 7.9 kilograms of waste (garbage and recycling) were collected per household per week. Of that, a total of 9% of the waste was diverted from landfill through the multi-unit recycling program.
- ▶ Multi-unit garbage samples consisted of 14% recyclable material.
- ▶ Multi-unit recycling samples had a contamination rate of 17%.

Self-Haul Samples at the Saskatoon Landfill

- ▶ The average mass per load was 142.63 kilograms.
- ▶ The three largest contributors were construction and demolition waste, bulky items, and other materials at 30%, 27%, and 14%, respectively.
- ▶ The samples contained an average of 6% recyclable material, and 10% organics (food waste, yard waste, and compostable paper).

Civic Facilities

- ▶ Garbage samples contained an average of 21% recyclable material and 39% organics (food waste, yard waste, and compostable paper).
- ▶ Recycling samples had an average contamination rate of 6%.

Industrial, Commercial, and Institutional Sector

- ▶ Accommodation/food services garbage samples contained an average of 11% recyclable material, and 63% organics; accommodation/food services recycling samples average contamination rate was 1%.
- ▶ Retail services garbage samples contained an average of 26% recyclable material, and 41% organics; retail services recycling samples average contamination rate was 2%.
- ▶ Health services garbage samples contained an average of 18% recyclable material, and 38% organics; health services recycling samples average contamination rate was 0.06%.
- ▶ “Other” services garbage samples contained an average of 13% recyclable material, and 36% organics; “other” services recycling samples average contamination rate was 5%.