

# 2018 Integrated Waste Management Report

Sustainability | Water & Waste Operations



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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 goal of Integrated Waste Management is to maintain affordability, be convenient and maximize efficiency in the use of resources.

## City of Saskatoon's Integrated Waste Management Services

Integrated Waste Management falls within the Environmental Health and Utilities Business Lines. In 2018, management was provided by the Water & Waste Stream Division (Water & Waste Operations Division as of January 1, 2019) and Environmental & Corporate Initiatives Division (Sustainability Division as of January 1, 2019) through the Waste Handling Service Line, the Waste Reduction and Resource Recovery Service Line and the Waste Services Utility Service Line.

In 2018, the core services that comprised the City of Saskatoon's (City) Integrated Waste Management approach included:

### Waste Diversion Services

- Recycling collections for single-family residential households (curbside collection);
- Recycling collections for multi-unit residential households;
- Recycling depots;
- Public space recycling;
- Recycling in civic facilities;
- Recycling opportunities at the Saskatoon Regional Waste Management Centre (Saskatoon Landfill);
- Yard and food waste collections (optional subscription based service) for single-family residential households;
- Yard waste depots and compost facility;
- Household hazardous waste drop-off days; and
- Christmas tree drop-off sites.

### Waste Disposal Services

- Saskatoon Regional Waste Management Centre (Saskatoon Landfill);
- Garbage collections for single-family residential households (curbside collection); and

- Garbage collections for many multi-unit residential households and some commercial customers (other buildings and businesses contract to private haulers).

### Education and Engagement

- Webpage, social outreach, ReCollect App, and Waste Wizard;
- Collection calendar and App (to be accessible on-line only for 2019 collections);
- Recycling Communications during spring, fall, and holiday campaigns;
- Rolling Education Unit and the Let's Roll Recycling Team;
- Newcomer recycling education workshops;
- Home composting education;
- Saskatoon Curbside Swap;
- Recycling education programs at Loraas Recycle and Cosmopolitan Industries;
- 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.

### Waste Diversion Target

The City has set a performance target to divert 70% of Saskatoon's waste by 2023, with a longer term vision of becoming a Zero Waste community (i.e. at least 90% diversion). The City's Waste Diversion Plan is being updated and will include a policy and program options to meet this target.

This performance target is supported directly through 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 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.

### National Zero Waste Council

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. The aim for the National Zero Waste Council is to substantially reduce waste and the associated environmental and economic costs of waste

management through product design and behaviour change. The City became a member of National Zero Waste Council in 2016.

## **Delivering Integrated Waste Management Services**

Waste management and diversion operations were provided by the Water & Waste Stream Division with the goal to provide efficient, effective, customer-oriented waste management and diversion services, including:

- Provision of garbage carts for curbside collections;
- Garbage collection services for single-family, multi-unit and commercial customers;
- Management of the Saskatoon Regional Waste Management Centre (Saskatoon Landfill);
- Operation of yard waste depots and the compost facility;
- Provision of carts, collections and customer service for Green Cart subscriptions;
- Collection of recyclable materials from recycling depots and civic facilities, with delivery to Cosmopolitan Industries;
- Operation of the landfill gas collection system;
- Education and enforcement of Bylaw No. 8310, The Waste Bylaw (); and
- Research and planning for Recovery Park, an expanded utility, and a curbside organics program.

*Photo 1 - Compactor in Operation at Saskatoon Regional Waste Management Centre*



The Water & Waste Stream Division had the following resources dedicated solely to waste management in 2018:

- Under the Environmental Operations Manager, there was an Operations Superintendent for Collections and Containers with 45 staff (summer) and 29 staff (winter), and an Operations Superintendent for Landfill with 28 staff (summer) and 21 staff (winter);
- Under the Senior Project Management Engineer, there was an Operations Superintendent, an Operations Engineer, a Project Engineer, a Waste Diversion Supervisor, an Instrumentation Technician for Landfill Gas, two Environmental Protection Officers, and an Engineering Intern; and
- A Senior Project Management Engineer and a cross-divisional team was assigned to support the curbside organics program project and to support the expanded waste utility initiative.

Waste reduction and resource recovery efforts were led by Environmental & Corporate Initiatives and focussed on waste diversion and reduction strategies and programs, educating and engaging the public, monitoring progress, and seeking operational efficiencies. Initiatives under this program included:

- Managing recycling contracts with Loraas Recycle for curbside collections and Cosmopolitan Industries Ltd. for multi-unit collections;
- Waste diversion programs including Saskatoon Curbside Swap, public space recycling, and household hazardous waste drop-off;
- Technical support and development of capital initiatives related to waste diversion, such as Recovery Park (currently managed by Major Projects & Preservation Division), an expanded waste utility (did not go forward), and a Curbside Organics Program (managed by Water & Waste Operations);
- Development of the Waste Diversion Plan and the Industrial, Commercial, and Institutional Waste Strategy;
- Monitoring and reporting on waste diversion/reduction, energy use and greenhouse gas emissions;
- Increasing awareness, generating excitement and educating residents on how and why to reduce and recycle waste through programming such as the Rolling Education Unit, Cart blitzes, newcomer workshops, programs for school groups, and campaigns;
- A new \$10,000 Community Grant for projects related to Waste Diversion; and
- Public engagement.

The Environmental & Corporate Initiatives Division had the following resources at the end of 2018: an Acting Director, an Education & Environmental Performance Manager with seven staff, an Environmental Protection Manager with four staff, an Energy & Sustainability Engineering Manager with six staff, a Corporate Initiatives section with

three staff, and an Environmental Accounting Manager with two staff focused on climate change (reporting to Finance). In addition to Waste Reduction and Resource Recovery efforts, the Environmental & Corporate Initiatives Division had responsibilities within the following Service Lines: Environmental Programs, Water, Wastewater, Facilities Management, River Landing and Corporate Projects.

The Waste Services Utility is jointly managed by:

- The Water & Waste Stream Division (organics); and
- The Environmental & Corporate Initiatives Division (recycling).

The work of both Divisions is directly supported by Business Administration (Finance as of January 1, 2019), Corporate Revenue (especially for recycling programs), and Communications staff.

## **Planning New Initiatives for Waste Diversion**

To achieve the 70% waste diversion target with a long-term vision of achieving zero waste landfilled, the City is actively involved in the following initiatives.

### **Waste Diversion Planning**

A waste diversion planning process was started in 2016, with a waste characterization study, an assessment of current waste diversion and disposal programs, and a study of best practices. In 2017, the 'Waste Diversion Opportunities' report outlined next steps, and City Administration initiated work on organics, Industrial, Commercial and Institutional waste and solid waste as a utility.

In 2018, a number of milestones were achieved including:

- The City received a grant of \$144,600 for an Organics Feasibility Study from the Federation of Canadian Municipalities' Green Municipal Fund. The purpose of the Organics Feasibility Study was to develop a yard and food waste program to achieve an overall diversion rate of 60% for the residential sector when combined with the current diversion achievements through recycling and optional composting program. The organics feasibility study analyzed collection, processing and funding options through a combination of research and public engagement. Recommendations were made to City Council and an implementation plan is being developed in 2019; the final report to Federation of Canadian Municipalities is forthcoming.
- Between February and May, 2018, the City engaged residents on curbside waste collections including organics and a pay-as-you-throw waste utility. Over 5,000 residents participated in the community engagement through an online survey, six pop-up events, two community workshops, a workshop on accessibility and special services, and two "Sensemaking" sessions.
- In June, 2018, the City engaged residents and property managers in multi-unit buildings on organics collections. Over 650 people participated in a series of six

pop-up events, two online surveys (one for residents and another for property managers), two property manager workshops, and three Crime-Free Multi-Housing events coordinated through Saskatoon Police Service.

- On October 22, 2018, City Council voted in favour of establishing a city-wide curbside organics program. On November 19, 2018, City Council voted for the program to be funded through property taxes. The Request for Proposals for this program's organics processing was issued January 16, 2019, with the proposal deadline and evaluations planned for later in 2019.

Waste diversion planning for 2019 is focused on the following areas:

Curbside Organic Program – Implementation planning is underway for the approved Curbside Organics Program with implementation planned for 2023.

Accessibility Considerations for Curbside Collection – Administration will continue the review of accessibility considerations for curbside collection and will provide an update on any changes needed to the Special Needs Garbage Collection Service, as directed by Council.

Multi-Unit Residential Sector – Recommended changes to multi-unit waste management will be made by the end of 2019, including recommended changes for a new organics program, continuous improvement of garbage and recycling programs, and additional waste diversion opportunities.

Industrial, Commercial and Institutional Sector – Engagement with the Industrial, Commercial and Institutional sector is underway and a recommendation will be made by the end of 2019. It will include mandatory recycling and organics, partnerships and collaboration, City leadership in waste diversion and reduction, and the role of the City in enabling the circular economy.

The milestones for the 2019 waste diversion planning activities include:

- February to September 2019 – Engagement of the Industrial, Commercial and Institutional sector; and
- November to December 2019 – Recommendations reports to the Standing Policy Committee on Environment, Utilities and Corporate Services for multi-unit and industrial, commercial, and institutional waste diversion strategies.

### Recovery Park

Recovery Park will be material transfer station that will provide opportunities for residents and businesses to divert waste materials for reuse or recycling. Recovery Park is planned to be located immediately west of the current Saskatoon Regional Waste Management Centre with the two facilities functioning in an integrated manner.

An Owner's Engineer to the City (Stantec Consulting Ltd.) was procured in July 2018, and is assisting with preparing a concept plan of Recovery Park and technical requirements for detailed design and construction. The project is proceeding as a

Design-Build with construction planned to begin in the third quarter of 2020, once a contractor has been procured. Construction is estimated to take two years to complete, as the work is being coordinated with landfill-related improvements.

When completed and fully operational, the new facility will offer users a one-stop location for waste disposal and recovery. The operating scope of the project has yet to be approved, but features of Recovery Park could include:

- Existing landfill recovery – Current services offered at the Saskatoon Regional Waste Management Centre – including drop-off of mixed metals, used appliances, batteries, compressed gas cylinders, bicycles, used oil and antifreeze – will be relocated to Recovery Park;
- Waste transfer station – Recovery Park will house a new customer service area for the public to drop off waste which will then be transferred to the landfill. Only City garbage trucks and commercial haulers will continue to access the active face of the Saskatoon Regional Waste Management Centre;
- Household Hazardous Waste – Recovery Park will provide a permanent household hazardous waste drop-off area which will provide a significant service level improvement over the existing eight household hazardous waste events each year;
- Blue bin recycling – Recovery Park will provide users with the opportunity to drop off recyclables currently accepted at the City’s existing recycling depots;
- Yard waste drop-off – Recovery Park will allocate space for yard waste drop-off with processing continuing at an external site (currently Highway 7);
- Provincial Product Stewardship programs – The Province supports the recycling of electronics (e-waste), used oil and antifreeze, batteries, tires, and paint. These materials can be collected at Recovery Park;
- Construction & Demolition (C&D) waste – Recovery Park will allocate space for residents and businesses who separate their C&D materials by type, to dispose of these materials;
- Mattress and box spring recycling – It is estimated the Saskatoon Regional Waste Management Centre receives over 17,000 mattresses and box springs each year, which consume airspace and can cause problems for landfill equipment. A collection location for mattresses and box springs is intended to be created at Recovery Park to enable recycling off-site; and
- Future material recycling – There is room for growth in the number of materials collected for recycling at Recovery Park. Materials such as gently used furniture and clothing, rigid plastics and Styrofoam may be accepted in the future. The Administration is further exploring these opportunities.

### 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 2018, the funds received by the City were used toward the Multi-Unit

Residential Recycling Program, and for the research and development of additional waste diversion programs. Funds will increase from \$11.75 per unit in 2018, to \$25.75 per unit in 2019.

## WASTE DIVERSION SERVICES

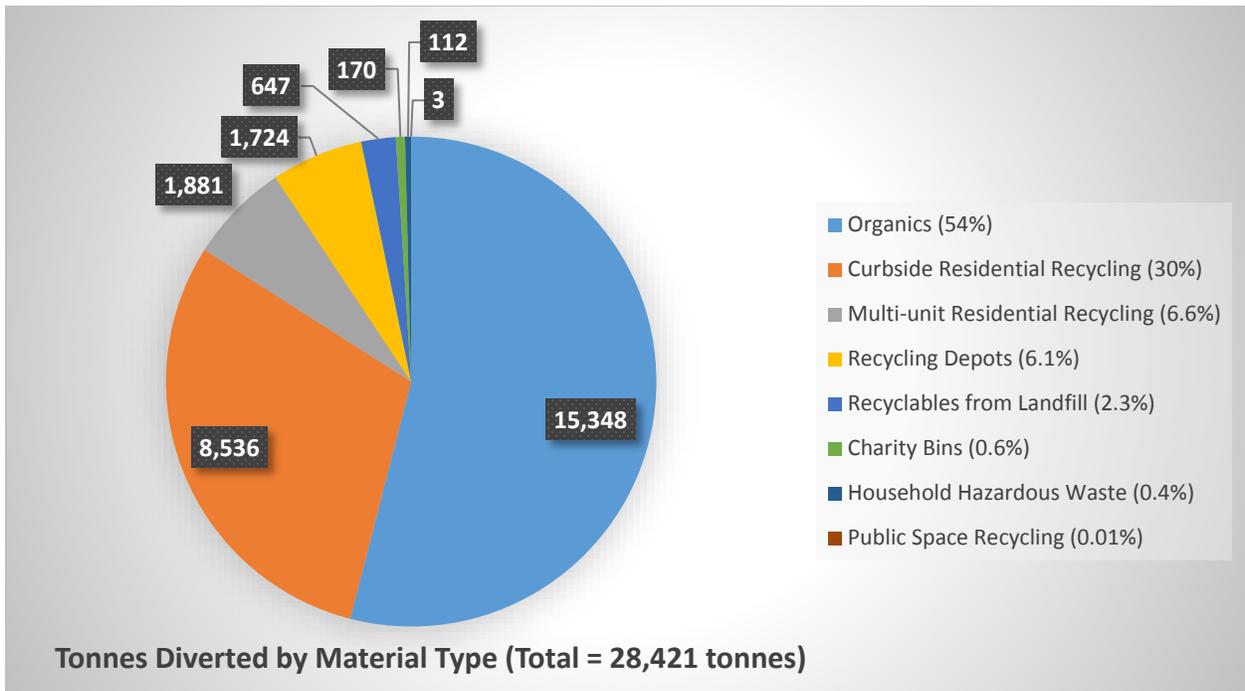
*Photo 2 - Compost Windrow Turner at West Compost Depot*



### 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. Education programs include: Saskatoon Curbside Swap, home composting education, the Rolling Education Unit, and school-based recycling education. The figure below shows the tonnes of recyclable materials diverted through each initiative (total of 28,421 tonnes) and how each initiative contributed to the diversion rate of 22.8% in 2018.

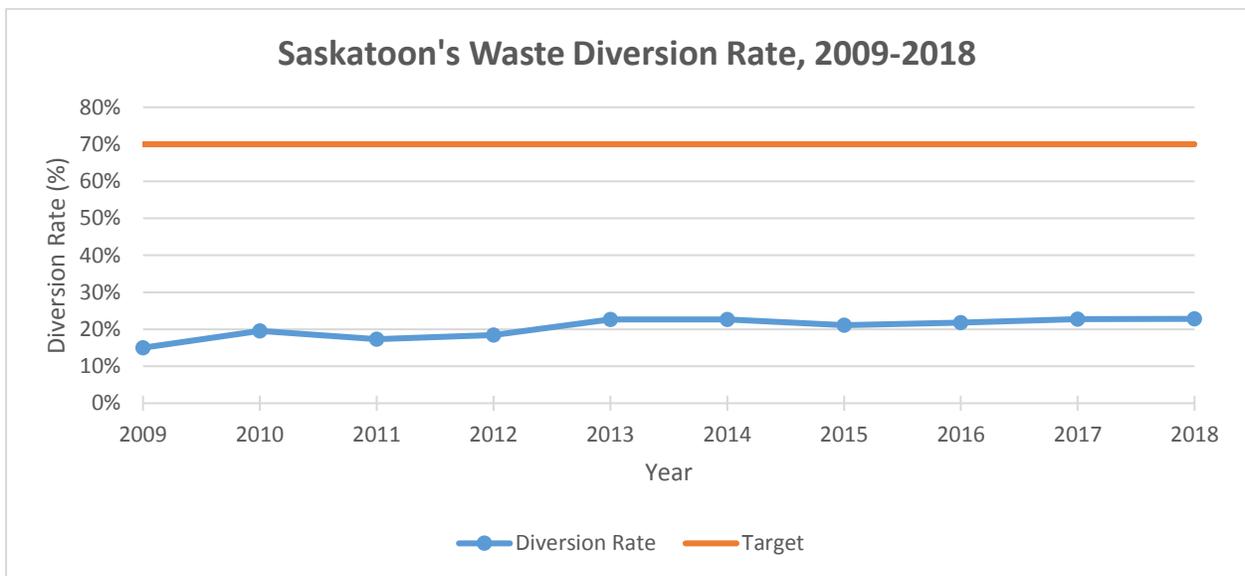
Figure 1 - Tonnes of Materials Diverted in 2018



### Saskatoon's Waste Diversion Rate

The City's Waste Diversion Rate for 2018 was 22.8%, unchanged from 2017. This performance indicator remains far below the target of 70% that has been established for 2023.

Figure 2 - Saskatoon's Waste Diversion Rate, 2009-2018

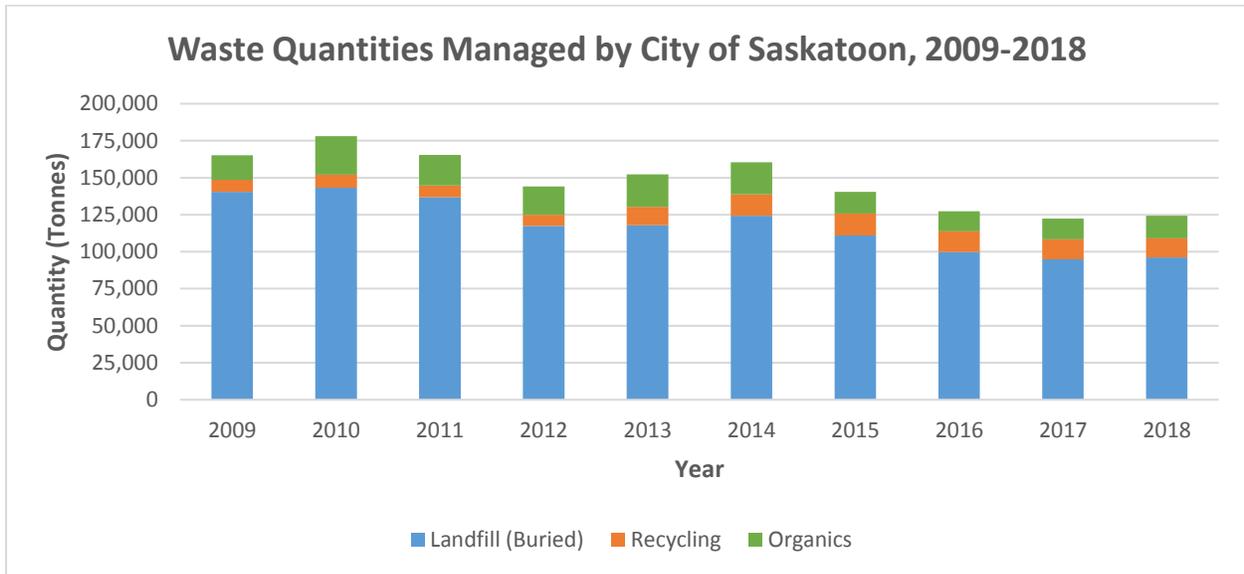


The City currently calculates the waste diversion rate based on City-run diversion and disposal programs. It does not include reduction, reuse, recycling or disposal through

non-City programs, such as beverage containers, e-waste, nearby landfills, or by the private sector.

The total amount of waste managed by the City in 2018 was slightly higher than in 2017. The annual quantities of garbage, recyclables and organics (yard and food waste) are shown in the figure below. Clean fill is not counted towards diversion as it is used in construction or as cover material at the Saskatoon Regional Waste Management Centre.

Figure 3 - Waste Quantities Managed by City of Saskatoon, 2009-2018



The City's waste diversion rate of 22.8% continues to place well 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	2016 Diversion Rate	2017 Diversion Rate	Change from 2016
Metro Vancouver	62.0%	63.0%*	+1.0%
York Region	61.5%	60.3%	-1.2%
City of Halifax	56.2%	60.3%	+4.1%
Niagara Region	55.9%	56.6%	+0.7%
Region of Durham	52.8%	50.5%	- 2.3%
Region of Waterloo	52.6%	59.8%	+7.2%
City of Toronto	52.1%	52.7%	+0.6%
City of Edmonton	52.0%	44%**	- 8.0%
City of Hamilton	46.0%	44.3%	-1.7%

City of London	44.7%	44.5%	-0.2%
City of Sudbury	43.3%	45.5%	+2.2%
City of Windsor	38.7%	37.8%	-0.9%
City of Montreal	35.9%	37.5%	+1.6%
City of Winnipeg	34.9%	32.9%	-2.0%
City of Calgary	27.2%	36.3%	+9.1%
City of Thunder Bay	25.9%	28.1%	+2.2%
City of Saskatoon	21.8%	22.8%***	+1.0%
City of Regina	21.7%	21.4%	-0.3%

Source: 2017 MBNCanada Performance Measurement Report, Municipal Benchmarking Network Canada ([http://mbncanada.ca/app/uploads/2018/11/Waste-Management\\_2017.pdf](http://mbncanada.ca/app/uploads/2018/11/Waste-Management_2017.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](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%

## Recycling

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

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

Loraas Recycle has been providing curbside recycling service to single-family households in Saskatoon since 2013. 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 2018, there were approximately 70,400 active carts in the single-family residential recycling program. In 2018, residents paid an annual per household utility fee of \$66.24 for this program.

Photo 3 - Residential Recycling Curbside Collection



In 2018, a total of 10,323 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 an increase from 8% in 2017, 6% in 2016, and 4% in 2015. The remaining 8,536 tonnes of recyclable materials were marketed to be recycled into new products, contributing 6.9% toward the City's waste diversion rate of 22.8%. This is down from 2017 when 9,311 tonnes were recycled.

The average set-out rate for the curbside recycling collection program was 70.8%, 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 2017 Waste Awareness & Behaviour Survey found that 83% 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 2018, there were an average of 408 non-compliant carts per month, representing 0.5% of all carts. This is an improvement from 2017, which saw an average of 849 non-compliant carts per month or a non-compliance rate of approximately 1%. Other ongoing concerns are carts left out in back lanes for more than 24 hours and scavenging of high value materials (beverage containers and milk jugs). Back lane issues are addressed through communications such as the Waste and Recycling

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

### Multi-Unit Residential Recycling Collection

The Multi-Unit Residential Recycling program was launched on October 6, 2014, and was fully operational in 2015. Service is provided by Cosmo. In 2018, residents paid an annual per household utility fee of \$35.52 for this service.

In 2018, a total of 2,297 tonnes of materials were collected through the Multi-Unit Residential Recycling program; 19% of this was contamination (materials placed in the bins that are not recyclable). This is an increase from 17% in 2017. The remaining 1,881 tonnes of recyclable materials were marketed to be recycled into new products, contributing 1.5% toward the City's waste diversion rate of 22.8%.

The '2017 Waste Awareness & Behaviour Survey' found that 69% of households serviced by communal metal recycling bins claim to recycle all or most of their recyclable items. In contrast, 80% 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 residential recycling program decreased in 2018, with Customer Service receiving 2,714 phone inquiries and 79 email inquiries for a total of 2,793 inquiries (or an average of 233 inquiries per month as compared to 299 inquiries per month on 2017). This total is down from an average of 299 inquiries per month in 2017.

Inquiries for the Multi-Unit Residential Recycling program also decreased in 2018, with Cosmo receiving and responding to 505 phone inquiries and 78 email inquiries throughout the year (or an average of 49 inquiries per month as compared to 62 calls per month in 2017).

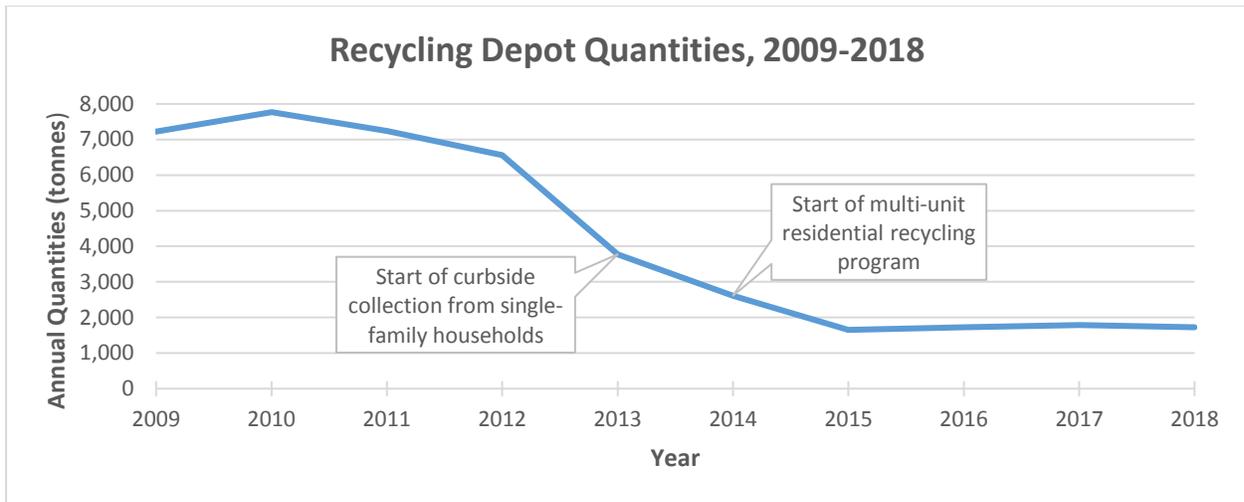
### Recycling Depots

In 2018, 1,724 tonnes of material were collected at the depots contributing 1.4% to the City's diversion rate of 22.8%. It is estimated that 332 tonnes or 8% 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 Cosmopolitan Industries all materials are collected by the City and are processed at Cosmopolitan Industries' 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 Water & Waste Stream spend a considerable amount of time servicing the sites.

Figure 4 - Recycling Depot Quantities, 2009-2018



### Charity Bins

In 2018, 170 tonnes of material were collected at charity bins located at the four City-operated recycling depots contributing 0.1% toward the City's total diversion rate of 22.8%. The charity bins at the City's recycling depots were provided by Community Living and Diabetes Canada in 2018.

### Public Space Recycling

Three tonnes of recyclables were collected through the City's Public Space Recycling programs in 2018. Collection bins installed in pedestrian-oriented commercial areas offer separation of paper and beverage containers (bottles and cans) from the regular garbage.

In 2018, the City continued to look for opportunities to expand the public space recycling program by providing additional recycling amenities in public spaces. The self-serving model for bottle and can recycling continues to be successful and allows the City to expand bottle and can recycling beyond the City's core areas. The City utilized a grant from SARCAN to purchase an additional 20 bottle and can baskets for Ashworth Holm, HS Sears, Al Anderson, Montgomery, WW Ashley, Rotary, and Buena Vista Parks and will continue to expand the self-serving model to other parks and special use facilities in 2019.

The City continues to work as an inter-divisional team to ensure that recycling amenities are given the appropriate consideration during the early stages of any streetscape or public space design projects.

Photo 4 - Bottle 'Basket' for Recycling Cans/Bottles



### Recycling in Civic Facilities



Recycling opportunities are available in most civic facilities, with single-stream collection in place at 26 facilities in 2018 (including four seasonal sites). Recyclable materials from civic facilities are collected with material from the depots, so exact tonnages

generated by civic facilities are not available. In 2018, there were also nine civic facilities subscribed to the Green Cart program.

## **Organics Programs**

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). The City owns and maintains the green roll-out carts provided to program subscribers, provides collection, and processes the material at the West (Highway 7) compost depot. During the 2018 Green Cart season, the City of Saskatoon delivered over 1,400 new green roll-out carts to program subscribers, nearly 180 carts were damaged in the field and another 260 were removed from service. In 2018, the number of subscribers to the Green Cart program reached an all-time high of 8,486 which equates to approximately 12% of eligible households. In addition, there are 28 community gardens and nine civic facilities subscribed to the program. Over 1,400 new carts were delivered to homes, 180 green carts were damaged in the field and an additional 250 were removed from service.

The program fee was \$55 per year prior to May 1, 2018, and \$75 per year after May 1. Collections were provided on a bi-weekly basis from May through early November. In total, 14 collections were provided which equates to a cost to the resident of approximately \$4 per collection if they registered prior to May 1, 2018. The total amount of material diverted through the Green Cart program in 2018 was approximately 2,800 tonnes, contributing 2.2% toward the City's waste diversion rate of 22.8%.

Photo 5 - Green Cart for Yard and Food Waste



### Compost Depots

In 2018, 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 the landfill. The composting sites, located on Highway 7 - West depot and on Highway 5 - East transfer station are available to residents at no charge and to commercial haulers by permit (\$150 for the season). In 2018, approximately 12,500 tonnes of material were diverted through the compost sites, contributing 10.1% toward the City's diversion rate of 22.8%.

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

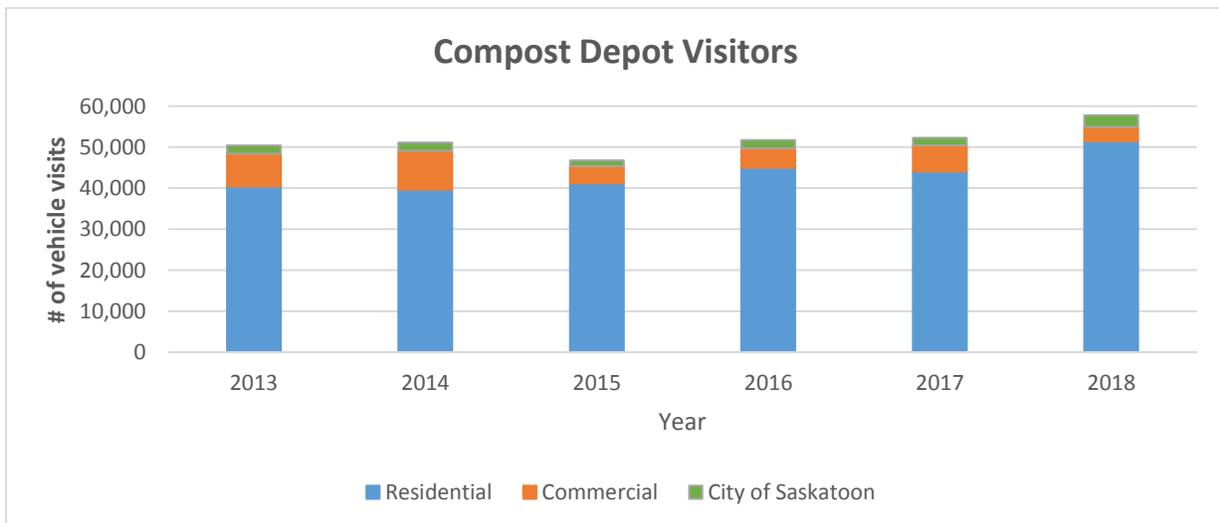
The two depots operate every season from mid-April to early November. In 2018, the Highway 7 - West Depot was open 7 days a week and the Highway 5 - East Depot was open 5 days a week (Thursday to Monday). Both depots were open on statutory holidays.

Photo 6 - Logs for Grinding at Compost Depot



In 2018, a total of 57,800 vehicle visits were made to the compost depots, representing an increase of approximately 10% compared to 2017. Of this total, 51,100 or 88% of visits were made by the public (45,900 drop-off customers and 5,200 'Dig-Your-Own' compost customers); 4,400 or 8% of visits were made by commercial customers; and 2,300 or 4% 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 six years.

Figure 5 - Compost Depot Visitors



### 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 2018, an estimated 52 tonnes of material were collected through this program.

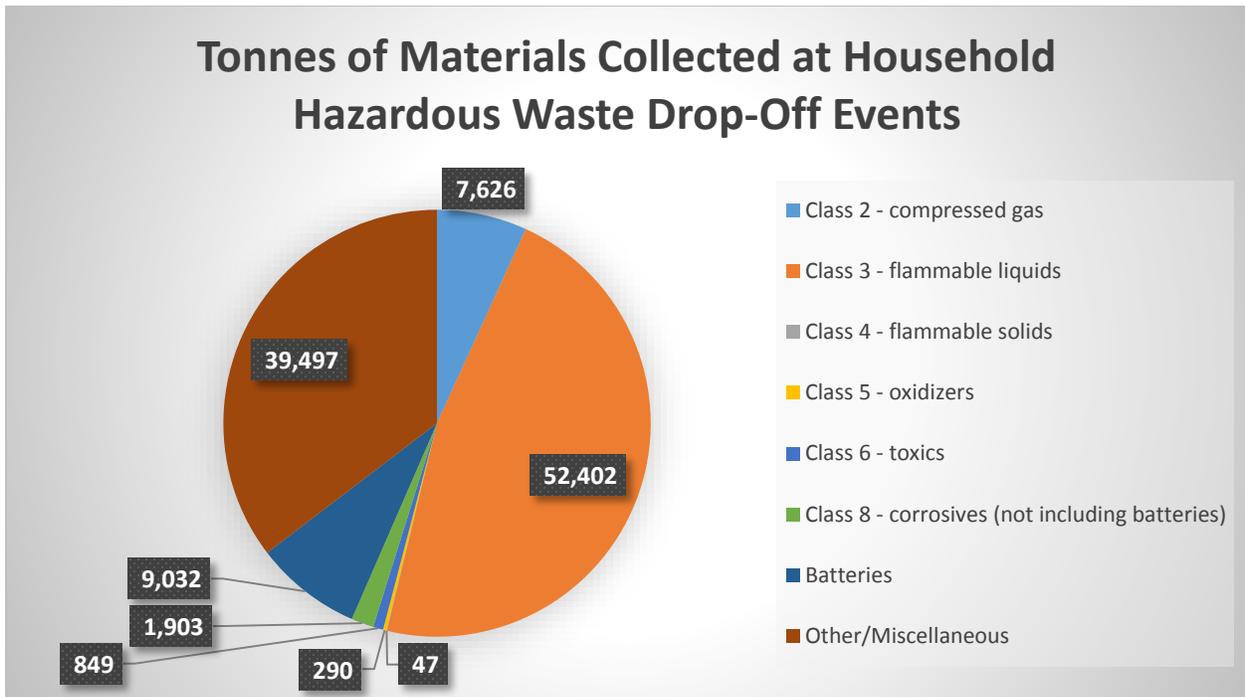
## Other Waste Diversion Programs

### Household Hazardous Waste Collection

Household hazardous wastes are 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 wastes 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 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 will not be accepted.

In 2018, 112 tonnes of hazardous materials were collected from 3,213 participants, setting new benchmarks for both indicators. The overall cost of the program also continues to rise – primarily due to increasing participation in the program – with 2018 program expenses totaling just under \$256,000.

Figure 6 - Tonnes of Materials Collected at Household Hazardous Waste Events in 2018



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

Other/miscellaneous: oil, oil filters, oil containers, antifreeze, 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

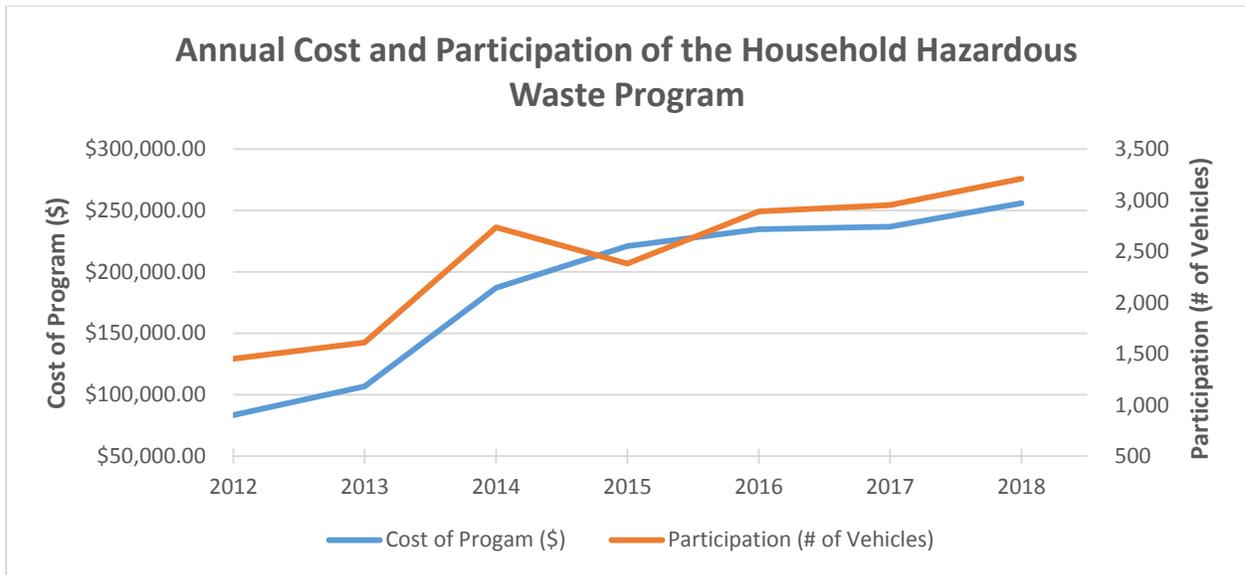


Photo 7 - GFL Environmental staff at a Household Hazardous Waste Drop-off Event



**Recycling Opportunities at the Saskatoon Regional Waste Management Centre**  
The Saskatchewan Association for Resource Recovery Corporation manages the industry-led stewardship program at the Landfill's EcoCentre (one of nearly 200 collection facilities across Saskatchewan) for used engine oil, oil filters, oil containers and antifreeze. The City's EcoCentre 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 2018, the total quantity of used oil collected at the EcoCentre was 84,000 litres.

In total, 647 tonnes of recyclables – including mixed metals, propane tanks, batteries and white goods (appliances) – were captured at the Landfill in 2018, contributing 0.5% toward the City’s diversion rate of 22.8%.

Photo 8 - EcoCentre at the Saskatoon Regional Waste Management Centre



In 2017, a new 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. More than 571 bicycles were delivered to the landfill in 2018, and approximately 55% of these were successfully recovered for re-use at the local shop, with another 34% recoverable in storage.

### Environmental and 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 materials exceed the emissions produced in collection and processing activities.

Diversion programs, including recycling and composting, reduced greenhouse gas emissions from the landfill in 2018.

## WASTE DISPOSAL SERVICES

Photo 9 - Garbage disposal truck at the Saskatoon Regional Waste Management Centre

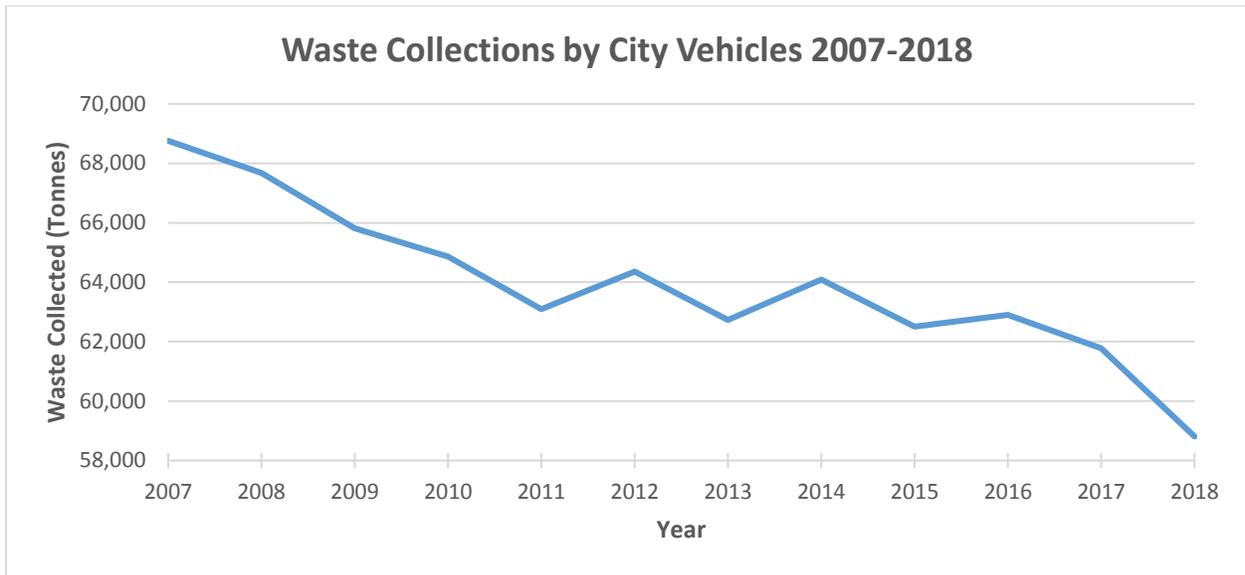


### Saskatoon's Waste Disposal

The amount of garbage that is collected and disposed of is decreasing every year. In 2018:

- 151,900 tonnes of materials were accepted at the Saskatoon Regional Waste Management Centre;
- 96,200 tonnes of garbage were disposed of at the Saskatoon Regional Waste Management Centre from all sources, once recyclable materials and clean fill were removed; and
- Waste collections by the City accounted for 58,800 tonnes. (Note: 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 8 - Waste Collections by City Vehicles, 2009-2018



## Containers

### Black Carts

The City owns and maintains the black roll-out carts provided to street-oriented residential properties. In 2018:

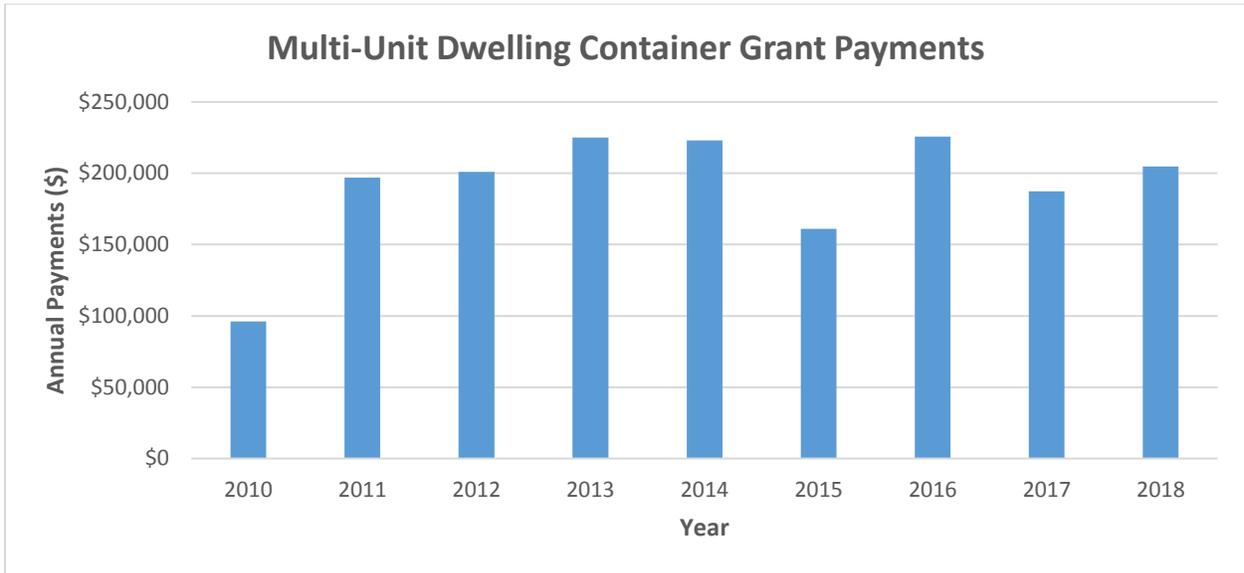
- An estimated 70,400 black carts were managed in the field;
- 984 new carts were delivered to new homes; and
- 1,100 carts were repaired and 5,400 were replaced.

### 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 2018, 71% of eligible properties (25,580 units out of 36,066 units) submitted an application and received the grant payment.

Figure 9 - Multi-unit Dwelling Container Grant Payments



## Garbage Collections

### Garbage Collections for Single-family Residential Households

Photo 10 - Residential Garbage Collection



In 2018, garbage collection services were provided to approximately 70,400 single-family households; an estimated 49,500 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 Christmas Day and New Year's Day. In 2018, weekly collections were provided from May to September, with the remainder of the year on a bi-weekly collection schedule.

### Garbage Collection for Multi-unit Residential Properties

The City provides one collection per week for each multi-unit residential property as part of regular service supported by property taxes. A multi-unit residential property may have a black cart or a metal waste bin depending on the configuration of the site. Approximately 80% 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.

### Commercial Garbage Collection

Garbage collection is provided to commercial customers, including internal City of Saskatoon customers and residents who contract for additional carts and collections. In 2018, there were approximately 350 external commercial customers and 53 internal City of Saskatoon customers.

### Saskatoon Regional Waste Management Centre

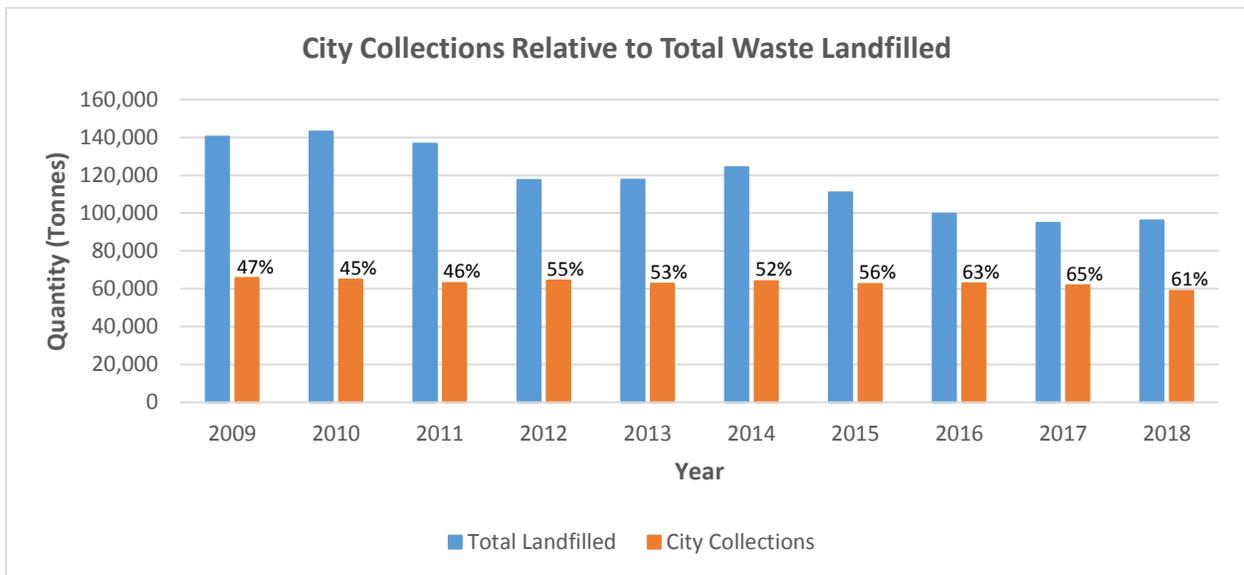
The Saskatoon Regional Waste Management Centre (Landfill) has been in operation since 1955. It is a sophisticated facility that is designed and operated to maximize available space and ensure solid waste is managed in a safe and environmentally sound manner. The Saskatchewan Ministry of Environment currently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

Photo 11 - Saskatoon Regional Waste Management Centre



In 2018, approximately 151,900 tonnes of material were accepted at the Saskatoon Regional Waste Management Centre. Of this total, 96,200 tonnes required burial (garbage) and 55,100 tonnes were used as landfill cover (clean fill) while approximately 600 tonnes of material was separated for outbound recycling. As shown in the figure below, City collection trucks were responsible for approximately 58,800 tonnes (61%) of the material landfilled.

Figure 10 - City Collections Relative to Total Waste Landfilled



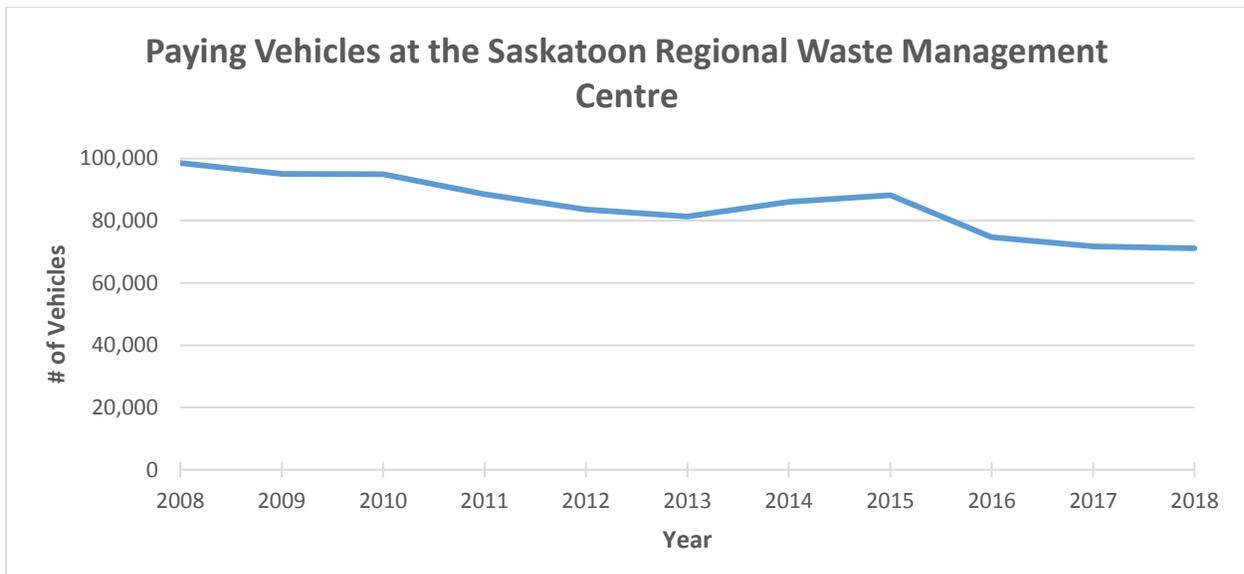
The Saskatoon Regional Waste Management Centre is open to the public every day of the year except for Christmas Day and New Year's Day. The site is a secure compound

with fencing and security checks after-hours. Six transfer bins are located on site for public waste disposal. In addition, several public drop-off areas are provided for metals, white goods (major appliances), batteries, propane tanks, used oil, oil containers, used oil filters and used antifreeze.

### Landfill Customers

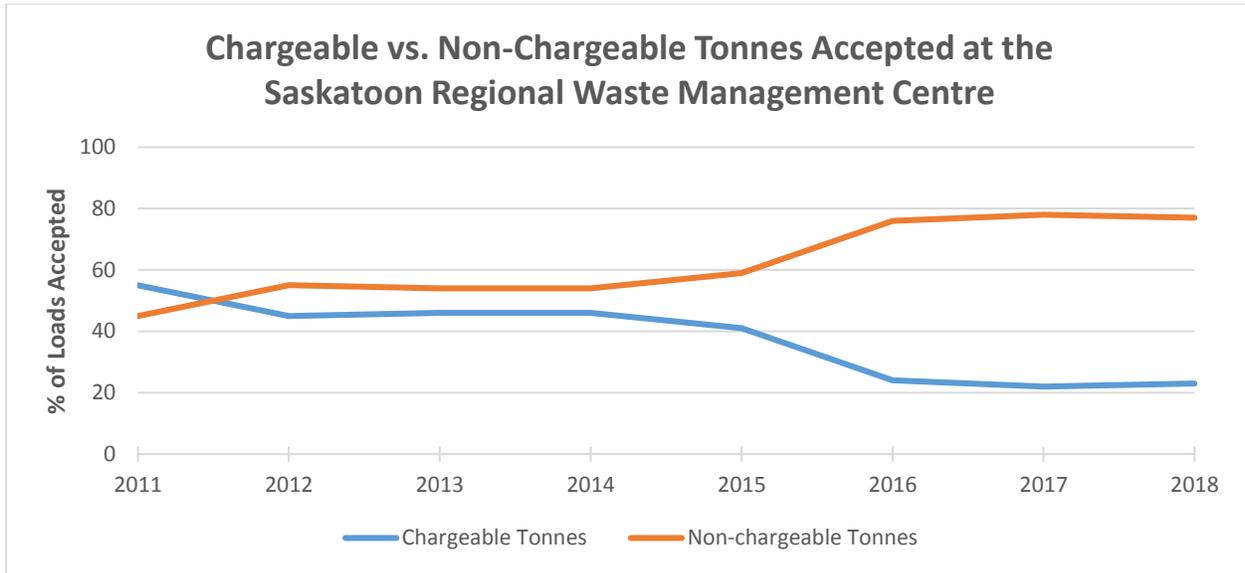
The overall number of landfill visits decreased between 2017 (83,300) and 2018 (81,500). The number of chargeable vehicles entering the Saskatoon Regional Waste Management Centre, in particular paying residential customers, saw a decrease between 2017 (71,750) and 2018 (71,160). However, the most substantial reduction resulted from a decrease in non-chargeable customers hauling clean earth fill material between 2017 (3,300 loads) and 2018 (2,000 loads).

Figure 11 - Number of Paying Vehicles at the Saskatoon Regional Waste Management Centre



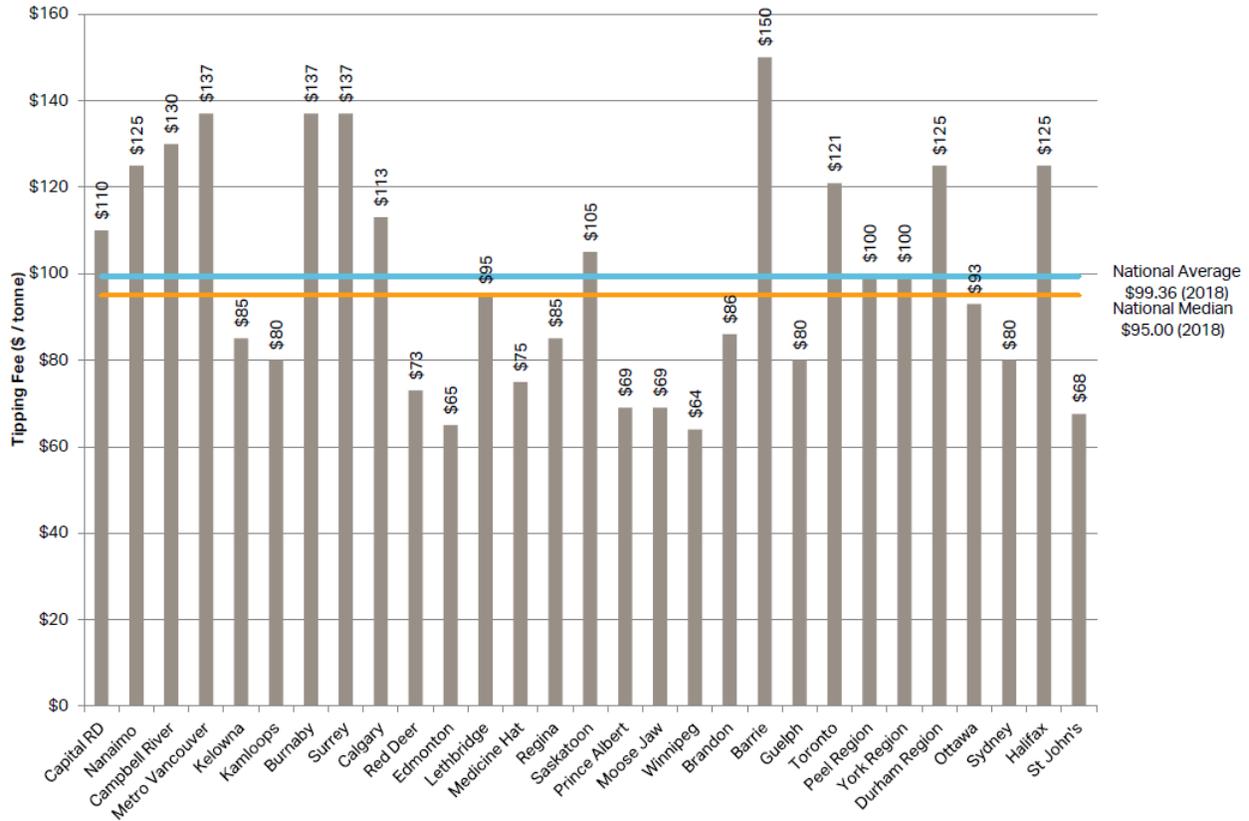
The quantity of garbage that is hauled to the Saskatoon Regional Waste Management Centre as a result of municipal garbage collections is tracked, but the costs of disposal are not incurred by the operating budget for collections. The amount of chargeable tonnes as a percentage of the total tonnes has been declining since 2011. This is a significant financial risk to the sustainability of landfill operations. Of the 151,900 tonnes of material brought to the Saskatoon Regional Waste Management Centre in 2018, only 34,600 (23%) were chargeable tonnes. The non-chargeable or “free” tonnes included approximately 55,100 tonnes of clean fill and 58,800 tonnes from City collection vehicles.

Figure 12 - 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 \$64 to \$150 per tonne, with a median of \$95 per tonne. Saskatoon’s 2018 fee of \$105 per tonne falls within this range, and remains unchanged from 2017.

Figure 13 - Tipping Fees at the Scale Across Canada. Source: AECOM, National Solid Waste Benchmarking Initiative 2018



### Customer Service

In 2018, approximately 19,700 waste-related calls and 5,400 emails were addressed by the City's Customer Service Representatives.

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

Figure 14 - Waste Stream Customer Service Calls in 2018



### Environmental Monitoring and Protection

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

**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 2018, there were 65 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 2018, extracting a total of 196,000,000 standard cubic feet of landfill gas. Of this quantity, approximately 153,000,000 standard cubic feet was utilized for electricity generation, and 43,000,000 standard cubic feet was destroyed within the facility's

enclosed flare. The destruction of landfill gas in 2018 resulted in approximate greenhouse gas emissions reductions of 31,000 tonnes carbon dioxide equivalents for the sale of gas (CO<sub>2</sub>e) from the landfill. In addition, more than 8,500 MWh of electricity was produced in 2018 as a result of power generation from landfill gas.

In 2018, two horizontal landfill gas collection wells were installed in the current filling cell. Future construction work will tie these wells into the collection system, resulting in additional emissions reduction.

*Photo 12 - Landfill Gas Collection and Power Generation Facility*



## EDUCATION AND ENGAGEMENT SERVICES

Photo 13. Public Engagement Event on Changes to Waste Management



### 2018 Engagement on Changes to Waste Management

In 2018, the City engaged the public on changes to waste management to the curbside residential and the multi-unit residential programs. The engagements were designed to complement the quantitative results of the 2017 Waste Awareness & Behaviour Survey, and the 2016 Waste Characterization Study, by delving into the preferences and barriers of residents related to waste management and diversion. The results have informed the recommended changes to the curbside residential sector that were presented in June 2018, and will be used to develop recommended changes to the multi-unit sector that will be brought forward by the end of 2019.

#### Curbside Engagement

Between February 12 and March 6, 2018, the City engaged residents on curbside waste collections. Over 5,000 residents participated in the community engagement which included an online survey, a series of six Pop-Up events, two community workshops,

and an accessible waste collection workshop. Two further “Sensemaking” engagement sessions were held in late April and early May to share and discuss draft recommendations with groups of residents and stakeholders.

### What We Heard

Residents and stakeholders shared many ideas for improving curbside collection and increasing waste diversion. Below is a short summary of what the City heard about the three main waste streams.

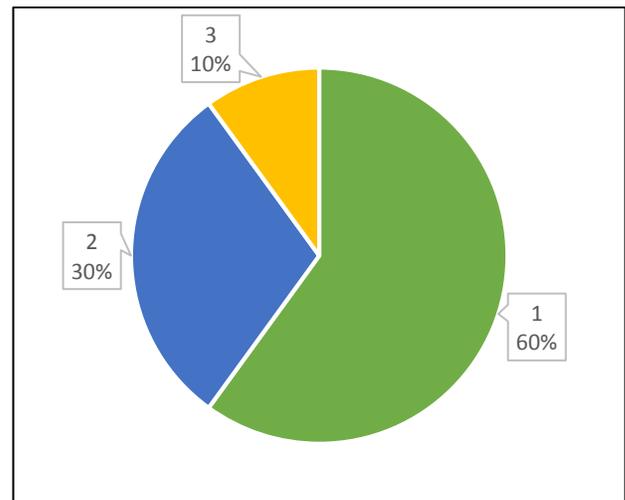
#### *Garbage*

A small majority (approximately 60%) of residents who participated in engagement activities demonstrated support for a pay-as-you-throw approach. A vocal minority (about 30%) expressed strong opposition, while a third group were uncertain or had further questions.

Supportive residents were interested in pay-as-you-throw for three main reasons: the diversion incentive, opportunity for individual cost control, and higher standard of accountability for all residents. Many participants expressed interest in choosing their cart size. Residents (both supportive and opposed) were very concerned about the potential for pay-as-you-throw to cause illegal dumping in their carts and in the alleys, ditches, and surrounding areas. The second highest concern was that a utility would be “double-dipping” or a “tax grab”, on top of property taxes. Other frequently cited concerns included: affordability, fairness (larger families, medical waste, secondary suites, and tenants), variable waste volumes, contamination risk, and preference for waste to remain on the mill rate.

A large number of residents expressed a preference for moving to bi-weekly garbage collection all year, once the organics program is introduced.

Figure 15 - Survey Results: Level of Support for Pay as You Throw Utility



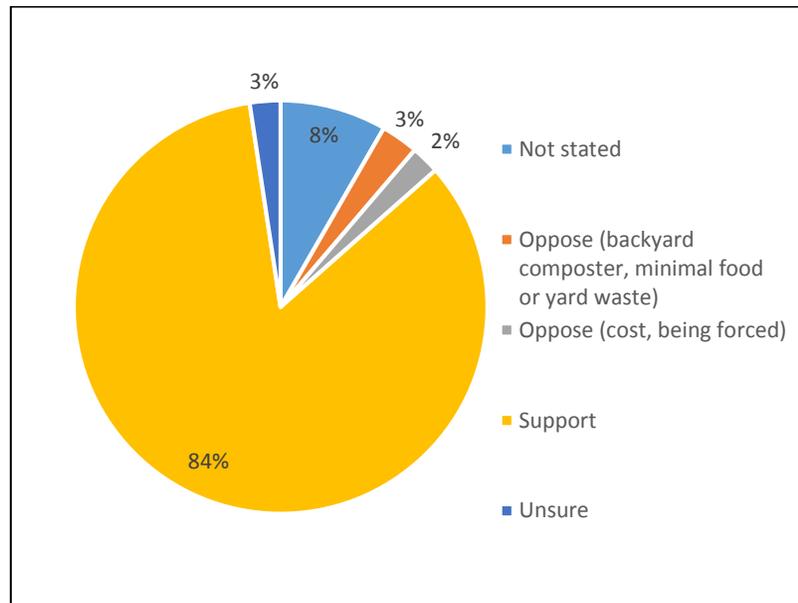
### Organics

Over 80% of participants expressed clear support for a City-Wide Organics Program. Those who were opposed to the program primarily disliked the additional cost and cart, or were existing backyard composters who disliked the mandatory approach.

The majority of participants preferred co-mingled (food and yard waste together) collection in a single green cart. This was primarily due to greater convenience

and in order to have sufficient capacity for grass, leaves, branches, and garden waste.

Figure 16 – Survey Results: Level of Support for City-wide Organics Program



Participants were not in favour of approaches that required yard waste to be bagged. About half of residents engaged, suggested an interest in weekly collection, depending on the cart capacity and the season. Many suggested a schedule of weekly collection from spring to fall and biweekly in the winter.

The top five concerns about the Organics Program are: cleanliness, convenience, program cost, finding space for a third cart, and fairness (for those with backyard composters, small yards, townhouses, or limited food waste).

### Recycling

Many participant comments indicated an interest in weekly collection when asked what could improve about their current service level. However, a large majority of respondents preferred to maintain large carts collected bi-weekly when they were presented with a weekly collection scenario.

### Accessibility of Curbside Waste Programs

A workshop on “Accessible Waste Collection” was open to stakeholders and organizations that serve or represent older adults and/or other residents who are physically challenged by the task of managing a waste cart.

Participants shared a range of challenges with the current waste collection program, including: the size, height, and weight of bins; difficulty maneuvering in snowy and icy

conditions; and difficulty disposing of bulky items and hazardous waste. An opportunity was identified to design and deliver a future program based on transparency and openness, fairness, equity, affordability and coordination with other service providers.

### Multi-Unit Engagement

Between June 3 and June 22, 2018, the City engaged multi-unit residents and property managers. Over 650 people participated in a series of six pop-up events, two online surveys (one for residents and another for property managers), two property manager workshops, and three Crime-Free Multi-Housing events coordinated through Saskatoon Police Services.

### What We Heard

On average, 82% of residents that participated in the engagement indicated that they support an organics program. This is in line with the 81% support by multi-unit residents in the 2017 Waste Awareness & Behaviour Survey. Support from property managers was lower, with 53% supporting the program and 19% opposing.

Figure 17 – Multi-Unit Resident Survey Results: Level of Support for Multi-Unit Organics Program

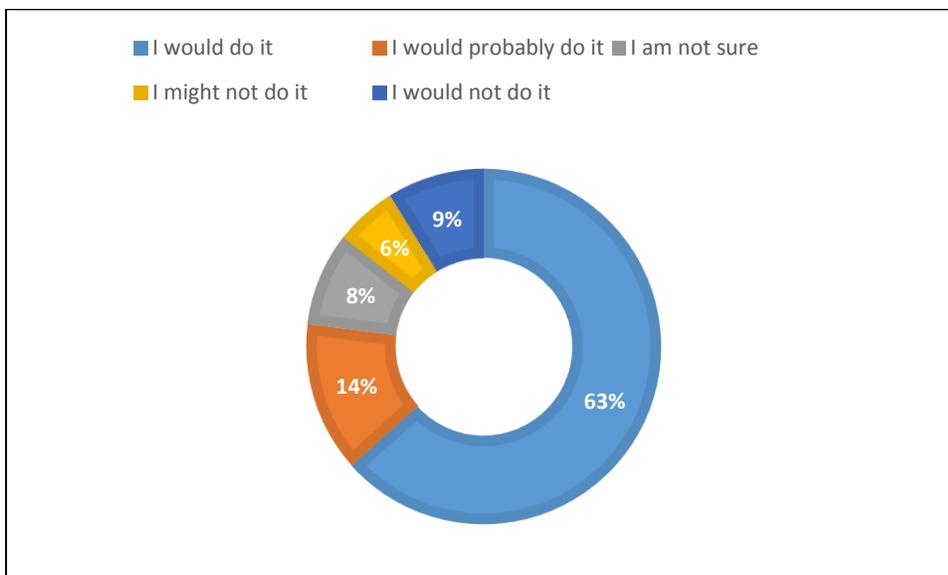


Figure 18 – Residential Survey Results: Level of Support for Multi-Unit Organics Program

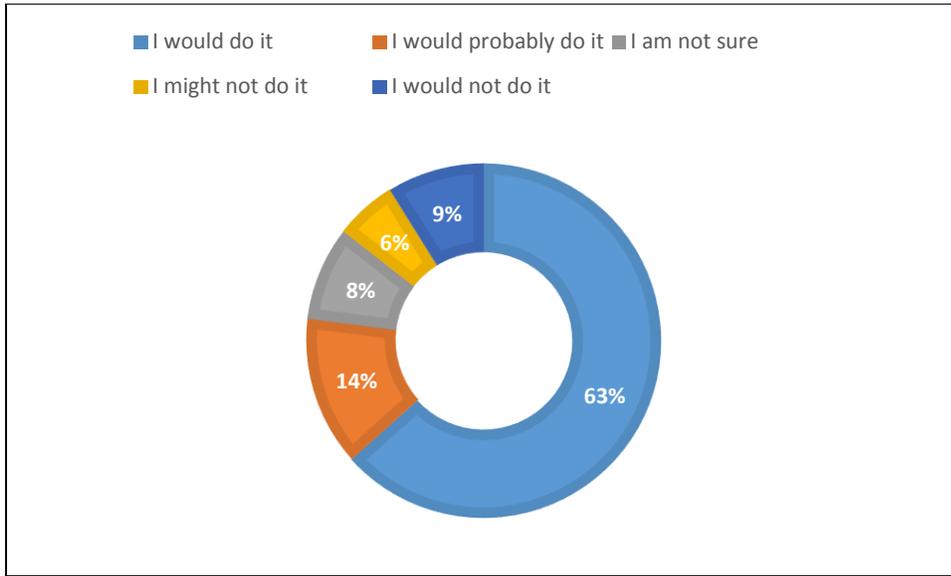
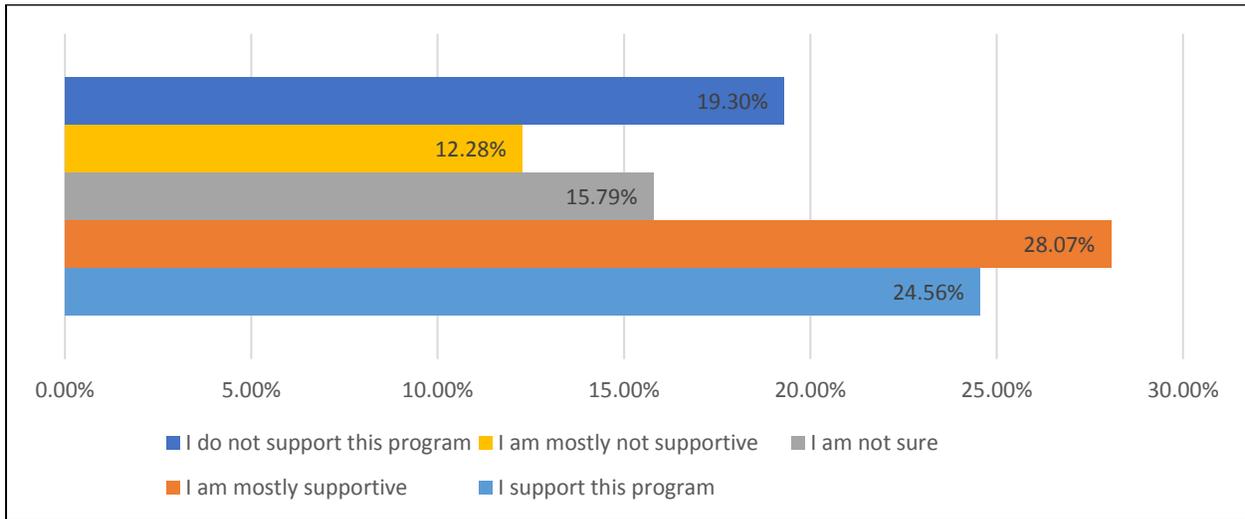


Figure 19 – Property Manager Survey Results – Level of Support for Multi-Unit Organics Program



Residents and Property Managers were aligned on their top concerns and strategies for program uptake:

Top Concerns:

- Cleanliness (addressing pests and odours);
- Space limitations (for both in-unit collection and the communal bins); and
- Program cost.

Top Strategies for Program Uptake:

- Frequent collection and cleaning of bins/collection area;
- Provide kitchen catchers for all units; and
- Focus on education, including information packages for all residents.

Other frequent suggestions included allowing compostable/plastic bags, program flexibility for different building types, and a pilot program before full roll out.

### *Service Approach – Organics*

In terms of the service approach for a new organics program, participants were unsure about whether a city-run program (i.e. city fleets and crews or contracted services) or a bylaw mandated program (such as a requirement for source separation with flexibility to choose a private hauler) would be more desirable.

Participants identified two main advantages of a city-run approach: less work for properties (especially condo boards) and greater city-wide consistency in program delivery and education. However, some were concerned that their property would be ineligible for collections but they would still be required to pay (based on their experience with garbage collections). The bylaw-mandated approach was seen as having advantages in cost, flexibility, reliability and customer service. Property management companies tended to be more interested in this approach than condo boards, though there was variability.

Photo 14 – Multi-Unit Pop-Up Engagement Activity on Willingness to Participate



### *Garbage and Recycling*

Most participants were satisfied with the current frequency and capacity of garbage collections. Most were opposed to moving to a utility model for garbage collection and a large number were uncertain and unsure of the implications, which is consistent with the 2017 Waste Awareness & Behaviour Survey.

In terms of recycling, both residents and managers agreed that education and improving collection areas was a priority.

## **Education and Communications**

Recycling education and communications work to build awareness of, generate enthusiasm for, and ensure that participants have the information they need to confidently and correctly participate in the City's Curbside Recycling Programs.

## Webpage and Online Engagement

Information about the City's waste, recycling, compost and other waste diversion programs are available online through the City's website (Saskatoon.ca), Facebook, Twitter, and Instagram accounts (@cityofsaskatoon), and the Saskatoon Recycle and Waste app.

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

- Collection schedules;
- Cart collections;
- Waste Wizard search tool and materials accepted in blue, black and green carts;
- Dates for the monthly household hazardous waste days and the annual Saskatoon Curbside Swap event;
- Landfill rates, location, and hours;
- Green cart online subscriptions and compost depot locations and hours; and
- Other tips on reducing or diverting waste.

In 2018, there were 382,190 visits to the Waste & Recycling webpages. The Collection Calendar was the most visited waste-related webpage with 160,187 hits.

## Waste Wizard and Online 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. To date, 108,644 materials were searched on the Waste Wizard with plastic bags, Styrofoam and glass bottles and jars being the top three searched materials. The new online Waste Sorting Game was launch in August of 2018 as an additional education tool that would help 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. There have been 2957 game plays since launching in August 2018.

Figure 20 - Waste Wizard Search Results

The screenshot shows the 'Waste Wizard' interface. At the top, there is a green header with 'Waste Wizard' on the left and a 'Need help?' link on the right. Below the header is a breadcrumb trail: 'Home / Search Results / Light bulbs'. The main content area is titled 'Light bulbs'. Under this title, there are three sections: 1. 'Curbside collection': A car icon followed by the text 'There is no curbside collection for this item.' 2. 'Household Hazardous Waste Days': A trash can icon followed by the text 'You can drop this item off at one of the City of Saskatoon's Household Hazardous Waste Days. For upcoming event dates, times and location, visit our website.' 3. 'Special Instructions': An information icon followed by the text 'The Saskatchewan Waste Reduction Council's recycling database lists drop off locations for many reusable and recyclable items. For more information on how to dispose of this item, visit <http://www.saskwastereduction.ca/recycle/db?location=Saskatoon&materials=Light+Bulbs&keywords=>'. At the bottom left of the content area is a 'Back' button with a left-pointing arrow. At the bottom of the page, there is a 'List of Materials' link on the left and 'Powered by ReCollect' on the right.

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 Council in promoting this online tool: <http://www.saskwastereduction.ca/>

### 2018 Collection Calendar and App

Each single-family household received a personalized print calendar indicating the garbage (Black Cart), recycling (Blue Cart), curbside organics (Green Cart) and household hazardous waste event collection schedules. The calendar also included information on what items are accepted by each program, information on how to use carts to ensure successful collections, and customer service contact information. The distribution of printed collection calendars was discontinued in 2019; however, printed copies can be requested from the City's Customer Service Representatives by calling 306-975-2486.

Figure 21 - Collection Schedule Look-up

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

Please type your home address:

*Example: 222 - 3rd Avenue North, Saskatoon*

Powered by **ReCollect**

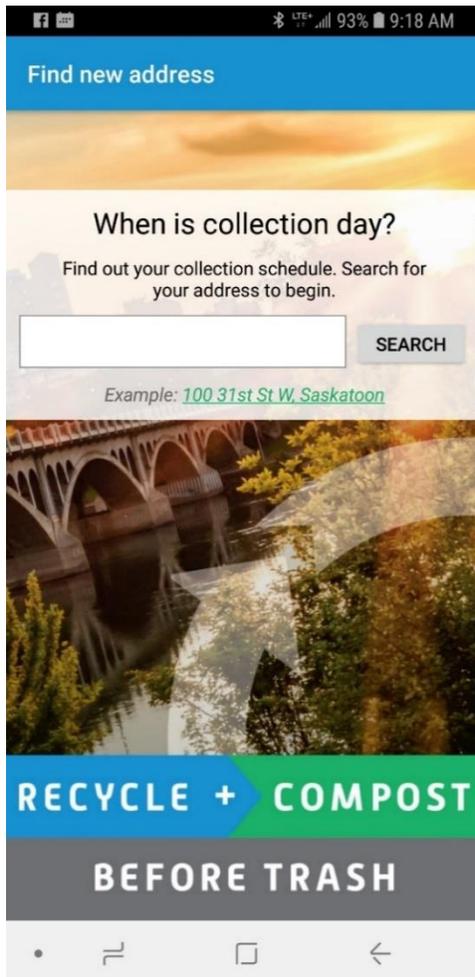
Residents have the option to:

- 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 waste and recycling mobile app.

At the end of 2018 there were a total of 31,901 active collection reminder users via e-mail, phone, twitter or the app. In addition, there have been a total of 64,235 address searches and 39,376 print downloads since the online reminder and calendar options have been available to residents.

In December 2017, the Saskatoon Recycle and Waste App was launched. It offers a personalized collection calendar, the waste wizard and information on drop off options. At the beginning of 2018, there were 359 Android and 693 iOS (Apple) active reminder users.

Figure 22 - Recycle and Waste App



### Recycling Marketing Campaigns (Plastic Film and Contamination – 2018)

Three marketing campaigns were used to increase recycling awareness in 2018:

1. 'Ditch Disposable, Go Reusable',
2. 'Cut Out Contamination', and
3. 'Make Memories, Not Garbage'.

These were promoted through social media, bill boards, the City's website, and media relations.

Figure 23 - Advertising Material for the 2018 Marketing Campaign



The impact of the marketing campaigns:

- 4,653,012 billboard impressions from 22 billboards;
- 31,086 views of recycling web pages; and
- Over 5,071 interactions with residents at community events and festivals throughout the summer.

### Student Programs – Recycling Education Centres

Loraas Recycle provides recycling education for Saskatoon students in Grades 4 through 7. A total of 2,353 elementary students visited the Education room at the Loraas facility in 2018, to learn how material is processed at the material recovery facility, 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.

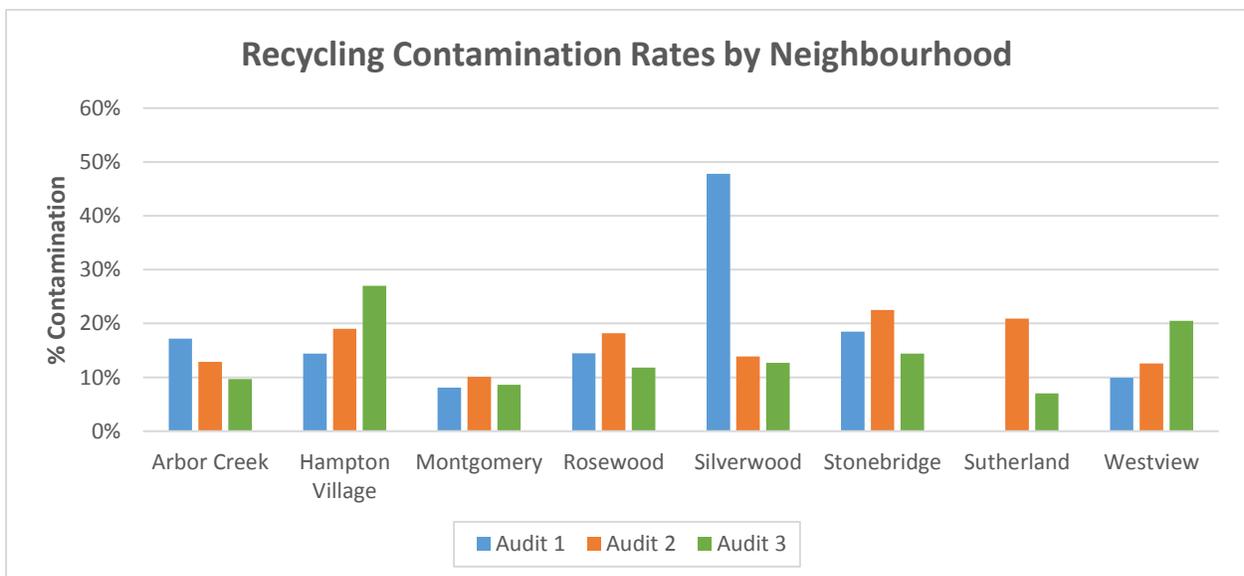
### Curbside Recycling Cart Blitzes

In 2018, Loraas Recycle conducted cart blitzes in eight neighbourhoods in an effort to reduce contamination rates in recycling carts. They inspected approximately 450 carts in eight neighbourhoods over three collection periods; a total of 3,564 households were

included. 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 below shows the contamination rates for each neighbourhood over the course of the cart blitz, with the average contamination rate for all areas dropping from 19% for the initial audit to 14% for the final audit. Perfect recycling behaviour was found at 68.2% of households, and 4.3% were problematic. The most common contaminants were broken glass and residual waste (e.g., small items such as dryer lint, dirt, or bottle caps that should have been disposed in the black cart) at 24.5% followed by mixed media (e.g. items that can be recycled, only if dismantled before being placed into the recycling cart, such as coffee tins or Pringle cans) at 15.5%. Six out of eight neighbourhoods showed an improvement; Hampton Village and Westview regressed over the course of the program with a steady rise in contamination.

Figure 24 - Recycling Contamination Rates by Neighbourhood



### 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 39 workshops with 491 students.

### Multi-Unit Residential Recycling Program Awareness

The City of Saskatoon 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. In 2018, door knockers were once again distributed to every household. Cosmopolitan Industries continues to provide outreach to building managers. The education program in 2018 included 36,000 door hangers placed in multi-unit buildings throughout the city.

Figure 25 - 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?**

<p>Cosmo Industries 306 955 9100 cosmoindustries.com</p>	<p>City of Saskatoon 306 975 2476 saskatoon.ca/recycle</p>
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**RECYCLE + COMPOST**

**BEFORE TRASH**

## Can I recycle that?

For an extended list visit: [saskatoon.ca/wastewizard](http://saskatoon.ca/wastewizard)

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**Clean Plastics** Numbers ♻️ through ♻️

Beverage & food containers  
Cleaning supply bottles

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

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**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

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**Cardboard** Please flatten

Cardboard boxes  
Paper egg cartons  
Milk & juice cartons

**No** soiled food containers  
Wood products  
Coiled notebooks

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**Household Tin & Aluminum** Please rinse

Aluminum pop cans  
Food & pet food tins  
Pie plates

**No** lawn furniture  
Car parts  
Tools/appliances

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**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 2018, the City partnered with the Saskatchewan Waste Reduction Council to provide waste and recycling education to Saskatoon 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 38 events, interacting with 5,071 people. Activities include the “Spin to Win”, “Toss and Sort”, and iPad sorting games.

*Photo 15 - Rolling Education Unit in Action!*



### Home Composting Education

The Saskatchewan Waste Reduction Council 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 2018 program included the following:

- 68 compost bin rebates of \$20;
- 57 home visits for residents seeking one-on-one composting support;
- 10 community events, presentations and 22 workshops;
- 12 new Compost Coaches, bringing the total to 81 – 31 of these volunteered during 2018;
- ‘What’s your Composting Style?’ quiz;
- A Compost Hotline, accessible by phone or email. The hotline received 138 inquiries; and
- Educational materials.

### Green Cart Program Education and Marketing

In 2018, the number of Green Cart subscribers reached an all-time high of 8,486. Promotional efforts focused on encouraging additional subscribers using on-line and

social media. The Green Cart program is also promoted through a number of other City-led education efforts, including the Rolling Education Unit and the Healthy Yards program.

The impact of the program's education and marketing program in 2018 included:

- 55,895 households through the Waste and Recycling Collection calendar;
- Three Renewal mailings to 2017 subscribers (6,165 email/612 mail);
- Recollect – two campaigns went to all Recollect subscribers with information about the Green Cart program; and
- 2,800 tonnes of organic material diverted from the Landfill by composting.

### Dig-Your-Own Compost Pilot Program

The Dig-Your-Own compost pilot program continued in 2018 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. More than 5,200 residents participated in the program and obtained more than 2,200 cubic yards of materials from the compost depot.

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 2019.

### Saskatoon Curbside Swap

The purpose of the Saskatoon Curbside Swap is to encourage residents to pass on reusable household items, to raise awareness on the importance of reuse, build a sense of community and reduce the number of items ending up in the landfill. The City provides information, 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.

In 2018, the City-wide Curbside Swap was held on September 8. There were 8,509 visits for the Saskatoon Curbside Swap webpage on the City's website. Participation of the City-wide event was evident by:

- The annual curbside swap is advertised and promoted on the City website and its various social media platforms; and
- Total views of advertising/social content was 271,818.

### 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 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. In 2018, Environmental Protection Officers conducted a neighbourhood cart blitz in the Nutana neighbourhood as it had not been inspected in prior years.

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 2018, a total of 650 education and warning notices were delivered and only seven tickets were issued, indicating compliance of greater than 95% as a result of the education-first approach. There are four neighbourhoods that have not yet been addressed through the cart placement education blitz, including Varsity View, Riversdale, King George and Pleasant Hill. These neighbourhoods are scheduled to be inspected in 2019 and 2020.

## **Trends in Waste**

### **Recycling Programs Need to Adapt**

In 2018, China began to restrict imports of specific materials and increased the standards of materials it would continue to import. The biggest impact from new policy out of China was the disruption of recovered paper fibre markets, which constitutes the largest amount of marketed material by weight in most curbside recycling programs. In the last year, the average price per tonne for cardboard declined by up to 45% and mixed paper has fallen to a negative value. By 2020, China intends to end all 'scrap' imports. The resulting change in global recycling markets means that many materials collected in North American residential recycling programs now have lower value and fewer buyers. Recycling programs have been adapting by searching for new global or local market opportunities, removing "hard to recycle" items from their program, and investing in new sorting technologies. However, despite these efforts some cities have suspended recycling programs or are landfilling materials collected. Turbulence in recycling programs is expected to continue in the short to medium term.

Contamination of recycling (non-recyclable or dirty items in recycling bins) is a key area that municipal recycling programs will need to address to be able to continue to market, and therefore recycle the materials they collect. Single stream recycling, where all

materials are mixed into a single cart or bin for collection, has made recycling easy and convenient for residents. However, it makes it more difficult for material recovery facilities that sort recyclables to meet the higher quality and lower contamination standards of international recycling markets. Wish-cycling, or the well-intended placing of items into recycling when unsure of whether the item is accepted by a local recycling program, is a contributor to rising contamination rates. It is common for single stream recycling programs to have contamination rates that exceed 20%.

The new reality for recycling is one of fewer market options for paper and plastic and an overall demand for higher quality material. Recycling programs in Saskatoon have seen a steady increase in the rate of contamination ending up in the recycling stream. This rise in contamination rates is also being seen across Canada.

### Momentum is Building for Waste Reduction

The waste hierarchy of the 3Rs – Reduce, Reuse, Recycle – has been around for decades. However, the emphasis, until recently, has been nearly exclusively on recycling (and composting/organics) as an alternative to landfilling. A combination of factors, including changes to international recycling markets, public awareness of the problem of ocean plastics, and the links between waste and greenhouse gas emissions, is driving more governments and corporations to make commitments to reduce and reuse. Areas of focus for waste reduction policies and programs include plastic waste, single-use items, food waste, and textiles waste.

### Plastic Waste

In Canada, plastics play an important role in our economy and daily life, but over 89% of plastic ends up in the landfill or the environment (Canadian Council of Ministers of the Environment,

<https://www.ccme.ca/files/Resources/waste/plastics/STRATEGY%20ON%20ZERO%20PLASTIC%20WASTE.pdf>). The recyclability of plastic is determined long before it reaches consumers. The types, colour, and size of plastic all determine its ability to be recycled. Internationally, the G7 Ocean Plastic Charter outlined areas where changes are needed, from design to collection. In November 2018, the Canadian Council of Ministers of the Environment approved, in principle, a Canada-wide strategy on zero plastic waste. Major corporations have also initiated work on redesigning packaging to use recycled content, be designed to be more easily recycled, or to use reusable packaging.

Largely linked to low oil prices, market prices for plastics have fallen significantly as the use of virgin materials has become consistently more cost-effective than sorting and processing recycled material. The only plastic with some value as of November 2018, was PET (Plastic 1) and HDPE (Plastic 2).

### Single-Use Items

Single-use items are the things we use for only a short time before they are disposed of, often to be landfilled. They include plastic and paper shopping bags, take-out cups and

containers, plastic cutlery, and straws. Across Canada, many cities and provinces are exploring or in the early stages of implementing policies and programs that would reduce the prevalence of these items and encourage reusable options. Measures include banning distribution, surcharges, or permitting distribution only upon customer request.

### 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.

### Textiles

North Americans send 9.5 million tonnes of clothing to landfill every year, 95% of which could be reused or recycled (Recycling Council of Ontario, <https://rco.on.ca/the-average-person-throws-away-37-kilograms-of-textiles-annually/>). In addition to waste, considerable energy and water resources are used to textile manufacturing, which contributes to global warming and environmental degradation in countries that produce our clothing. Discussion around "fast fashion" and solutions to textile waste have started with governments and the fashion industry. Some cities, like Markham, Ontario, have developed municipal textile programs that reuse and recycle materials.

### Zero Waste and Circular Economy

The examples above are part of a changing philosophy in how we approach our economy and waste. Zero waste and the circular economy are two concepts that have gained traction nationally and internationally.

- 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 have extracted 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.

In Canada, work on zero waste and the circular economy is led by the National Zero Waste Council, of which the City is a member. Globally, the Ellen MacArthur Foundation has been spearheading work and collaboration on the circular economy. Of particular interest is their work on the role of city government in enabling the circular economy.

### Waste and Climate Change

Waste management and climate change are increasingly being considered together. Landfills generate methane, a powerful greenhouse gas, as organic materials break down without oxygen. While some of these gases can be collected at the landfill, a significant amount can still escape into the environment. There are also greenhouse gas emissions generated through waste collections and processing of recycling and organics (although typically less than landfilling or using virgin materials).

Waste diversion rates have been traditionally measured in tonnes of waste and priorities have been set based on what reduces the greatest number of tonnes. Zero Waste Scotland has changed how waste diversion is measured by using greenhouse gas emissions of waste. A tool called the carbon metric has been developed to support this new approach. The result has been that the top five highest tonnage materials accounted for 61% of Scotland's waste but only 27% of greenhouse gas emissions, while the top five most carbon intensive waste materials accounted for 49% of emissions but only 9% of total weight. While further work is needed to apply this in a Canadian setting, as momentum around action on climate change develops there may be a reconsideration of how waste diversion is measured and priorities are set that expands beyond simply weight of materials.