

Cart Size Analysis

Waste Diversion Potential

A critical component of a successful organics program is to plan for peaks in material tonnage. While food waste remains relatively constant throughout the year, yard waste peaks in spring and fall. With biweekly collection, a large 360 L (96 gal) green cart provides adequate capacity for yard waste in spring and fall. A medium 240 L (64 gal) cart may not provide enough capacity for some residents.

Cart Capacity

Currently, curbside households in Saskatoon receive an average of 540 L of cart capacity per week in the summer months with standard waste services (black cart and blue cart). Cart capacity reduces to 360 L per week in the winter months. A 360 L size organics cart would maintain 540 L of average weekly capacity throughout the year.

Table 1- Cart Capacity

	Green cart Size	Black cart size	Blue cart size	Total (summer)	Total (winter)
Current base level of service*	0 L	360 L	360 L	540 L per week	360 L per week
Current for subscribers during biweekly collection	360 L	360 L	360 L	720 L per week	360 L per week
Proposed	360 L	360 L	360 L	540 L per week	540 L per week
City of Calgary as comparison	240 L	240 L	240 L	600 L per week**	480 L per week

* black cart is weekly during summer and biweekly in winter

** City of Calgary currently collects green cart weekly in summer and biweekly in winter, recycling weekly all year, and black cart biweekly. Note that residents are also allowed to set out excess bags next to cart.

A 360 L cart size holds around 6 bags of garbage and a 240 L holds around 4 bags of garbage. The 2019 Waste Characterization Study¹ showed that the average household generated 14 kg of garbage and recycling per week (this equates to approximately 126 L by volume²). The material composition showed that approximately 50% of the material composition in the black cart was yard and food waste.

The larger cart capacity will also provide flexibility for future changes in service levels without impacting the diversion potential volume. The Administration can investigate a change to winter collection frequency based on tonnages in the winter season if the set-out rate is low or expand the list of Acceptable Materials.

¹ 2019 City of Saskatoon Waste Characterization Study – Summary Report, AET Group Inc
https://www.saskatoon.ca/sites/default/files/documents/2019_cos_waste_characterization_study.pdf

² EPA

Affordability and Cost

The City currently has approximately 12,000 large sized 360 L (96 gal) green carts deployed through the green cart subscription program. These carts can be transitioned into the new program. An initial scan showed that the 360 L costs around \$5.00 to \$9.00 more than the 240 L. The average cart life span is around 10 years. Cost is an important consideration but right sizing the standard cart size will help lead to program success over the next decade.

Storage Capacity

Cart dimensions are largely dependent on specific manufacture design specifications. The footprint of a 360L container has a footprint that is around 3-5 inches wider and 4-6 inches longer than the 240L container. Most cart designs are narrower at the bottom and wider at the top. Appendix 2 shows a sample cart drawing of each size and other cart specifications.

Resident Convenience, Accessibility, and Experience

Several municipalities noted that a 360L cart with food and yard waste may create difficulty for some customers when it comes to mobility and safely wheeling to the curb or through a gate. Other considerations included cart weight and design of cart (including design specs, wheel, and handle location). Several municipalities suggested that a smaller cart size is easier for residents to wheel and that larger carts may result in cart storage issues. Cart mobility is largely dependent on the design of the cart and the amount of material in a cart. The current leaves and grass subscription customers have not indicated an issue with cart size.

Resident Preference and Collection Frequency

Previous engagement results from 2018, showed that 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 to have sufficient capacity for grass, leaves, branches, and garden waste. 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. Given that year-round biweekly collection has been directed by City Council, a 360L cart makes the most sense to ensure adequate cart capacity in all seasons.

Municipal Scan

Administration spoke with many different municipalities as research was undertaken. City of Regina, City of Calgary, City of Edmonton, and City of Nanaimo have all recently launched or are launching a new curbside organics program. The research showed that there are very few examples of a City that provides biweekly year-round collection frequency for organics.

- Regina is intending to use a 240 L cart with weekly collection in summer and biweekly in winter.
- City of Calgary offers weekly collection of a 240L cart from spring to fall. Calgary offers residents the option of putting out paper yard waste bags.
- Edmonton offers a weekly 120 L food scrap cart from spring to fall. They collect bags for yard waste twice in spring and twice in fall.

The lesson learned from other municipalities is that every jurisdiction is unique, and most of them have separate programs to support their yard waste needs or else focus on food waste and encourage residents to use depot options for yard waste. Many municipalities noted that yard size, home composting habits (backyard compost, grasscycling, etc.), and number of people living in household have a large impact on green cart tonnage. Municipalities also noted that set-out rates are usually lower for weekly collection although residents appreciate less consequence for forgetting to put a cart out on collection day.