

Communal Collection Diversion Rate Calculation Methodology

Background

Waste Services offers both collection programs and drop-off services. Waste drop-off services include programs such as Eco Stations and Community Recycling Depots. Waste collection programs can be divided into the curbside collection program (also known as single unit waste collection) and the communal collection program (also known as multi-unit waste collection). The curbside collection program transitioned to a four-stream approach (garbage, recycling, food scraps and yard waste) over the spring and summer of 2021. The communal collection program currently offers two streams of collection (garbage and recycling) and is anticipated to transition to a mandatory three-stream (organics, recycling and garbage) approach starting in 2023 or 2024.

Waste collected through both curbside and communal programs is transported to the Edmonton Waste Management Centre for processing. Processing facilities include a Materials Recovery Facility, an Integrated Processing and Transfer Facility, a Refuse Derived Fuel Facility, an Anaerobic Digestion Facility, a Cure Site and a waste-to-biofuels facility that uses the refuse derived fuel. Waste Services augments its processing capacity through off-site contractors for organic waste. The residual fraction is transported to a remote landfill for disposal.

The goal of diverting 90 per cent of waste from landfill across all sectors was established in 2019 through Edmonton's 25-year Waste Strategy. The 90 per cent target drives Waste Services' planning and program development.

City Council approved the current single unit diversion rate methodology in 2018 (City Operations report CR_5824). This diversion rate has since been reported annually and reflects the performance of the curbside collection program, which serves some multi-unit residences.

Communal Collection Program Diversion Methodology

This document outlines the approach for calculating the diversion rate for the communal collection program. The calculation methodology is based on the previously approved methodology for the curbside collection program, which in turn is based on the Residential GAP - Manual on Generally Accepted Principles (GAP) for Calculating Municipal Solid Waste System Flow (2003).

Definitions

The following terms are used in the calculation methodology. Definitions are based on definitions in the GAP, with some variations that are consistent with the approved curbside collection methodology.

- Diversion = allowance for grasscycling + allowance for home composting + municipally sponsored reuse + recycling (net of residuals) + municipal organics processing (net of residuals) + refuse derived fuel production
- Disposal = processing residuals that go to landfill
- Generation = total waste diverted + total waste disposed

The notable differences between the definitions used by Waste Services and Residential GAP are:

- Recycling and reuse that happens through the beverage container deposit return system is not included in Waste Services' calculation, as this program is not operated by the City.
- Diversion through refuse derived fuel production is not referenced in the residential GAP definitions, but it is included as diversion in Waste Services' calculation.

Allocations

There are two factors that must be accounted for when calculating the communal and curbside collection program diversion rates:

- Some organics and garbage will be collected from communal collection customers using carts; these carts will be serviced by vehicles that also collect organics or garbage from curbside collection customers to increase efficiency.
- Drop-off facilities, such as Eco Stations and Recycling Depots, are used by customers of both the curbside and communal programs. Since facility users are not currently required to indicate their collection service, there is no data available to establish how much of the waste dropped off comes from each customer type. Estimates and assumptions regarding the allocation of diversion from waste prevention and waste drop-off activities will be developed leveraging methodologies defined in the Waste Services Waste Diversion Rate Procedure.

Diversion Rate Calculation

Waste Services calculates the communal collection program waste diversion rate as follows:

$$\begin{array}{rcl} \text{\% Communal Collection} & & \text{Tonnes of waste managed by} \\ \text{Program Waste Diverted} & = & \text{the City from residents} \\ & & \text{receiving communal} \\ & & \text{collection service} \end{array} \quad \frac{\begin{array}{r} \text{Tonnes of waste managed by} \\ \text{the City from residents} \\ \text{receiving communal} \\ \text{collection service} \end{array} - \begin{array}{r} \text{Tonnes of communal} \\ \text{collection waste} \\ \text{disposed} \end{array}}{\begin{array}{r} \text{Tonnes of waste managed by} \\ \text{the City from residents} \\ \text{receiving communal} \\ \text{collection service} \end{array}}$$

Next Steps

If this methodology is approved, Waste Services will begin reporting the Communal Diversion Rate in 2023.