

## Measuring Success

Recycling performance can be measured through a number of indicators that are currently measured by the City of Saskatoon (City) and its recycling contractor, and reported through the Environmental Dashboard, the National Solid Waste Benchmarking Initiative, and the Integrated Waste Management Annual Report. Indicators have been grouped into Participation, Material Knowledge, and Satisfaction.

### Program Success Measures:

- Tonnage of recyclables – the annual tonnes of recyclables is weighed and reported by the service provider. The tonnes of recycling have been decreasing since the program started, likely due to a shifting composition of materials (i.e. reduction in newsprint) and lightweighting of materials (i.e. thinner plastics). Decreasing tonnages may also indicate changing consumption habits (buying less) which is positive.
- Capture rates are determined by calculating the amount of each divertible material captured within the recycling stream compared to the overall amount of that specific material generated and disposed. This metric is preferable to tonnage because it shows the amount of recyclables still being thrown in the garbage. Higher capture rates mean more of the recyclable material is going to the right place. Capture rates can only be determined through a city-wide audit. Capture rates for each material can be measured to help focus education initiatives.
- Contamination rate refers to the percentage of material collected through the Recycling Program that is not the material included in the Recycling Program Acceptable Materials. It is desirable to have a low contamination rate as it makes processing more efficient, keeps costs down, and reduces the potential for safety hazards since contamination is often comprised of hazardous materials. A high contamination rate can be an indicator that residents are confused about what materials are accepted, are placing an item in their blue cart because they do not want it to be landfilled (i.e. wishcycling), or are apathetic about recycling. A low contamination percentage is an indicator that residents know how to properly participate in the Recycling Program. Types of contamination are further explored through the recycling cart blitz program where staff visually inspect thousands of carts each summer to engage with and inform residents of their recycling behaviour. The cart blitz aligns with specific goals set for the Recycling Program to increase the amount of recyclables captured and to reduce contamination.

Table 1: Recycling Program Indicators

Success Measure	Current Status	Goal (5-year)
Tonnage of Recyclables Collected Annually <sup>1</sup>	8,500 tonnes	>8,500 tonnes
Capture Rate - proportion of recyclable material captured within the recycling stream compared to the overall amount of recyclables generated <sup>2</sup>	60%	90%
Contamination rate - proportion of materials placed in the recycling cart that are not accepted in the program <sup>3</sup>	10%	7%

<sup>1</sup> Service Provider Recycling Reports (2018)

<sup>2</sup> Waste Characterization Study (2019)

<sup>3</sup> Service Provider Quarterly Audits (2018)

## Participation

Participation indicators help the City understand the number of residents participating in the recycling program. Indicators include:

- Participation rates are measured during a Waste Characterization Study (completed every 2 to 3 years) and measure the percent of residents that are using the recycling program by placing their cart out for collection over a timeframe of three collection periods. Participation rate is different than set-out rate, which refers to the number households placing their cart out for collection on any given collection day. Set-out rates are not generally used as participation indicators since households may not place their cart out for collection each time (i.e. if their cart is not full or if they are away), but they still participate in the program overall.
- Proportion that say they recycle – a biannual survey on recycling behaviours includes a question on how much a resident recycles. A resident who says they recycle all or mostly all of the materials is considered to be participating fully in the program.

Table 2: Participation Indicators

Success Measure	Current Status	Goal (5-year)
Participation rate - % of residents that are using the recycling program over 3 collection periods <sup>1</sup>	75%	90%
Proportion that say they recycle all or mostly all of their recyclable items <sup>2</sup>	75%	90%

<sup>1</sup> Waste Characterization Study (2019)

<sup>2</sup> Waste & Recycling Survey (2019)

## Material Knowledge

Program success is dependent on residents' knowledge about which materials are accepted and not accepted. Understanding knowledge gaps helps the City identify where to focus education efforts. Key indicators include:

- Resident knowledge of what materials are accepted/not-accepted in the recycling program is measured through a biannual survey where residents are asked how to properly dispose of items. Foils, plastic film, and plastics continue to be areas where residents display poor knowledge, while paper and beverage containers are continually high. Residents were asked the following, "To the best of your knowledge, can the following items be put in your individual blue cart that is rolled out to the curb on collection day";
  - Plastic containers such as shampoo bottles, laundry detergent jugs
  - Plastic bags
  - Aluminum foil, foil containers or roasting pans
  - Paper products such as newspapers, flyers, mail
  - Cardboard such as shipping boxes
  - Beverage containers such as juice boxes, milk jugs, and aluminum cans
- Capture Rate for specific materials – through audits, the City can identify the proportion of specific materials that are being properly recycled, compared to the total that are disposed of through all streams. As shown below, the amount of foil being captured is very low, and the City will use this information for communication purposes.

Table 3: Material Knowledge Indicators

Success Measure	Current Status
Plastics - % of respondents aware that Plastic containers such as shampoo bottles, laundry detergent jugs are recyclable <sup>1</sup>	86%
Plastic bags - % of respondents aware that plastic bags are <b>NOT</b> recyclable <sup>1</sup>	78%
Foil - % of respondents aware that aluminum foil, foil containers or roasting pans are recyclable <sup>1</sup>	49%
Paper - % of respondents are aware that paper products such as newspapers, flyers, mail are recyclable <sup>1</sup>	99%
Cardboard - % of respondents are aware that cardboard such as shipping boxes are recyclable <sup>1</sup>	99%
Beverage containers - % of respondents are aware that beverage containers such as juice boxes, milk jugs, and aluminum cans are recyclable <sup>1</sup>	92%
Aluminum foil – aluminum foil, foil containers or roasting pans <sup>2</sup>	3.5%
#1 Plastic bottles - beverage bottles such as water and soda <sup>2</sup>	39%
Glass - beverage containers, bottles and jars <sup>2</sup>	61%
Cardboard - cardboard shipping boxes <sup>2</sup>	83%
Newsprint - newspapers, flyers or mail <sup>2</sup>	92%

<sup>1</sup> Waste and Recycling Survey (2019)

<sup>2</sup> Waste Characterization Study (2019)

### Resident Satisfaction

Satisfaction indicators help the City understand if residents' recycling needs are met and if they support the recycling program. Satisfaction is measured through a biannual survey on recycling behaviours with the most recent survey being completed in 2019, the Waste and Recycling Awareness Survey.

Table 4: Resident Satisfaction Indicators

Success Measure	Current Status	Goal (5-year)
Overall Satisfaction – proportion that say they are somewhat or very satisfied with the recycling program <sup>1</sup>	88%	90%
Capacity - proportion that say they are somewhat or very satisfied with the amount of available space in their blue cart <sup>1</sup>	91%	90%
Communications - proportion that say they are somewhat or very satisfied with being informed about what can and cannot be put in their blue cart <sup>1</sup>	71%	90%

<sup>1</sup> Waste and Recycling Awareness Survey (2019)