

Utilities & Environmental Protection Report to  
SPC on Utilities and Corporate Services  
2019 March 20

ISC: UNRESTRICTED  
UCS2019-0363

## Waste and Recycling Services Community Recycling Depot Optimization Update

### EXECUTIVE SUMMARY

The purpose of this report is to provide an update on Waste & Recycling Services' (WRS) optimization of the Community Recycling Depot (CRD) Program. The program was introduced as a pilot in 1991, with five depots located across Calgary. By 2010, WRS serviced 52 CRDs, the peak number for the program. The introduction of the Blue Cart Program and other diversion requirements decreased demand for CRD recycling over time and the number of depots has been reduced to 27.

The CRD network provides an important complement to the residential Blue Cart Program. Recent surveys indicate that more than half of CRD users are single-family residents with excess and oversized recyclables, usually cardboard, that will not fit in their blue cart. The CRD network also provides recycling opportunities for small multi-family complexes and businesses. Approximately ten per cent of recyclables collected annually by The City of Calgary (The City) are through the CRD program, making it a significant contributor toward achieving The City's goal of 70 per cent waste diverted from City landfills by 2025.

In 2019 the tax supported, net operating budget for the CRD program is \$4.5 million, which is approximately 12 per cent of the net costs for city-collected recycling. The network is serviced by four collection trucks, seven days a week and further supported by two trucks that manage garbage and illegal dumping.

WRS' CRD optimization project, initiated in 2016, has achieved approximately \$1.4 million in cost savings over the 2015-2018 business cycle which were returned to the corporate budget savings account. These cost savings are also reflected in WRS' One Calgary 2019-2022 budget. WRS also investigated the potential for collecting additional blue cart materials in blue bags outside the blue cart as an alternative to the CRD Program; however, it was determined that this would be more expensive. It would also reduce convenience for single-family residents with oversized materials and take away this diversion opportunity for small multi-family complexes and businesses.

WRS' continued monitoring and optimization of the CRD Program will identify the most suitable locations for CRDs, aligning them with neighbourhoods that access the depots most frequently. It is anticipated that this will result in a range of 4 to 5 depots per city quadrant, based on population. This will ensure continued user access and diversion opportunities, while balancing program costs.

#### **ADMINISTRATION RECOMMENDATION:**

That the Standing Policy Committee (SPC) on Utilities and Corporate Services (UCS) recommends that Council direct Administration to continue to optimize the Community Recycling Depot network and report back to SPC on UCS no later than Q1 2021 with an update.

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**PREVIOUS COUNCIL DIRECTION / POLICY**

In 2018, One Calgary 2019-2022 Service Plans and Budgets (C2018-1158) WRS committed to reduce Community-wide waste management programs in line with changing customer needs.

Additional historical Council direction is included as Attachment 1.

**BACKGROUND**

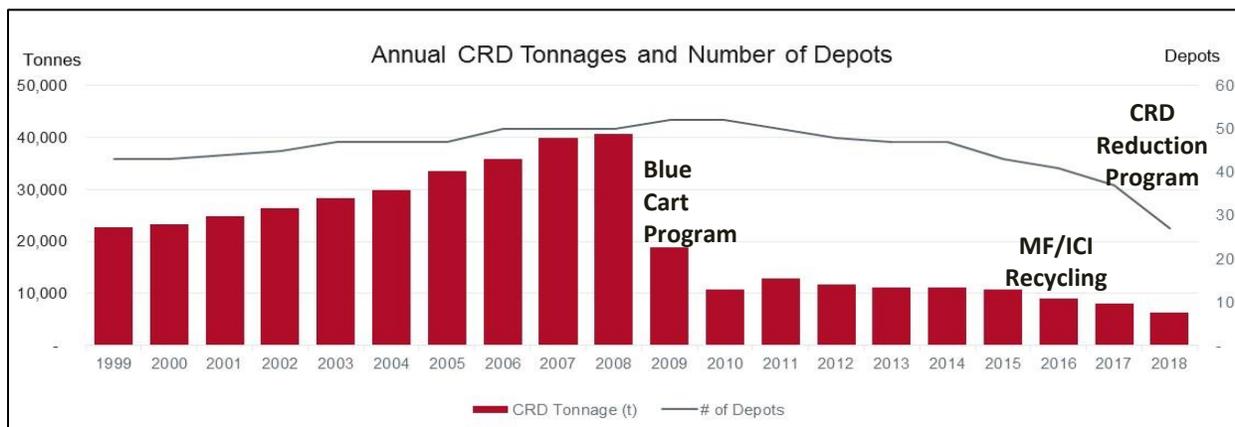
In 1991, the CRD Program started as a pilot of five depot locations across Calgary. The depots were the main residential recycling program in Calgary, with residents dropping off recyclables. The pilot program was successful and, in 1992, transitioned to a full program that was integrated into WRS operations. Depot locations were selected to offer convenience for residential customers and as a result were often hosted at locations not owned by The City. As Calgary grew, the number of depots increased, reaching a maximum of 52 depots in 2010.

Prior to the introduction of the Blue Cart Program in 2009, the CRD Program’s diversion peaked at 40,746 tonnes in 2008. In 2009, the CRD network transitioned from collecting source separated recyclables to accepting co-mingled recyclables like the Blue Cart Program. With the new single family residential curbside Blue Cart Program, WRS expected demand for recycling at the CRD network to decrease.

In 2016, WRS implemented changes to the Waste and Recycling Bylaw that required all multi-family residential complexes (UCS2014-0649 Multi-family Recycling Strategy: Bylaw 20M2001 Amendment); and business and organizations (UCS2015-0691 Industrial, Commercial and Institutional Recycling Strategy: Bylaw 20M2001 Amendment) to establish onsite recycling programs. At that time WRS considered that the implementation of multi-family and business recycling bylaw could bring increased volumes to the CRD network, however, volumes further decreased.

**INVESTIGATION: ALTERNATIVES AND ANALYSIS**

In 2018, the CRD Program diverted over 6,000 tonnes of recyclables. Figure 1 shows the tonnes of materials recycled via the CRD Program and the number of depots since 1999.

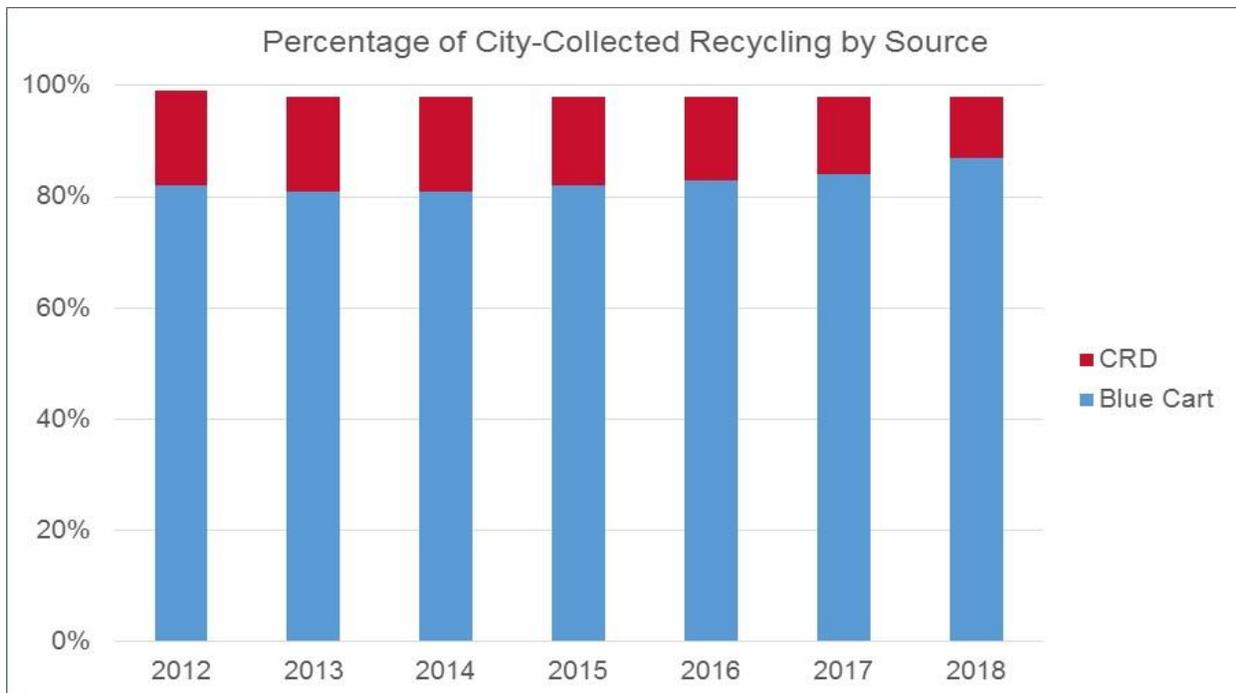


**Figure 1: Annual CRD Tonnages and Number of Depots**

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The 27 depots are serviced once or twice per day by four trucks, seven days a week. The program is also supported by two garbage trucks which are responsible for emptying CRD garbage containers and dealing with any illegal dumping at the sites.

Materials collected from the CRD network represent approximately 10 per cent of recyclables collected by The City annually, shown in Figure 2. Even at this decreased volume, the CRD program continues to be a significant contributor to The City's goal of 70 per cent waste diverted from City landfills by 2025.



**Figure 2: Percentage of City-collected Recycling by Source**

Within the One Calgary 2019-2022 Service Plans and Budgets, the CRD Program continues to be tax supported. In 2019, the CRD net operating budget is \$4.5 million, with total operating costs of \$4.9 million offset by \$400,000 in revenue received from the sale of recyclables. CRD net program costs are approximately 12 per cent of the net costs for city-collected recycling.

The most recent CRD User Survey performed in 2017 found that single-family residents, with oversized cardboard and extra recyclables that do not fit in their blue cart, continue to be the primary user of the depots. CRD users are:

- 57 per cent Single family;
- 16 per cent Multi-family;
- six per cent Industrial, Commercial and Institutional (ICI); and
- 21 per cent out of city.

Use of the CRDs by both multi-family properties and business and organizations has decreased as a result of the bylaw mandating onsite recycling requirements introduced in 2016.

A 2016 CRD Waste Composition Study also noted that:

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- 34 per cent of the materials collected are cardboard, a large portion is oversized; and
- 41 per cent of the materials collected are paper products.

### Community Recycling Depots Optimization Project

In 2016, WRS initiated the CRD Optimization Project to evaluate best practices, comparing Calgary to similar municipalities, and an analysis to determine the appropriate number of depots to complement existing onsite recycling programs available across all sectors in Calgary. All mid and large sized cities in Canada that participated in the municipal scan provide some sort of recycling drop-off facility to complement onsite and curbside recycling programs. Communities like Edmonton, Vancouver and Toronto tend to offer a blended drop-off model with large scale centres distributed strategically across the city accepting a wide range of both waste and recyclables, as well as additional smaller recycling depot/bin drop off locations at a community level.

The goal of the CRD Optimization Project is to:

- ensure that the CRDs are in the best locations possible, ideally City-owned land for occupancy stability;
- size depots such that the number of bins allows for consistent service levels;
- locate depots in communities with demographics that support depot usage, for example single-family properties with larger household sizes;
- balance the ongoing community need for this recycling program with program costs; and
- reduce the number of depots to a range of 4 to 5 depots per city quadrant, based on population.

In addition to actively reducing the number of CRD locations, WRS has been reviewing opportunities to align the remaining depots with neighbourhoods that access the depots most frequently. Attachment 2 maps the CRD locations. The assessment identified that some areas of the City had more depots than were needed and so select depots have been removed or moved. WRS is also reviewing opportunities to locate and/or relocate depots to City-owned facilities to reduce the likelihood of property owners withdrawing the use of their property for a CRD.

Factors considered when determining if a CRD location should be kept, removed or relocated.

- **Site ownership.** City owned locations with compatible uses are preferable to privately owned locations.
- **Available space.** With fewer CRD locations, the remaining depots need to be optimized, with adequate space for the number of bins required to appropriately manage the volume of material generated.
- **Community demographics and depot use.** Communities with larger household sizes and more children require easier access to CRDs than communities with a higher proportion of 1 and 2 person households. Areas with a high density of very small businesses and small multi-family properties require more access to CRDs than large commercial or office tower districts

Over the course of the 2015-2018 business cycle the optimization project, combined with removal requests from property owners, has reduced the number of CRDs by eight to 27 and decreased

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the number of trucks servicing the depots by two, achieving \$1.4 million in cost savings. These savings were returned to the corporate budget savings account.

WRS' One Calgary 2019 - 2022 budget reductions include anticipated savings from operating reductions in the CRD Program operating budget through continued monitoring and optimization.

### Alternative to CRDs

As an alternative to the CRD Program, WRS investigated the potential for collecting excess residential recyclable blue cart materials in blue bags outside the cart. This option requires investment in additional equipment and staff at the materials recycling facility and additional collection costs. These additional Blue Cart Program costs would exceed savings from ending the CRD Program. Also, this option would reduce recycling opportunities for small businesses and multi-family complexes and removes the option for single-family residents to easily manage oversized materials. Details of the additional costs are:

- **Processing costs:** Cascades Recovery+ estimates additional costs of \$3.2 to \$5.8 million per year to process materials from the blue bags due to the need for the bags to be opened manually and emptied by staff, subsequently slowing the sorting line.
- **Increased collection costs:** Whenever a driver leaves the truck to collect excess materials, efficiency is reduced, driver safety is at risk and costs increase. WRS estimates that four per cent of single-family residents have excess materials outside their black cart. Assuming a similar number of dwellings could set out extra recycling, the additional collection costs could increase by approximately \$750,000 to \$1.4 million annually.
- **Illegal dumping costs:** WRS currently spends approximately \$500,000 annually managing garbage and other materials that are not part of the CRD program at depots. With the elimination of CRD locations, illegal dumping may increase. Residents may also continue to leave their excess recyclables at former depot locations for a period of time.

### Conclusion

The CRD Program is an economical and efficient way to handle recyclables generated by household which are too big to be recycled using the Blue Cart Program, as well as, recyclables generated by small businesses and multi-family properties. WRS' continued monitoring and optimization of the CRD Program will identify the most suitable locations for CRDs ensuring user access and continued diversion opportunities, while balancing program costs.

### **Stakeholder Engagement, Research and Communication**

WRS has completed user surveys to understand which Calgarians continue to use the CRD Program and why. These on-site user surveys provide insight into Calgarians expectations for the CRD Program.

A CRD material composition study was completed in 2017 to validate the types of materials that Calgarians said they were bringing to the CRDs for recycling. The composition study confirmed that the most commonly recycled material at CRDs is oversized and extra cardboard that will not easily fit into a blue cart.

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### **Strategic Alignment**

Creating options for Calgarians to manage excess recyclables through an optimized CRD network, maximizes diversion opportunities, which contributes to the Citizen Priorities for a Healthy and Green City as well as a Well-Run City.

### **Social, Environmental, Economic (External)**

#### *Social*

Offering a variety of diversion opportunities improves the quality of life for Calgarians within their communities. Continuation of waste diversion programs, such as the CRD Program, offers accessibility and choice for recycling for single-family residents, multi-family complexes and ICI businesses, which makes Calgary a more attractive place to live and increases Calgary's reputation as an environmentally-friendly city.

#### *Environmental*

Reducing and diverting waste is a critical component of reducing Calgary's impact on land, air and water. Waste reduction and recycling reduces greenhouse gas emissions, redirects natural resources back into the economy and continues to be a significant contributor to The City's goal of 70 per cent waste diverted from City landfills by 2025.

#### *Economic (External)*

Ongoing evaluation of the CRD Program to identify efficiencies minimizes the cost of the services.

### **Financial Capacity**

#### ***Current and Future Operating Budget:***

There are no impacts to WRS operating budget with this recommendation.

#### ***Current and Future Capital Budget:***

There are no impacts to WRS capital budget with this recommendation.

### **Risk Assessment**

Additional reductions to the CRD network beyond planned optimization could risk an increase in recyclable materials going to landfill by making excess recyclables inconvenient to manage and reducing available options for small businesses and multi-family units to manage recyclable materials.

There is also a risk that if CRDs are eliminated, illegal dumping will increase. If the volume of recyclables received at the CRDs continues to decrease, there is a risk that costs of the program for the volume received becomes relatively expensive compared to the Blue Cart Program.

WRS is mitigating these risks through the ongoing Optimization Project

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**REASON(S) FOR RECOMMENDATION(S):**

Calgary's CRD network remains an important service for Calgary residents with excess and oversize recyclables and small multi-family complexes and businesses looking to comply with Calgary's multi-family and ICI recycling bylaw.

Continued monitoring and optimization of the CRD Program will identify the most suitable locations for CRDs, ensuring user access and continued diversion opportunities, while balancing program costs.

**ATTACHMENT(S)**

1. Attachment 1 – Historical Council Direction
2. Attachment 2 – Community Recycling Depot Map
3. Attachment 3 – Presentation