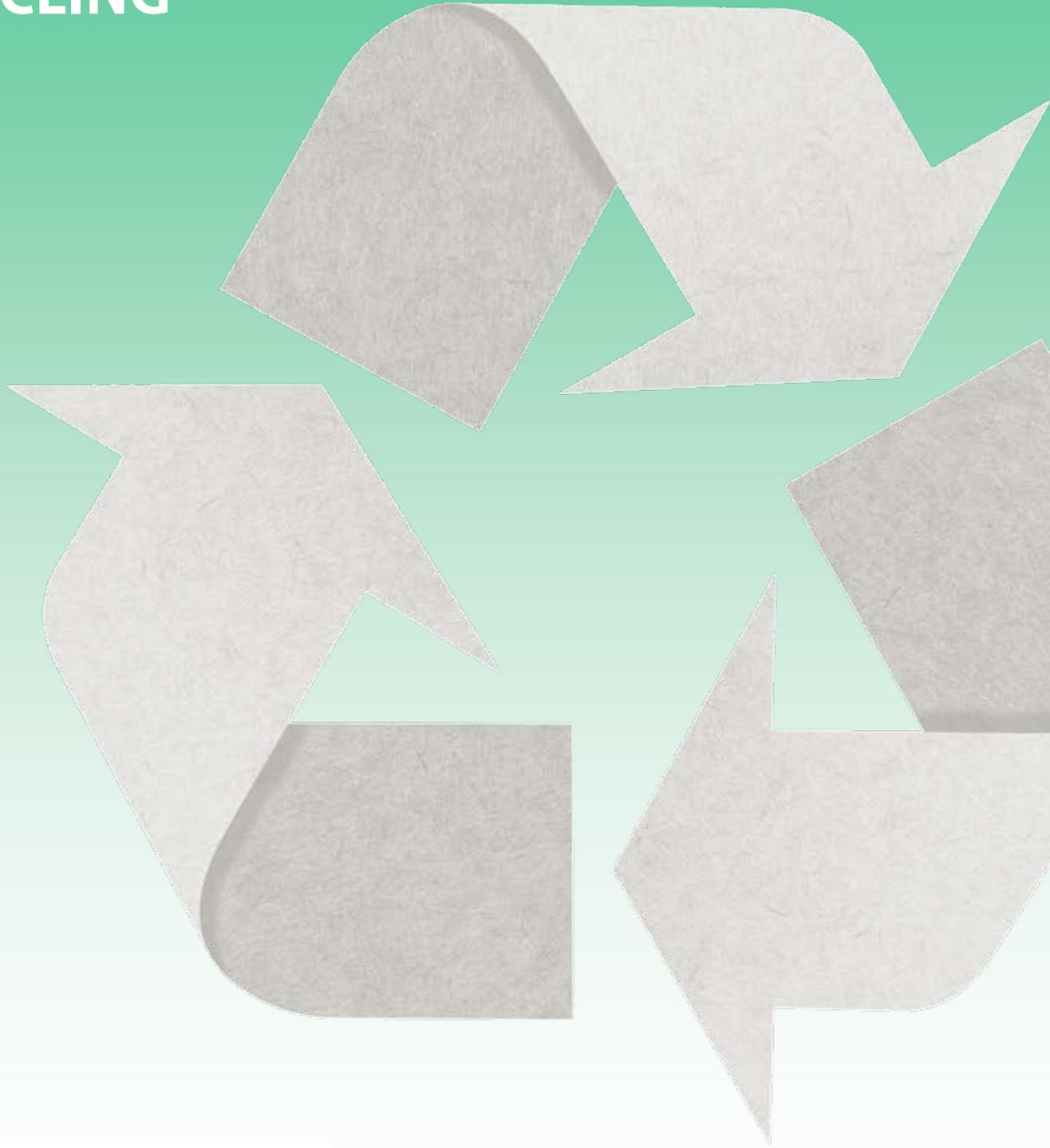


# BACKGROUND INFORMATION ON RESIDENTIAL CURBSIDE RECYCLING



## **BACKGROUND INFORMATION ON RESIDENTIAL CURBSIDE RECYCLING**

### **Current Diversion Programming**

Across Canada, diversion efforts have had different drivers. Commonly, municipalities are faced with a critical shortage of landfill space and/ or residents have growing concerns about the best management of natural resources. In April 1989, the Canadian Council of Ministers of the Environment agreed that targets and schedules for waste minimization be established, including a fifty percent (50%) reduction in waste generation by the year 2000 (FCM, 2004). Provincial regulations have followed this first initiative. Alberta Environment, for example, established a waste disposal target of 662 kg/ capita for 2015.

The City of Lethbridge generates approximately 110,000 tonnes of municipal waste annually. On average, 23% of the waste is generated by residents, 58% by the Industrial, Commercial and Institutional (ICI) sector and 19% by the Construction and Demolition (C&D) sector. The overall annual per capita disposal rate in the City of Lethbridge is 1,150 kg.

The City is the sole provider of residential waste collection. In 2006 (Phase 1) and 2009 (Phase 2) the City implemented a black cart system that provides weekly fully automated or semi-automated curbside service to all single family households. Since the implementation of the cart system the number of injuries to garbage collection staff decreased significantly. The residential satisfaction with the service has increased from 88% in 2008 to 93% in 2014.

The City also services approximately 20% of the multi-family households. The remaining 80% are serviced by private companies. All residents currently have access to the following waste diversion programs:

- 3 Central recycling stations,
- HHW, paint, and e-waste collection at the Waste and Recycling Centre,
- 2 Yard Waste drop-off sites,
- Fall leaf collection,
- Promotion of backyard composting, and
- Christmas tree recycling.

These programs divert approximately 20% of waste from the landfill.

### **Waste Diversion and Waste Prevention Masterplan**

In 2008, the City hired a consultant to develop a comprehensive Waste Diversion/ Waste Prevention Masterplan to guide the future of waste diversion and waste prevention activities within the City of Lethbridge. Stakeholder consultations were conducted in the residential, C&D and ICI sector. Information from researched best practices as well as feedback from the stakeholder consultation was used to develop potential waste reduction and diversion options. A residential curbside collection program for recyclables and kitchen organics was recommended in concert with a biweekly waste

collection service. It was suggested that such a program would be complimentary to the existing diversion programs and would achieve a residential diversion rate of up to 50%. This increase in diversion is mainly related to increased program convenience at the curb and reduction of garbage disposal capacity through the biweekly pick-up.

### **Performance Monitoring & Benchmarking**

To monitor performance of the current programs, Waste and Recycling Services (WRS) tracks tonnes of material diverted and disposed off annually. Over the last 5 years, numbers show that 20% of residential waste is diverted from the landfill. Since 2011, the City has characterized the waste from the residential and commercial sector in more detail on an annual basis. Results show that food and yard waste organics are almost 50% of the residential waste and recyclables like cardboard, paper, metal and plastics are 25% of the residential garbage. Today, a Lethbridge resident generates 400 kg of material per year in his/ her household of which 70 kg are diverted and 330 kg sent to the landfill.

To compare the Lethbridge performance to other municipalities, WRS has participated in different municipal benchmarking initiatives. Municipalities like Saskatoon or Regina that until recently, had comparable residential diversion programs, have residential per capita disposal rates of 320 – 380 kg/year. Calgary implemented a blue cart curbside system in 2008 and has since decreased their per capita disposal to 270 kg/ year. Municipalities like the Regional District of Nanaimo that have a three bin curbside system and aggressive regulations to encourage prevention and diversion, achieve per capita disposal rates of 120 kg/year. In light of other municipal achievements and program success, the recommendations from the Waste Diversion/ Waste Prevention Masterplan and City Waste and Recycling data, WRS believes that with the implementation of additional curbside diversion programs the trend of waste disposal can be reversed and 50% of residential diversion can be achieved in Lethbridge by 2021.

### **City of Lethbridge MDP/ ICSP and Councils Strategic Plan**

On July 5<sup>th</sup>, 2010 City Council adopted the Municipal Development Plan/Integrated Community Sustainability Plan (MDP/ICSP) which provides a framework for Council and the community on how to develop and grow the City over the next 40 years. The plan identifies principles, goals and policies to guide future decisions. The following policies were listed regarding waste management:

- 1) Conserve natural resources within the City by exploring methods to reduce waste, identifying methods to reuse and recycle products that are currently identified as waste.
- 2) Identify the largest sources of waste and create programs to better manage waste.

City Council has utilized the framework of the ICSP/ MDP to establish their strategic priorities for 2014-2017. Strategic Goal #5 states that City Council will take a leadership role in the protection and preservation of our natural environment in Lethbridge. Goal #5: “Protection and Preservation of Natural Environment” lists the following actions:

- 1) Investigate the implementation of curbside recycling
- 2) Implement the ICI waste diversion strategy
- 3) Explore options for resource conservation initiatives to reduce our environmental footprint.

Council's Environment committee has been exploring curbside recycling for a number of years. Part of the analysis was the completion of a curbside recycling survey in 2013, that showed 80% of the population are in support of curbside recycling as well as 61% would approve for a \$10/month fee and 66% of an \$8/month fee, respectively. 58% of residents would support every other week collection of the recyclables.

### **Program Options**

Council's curbside program discussions continued during the 2015-2018 operating budget deliberations. The residential curbside recycling programs currently under consideration are a blue cart and a green cart system to be provided to single family and multi-family households. A blue cart program would allow residents to place cardboard, paper, plastics #1-7, plastic film, metal food cans and clear glass into a blue cart at the curb. A green cart program would allow residents to place food scraps, grass clippings, and leaves into a green cart at the curb. Both programs need to be piloted to identify measures on how to mitigate customer and operational challenges. Refusal to participate/ wanting to opt out of program, concerns about limited cart storage space, misuse or contamination of the new cart and litter are some of the customer challenges identified.

Pick-up frequency is one of the key considerations in describing the level of service. Service options vary from biweekly garbage, recycling and organics pick-up to weekly services of all three streams. If service frequency is changed to a biweekly program approximately \$2/month can be saved. However, those savings are associated with additional challenges related to a perceived service reduction, schedule confusion and limited cart capacity. All other program costs are related to capital investment (carts, trucks and garage building), processing cost and customer care.

Processing of organic material can be performed locally at a compost pad or an existing digester facility. Lethbridge is an area with lots of agricultural activity and local markets for the compost should be found easily. Minor upgrades to the existing City of Lethbridge compost pad or the installation of pre-processing equipment would likely be needed at the digester plant.

If all recyclables are placed mixed into one cart they need to be sorted at a material recovery facility (MRF). Depending on the level of complexity and sophistication of the processing equipment, a capital investment of \$3 – \$5 Mil is needed. A decision regarding the ownership and operation of a MRF has to be made well in advance of full implementation to create certainty about processing costs. The construction or upgrade of a facility would take at least one full construction season, therefore a decision about ownership and operation needs to be made 1.5 – 2 years prior to full implementation.

## **Schedule**

Either curbside program could be piloted and implemented in the 2015-2018 budget cycle with the following timelines:

- Green cart: Pilot late spring 2015, full implementation 2016
- Blue cart: Pilot spring 2016, full implementation in the spring of 2017

The timelines differ by one year because major processing infrastructure upgrades are needed for a blue cart program while only minor improvements are required to the existing composting infrastructure for the green cart program. Timelines may shift by one year if the construction projects enter the 2015 construction season late. To meet the proposed implementation timelines, a decision about which program is to be implemented needs to be made by the spring of 2015.

## **Next Steps**

Further work needs to be done to identify the best processing option and operation for recyclables and/or organics material and to refine operational and capital cost. This work would be done by specialized, independent consultants and include an assessment of the ownership and operating model. Additionally, WRS plans to investigate customer values, barriers and motivators in more detail to develop the best suitable education and engagement strategy for the pilot and full implementation. This work will involve a community wide stakeholder consultation process.