Additional Information on Program Design Options

Curbside Organics Program Design

The recommended Option 1 for the curbside organics program includes a medium sized 240 L (65 gal) green cart for all households that currently have waste and recycling rollout carts.

Based on existing green cart program data, as well as research and feedback from other municipalities with existing organics programs, a medium sized cart is anticipated to provide sufficient capacity for the majority of Saskatoon residents with year round, bi-weekly collection frequency. Data from the existing subscription green cart program (large 360 L carts) shows that the set-out rate during bi-weekly collections is only 68%, indicating that not all households place their cart out for collection every single time. It is therefore inferred that the large carts provide more than adequate capacity for bi-weekly organics collection. Additionally, the compost depots are expected to remain open from mid-April to early November, so residents would have alternate options for excess yard waste. A larger (360 L) cart could also be considered to provide sufficient capacity for organic materials on a bi-weekly or weekly collection frequency but could be heavier for residents to roll-out and the larger dimensions could contribute to cart storage issues.

Even with a default medium cart size, additional cart size options (i.e. larger or smaller carts) could be made available to residents however an increase in the number of cart size options would increase the administrative and operational costs of the program as well as program implementation timelines. The Administration therefore recommends that one standard cart size be deployed to all curbside residences in order to keep program costs lower and implementation quicker. It is estimated that an additional 2 to 3 months would be required to solicit feedback from residents on their preferred organics cart size. Additionally, the timeframe for a city-wide organics cart deployment as a result of offering variable cart sizes is anticipated to be increased by 1 to 2 months.

A larger 360 L or smaller 180 L cart could be made available to residents upon request. Future state options could also include a smaller cart size (if compatible with existing collections fleet), for townhouses or other curbside locations with minimal storage. Another program design option includes the ability to request an additional organics cart (for an additional charge) which is currently done by many households with larger yards who participate in the existing green cart subscription program.

The Administration does not recommended repurposing existing waste carts for use as organics carts. It is anticipated that there would be significant costs and time required to procure and replace lids for all the different types of carts in the field, some of which are no longer being manufactured. Similarly, the staff and time required to access and paint approximately 70,000 lids could be cost-prohibitive. Furthermore, repurposing waste carts for organics collection could result in resident confusion and significantly higher potential for contamination in the green cart, which in turn could have negative impacts on program costs associated with an organics processing contract. The Administration does however recommend that the existing large green cart remain with the 8,500

households (12%) currently on the green cart subscription program unless residents request a smaller organics cart. By maximizing the life of these existing cart assets, new cart procurement and deployment costs will be reduced.

A Request for Proposals (RFP) for organics processing is currently underway, however the selected processor is anticipated to be able to manage compostable bags and kraft paper bags. Residents could choose to use approved bags or place their food and yard waste loose into the carts. Kitchen catchers, or specially designed, small containers for 'under the sink' are also anticipated to be provided to residents as they provide a clean, easy and convenient way to store and transfer food waste to the green carts.

All food and yard waste within certain dimensions is anticipated to be accepted in the green carts. Other materials such as compostable dishes and pet waste are dependent upon the processing technology and their acceptability will be determined once the RFP for Organics Processing has been awarded.

Collection Location

The Administration strongly recommends that green carts continue to be collected in the same location as the current subscription program. Front street collection increases efficiency, improves collection safety, reduces the amount of damage and high costs associated with back lane maintenance, reduces the congestion associated with carts in back lanes, and reduces the potential for contamination, mis-use and illegal dumping. Additional benefits associated with front street collection are as shown:

- Reduced potential for incidents and operator safety concerns associated with congested back lane collections (i.e. contact with overhead lines, overgrown trees, etc.)
- Reduced potential for damage and maintenance costs as a result of additional heavy truck traffic in the back lanes.
- Increased collection efficiency as back lane collections require more finesse to maneuver the trucks and pinchers around carts and other obstacles in narrow lanes.
- Reduced risk of contamination in the green carts as a result of residents leaving carts accessible to others in the back lane after collection day. Reduced potential for organics processing contract implications as a result of contamination.
- Reduced potential for cart ownership mix-ups which can occur with back lane collections as a result of all carts being collected on only one side of the lane.
- Higher compliance for returning carts to private property after collections. Reduced complaints and potential for illegal dumping and mis-use of carts.

It is estimated that approximately 2,000 (or 3%) of households would still require back lane collection due to challenges with front street parking, raised lots, or other unique challenges at specific locations. These households would likely be serviced by smaller, semi-automated rear loader trucks and two staff per truck in order to access and tip carts.

Back lane organics collection would result in additional or different types of collection trucks to provide the same level of service. If back lane collection is desired for all locations in the organics program, the Administration will report back on options and costs to successfully deliver this service.

The Administration is not recommending any changes to waste and recycling cart collection locations at this time. The Administration will report back on collection location considerations after implementation of the organics program.

Compost Depots

It is recommended to continue the compost depot program even once the curbside organics program has been implemented as residents may continue to have oversized or excess organic materials. In addition, the depots continue to serve the multi-family and commercial sectors (who often have landscaping contracts with multi-family properties) until such time that a city-wide program or alternate options are made available to these sectors. The costs to operate the depots will decrease slightly with the implementation of a city-wide collection program however the majority of operating costs are associated with processing large loads including branches, logs, and other self-haul materials that would not be accepted in the green carts.

The compost depots are located at temporary sites and do not have the capacity to accept and process organic materials from a city-wide collection program.

2019 Subscription Green Cart Program

With a new, city-wide organics program in development, 2019 is anticipated to be the last season for the subscription green cart program. To reduce operating costs and to optimize internal resources, the Administration recommends a deadline of April 15, 2019, for new and renewed subscriptions.

Without a deadline for subscriptions, program planning and resourcing challenges are increased. For example, without knowing how many households may subscribe to the program or how much revenue may be available, it is challenging to procure the appropriate number of trucks and staff. If a high number of subscriptions are received shortly before or even after the program starts, resources may not be available to provide the required level of service.

In addition, the same internal staff who oversee the seasonal subscription program will be involved in developing and implementing the city-wide organics program. A deadline for the 2019 subscription program will help reduce the staff time associated with managing ongoing changes to collection routes, payments, etc. and will instead allow internal resources to redirect their focus to developing the city-wide program.

The green cart program is not a full cost recovery program. Any over-expenditures in the green cart program result in a mill rate impact.

PAYT Waste Utility Program Design

The Administration recommends three different cart sizes be available to residents upon request, including the current, large 360 L (95 gal), a medium 240 L (65 gal) and a smaller cart that would still be compatible with the current collections fleet. The Administration also recommends keeping all existing waste carts in the field unless residents request a different size. This will keep waste cart procurement and deployment costs low, will maximize the life of the existing carts, and will provide residents with more flexibility and choice based on their individual needs. The vast majority (99%) of curbside residents currently have the largest cart size. It is also anticipated that a city-wide curbside organics program could remove up to 50% of the materials from the black cart. Preliminary research indicates that up to 75% of residents might choose to decrease their cart size and save costs on their monthly utility bill, while still having adequate capacity for all waste streams.

It is anticipated that residents would not be charged a fee for selecting a smaller cart size, however to minimize the potential for multiple cart size changes and to keep the administrative and operating costs low, it is recommended that cost recovery be applied to any household requesting a larger waste cart. More information on program implementation will be provided in Q2 2019.

The Administration does not recommend mandating a new, smaller cart for all households. Although mandating a smaller cart can incentivize greater waste diversion, a city-wide swap out of carts is estimated to cost over $8 million. Instead, residents could choose to request a small or medium cart based on their needs, especially once an organics program is in place. Furthermore, by keeping the existing carts in the field, costs associated with retrieving and recycling old carts will be minimized.

The Administration recommends that the default waste cart size for all new homes is the medium (240 L) cart unless the resident requests a smaller or larger size.

If a waste utility model is approved, it is recommended to show one unified charge for all waste services on the monthly utility bill. This charge would include the existing recycling utility charges, as well as the new organics program charges and the true cost of collection and landfill disposal for waste. The option to show three or more separate charges for waste services on a monthly utility bill is not recommended as it can result in residents choosing to place excess garbage into the lower cost service (i.e. recycling or organics) and can lead to a higher rate of contamination.

Implementation Plan

If approved, the Administration will begin procuring resources in the fall of 2018. With procurement and delivery time for carts and trucks, plus implementation time for a new organics processing facility, it is anticipated that at minimum 14 to 18 months would be required to implement a city-wide curbside organics program. The Administration will report back on a more detailed implementation plan in Q2 of 2019.

If a city-wide organics program is approved, the Administration intends to release a Request for Proposals for green carts and deployment as well as a tender for additional side loaders in the fall of 2018. The RFP for Organics Processing is also anticipated to close in the winter of 2018/2019. The successful Organics Processing contractor will be required to start accepting materials in early 2020.

Similar to the residential curbside recycling program, cart deployment is expected to be a phased roll-out occurring over 3 to 5 months. Deployment would be contracted by the cart vendor due to the short timelines and precise nature of timing cart deliveries from the vendor followed by assembling the carts for deployment all within minimal storage space. Existing City containers staff would continue to provide carts to new homes, as well as repairs and replacements for damaged carts in the field.

Contracted green cart deployment could commence as early as November 2019 once the subscription green cart program is ended in the second week of November.

Procurement and delivery time for new side loader trucks is between 12 and 14 months. The Administration intends to release a tender for new trucks in the fall of 2018 with an anticipated delivery date of late 2019 or early 2020.

Collection Frequency

Table 1 below identifies the advantages and disadvantages of the different combinations of collection frequencies for organics and waste.

Table 1: Advantages and Disadvantages Associated with Collection Frequency Level of Service

Collection Frequency Summer*	Collection Frequency Winter*	Advantages	Disadvantages
Organics: Bi-weekly Waste: Bi-Weekly	Organics: Bi-Weekly Waste: Bi-Weekly	• 47% of "Waste Awareness and Behaviour Survey" participants support bi-weekly, year-round garbage collection • High projected amount of organic waste collected in green bins • Moderate projected GHG emission savings • Ability to optimize existing fleet, staff, and collection routes	• 48% of "Waste Awareness and Behaviour Survey" participants do not support bi-weekly, year-round garbage collection • Highest likelihood for contamination of organics bin (with less frequent garbage collection) • Higher potential for non-compostable odour issues (diapers) in summer • Higher potential for compostable odour issues (grass & food waste) in summer
Organics: Bi-weekly Waste: Weekly	Organics: Bi-Weekly Waste: Bi-Weekly	• Best for mitigating non-compostable odour issues (diapers) in summer	• 77% chance for black cart to be under half-full in summer (over-servicing) • Higher potential for compostable odour issues (grass & food waste) in summer • Lowest projected GHG emission savings
Organics: Weekly Waste: Bi-weekly	Organics: Bi-Weekly Waste: Bi-Weekly	• Best for mitigating compostable odour issues (grass & food waste) in summer • 47% of "Waste Awareness and Behaviour Survey" participants support bi-weekly, year-round garbage collection • LOS resonates with residents (through engagement workshop) • Closest to most common LOS for Canadian municipalities with over 50% residential waste diversion rates* • Highest projected amount of organic waste collected in green bins • Highest projected GHG emission savings	• 48% of "Waste Awareness and Behaviour Survey" participants do not support bi-weekly, year-round garbage collection • Highest likelihood for contamination of organics bin (with less frequent garbage) • Higher potential for non-compostable odour issues (diapers) in summer
Organics: Weekly Waste: Weekly	Organics: Weekly Waste: Weekly	• Best for mitigating non-compostable odour issues (diapers) in summer • Best for mitigating compostable odour issues (grass & food waste) in summer • Best mitigation for freezing materials • Least likelihood for contamination of organics bin (with more frequent garbage collection) • Moderate projected GHG emission savings	• No stated interest from citizens in this LOS for garbage • Lowest projected organics waste collected in bins • 77%+ chance for black cart to be under half-full (over-servicing)

* Year round weekly organics and bi-weekly garbage collection is the most common LOS for municipalities with over 50% diversion rate. Given Saskatoon's climate and lack of yard waste in the winter, bi-weekly collections can be considered comparable.