Options and Considerations for Variable Pricing

Charges Based on Cart Size

Households choose a cart size based on their needs and are charged accordingly. Typically, larger carts cost more in order to incentivize waste reduction and diversion (i.e. reward households that recycle and compost their waste).

Collection frequency usually stays the same for all residents, although it is possible to have both variable cart sizes and varied frequency of collection to provide additional financial incentives and savings to residents.

This is the most common variable-pricing design for utilities in Canada where automated waste collection is in place. Examples include Burnaby, Toronto, Vancouver, Lethbridge, and Winnipeg. This approach gives residents direct and easy-to-understand control of their waste generation, and therefore, is considered most likely to result in increased diversion and decreased disposal. It involves relatively simple tracking and administration once the utility system is in place. The initial capital cost for carts, however, is high.

Operational Implications:

There are no direct operational savings associated with a smaller cart size as collection frequency does not change. For the most part, the existing fleet and operational process can be used; some modifications will be required to the side-loader used for collections to accommodate smaller carts. Additionally, residents will need some way to change their cart size which will require additional resources for storage, inventory, administration, and deployment. Approximately $200,000 in additional staff resources would be required to administer billing and cover the costs of communications. The City could elect to recoup all or some of these costs through a deployment fee.

Capital Implications:

A large capital expenditure is required to purchase new carts. The range is expected to be $1.3 to $3.9 Million assuming that 25 to 75% of residents will choose a different cart size. A one-time capital cost to identify and deploy smaller carts to residents that want them, along with associated changes to the City's tracking systems (CIS, Elemos) is estimated to cost between $0.75 and $1.25 Million. Any unused surplus inventory of carts will have to be collected from residents and recycled; this would also have cost implications.

Risks

- Difficult to forecast the number of carts in each size that will be required and rates are set in advance so requires contingency to be considered within the rate.
- Smaller carts can lead to overfilling, use of other people's carts, or contamination of recycling/organics carts. This may result in missed collections, contaminated recycling and organics streams, and increased bylaw enforcement (and costs).

Charges based on Frequency per Tip

Households are only charged when they put out their garbage cart. There would likely be a standard charge for the scheduled level of service, with discounts for residents who require fewer collections.

In the case of assessing discounts, in the City of Portland households can currently choose whether they prefer biweekly or monthly collection and pay a reduced fee. This may be unrealistic for Saskatoon where citizens have less experience with a broad set of waste diversion programs: therefore, it may be easier to track tips and provide an end of year rebate. A household that puts their cart out once a month would receive a deeper discount than one that uses their cart 20 times a year.

If a household requires more than the standard level of service, premium fees would be charged as extra resources (e.g. more trucks and drivers) would be required to collect more frequently. A process for this already exists where residents can request a second or larger cart (for a fee).

The number of collections need to be accurately tracked. The Elemos Software, using RFID and GPS technology installed as part of the Efficient Waste System, has been designed to register each pick-up. At this point, the system's functionality and implementation approach have been based on supporting operations rather than full-scale utility billing, which requires a significantly higher level of rigour and a review of system requirements. Use of collection frequency as a method for providing variable-pricing will therefore require improvements to the Elemos system to ensure accurate billing. This option will also require capital investment into carts and a project to identify all carts with their assigned address so there is no confusion. This option provides lower risk of hiding waste in other resident's bins as the residents choose whether their bin is placed out for collection or not.

Operational Implications:

There are operational savings associated with reduced collections such as reduced time and fuel use, as well as reduced wear and tear on trucks and carts.

Administratively, however, tracking and the associated variable billing will require significant oversight by staff, with additional people required to manage, troubleshoot, and provide customer service for this new function.

Capital Implications:

This option uses the existing fleet and carts so has much less requirement for capital expenditures. However, not all carts currently have RFID tags; costs are estimated at over $150,000 to update existing carts and ensure they are tied to the correct civic address.

Risks

- Reliability in tracking collections, and therefore missed or inaccurate billing, for each household if residents are not diligent about returning their cart to their property on non-collection days (an issue specific to back-lane collections and culd-de-sacs).
- Without a high level of oversight and administration for database reconciliation and billing, there is a risk of inaccurate billing.
- May be challenging to ensure appropriate levels of staff and trucks if number of collection points per day is unknown.
- To avoid tipping fees, residents may overfill garbage carts, use other people's carts, or contaminate recycling/organics carts. This may result in missed collections, contaminated recycling & organics streams, and increased bylaw enforcement (and costs).

Charge per Bag

All households receive a standard level of collection but have the option of paying extra for additional bags. These are usually marked with a tag that is sold through local retailers, at City Hall, or online at a rate set by the municipality (ranges from $2 to $5). This system is simple to implement from an administrative perspective as no tracking or billing is required. However, it is difficult to introduce within a fully automated collection system as bags must be loaded manually. Cities that use bag tags either still have manual collection or use it as a secondary variable-pricing option. For instance, in Toronto and Vancouver, collections are mostly done automatically, and residents choose a cart size based on expected generation. If residents need additional capacity they then purchase bag tags.

Capital/Operating Implications:

- Requires rear loader trucks to collect bags; depending on the scale of bag collection, it would range from additional vehicles to replacement of existing collections fleet; rear load collections trucks cost approximately $300,000 each and have an eight month delivery time. There are three in the current fleet: a complete replacement of the fleet would cost at least $7.2 million.
- Requires two staff per truck (one driver and one labourer to collect the bags), a doubling of the current collections FTE allocation.
- Requires implementing standard bag sizes and colour requirements.
- Requires new relationships with the retail sector to ensure appropriate stocking of the required bags.

- Any discontinued resources (e.g. automated side-loader trucks and rollout carts) must be recycled or sold.
- Re-introduction of manual collection (a practice abandoned in Saskatoon in the mid-1980's to reduce the potential for injuries and lost staff time).

Multi-unit Residential Households

A waste utility model may not have the same environmental or social benefits for waste diversion in multi-unit properties as it does for single-family households. Multi-unit properties have waste and recycling collected in communal bins. Individual residents do not have direct control over these bins and are not solely accountable for their waste generation and diversion rates. Most multi-unit dwelling homeowners and renters do not receive monthly utility bills from the City for water or recycling services; rather they are issued to a condominium corporation or a single point of contact. Therefore, most multi-unit residents would not "see" the true costs of managing waste. Some multi-unit residential households currently pay for additional collections, some control exists now for corporations or boards managing properties to reduce their extra collections.