

Appendix I
Waste Management Financial Plan Update – Results of First Round of Public Consultation and
Recommended Next Steps

Environmental Scan Results – Uniform/Flat Fee Model

Jurisdiction	User fee system description
City of Calgary	Curbside automated cart collection where the resident pays a flat monthly rate for waste collection through their utility bill. No set out limits.
City of Edmonton	Residents pay a flat monthly rate for curbside waste collection through their utility bill. No set out limits.

Advantages	Disadvantages
<ul style="list-style-type: none"> ▶ Minimal effort (time/cost) required for roll-out program ▶ Minimal effort (time / cost) for administering the system ▶ Minimal effort (time / cost) for marketing the program as it is simple to understand ▶ Revenue stability from the program makes it easier to predict future funding which can reduce the risk of funding shortfalls ▶ This system gets residents used to the idea of paying for waste management services as a separate line item outside of general taxation ▶ It presents an opportunity to pivot into other user fee systems by establishing a baseline whereby residents are acclimatised to paying for waste management services as a separate service outside of general taxation 	<ul style="list-style-type: none"> ▶ Does not provide a waste reduction incentive as residents are charged the same amount regardless of the volume of garbage generated ▶ Does not promote participation in recycling and other programs as residents have no incentive to divert waste ▶ Possibility of residents who generate a small amount of waste feeling as though they subsidize residents who produce large volumes of waste (inequity)

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Environmental Scan Results – Bag Fee Model

Jurisdiction	User fee system description
City of Binghamton	Residents are required to purchase officially designated bags that have been authorized by the city.
City of St. Cloud	Residents are required to purchase and use specially marked bags for garbage and yard waste collection. Recycling collection is billed separately as part of the resident's bi-monthly utility bill.

Advantages	Disadvantages
<ul style="list-style-type: none"> ▶ Minimal upfront investment compared to more capital-intensive systems such as carts ▶ Minimal effort (time/cost) required for roll-out each year ▶ No municipal billing system required and smaller overall administrative burden ▶ Users pay only for garbage they produce, incentivising waste reduction and diversion ▶ Bag system can have tiered payment systems (i.e. a set number of bags provided as part of tax bill, with additional bags coming at an additional cost. This provides a degree of funding certainty to cover fixed costs whilst providing opportunity for additional revenue to match increased generation of waste) ▶ Unit pricing systems may promote awareness of the hidden costs (economic and environmental) of waste management and may lead to increased environmental awareness 	<ul style="list-style-type: none"> ▶ Residents using carts may object to having to switch to bags due to the added effort of purchasing and storing them ▶ Extra time may be required by collectors to enforce bag compliance ▶ Bags are expensive to produce, and cannot be reused as opposed to fixed asset solutions like carts ▶ Considerable effort (time/cost) required for education and marketing the program ▶ Residents may view requirement to buy and store bags as an inconvenience ▶ Require retail option for residents to buy bags ▶ Potential for misuse (i.e. residents putting garbage into recycling to meet set out limit) ▶ Potential for counterfeit bags on the black market requires implementing costly security features ▶ Charging a fee for quantity of garbage increases the potential for illegal dumping, requiring increased enforcement

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Environmental Scan Results – Sticker Fee Model

Jurisdiction	User fee system description
Oxford County	Residents purchase garbage stickers independently on an as-needed basis. The County's tax levy does not include any waste fees.
Northumberland County	Residents purchase garbage stickers independently on an as-needed basis, in addition to an annual waste fee on the municipal taxes.

Advantages	Disadvantages
<ul style="list-style-type: none"> ▶ Minimal upfront investment compared to more capital-intensive systems such as carts ▶ Minimal effort (time/cost) required for roll-out each year due to simplicity of printing stickers ▶ No municipal billing system required and smaller overall administrative burden ▶ Users pay only for garbage they produce, incentivising waste reduction and diversion ▶ Sticker system can have tiered payment systems (i.e. a set number of stickers provided as part of tax bill, with additional stickers coming at an additional cost. This provides a degree of funding certainty to cover fixed costs whilst providing opportunity for additional revenue to match increased production of waste) ▶ Unit pricing systems may promote awareness of the hidden costs (economic and environmental) of waste management and may lead to increased environmental awareness 	<ul style="list-style-type: none"> ▶ Residents using carts may object to having to switch to stickers due to the added effort of purchasing and storing them ▶ Extra time may be required by collectors to enforce sticker compliance ▶ Residents might view a requirement to buy and store stickers as an inconvenience ▶ Considerable effort (time/cost) required for education and marketing the program ▶ Bag tags susceptible to weather and vandalism ▶ Require retail option for residents to buy bags ▶ Potential for misuse (i.e. residents putting garbage into recycling to meet set out limit) ▶ Potential for counterfeit stickers on the black market requires implementing costly security features ▶ Charging a fee for quantity of garbage increases the potential for illegal dumping, requiring increased enforcement

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Environmental Scan Results – Container Fee Model

Jurisdiction	User fee system description
City of Toronto	Residents pay an annual fee collected through the municipal utility bill, based on the size of garbage cart they use.
City of Surrey	Residents pay an annual fee collected through property taxes, based on the size and number of garbage carts they use.
City of Burnaby	Residents pay an annual fee collected through their utility bill, based on the size of garbage cart they use.

Advantages	Disadvantages
<ul style="list-style-type: none"> ▶ Users pay only for garbage they produce, incentivising waste reduction and diversion ▶ Unit pricing systems may promote awareness of the hidden costs (economic and environmental) of waste management and may lead to increased environmental awareness 	<ul style="list-style-type: none"> ▶ Considerable effort (time/cost) required for roll-out/distribution of new/replacement garbage bins ▶ Containers must be maintained and renewed periodically which comes at a cost to the municipality ▶ Considerable effort (time/cost) required for billing ▶ Considerable effort (time/cost) required for education and marketing the program ▶ Potential for misuse (i.e. residents paying for small cart and placing overflow in recycling) ▶ Charging a fee for quantity of waste increases the potential for illegal dumping, requiring increased enforcement ▶ Potential for residents to feel they should fill their garbage bin (and therefore reduce/recycling less) because they pay a yearly fee for it

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Environmental Scan Results – Franchise Fee Model

Jurisdiction	User fee system description
City of Portland	Twelve franchised garbage companies provide service to residential customers. Residents select a service provider and signs up for a specified term for collection service based on garbage container size. Residents can increase or decrease the size of their garbage container to fit the needs of the household. Garbage bills are issued, every two months, to residents directly from the company that services the property. Service providers then remunerate the County for the right to provide the service.
Los Angeles County	Residential waste collection services are provided through an open-market system, whereby each resident contacts a service provider directly and signs up for collection services for a specified term. There is no County involvement. Service providers then remunerate the County for the right to provide the service.

Advantages	Disadvantages
<ul style="list-style-type: none"> ▶ Franchise system generally tend to follow subscription models with specified service periods which make revenues stable and easy to forecast. This can reduce the risk of future funding shortfalls ▶ Franchise fee model can be easy to understand for residents which can drive greater uptake and a smoother transition ▶ Municipalities can amend services provided by franchises to include bags or sticks for additional units of trash 	<ul style="list-style-type: none"> ▶ Difficulties with overseeing the operation of franchised garbage companies ▶ Franchise fee models often have higher implementation costs, including the purchase and distribution of containers (if used) ▶ The franchise fee, while offering different price points, can have limited incentive to reduce waste as fees generally follow a flat-fee structure ▶ Managing complaints from customers regarding service through external franchised companies ▶ External changes may impact costs for collection of garbage by franchise companies ▶ Potential for misuse (i.e. residents putting garbage into recycling to meet set out limit) ▶ Charging a fee for quantity of waste increases the potential for illegal dumping, requiring increased enforcement

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Environmental Scan Results – Weight-based Fee Model

Jurisdiction	User fee system description
The State of Vermont	Residents are charged for the volume or weight of garbage disposed.
Aschaffenburg, Germany	Residential containers are equipped with a RFID chip and collection trucks are equipped with a reading device and a weighing device. A central facility collects data transferred via telemetry where processing, accounting and the billing of end users occurs.

Advantages	Disadvantages
<ul style="list-style-type: none"> ▶ Greatest incentive for residents to reduce waste as they can see a clear cost reduction with even a small reduction in waste ▶ Compatible with automated and semi-automated collection vehicles (when outfitted with appropriate equipment) ▶ Simple for residents to understand and limited education would be required ▶ Fair to users as high-volume generating residents are required to pay more than low-volume generating residents 	<ul style="list-style-type: none"> ▶ Equipment needed to accurately weigh waste and bill residents may be complicated and more expensive ▶ Equipment will also need to account for environmental factors such as rain, snow and ice, which may make waste containers heavier than then actual ▶ Mobile onboard vehicle scales are not currently certified as legal for trade in Canada ▶ Billing administration may be complex ▶ Potential for misuse (i.e. residents putting garbage into recycling to meet set out limit) ▶ Charging a fee for a quantity of waste increases the potential for illegal dumping, requiring increased enforcement

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Environmental Scan Results – Hybrid Fee Model

Jurisdiction	User fee system description
City of Winnipeg	Residents pay an annual fee collected through their utility bill for weekly cart collection with additional fees for extra garbage bags.
Simcoe County	Residents pay for weekly, bag/container (limit of one) waste collection through their municipal taxes. Additional bags require tags which can be purchased for an extra fee.
Region of Waterloo	Residents pay for bi-weekly waste collection through municipal taxes. Set bag limits with excess bags requiring an extra fee.
City of London	Residents pay for weekly waste collection through municipal taxes. Set bag limits with excess bags requiring an extra fee.
Region of Peel	Residents pay for weekly waste collection through municipal taxes. Set cart/bag limits with excess bags requiring an extra fee.

Advantages	Disadvantages
<ul style="list-style-type: none"> ▶ A hybrid system offers the opportunity to upgrade / improve the system using different methods relatively easily, as more than one model can be used ▶ Fair as high-volume generating residents would be required to pay more than low-volume generating residents ▶ Increases incentive to divert waste as residents may be penalized for waste contamination or offered savings for utilizing organic and blue box waste systems ▶ Program is relatively easy to administer once billing system is established ▶ Base fee provides stable base funding ▶ Unit pricing systems may promote awareness of the hidden costs (economic and environmental) of waste management and may lead to increased environmental awareness 	<ul style="list-style-type: none"> ▶ Charging a fee for quantity of waste increases the potential for illegal dumping, requiring increased enforcement ▶ Potential for misuse (i.e. residents putting garbage into recycling to meet set out limit) ▶ Offering many cart sizes can assist in overcoming the weakness of providing little incentive to reduce waste unless it can be reduced enough to move to a smaller cart size ▶ Can be complicated to understand if not well designed ▶ Limited incentive to reduce garbage