Appendix D

Organics Service Option Comparison

	Service Option 1 Status quo	**Service Option 2** Full growing season yard waste depot	**Service Option 3** Curbside yard waste collection	**Service Option 4** Curbside food and yard waste collection (scrape the plate)
Accepted material	Yard waste: grass, leaves, garden debris and branches	Yard waste: grass, leaves, garden debris and branches	Yard waste: grass, leaves, garden debris and branches	Yard waste: grass, leaves, garden debris and branches Food waste Compostable kitchen waste (paper towels, compostable food containers such as pizza boxes)
Diversion potential	500 – 1,000 tonnes [2] Up to 2% additional diversion	1,000 – 2,500 tonnes [2] Up to 4% additional diversion	5,000 – 7,300 tonnes [3] Up to 13% additional diversion	12,000 – 18,000 tonnes [3] Up to 31% additional diversion
GHG reduction	24 tonnes annually	60 tonnes annually	177 tonnes annually	760 tonnes annually
Service details	4 sites operating Saturdays from 9 a.m.- 4 p.m. 6 weeks in spring 6 weeks in fall	Single site 7 days a week April – November (subject to weather conditions)	Weekly April to November 30 collection days	Weekly year round 52 collection days
Implementation Costs (Capital)	N/A	Site development: $500,000	Communications: $250,000 Staff: $200,000 Consultant: $300,000 **Total [9]: $750,000**	Communications: $500,000 Staff: $600,000 Consultant: $600,000 Pilot: $1,800,000 **Total [9]: $3,500,000**
Annual operating expenditure	Staff: $80,000 Hauling: $90,000 Processing [7]: $32,500 - $65,000 Total: $202,500 -$235,000	Staff: $90,000 Hauling: $100,000 Processing [7]: $65,000 - $160,000 Total: $255,000 - $350,000	Weekly collection [4]: $3,537,000 Processing [6]: $325,000 - $475,000 Total: $3,862,000 - $4,012,000	Weekly collection [4]: $6,131,000 Processing [6]:$1,200,000 $1,800,000 Total: 7,331,000 - $7,931,000

	Service Option 1 Status quo	**Service Option 2** Full growing season yard waste depot	**Service Option 3** Curbside yard waste collection	**Service Option 4** Curbside food and yard waste collection (scrape the plate)
Operating expenditures per processed tonne	$235 - $405 per tonne	$140 - $255 per tonne	$550 - $772 per tonne	$440 - $610 per tonne
Impact other services	No impact	No impact	Potential to extend biweekly garbage collection by two months (October and April)	Year-round biweekly garbage collection
Potential savings from other services	None	None	Garbage collection [4,5]: $425,000 - $621,000	Garbage collection [4,5]: $4,085,000 - $4,595,000
Potential revenue			Compost sales opportunity	Waste to energy opportunities
Cost to residents without considering savings from other services	No charge	No charge	$60 per user [1]; or $43 on an assessed property [10] value of $350,000	$120 per user [1]; or $85 on an assessed property [10] value of $350,000
Cost to residents including savings from other services	No charge	No charge	$52 per user[1]; or $37 on an assessed property[10] value of $350,000	$51 per user[1]; or $36 on an assessed property[10] value of $350,000
Impact to landfill	Useful life extended 0.14 years	Useful life extended 0.35 years	Useful life extended 1 year	Useful life extended 2.5 years
Implementation	Currently in operation	2019	2020	2022 - 2023

	Service Option 1 Status quo	**Service Option 2** Full growing season yard waste depot	**Service Option 3** Curbside yard waste collection	**Service Option 4** Curbside food and yard waste collection (scrape the plate)
Benefits	• Located closer to residential homes resulting in reduced travel time for residents	• Responds to resident feedback • Improves service level by operating more days per week throughout the growing season • Costs per processed tonne is reduced due to single site: efficiencies from staff allocation, waste hauling costs • Lower processing costs per tonne for higher volume • Could advance curbside biweekly garbage collection start up earlier than November	• Increase diversion of organic waste compared to depots • Market and/or return to resident potential for end products (compost)	• Reduced greenhouse gas emissions • Contributes to extending the life of the landfill • Benefits waste water infrastructure by providing alternative disposal option for fats, oils, grease and food waste • Market potential for end products (compost and/or power) • Highest diversion potential • Acceptable items easily communicated to the public
Risks	• Limited to Saturday operations • Does not respond to public and staff feedback • High staff requirement for short period of time	• May increase travel time for users	• Does not serve entire community (e.g. only residents that have yard waste)	• Cost to process comprehensive food waste is higher than composting yard waste; comparable to landfilling • Longer implementation time than yard waste collection

Notes: Assumptions for the Costing Calculations:

1. *65,500 single-family households*
2. *10% - 15% capture rate of organic waste based on Environment Canada's Technical Document on Municipal Solid Waste Organics Processing and waste composition data from the City's Residential Waste Audits*
3. *50% - 75% capture rate of organic waste based on Environment Canada's Technical Document on Municipal Solid Waste Organics Processing and waste composition data from the City's Residential Waste Audits*

4. *$1.80 per collection based on 2018 internal and external collection costs plus inflation*
5. *$85 per tonne for garbage based on 2018 rate for landfill*
6. *$100 per tonne for full organics processing is a conservative estimate based on the 2016 Organics RFI submission*
7. *$65 per tonne for yard waste processing based on 2018 actuals*
8. *A 1% mill rate increase equals $2,300,000*
9. *Organic waste carts are purchased and remain property of the collection service provider*
10. *84,400 assessed properties; includes residential and commercial properties not receiving the service*