

**Proposed Actions to Achieve 60% Residential Waste Diversion
Multi-Residential Organics Management Program – Mixed Waste Processing Pilot**

11. Implement a mixed waste processing pilot (to recover organics and other materials) on a portion of the waste from multi-residential homes

Summary of the proposed organics collection program for multi-residential homes:

- Mixed waste processing on a portion of the waste from multi-residential homes, to include both low-rise and high-rise apartment buildings
- Process approximately 15% of multi-residential waste (60 tonnes of waste per week)
- Cost approximately \$500,000 per year (between \$330 and \$550 per tonne diverted)
- Divert between 900 tonnes per year (30%) and 1,500 tonnes per year (50%) of the waste to beneficial uses
- With mixed waste processing residents would continue to place organic waste in the garbage, the organic waste would be separated from the garbage at a mixed waste processing facility

It is estimated that the proposed program will increase London's diversion rate by approximately 0.5% to 0.7% and have an annual operating cost \$0.4 to \$0.7 million. The learnings from the pilot project will help the City in future decisions about whether or not to implement a full scale mixed waste processing program in multi-residential buildings and/or curbside homes.

Background

Municipal Program versus Individual Building Programs

The provincial Food and Organic Waste Policy Statement requires individual multi-residential buildings and not the municipality to provide an organics management program by 2025. This requirement is similar to the requirement for multi-residential buildings not the municipality to provide a Blue Box program.

Most municipalities, including London, do provide Blue Box programs for multi-residential buildings because of the improved service and lower programs costs that are possible through "economies of scale" and having a consistent service for all citizens in the municipality. Some larger municipalities in Ontario already provide an organics management program to multi-residential buildings and are expected to continue to do so in the future.

Considering the above, it is recommended that the City provide an organics management program for multi-residential buildings.

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Comparison

Just as in the curbside program, a Green Bin program is less expensive and offers less technical and regulatory risk where as a mixed waste processing program offers more convenience to residents and will capture more organics.

A multi-residential Green Bin program is much less effective in terms on increasing waste diversion, than a comparable curbside Green Bin program, (see Table 16). For this reason it is not recommended to proceed with a multi-residential Green Bin program.

Comparison of Typical Curbside and Multi-Residential Green Bin Programs

Consideration		Curbside	Multi-Residential
Capture Rate		50% to 60%	20% to 25%
Cost per Tonne Diverted		\$250 to \$350	\$500 to \$600
Contamination Levels	Commonly Collected Organics	2% to 5%	5% to 15%
	All Organics	5% to 15%	15% to 25%

A multi-residential mixed waste processing program is preferred but for all the recent progress made in the field of mixed waste processing, there are as many if not more examples that highlight the challenges of this approach. This is why it is recommended to proceed with a small scale one to two year pilot project in the multi-residential sector and

to continue to monitor work being undertaken in a few key Ontario municipalities (e.g., Region of Peel, City of Toronto, Region of Durham, County of Oxford).

The pilot project will allow to the City to confirm operational requirements, determine technical constraints and consult with the MOECP about regulatory requirements. The learnings from the pilot project will help City in future decisions about whether or not to implement a full scale mixed waste processing program in multi-residential buildings and/or curbside homes.

Preliminary details for a mixed waste processing pilot are presented below:

- include both low-rise and high-rise buildings;
- process approximately 15% of multi-residential waste (60 tonnes waste per week);

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- cost approximately \$500,000 per year (between \$330 and \$550 per tonne diverted); and
- divert between 900 tonnes per year (30%) and 1,500 tonnes per year (50%) of the waste to beneficial uses

Consideration		Multi-Residential Organics Collection		
		Multi-Residential Green Cart Program		Mixed Waste Program
Environmental	Change in Diversion	Annual Tonnes Diverted	2,000 to 2,500	6,000 to 10,000
		Contribution to 60% Target	1.2% to 1.4%	4.0% to 6.0%
	GHG Benefits	Reduction per Tonne Diverted	0.8 tonnes	
		Annual Reduction (tonnes)	1,600 to 2,000 (400 to 500 cars removed from the road ^a)	4,800 to 8,000 (1,200 to 2,000 cars removed from the road ^a)
Social	Public Support		Strong Support	Strong Support
	Resident Benefits/ Issues		• Odour from large scale collection	• Not Applicable
Financial	Cost ^b	Collection	\$1,100,000 to \$1,400,000	\$0
		Processing	\$220,000 to \$275,000	\$3,000,000 to \$5,000,000
		Other	\$0	\$0
		Total	\$1,300,000 to \$1,675,000	\$3,000,000 to \$5,000,000
	Cost per Household		\$7.2 to \$9.3	\$20 to \$30
	Market/Revenue		Potential to produce compost or renewable natural gas	
Technical	Collection Issues		New collection vehicles required	Incorporated with current pick up schedule
	Processing Issues		None	Compost/digestate product may have difficulty meeting Ontario standards
	Other		Odour concerns with facility locations	
Notes				
(a) The diversion of these materials has avoided the Greenhouse Gas (GHG) emissions equivalent to removing the identified number of vehicles per year.				
(b) Based on industry estimates, literature review and data from other municipalities.				