16 MULTI-YEAR BUDGET FOR THE 19 CITY OF LONDON 2016 • 2019

INVESTING IN OUR FUTURE

London CANADA

2016 – 2019 CITY OF LONDON STRATEGIC MULTI-YEAR BUDGET

ADDITIONAL INVESTMENTS BUSINESS CASE #24 *- ADDED-*

STRATEGIC AREA OF FOCUS: BUILDING A SUSTAINABLE CITY

SUB-PRIORITY: STRONG AND HEALTHY ENVIRONMENT

STRATEGY: EXPAND SUPPORT FOR RESIDENT AND COMMUNITY DRIVEN INITIATIVES THAT ENCOURAGE WASTE REDUCTION AND OTHER ENVIRONMENTALLY FRIENDLY BEHAVIOURS

INITIATIVE: GREEN BIN PROGRAM & MODIFICATIONS TO RECYCLING AND GARBAGE PICKUP (WEEKLY GREEN BIN, WEEKLY RECYCLING, BI-WEEKLY GARBAGE)

INITIATIVE LEAD(S): JAY STANFORD

SERVICE(S): RECYCLING & COMPOSTING, GARBAGE COLLECTION & DISPOSAL

TOTAL 2016 – 2019 INVESTMENT REQUESTED ($000'S): $17,935

TOTAL 2016 – 2019 NET BUDGET REQUESTED ($000'S): $5,935

WHAT IS INCLUDED IN THE BASE BUDGET?

BASE BUDGET ($000'S):	2015	2016-2019 TOTAL
Civic Service Areas:		
Operating	**$15,909**	**$66,297**
Full-Time Equivalents	**101.6**	**100.1**
Capital		
Waste Diversion	0	120
Municipal Waste Study	0	400
Material Recovery Facility	0	60
W12A Ancillary Infrastructure	300	750
W12A New Cell Construction	100	6,500
Landfill Gas Collection	340	740
Closed Landfill Management	75	300
New & Emerging Solid Waste Technologies	0	500
Additional Sanitary Operations Collections Truck	79	
Total Capital	**$894**	**$9,370**

Base Budget Summary:

Existing waste collection services include 42 annual collections of garbage and recyclables from curbside households (every six business days). There are 9 annual collections of yard materials. Multi-residential buildings receive weekly collection of garbage and recycling. Most buildings pay a fee to receive a second weekly pickup. Multi-material EnviroDepots, open year-round, provide additional recycling and disposal services.

Green Bin materials (i.e. food scraps) are not collected separately and there is not a drop-off option for these materials. Residents are encouraged to compost on their properties. This can be an effective method of managing some of these materials for some households. A year-long Green Bin Pilot Project was conducted in 2011-2012. Several examinations are currently under way dealing with food scraps, advanced resource recovery technologies and higher levels of waste diversion.

BASE BUDGET METRICS	2015	2016	2017	2018	2019
Total Waste Diversion[1]	45%	45%	45%	45%	45%
Recycling Service Levels – collections per year	42	42	42	42	42
Garbage Service Levels – collections per year	42	42	42	42	42
Greenhouse Gas Emissions Avoided/Destroyed[2] (tonnes)	115,000	115,000	115,000	115,000	115,000

1. Total Waste Diversion refers to the combined number of all waste diversion initiatives (by weight) available to London Households.
2. Only includes GHG reductions at W12A landfill. Excludes GHG emissions avoided through existing recycling and composting programs.

WHAT INVESTMENT IS REQUIRED FROM PROPERTY TAX?

TAX LEVY IMPACT ($000'S):	2016	2017	2018	2019	2016-2019 TOTAL	2020-2025
Net Requested Tax Levy (Cumulative)	$35	$100	$1,300	$4,500	**$5,935**	$27,000
Net Incremental Tax Levy	**$35**	**$65**	**$1,200**	**$3,200**		
Annual Tax Levy Impact	**0.01%**	**0.01%**	**0.2%**	**0.6%**		

INITIATIVE DELIVERABLES

A. Link to Council's Strategic Plan

This Business Case supports the Strategic Plan in the areas of waste diversion, waste management planning, financing, climate change mitigation and adaptation, and job creation. Specifically, the Green Bin Program addresses 3 of the 4 Areas of Focus from the Strategic Plan:

Building a Sustainable City
- Robust infrastructure
- Strong and healthy environment

Growing our Economy
- Diverse & resilient economy
- Local, regional, and global innovation

Leading in Public Service
- Collaborative, engaged leadership
- Excellent service delivery

B. Strategic Context

What is the current direction being followed by Council and City Staff?

City staff have been directed by Council to develop comprehensive long-term strategies including regulatory requirements and/or obtain approvals for increased resource recovery (e.g., waste reduction, waste diversion, advanced materials and energy recovery) and waste disposal capacity. Approximate timelines for these activities and linkages are found on Table 1. Based on our current approach, the next major change in the City's Waste Diversion Program would likely occur as early as September 2020 or as late as 2023, all subject to Council approval and provincial government regulations and policies.

Table 1 – Current Scenario

Approximate Timeline - Current Direction, Major Steps and Decision Points

Date	Page in 2016-19 Budget	Details	Operating Funding	Capital Funding	Council Decision Point
Feb. 2015		Food Organics Reduction Projects – Home composting, community composting and food waste avoidance (approved in 2015 budget)	$60,000		Yes
May 2015		Council received a report entitled Waste Diversion – Update on the Examination of Residential Organic Waste (Food Scraps) and Next Steps			Yes
Oct. 2015		Staff directed to proceed with Individual Environmental Assessment (EA) to develop long term resource recovery and disposal plans			Yes
2016	105 - 116	Food Organics Reduction Projects – Home composting, community composting and food waste avoidance (contained in base budget)	$60,000		Yes
2016/19	200/242	Sanitary Landfill Reserve Fund and SW6051 to be used as sources of financing for Individual EA for long term resource recovery/disposal plans		$2,800,000	Yes
2017		Long-term Resource Recovery Plan			Yes
2018		Tentative completion of the Individual EA for Waste Disposal			Yes
2018/19	261	Increased waste diversion (e.g., downtown, public space recycling, etc.)	$200,000/yr		Yes
2019		EA Provincial Government Review Processes			
2019	230	Initial planning, design and government approvals; plus operating and capital funding for resource recovery technology(ies) for handling organics and/or a larger portion of the waste stream (SW6050)		$500,000	Yes
2020/23	230	• Final planning, design and government approvals, if required • Continuation of program change requirements • New Resource Recovery Program implementation – the launch date will be a function of program complexity. A Green Bin Program could start as early as late 2020; or more complex systems and technologies would push the date towards 2023 (SW6050)	TBD	$34,500,000	Yes
2022/24	230	New landfill space is available (SW6080)	TBD	$19,000,000	Yes

What are the Advantages and Disadvantages of Implementing a Green Bin Program in late 2018?

The environmental, social and financial benefits and challenges of a city-wide Green Bin program can be estimated based on experience from other Ontario and North American jurisdictions coupled with experience from the Green Bin Pilot Project in 2011/2012. These are listed below with further details provided in Appendix A.

Green Bin Program Advantages (Benefits and Opportunities):

Environmental Benefits

1. Reduced Greenhouse Gases
2. Closer to Provincial Goal of 60% Waste Diversion
3. Creates some Additional Landfill Capacity
4. Reduced Landfill Impacts
5. Better Use of Material

Social benefits

6. Job Creation
7. Consistent with other Municipalities

Financial Benefits

8. Short-Term Landfill Savings
9. Avoid Increase in Long-term Disposal Costs

Green Bin Program Disadvantages (Potential Issues and Challenges):

1. Lower Participation Rates Compared to Blue Box Programs
2. Processing Facility Problems
3. " Yuk" Factor
4. Lack of Provincial or Industry Funding to Offset Program Costs (Currently)
5. Cost of Green Bin Program

What are we Learning from Municipalities that have Implemented Green Bin Programs?

On the positive side:

- In some programs, household participation rates are over 70%. To achieve higher rates municipalities are using biweekly garbage collection and weekly Green Bin to encourage use. In addition, comprehensive education and promotion campaigns along with strong enforcement and compliance programs are increasing participation.
- In some programs, diversion rates for households participating in the Green Bin Program are equaling or surpassing Blue Box Program quantities (on a weight basis).
- Some municipalities with a Green Bin Program are reporting total residential waste diversion rates between 55% and 65%.
- Some municipalities are now exploring anaerobic digestion (AD) technologies in addition to more traditional composting operations. These activities have the potential to lower organic processing costs.

On the concerning side:

- Green Bin Program costs are going up, not down.
- In some programs, lower quantities being diverted than estimated.
- Some programs with higher quantities being diverted allow unusual or problematic materials such as diapers, pet waste, the use of plastic bags, grass clippings, etc. (e.g., City of Toronto, Region of York, City of St. Thomas).
- In many programs, lower household participation rates than planned with some communities in the 30 to 40% range (e.g., Region of Waterloo, City of Ottawa, Region of Peel). These are usually programs that are only a few years old and do not have biweekly garbage collection. Many municipalities with low participation rates have moved to, or are moving to, biweekly garbage collection which is expected to increase participation rates.
- Municipalities signing a put-or-pay contract for organics processing. In these cases, municipalities must guarantee a minimum quantity of organics (and payment). If quantities are not delivered, the contractor is still paid as the space in the facility has been reserved for that municipality.
- Odours at some composting facilities.

Why have estimated Green Bin costs for London gone up since 2012 and 2013?

Green Bin Program cost and adjustments to recycling and garbage pickup were presented in December 2013. They were developed using experience from other municipalities from 2012 and London's Green Bin Pilot project (Table 2). These estimates are essentially 3 or 4 years old when compared to 2016. This applies to both operating and capital costs.

Table 2 - Previous Estimated Operating and Capital Costs (based on 2012/2013 Experience)

Service	Annual Operating Costs	Cost per Household Served[1]	Capital Costs[2]
Green Bin – Collection	$1,600,000	$14	$9,000,000
Green Bin – Processing	$1,300,000	$11	$0
Weekly Garbage/Recycling	$1,200,000	$10	$0
Total Cost	**$4,100,000**	**$35**	**$9,000,000**

1. Based on 117,000 households served.
2. Capital costs are one time expenditures and included estimates for Green Bin carts, kitchen catchers for food waste, modifications to existing garbage trucks and the purchase of some new trucks.

The current Business Case process as part of the multi-year budget requires that new estimates in future years include anticipated costs in those years (e.g., include any inflationary impacts, predictions on steel prices for collection vehicles, fuel costs, currency exchanges rates, etc.). The new estimates presented in this Business Case are for 2018 and 2019 (Table 3).

Table 3 - Estimated Operating and Capital Costs in 2018/2019

Service	Annual Operating Costs	Cost per Household Served[1]	Capital Costs[2]
Weekly Green Bin and Biweekly Garbage Collection	$2,400,000	$19	$12,000,000
Green Bin – Processing	$1,400,000	$11	$0
Weekly Recycling	$700,000	$6	$0
Total Cost	**$4,500,000**	**$36**	**$12,000,000**

1. Based on 125,000 households served.
2. Capital costs are one time expenditures and included estimates for Green Bin carts, kitchen catchers for food waste, purchase of new trucks and Green Bin toolkit and promotion campaign to launch program.

In summary, new costs estimates have increased because:

- Municipal experience suggests that Green Bin Program costs are increasing, not decreasing, and operating funding sources are generally from taxation.
- Current average costs per tonne of organics is about $250 per tonne. It must be noted that there still remains limited cost information available from municipalities compared to what is collected for recycling programs by Waste Diversion Ontario.
- Reports suggest that oil and vehicle fuel costs are expected to increase in the next few years but not reach the high levels that have been experienced for a number of years.
- In 2012/2013 the Canadian dollar was roughly on par with the United States. Reports suggest some improvement in the next couple of years but not a return to par. This impacts items that have a United States origin (e.g., truck chassis).

C. Change to Program Requirements and Implementation Schedule

The introduction of a Green Bin Program and modifications to recycling and garbage pickup requires a thorough implementation plan with new roles and responsibilities for many including householders. A Green Bin program for London would divert approximately an additional 9% of residential waste materials which would increase the diversion rate from approximately 45% to 54%.

General requirements/information about the program are listed below and to illustrate how this could work, a high level Green Bin implementation plan has been added to the actions already identified on Table 1 to create a new Table 4 (next page).

Householder Requirements

Residents will be encouraged to participate in the program with the assistance of a Green Bin toolkit that will include:

- Program information and tips on how to participate.
- A kitchen catcher bin to collect food organics primarily generated in the kitchen area of the household.
- A Green Bin for placement of organics at the curb.

Collection Requirements

- A large portion of residential garbage is organic material (kitchen organics and non-recyclable paper products like paper towels and tissues) that could be diverted through a Green Bin program.
- A Green Bin program would provide weekly collection of organics from curbside households.
- To align with a weekly collection cycle and to encourage increased participation in diversion programs, recycling frequency would be increased to weekly and garbage decreased to bi-weekly. This collection schedule has proven successful in other communities.
- Weekly Green Bin pickup of perishable food wastes would make the transition to bi-weekly garbage more acceptable and manageable to households, as most of the wet and odourous waste would be collected weekly in the Green Bin.

- How other municipalities accommodate households with children in diapers or medical needs will be reviewed. Collection of bulky items (e.g., couches) will also need to be reviewed because co-collection vehicles will not be able to accommodate some/most bulky items.

Processing Requirements

- Green Bin organics are typically processed at either a composting facility (most common in Ontario) or at anaerobic digestion (AD) facility also known as a biogas facility. Both facility types currently exist in London.

- City staff would prepare a Request for Proposal (RFP) to obtain processing capacity for a defined period of time (i.e., generally between 5 and 10 years).

Table 4 – Current Scenario + Implement Green Bin Program and Changes to Recycling and Garbage Pickup Approximate Timeline – *Revisions to* Current Direction, Major Steps and Decision Points

Date	Page in 2016-19 Budget	Details	Operating Funding	Capital Funding	Council Decision Point
Feb. 2015		Food Organics Reduction Projects – Home composting, community composting and food waste avoidance (approved in 2015 budget)	$60,000		Yes
May 2015		Council received a report entitled Waste Diversion – Update on the Examination of Residential Organic (Food Scraps) and Next Steps			Yes
Oct. 2015		Staff directed to proceed with an Individual Environmental Assessment to develop long term resource recovery and disposal plans			Yes
2016	105 - 116	Food Organics Reduction Projects – Home composting, community composting and food waste avoidance (contained in base budget)	$60,000		Yes
2016	200/242	Sanitary Landfill Reserve Fund and SW6051 to be used as sources of financing for Individual EA for long term resource recovery and disposal plans		$2,800,000	Yes
2016		***Green Bin Program - Initial planning, design and development of implementation strategy (funding for a 2 year contract staff position; starting September 1)***	***$35,000***		

Table 4 – Current Scenario + Implement Green Bin Program and Changes to Recycling and Garbage Pickup Approximate Timeline – *Revisions to* Current Direction, Major Steps and Decision Points

Date	Page in 2016-19 Budget	Details	Operating Funding	Capital Funding	Council Decision Point
2017		***Green Bin Program – Detailed implementation strategy, final cost estimates, tender preparation (carts, trucks, processing) and evaluation. Funding advanced from SW6050***	***$100,000***	***$12,000,000***	***Yes***
2017		Long-term Resource Recovery Plan			Yes
2018		***Green Bin Program - Target Green Bin launch September 1 (launch period is up to 6 months);*** ***Other Program Changes – Changes to the existing collection system includes weekly recycling, biweekly garbage, changes to yard material and bulky material collection.***	***$1,300,000***		
2018		Tentative completion of the Individual EA for Waste Disposal			Yes
2018/19	261	Increased waste diversion (e.g., downtown, public space recycling, etc.)	$200,000/yr		Yes
2019		EA Provincial Government Review Processes			
2019		***Green Bin Program – Full year of program*** ***Other Program Changes***	***$4,500,000***		
2019	230	Initial planning, design and government approvals; plus operating and capital funding for resource recovery technology(ies) for handling organics and/or a larger portion of the waste stream (SW6050)		$500,000	Yes
2020	230	Final planning, design and government approvals (SW6050)	TBD	~~$34,500,000~~ ***$22,500,000***	Yes
2021		Continuation of program change requirements and completion of government approval processes	TBD		
2022/23		New Resource Recovery Program implementation	TBD		
2022/24	230	New landfill space is available (SW6080)	TBD	$19,000,000	Yes

CUMULATIVE OPERATING BUDGET ($000'S):	2016	2017	2018	2019	2016-2019 TOTAL	2020-2025
Expenditure	$35	$100	$1,300	$4,500	**$5,935**	$27,000
Source of Funding:						
Grants						
User Fees						
Savings from Existing Budget						
Other						
Net Tax Levy	35	100	1,300	4,500	**5,935**	27,000
Additional Full-time Equivalents	1	0	6	6	**13**	0

CUMULATIVE CAPITAL BUDGET ($000'S):	2016	2017	2018	2019	2016-2019 TOTAL	2020-2025
Expenditure		$12,000			**$12,000**	
Source of Funding:						
Debt						
Reserve Fund[1]		1,000			**1,000**	
Other[2]		11,000			**11,000**	
Capital Levy						

1. Funding from the Sanitary Landfill Reserve Fund advanced from SW6050 with corresponding reduction in 2020 capital plan.
2. Funding from Federal Gas Tax advanced from SW6050 with corresponding reduction in 2020 capital plan.

METRICS (CUMULATIVE CHANGES)		2016	2017	2018	2019
Incremental Waste Diversion[1]		0%	0%	2%	6% to 9%
Service Level - collections per year	Green Bin	0	0	13	39
	Recycling	0	0	3	10
	Garbage	0	0	-4	-16
Greenhouse Gas Emissions Avoided/Destroyed (tonnes)[2]		0	0	2,500	10,000

1. Incremental Waste Diversion refers to the incremental number of all waste diversion initiatives (by weight) available to London Households.
2. Includes GHG reductions at W12A landfill and from Green Bin Program. Excludes GHG emissions avoided through existing recycling and composting programs.

WHAT ARE THE RISKS OF NOT PROCEEDING?

The risks of not proceeding with an organics management program can be characterized as both short term risks and longer term risks. Short term risks (over the next 1 to 3 years) are overall minor noting that some Londoners are adamant that a Green Bin service should be in place. The longer term risks (3 years and more) are much more significant and could include a substantial increase in waste disposal costs. Risks have been identified as:

- Approval of additional long term disposal capacity may be jeopardized by not having a program to divert kitchen organics and others not including in the yard material program. The approval authority for disposal is the MOECC; the same organization that promotes the current 60% waste diversion objectives. It is estimated that long term disposal costs will rise between $5 million and $8 million per year if the City of London cannot expand the W12A Landfill which has about 9 years of capacity remaining.

- Loss of public trust as some residents expect the City to make continuous progress on increasing waste diversion.

- Level of waste management services provided are below that offered in other comparable Ontario municipalities.

- Opportunity to reduce Greenhouse Gas emissions, divert organic waste from landfill and turn it into a useful product would be missed.

- Official Plan vision and direction will not be met.

- Potential changes to provincial waste management legislation (i.e., Bill 151) will require organics management program.

In summary, Table 1 shows the current timetable for proceeding with some form of organics management program. Proceeding with implementation of a Green Bin program as detailed in Table 4 will ensure the above risks will be addressed in a more timely fashion (3 to 5 years sooner).

OTHER INFORMATION TO REFER TO

Update Interim Waste Diversion Plan (2014-2015) and Additions for 2016 (City of London, 2016)
http://sire.london.ca/mtgviewer.aspx?meetid=1108&doctype=agenda&itemid=39699

Comments on Environmental Bill of Rights Registry - Proposed Waste Free Ontario Act and Draft Strategy for a Waste Free Ontario: Building the Circular Economy (City of London, 2016)
http://sire.london.ca/mtgviewer.aspx?meetid=1108&doctype=agenda&itemid=39698

Individual Environmental Assessment Long Term Solid Waste Resource Recovery and Disposal Plans (City of London, 2015)
HTTP://SIRE.LONDON.CA/VIEW.ASPX?CABINET=PUBLISHED_MEETINGS&FILEID=199951

Waste Diversion – Update on Examination of Residential Organics Waste (Food Scraps) and Next Steps (City of London, 2015).
http://sire.london.ca/view.aspx?cabinet=published_meetings&fileid=182902

Interim Waste Diversion Plan 2014 to 2015 (City of London, 2014)
http://www.london.ca/residents/Garbage-Recycling/waste-management-planning/Documents/Interim%20Waste%20Diversion%20Plan%202014-2015_Final.pdf

Garbage and Recycling Collection - Status and Potential Next Steps (December 2014)
HTTP://SIRE.LONDON.CA/VIEW.ASPX?CABINET=PUBLISHED_MEETINGS&FILEID=167248

Quarterly Report on Internal Audit Results (PricewaterhouseCoopers – PwC) - Engineering and Environmental Services: Solid Waste (Garbage) Collection and Recycling Process Review (December 2014)
HTTP://SIRE.LONDON.CA/VIEW.ASPX?CABINET=PUBLISHED_MEETINGS&FILEID=168030

Road Map 2.0 The Road to Increased Resource Recovery and Zero Waste (City of London, 2013)
http://www.london.ca/residents/Garbage-Recycling/waste-management-planning/Pages/Road-Map-to-Waste-Diversion.aspx

APPENDIX A – ADVANTAGES AND DISADVANTAGES OF IMPLEMENTING A GREEN BIN PROGRAM IN LATE 2018

Green Bin Program Advantages (Benefits and Opportunities)
The environmental, social and financial benefits of a city-wide Green Bin program can be estimated based on experience from other Ontario and North American jurisdictions coupled with experience from the Green Bin Pilot Project. These are summarized below.

Environmental Benefits

1. *Reduced Greenhouse Gases*

Diverting organic waste has the benefit of reducing greenhouse gas production and associated climate change impacts. It is estimated that greenhouse gases could be reduced by between 9,000 and 10,000 tonnes per year or the amount equivalent to removing between 2,250 and 2,500 cars from the road.

2. *Closer to Provincial Goal of 60% Waste Diversion*

Implementing the Green Bin program and other waste diversion initiatives will be necessary for London to reach the provincial 60% waste diversion target. It is estimated that the Green Bin program will increase our diversion rate by 8% to 9%. Reaching the provincial goal of 60% will be an important consideration in the MOECC approval of expanding London's W12A Landfill. It is anticipated that approval would not be granted unless programs to reach 60% waste diversion are implemented.

3. *Creates Some Additional Landfill Capacity*

It is estimated that a Green Bin program would divert 13,000 to 15,000 tonnes each year (average = 14,000 tonnes). This would extend the life of the W12A Landfill by approximately 6 months. This slightly delays the need for a new landfill and taking additional farmland out of production.

4. *Reduced Landfill Impacts*

Reducing the amount of waste to the landfill would reduce nuisance impacts from the W12A Landfill such as reduced truck traffic, litter, noise and odours.

5. *Better Use of Material*

Materials collected from the Green Bin program would be turned into useful products instead of being landfilled. If the material were composted and met the AA or A Compost Standard Guidelines established by the MOECC, it would result in the production of approximately 350,000 bags of compost with a market value of between $700,000 and $1.1 million. Other technologies (e.g., anaerobic digestion) allows for the production of energy and a compost like product (i.e., digestate) from the collected materials.

Social benefits

6. *Job Creation*

A Green Bin program would create jobs locally and outside London, compared to landfilling. It is estimated that the Green Bin program would result in a net increase of 5 to 20 jobs as compared to landfilling organics.

7. *Consistent with other Municipalities*

Over 20 small and very large municipalities in Ontario have Green Bin programs. About 2.8 million households have Green Bin service. London, Windsor, Peterborough, Brantford and Thunder Bay are the remaining larger Ontario municipalities that have not approved or already implemented a Green Bin program.

Financial Benefits

8. *Short-Term Landfill Savings*

Reducing the quantity of organic waste to the landfill has a minor reduction in operating cost of the landfill and will delay expenditures on capital costs assuming that additional waste has not been added to fill that space.

The average capital and operating cost is estimated to be approximately $35 per tonne. Some of these costs are variable costs that vary directly with the quantity of waste going to the landfill. In other words, the cost goes up the same amount for every additional tonne of waste going to the landfill. An example of this would be leachate collection system costs. Some of the costs are fixed costs that do not change with the quantity of waste going to the landfill. An example of this would be groundwater monitoring costs.

It is estimated that the average landfill savings for each tonne of waste diverted from the landfill after accounting for fixed costs and variable costs is approximately $15 to $20 per tonne. The annual landfill savings is projected to be approximately $200,000 to $300,000 per year. The majority of these savings would be in capital costs which would reduce the annual contribution from general taxes required for the Sanitary Landfill Reserve Fund.

9. *Avoid Increase in Long-term Disposal Costs*

The existing landfill has about 9 years of capacity remaining and it is expected that approval of any expansion of the landfill by MOECC would be unlikely unless the City has programs in place to reach the provincial goal of 60% waste diversion. The increase in waste disposal costs will be significant if the City must export its waste to a private landfill elsewhere in Ontario. The increase in disposal costs for the City to export its waste is estimated to be approximately $5 to $8 million per year.

Green Bin Program Disadvantages (Potential Issues and Challenges)

1. *Lower Participation Rates Compared to the Blue Box Program*

Green Bin programs typically have low participation rates (about 50 to 60%) compared to the Blue Box programs (90%). This has resulted in some municipalities (e.g., Ottawa, Waterloo) not collecting the quantity of material they expected from households after they started Green Bin programs.

2. *Processing Facility Problems*

Some processing facilities accepting Green Bin material in Ontario and other parts of Canada have experienced processing issues such as odours. The problems can reflect badly on the Green Bin program and related programs.

3. *Yuk Factor*

Participants in the pilot project area were asked why they were satisfied or dissatisfied. Many who reported they were dissatisfied said it was because of odours/maggots/flies associated with keeping the food waste for a week.

4. *Lack of Provincial or Industry Funding to Offset Program Costs (currently)*

Unlike the Blue Box program there is no provincial or industry funding to offset program costs. The Blue Box program receives funding equal to approximately 50% of net program costs. No such program exists for organics nor is one expected in the future. The proposed MOECC Strategy for a Waste Free Ontario: Building the Circular Economy highlights that organic waste diversion programs, from food waste reduction to composting, are going to be addressed in 2017 and beyond. The draft strategy provides no indication if funding is part of a future strategy.

5. Cost of Green Bin Program

A Green Bin program will cost approximately $3.8 million per year on full rollout in 2019. Organics will be collected weekly. Recycling will also be collected weekly at an additional cost of $0.7 million per year. These additional costs will be borne by all taxpayers (single family, multi-residential, commercial, industrial, agricultural, etc.) and not just the homes receiving the service. There will also be a need for $12,000,000 to cover one time capital costs such as green bin for homeowners and new collection vehicles.

Some homes receiving the Green Bin service may be opposed as they already home compost and will not want to pay for a program they do not need.