

IMPROVING THE CITY OF OTTAWA'S WASTE DIVERSION PERFORMANCE:

RECOMMENDATIONS FOR ACTION

Waste Watch Ottawa



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ACKNOWLEDGEMENTS

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STATEMENT OF RESPONSIBILITY

All the analysis, reviews of available information, opinions and conclusions reached in this report are those of Waste Watch Ottawa and are the sole responsibility of Waste Watch Ottawa.

EXECUTIVE SUMMARY

Using City of Ottawa and provincial data, a review by Waste Watch Ottawa of the City's residential recycling and green bin programs shows that they are performing poorly with low levels of waste diversion from disposal compared to other large municipalities in Ontario.

Based on the City's numbers, as reported to the provincial Resource Productivity and Recovery Authority (RPRA), Ottawa diverted only 42.5% of its waste in 2015, a rate below the provincial average of 47.7% and well behind leading municipalities which are achieving rates of over 50% with best performers diverting over 60%. In a possibly worrying sign, the RPRA reports also showed that Ottawa's 2015 rate of waste diversion had fallen from the 45% level of 2014 and the tonnages of waste going to disposal are increasing.

A 2014/2015 waste composition study, received by Waste Watch Ottawa through a municipal freedom of information request, suggests that only half of Ottawa residents are using their green bin for organics collection and 25% of residents do not use the recycling program. Because of these levels of program participation the composition study also documented that between 40% and 65% of the garbage that was audited was recyclable or compostable material that could and should have been diverted into the recycling and green bin programs.

The City of Ottawa spends considerably less per household on promotion and education to encourage higher levels of public participation and better waste diversion performance than all of the other large municipalities in Ontario and this may be one reason for poor program performance. Over the past decade Ottawa has never spent more than \$0.50 per household per year whereas most other municipalities are spending double that and in some cases more than \$2.00 per household.

While the current life expectancy of the Trail Road landfill site where the City's residential waste is disposed of is estimated to be around 28 years, this could be reduced if waste diversion performance continues to fall and if factors such as population growth and waste generation increase beyond current projections. The poor performance of the recycling and green bin programs means that the City's Trail Road landfill site is receiving considerably more waste than is necessary or desirable and this is compromising the landfill's capacity. Given the challenges of siting a new landfill site, which could cost over \$200 million, Trail Road may in fact be very difficult or impossible to replace.

An analysis of the capacity of the landfill and the impact of reducing the amount of waste going to disposal shows that every increase of 1% in the rate of waste diversion means an extra 1 year of life expectancy for the Trail Road landfill. An increase from the current waste diversion rate of 42.5% to 55% would extend the Trail Road life expectancy from the current anticipated

closure date of around 2045 to 2055. A further increase of 10 points to 65% would extend the landfill life to beyond 2065.

Twenty (20) options are cited in the report to improve the City's waste diversion performance in 6 general areas: green bin organics, blue and black box recycling, multi-residential buildings, garbage, promotion and education and waste reduction. With the notable exception of the consideration of a clear bag and a user pay system for waste collection, the options are built around the objective of significantly improving the existing programs rather than building an entire new set of programs. The cited waste diversion options are being successfully used by other municipalities and appear to be the reason that their performance is so much better than Ottawa's.

Waste Watch Ottawa calls on the City of Ottawa to rescind its February 2016 decision to cease waste management and diversion planning and immediately re-engage with the public on planning and implementing waste diversion initiatives which will significantly extend the life of the possibly irreplaceable Trail Road landfill. Immediate action is called for to significantly enhance the budget for promotion and education and to implement new and supportive programs for enhanced recycling and organics collection.

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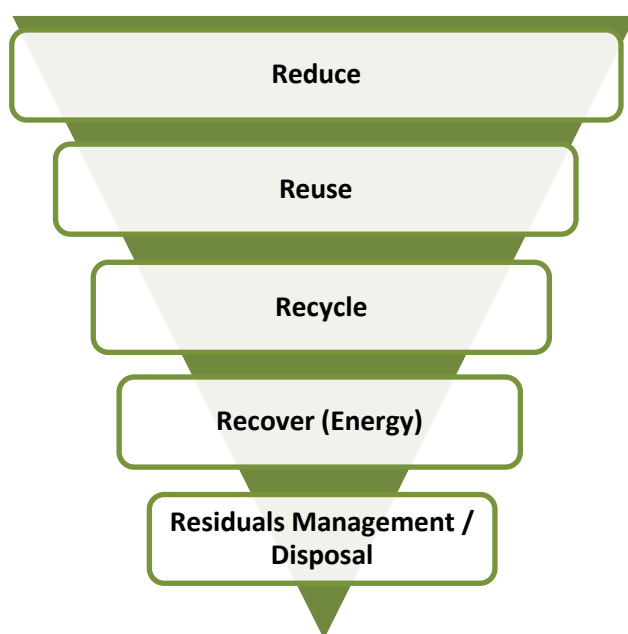
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1.0 INTRODUCTION AND WASTE WATCH OTTAWA VISION

Waste Watch Ottawa (WWO) is a non-profit organization whose members have joined together to express evidence based and informed opinions on how to improve the design and effectiveness of solid waste diversion and disposal policies and programs and collection and processing activities in Ottawa. Waste Watch Ottawa supports rethinking the management of waste and the waste management hierarchy with a priority to reduce, reuse, and recycle and with recovery of energy and residuals management and disposal as undesirable options to be avoided.

Figure 1: The Waste Management Hierarchy¹



Waste Watch Ottawa was formed in response to mutual concerns regarding the Plasco plasma gasification incinerator which eventually failed on technical and financial grounds. During the more than eight (8) years before the Plasco collapse all other waste planning was largely sidelined because the Plasco facility was proposed to provide over 100,000 tonnes per year of waste disposal capacity. In addition, WWO was concerned about the City's flawed contract for organics composting with Orgaworld. WWO's current objective is to see the City undertake a new, comprehensive Waste Management Master Plan. The Plan should be founded on inclusive

¹ Canadian Council of Ministers of the Environment (CCME), 2014. State of Waste Management in Canada. PN1528. Report prepared by Giroux Environmental Consulting, Duncan Bury Consulting, Rene Drolet Consulting Services, and Ecoworks Consulting.

engagement of citizens and other parties, leading to informed strategic decisions by City Council.

2.0 POORLY PERFORMING WASTE DIVERSION PROGRAMS

Following is a discussion of the City of Ottawa's waste diversion performance as well as an overview of the key data sources used to undertake this analysis to demonstrate that our conclusions are based on quantitative data that originated from City of Ottawa sources.

2.1 Data Sources

Data Sources

All of the quantitative data used in this analysis of the City of Ottawa's waste diversion performance was generated by the City of Ottawa as reported to the provincial Resource Recovery and Productivity Authority (RPRA) using standard national metrics.

A City of Ottawa waste composition study received through a municipal freedom of information request provided an additional source for the review of the City's waste diversion performance.

The quantitative information presented in this report is exclusively generated from City of Ottawa data. Waste Watch Ottawa did not prepare or generate any new quantitative data but has reviewed and presented data that originated with the City.

In addition, a high-level overview of waste diversion policies and programs in other municipalities was undertaken with the assistance of the University of Ottawa Capstone students.

There are two primary information sources used in this analysis, each is described below.

Ontario Resource Recovery and Productivity Authority (RPRA): 2015 Waste Diversion Rates²

The RPRA, formerly Waste Diversion Ontario, is a provincial agency that publishes an annual database of information on residential municipal recycling and organics waste diversion programs in Ontario. These annual reports are built on data that municipalities submit in response to annual "municipal data calls" and constitute a comprehensive presentation in detailed Excel tables of the state of recycling and organics programs, and waste diversion across the province. In addition to providing an annual report on waste recycling and diversion the data is used to calculate payments made by Stewardship Ontario to municipalities to offset the net costs of operating municipal recycling programs.

² Ontario Resource Recovery and Productivity Authority (RPRA), 2015 Waste Diversion Rates by Municipal Grouping: <http://rpri.ca/Library/WDO-Historical/Municipal-Information>

The data in the RPRA tables originates from Ontario municipalities and is reviewed and verified by RPRA before being added to the provincial data tables. The information on Ottawa's waste diversion performance shown in the RPRA's Waste Diversion Rates by Municipal Grouping table for 2015 was prepared and submitted by City of Ottawa staff. These data tables are available on the RPRA's website and were reviewed by Waste Watch Ottawa with the assistance of the Capstone students at the University of Ottawa and by staff in Councillor Jeff Leiper's office. The data presented in the tables used in this report were created using the most recently available information published by RPRA for the year 2015.

The RPRA uses the accepted national standard reporting protocol for waste diversion based on the 2003 Generally Accepted Principles (GAP) for Calculating Municipal Solid Waste System Flow. Under GAP, waste diversion from disposal is calculated as follows:

$$\text{Diversion rate} = \frac{\text{Diversion Tonnes}}{\text{Generation Tonnes}} \times 100\%$$
$$\text{Generation Tonnes} = \text{Diversion Tonnes} + \text{Disposal Tonnes}^3$$

The GAP reporting protocol has been used for more than a decade by municipalities and provincial authorities across Canada and is also used internationally. Diversion rate calculations can be undertaken regularly by tracking the daily flow of materials at recycling and composting facilities and at landfills and other disposal facilities. The available data can be easily aggregated into weekly, monthly and annual reports.

AET Waste Composition Study⁴

A Waste Composition Study was undertaken by the AET Group Inc. for Stewardship Ontario in partnership with the City of Ottawa as part of province wide series of waste audits. Over the course of four seasons - fall 2014, winter 2015, spring 2015 and summer 2015 - ten groups of ten single family residential households selected by the City representing various demographics were audited to assess the quantity of residential waste generated and the composition of the recycling, organics and garbage waste streams. The sampled collections were taken to a sorting site where they were weighed and the contents analysed. While the sample of households is relatively modest there is nothing cited in the study by the consultants to suggest that the

³ Generally Accepted Principles (GAP) for Calculating Municipal Solid Waste System Flow, Development of a Methodology for Measurement of Residential Waste Diversion in Canada, CSR (Corporations Supporting Recycling), November 2003.

⁴ AET Group Inc. 2014/2015 Seasonal Single Family Residential Curbside Waste Composition Study, Summary Report, August 9, 2016

findings are not a broadly representative picture of the status of the City's waste diversion programs.

The results of these audits were presented to City staff by the consultants in a report dated August 9, 2016. The existence of the study was revealed at a meeting of the City's Environment Committee in February 2016 with a commitment from City staff that upon completion that it would be released. A year later the report had still not been released publicly and the reasons for this are unclear. Waste Watch Ottawa filed a Freedom of Information request and received a copy of the report in February 2017.

The AET report provides a detailed look at the performance of the blue and black box recycling programs and the organics green bin program in the city. The study reports on participation in the programs, the percentage of materials captured over the four seasons, and the quality and performance of the programs as measured by metrics such as the rates of contamination in the programs – the amount of material that was not meant to be in a particular waste diversion stream – and the percentage of material found in the garbage stream that should have been diverted into either the recycling programs or the green bin program.

In contrast to the waste diversion reporting presented in the RPRA data, the waste composition data provides only point of time information on the characteristics and composition of wastes diverted from disposal by recycling and organics programs and of garbage going to disposal. Collecting waste composition data should ideally be undertaken on a fairly regular basis as a means to better understand and quantify program performance. The composition data collected can be used to identify how much of a particular material is collected and when, and is useful to identify areas that need improvement. Such studies do not, however, provide the necessary regular big picture information on overall program performance, which is most importantly a function of the total tonnes and total percentage of wastes that are diverted from disposal.

2.2 Ottawa's Mediocre Waste Diversion Performance

Ottawa's waste diversion performance falls well below that of comparable municipalities in the province, and well short of the potential that is possible and demonstrated by better performing recycling and green bin organics programs.

Waste Watch Ottawa's review of the RPRA tables and the AET Waste Composition report reveals that Ottawa's waste diversion performance falls well below the performance of almost

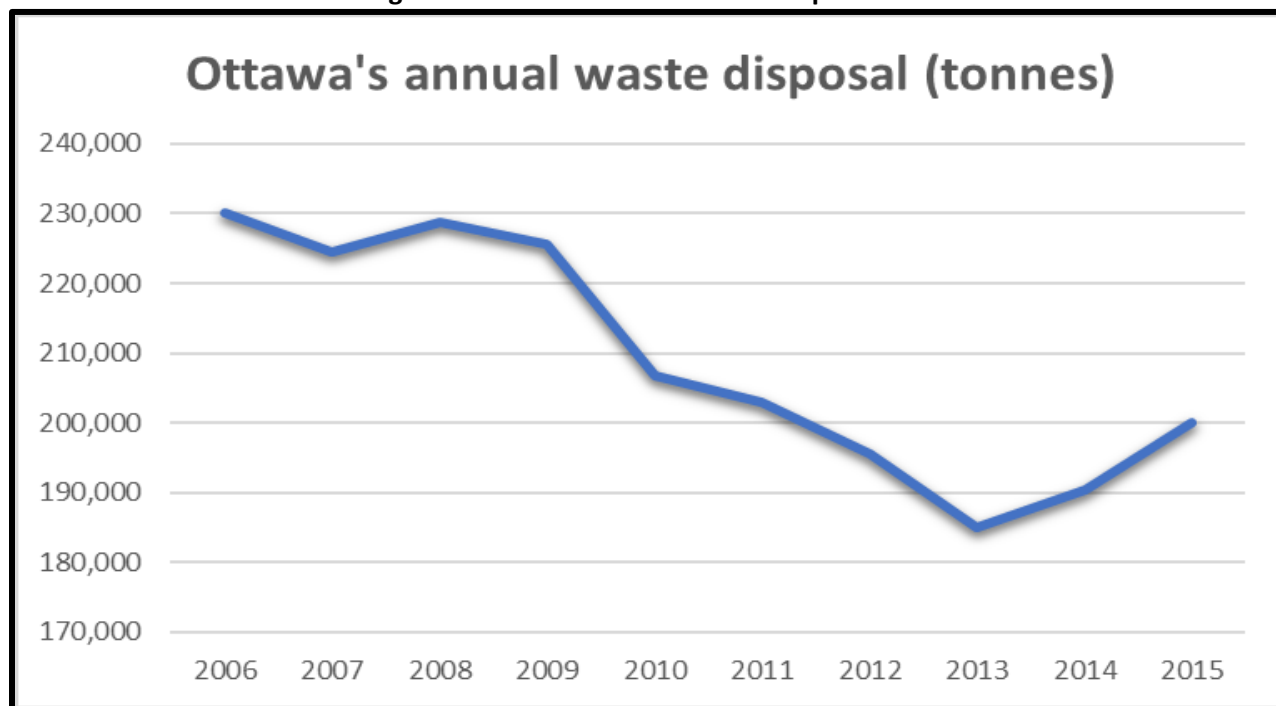
all other large municipalities in Ontario, and is well short of the potential that is demonstrated by other comparable municipalities with significantly higher waste diversion rates. Instead of being a leader, the City's waste diversion performance is mediocre at best with programs operating well below accepted and proven best practices. The following pages present data on disposal rates and diversion performance.

Increasing Annual Waste Disposal Volumes

The positive impacts of a decline in the quantities of waste going to disposal resulting from the implementation of the green bin organics program appear to have stalled in 2013, and the tonnages of waste going to disposal are increasing.

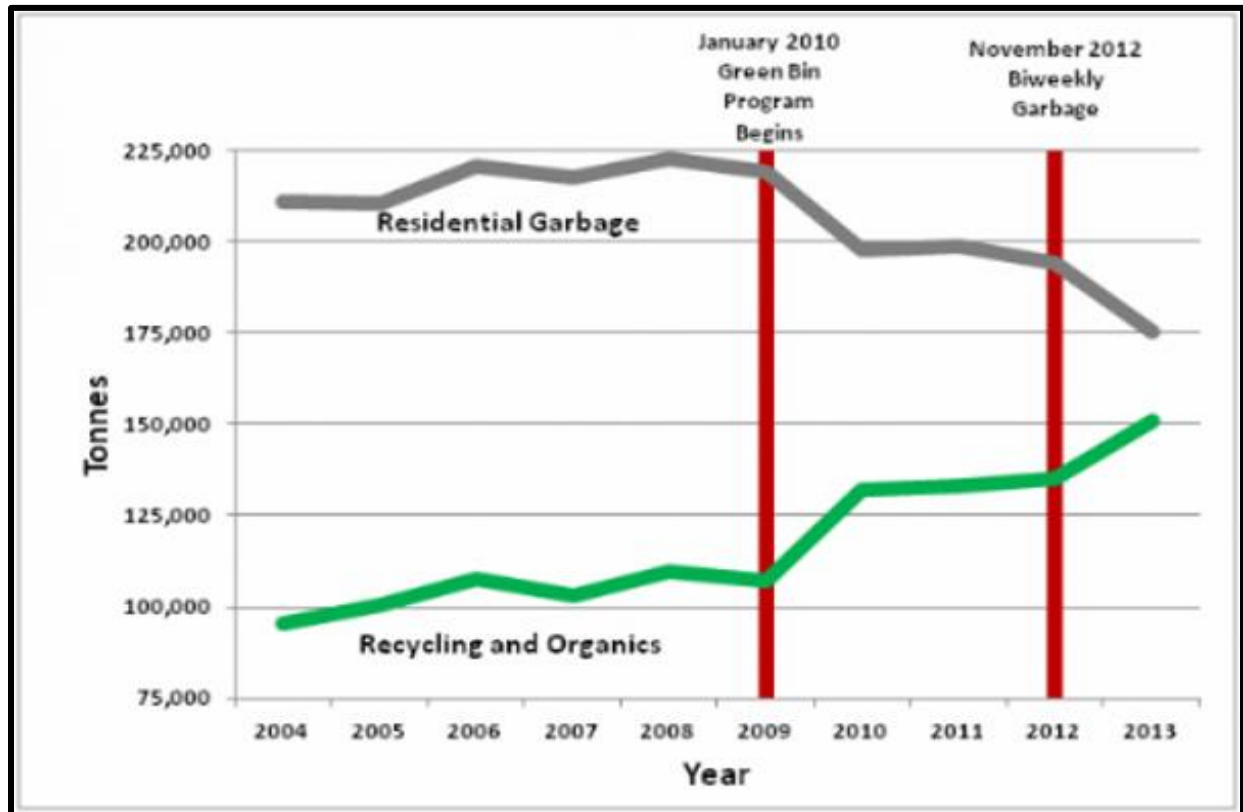
Overall, between 2006 and 2013, the tonnage of residential waste sent to disposal showed a decline (See Figure 2.). Tonnages going to disposal stayed virtually the same between 2006 and 2009 but then started to fall over the years 2009 to 2013. This fall in disposal tonnages primarily resulted from the implementation of the green bin organics program in January 2010 and the implementation of bi-weekly garbage collection in November 2012 as shown in Figure 3.

Figure 2: Ottawa's Annual Waste Disposal⁵



⁵ Capstone Residential Waste Plan Report, University of Ottawa, April 2017, page 10

Figure 3: Tonnage of Both Single-Family And Multi-Residential Garbage And Recycling And Organics (Combined) Produced In Ottawa Between 2004 and 2013 ⁶



The advent of the green bin program and bi-weekly garbage pickup successfully led to an increase in the quantity of recyclables and organics being diverted from disposal and a parallel drop in the quantities of waste going to disposal. These successes have not however been maintained because as Figure 1 shows the amount of residential waste going to disposal started to grow again in 2013.

⁶ Capstone p. 11

Poor Waste Diversion Performance

Ottawa's waste diversion rate in 2015 was 42.5%, which is a large drop from the 45% achieved in 2014. Ottawa's waste diversion performance is also considerably below the overall provincial average of all municipalities of 47.7% in 2015.

Ottawa's performance consistently ranks at or near to the bottom in Ontario, especially when compared to other large municipalities, in terms of the percentage of waste diverted from disposal by recycling and green bin organics programs, and as measured by the kilograms of divertible materials collected per household. Leading large municipalities are diverting over 50% of their wastes and the best are diverting over 60%.

Based on the RPRA waste diversion data for the 12 large municipalities reviewed, Ottawa is currently in 11th place. With a waste diversion percentage of only 42.5% Ottawa is well behind the leading 7 Ontario municipalities which are diverting over 50% of their waste, and is well behind the 63% waste diversion that is being achieved by York Region. In addition, Ottawa's waste diversion performance has been falling since 2013 which translates into increased quantities of waste being disposed of annually at the City's Trail Road landfill site.

Ottawa's waste diversion performance was measured against comparably sized larger municipalities in Ontario. The data from the RPRA allows a comprehensive view of the waste diversion performance of all municipalities across Ontario. WWO assessed Ottawa's waste diversion performance by reviewing the waste diversion data for comparable large Ontario municipalities.

All municipalities in the province are obliged under provincial regulation to have a recycling program. With a 2015 waste diversion rate of 42.5% Ottawa is significantly behind the provincial average 47.7%⁷. However, there is a very wide variation in the size of municipalities from small rural municipalities to the City of Toronto, and from municipalities located in the more heavily populated areas of the Greater Toronto Area and southern Ontario to those in remote northern and western regions of the province. Generally speaking smaller rural and remote communities perform below the provincial average because of issues such as ready access to markets for recyclable materials and inefficiencies associated with the scale of recycling and composting facilities. Medium sized cities such as Guelph and Kingston have shown themselves capable of performing much better than the provincial average and better

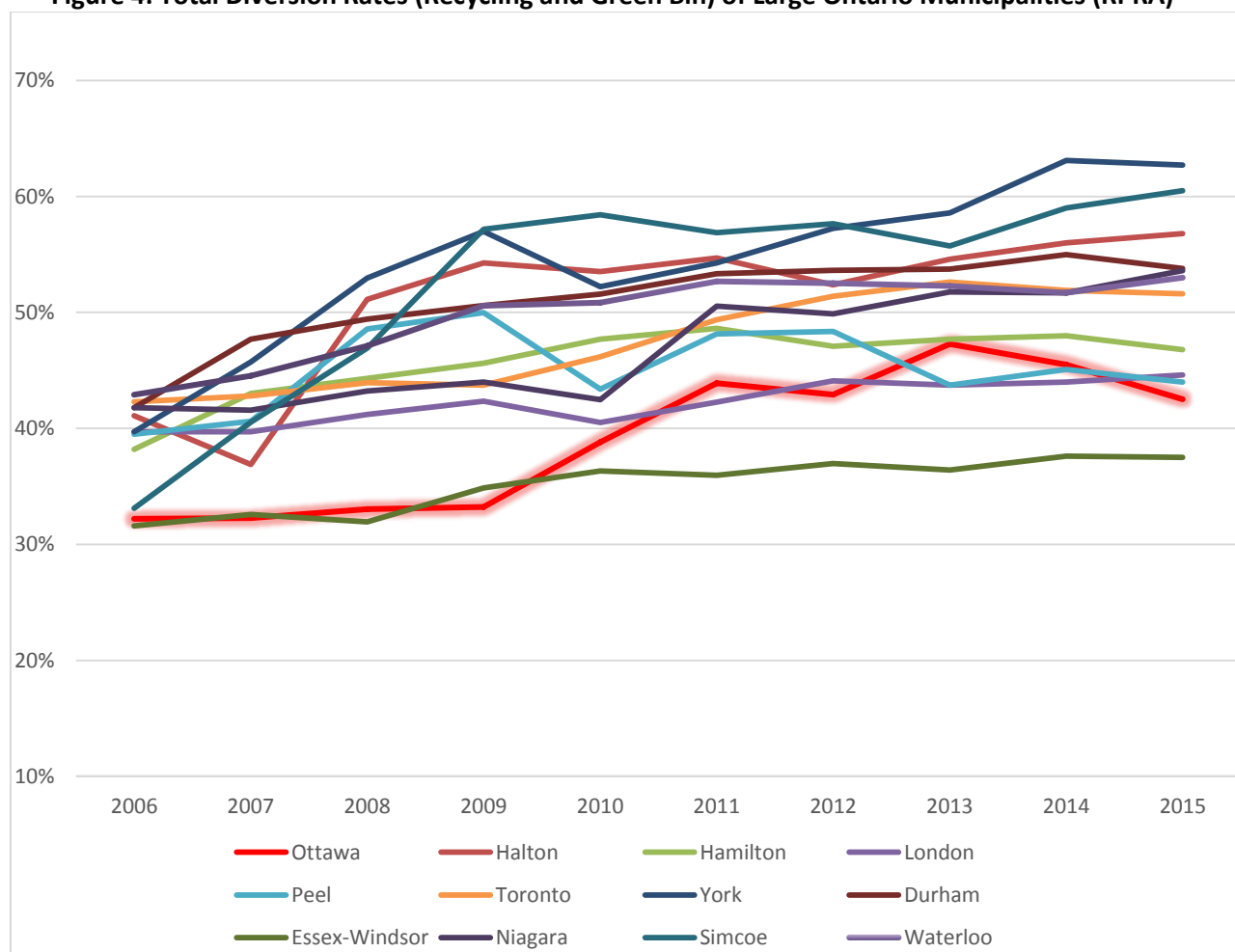
⁷ RPRA, 2015 Ontario Waste Diversion Rates, May 2017

than the larger municipalities which often have higher numbers of multi-residential apartments and condominiums where there are more challenges in operating recycling and organics programs.

In the interests of a fairer comparison of recycling and green bin programs WWO therefore reviewed data from municipalities which are more comparable to Ottawa in both size and location. The eleven (11) municipalities reviewed for comparison with Ottawa were: Peel Region, Halton Region, York Region, Niagara Region, Durham Region, Waterloo Region, City of Hamilton, Essex-Windsor, Simcoe County, City of Toronto, and City of London.

The waste diversion performance of Ottawa and the other 11 large municipalities were graphed for the period from 2006 to 2015 as shown in Figure 4.⁸ Ottawa is shown using the red line.

Figure 4: Total Diversion Rates (Recycling and Green Bin) of Large Ontario Municipalities (RPRA)

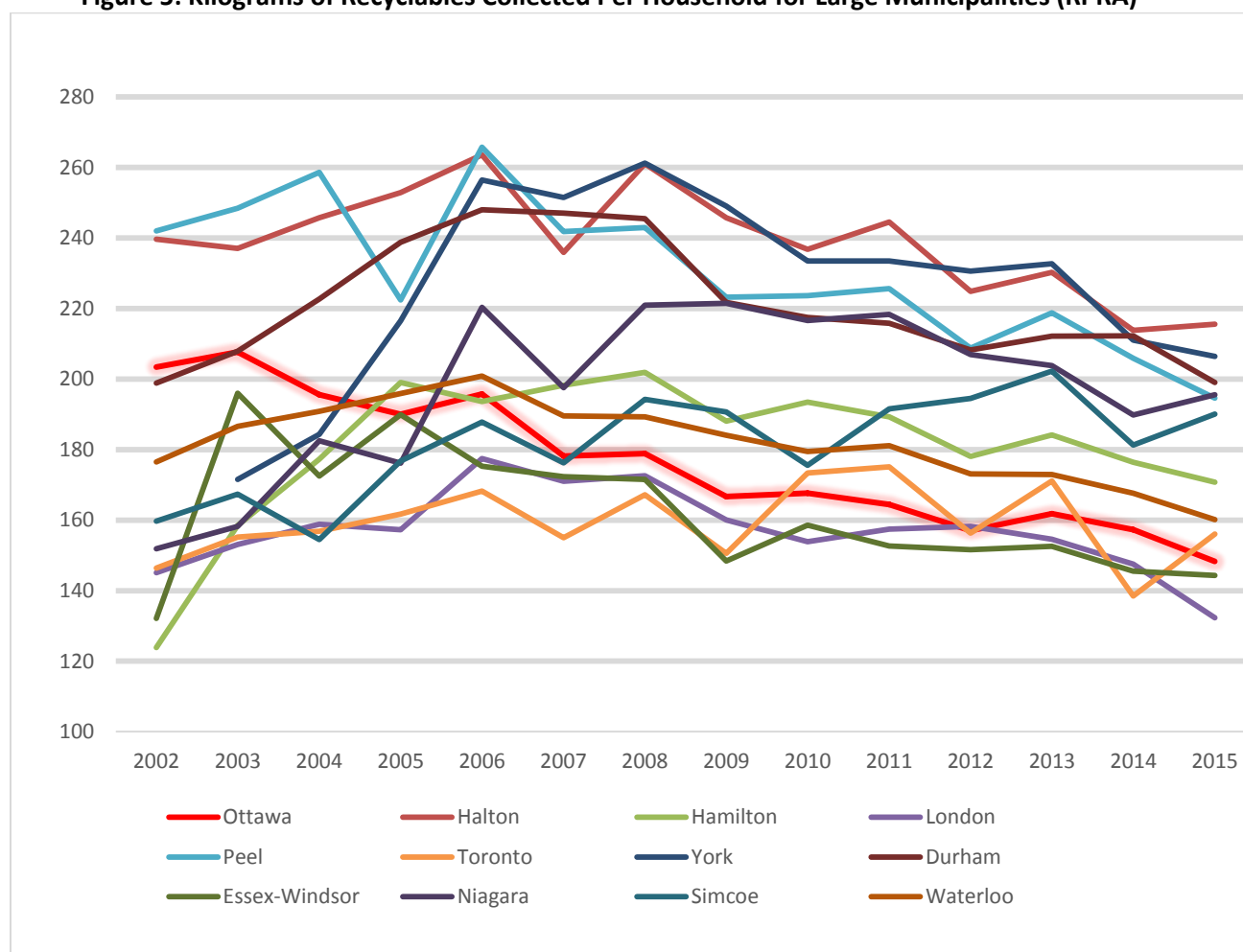


⁸ RPRA, 2015 Waste Diversion Rates by Municipal Grouping

Figure 4 shows that over the past decade that Ottawa's waste diversion performance is consistently below that of almost all other municipalities, with the exception of Essex-Windsor. This poor performance is demonstrated even given the improvements discussed earlier by the implementation of the green bin and bi-weekly garbage programs.

Viewed another way Ottawa is collecting fewer kilograms of recyclable materials per household than most other large municipalities as shown in Figure 5, below⁹. This pattern of poor performance relative to the other large municipalities in Ontario is shown by the consistent comparative decline in the Ottawa performance since 2006. Recycling is declining in most municipalities, but Ottawa has the most consistent downward performance. In 2006 Ottawa was performing in the middle of the pack on kilograms collected, but by 2013 the City's performance had sunk to 10th place.

Figure 5: Kilograms of Recyclables Collected Per Household for Large Municipalities (RPRA)



⁹ RPRA 2015 Ontario Waste Diversion Rates, May 2017

It should be noted that the overall drop in kilograms of recyclable materials collected per household which is shown for most municipalities over the period is largely as a result of declining quantities of newsprint in recycling programs. Subscriptions to newspapers, newspaper sales and sales of magazines continue to fall and this has significantly impacted the quantity of newsprint and other paper collected and recycled. This has been compensated for by some increases in the quantities of cardboard and boxboard packaging materials which are collected in the black box programs but this has not happened in quantities sufficient to compensate for the drop in the other papers.

Low Spending on Waste Diversion Promotion and Education

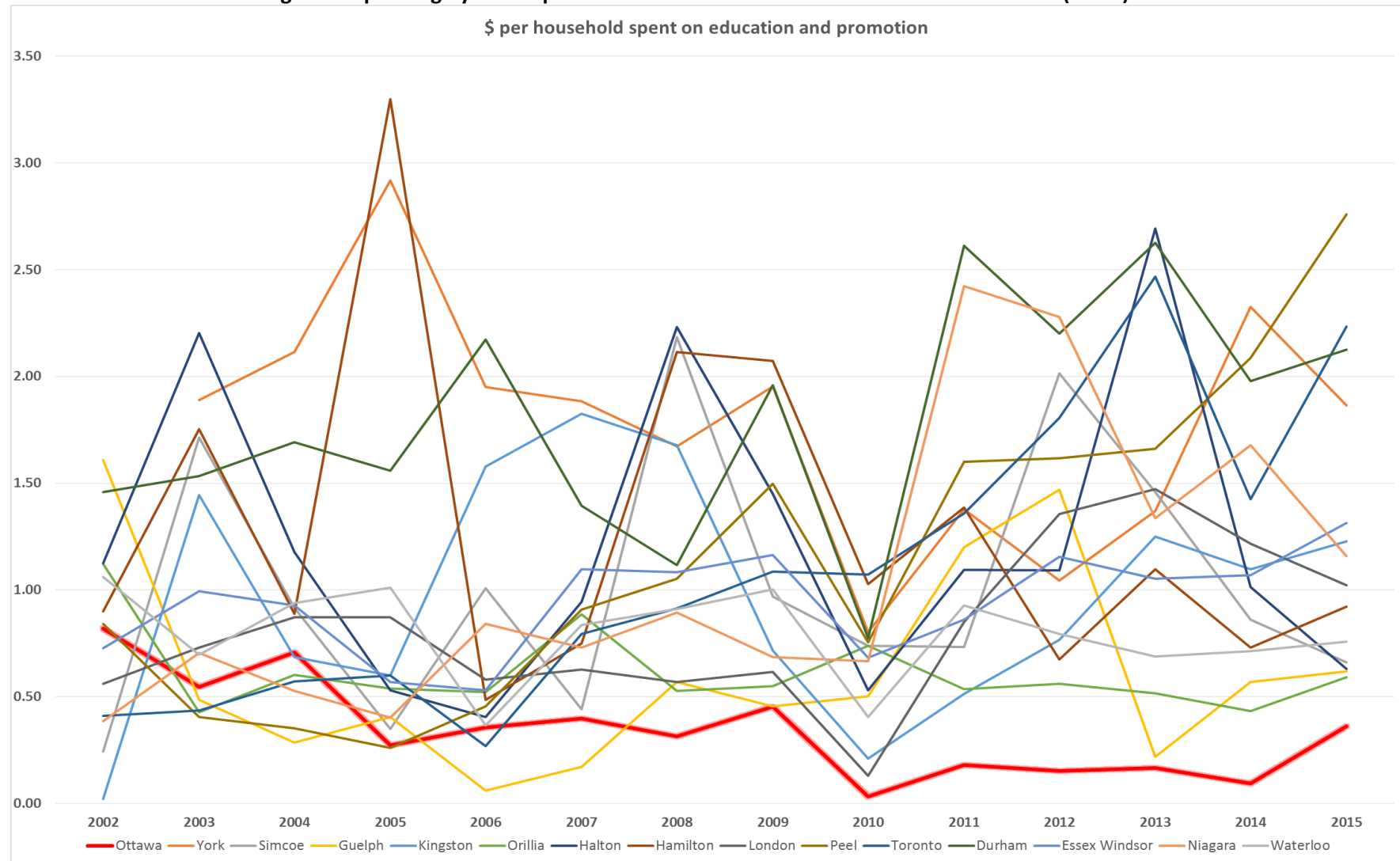
The City of Ottawa spends considerably less per household on waste diversion promotion and education than all other municipalities. The city has never spent more than \$0.50 per household per year whereas most other municipalities are spending double that and in some cases more than \$2.00 per household.

Figure 6 documents the spending of Ottawa on promotion and education compared with the other large municipalities reviewed expressed as \$/household from 2002 until 2015¹⁰. The City of Ottawa is consistently spending considerably less than all other large municipalities. Although spending on promotion and education varies considerably by municipality year over year, since 2004 Ottawa has never spent more than \$0.50 per household on promotion and education. Most other municipalities are regularly spending 2 times as much, in the order of \$1.00 per household and in many cases more than \$1.50 and even as high as \$2.50.

Details on precisely how Ottawa spent its promotion and education funds could not be determined but it is assumed that the largest single regular expenditure by the City on outreach in support of the waste diversion programs is likely the annual waste and recycling calendar which is distributed to all households in the City and the companion electronic collection notification program. The recorded increase in spending in 2015 was likely attributable to a campaign focused on multi-residential buildings.

¹⁰ RPRA 2015 Blue Box Program Cost and Revenue

Figure 6: Spending by Municipalities on Waste Diversion Promotion and Education (RPRA)



3.0 Waste Composition Study Points to Significant Problem Areas

The waste composition study conducted over 4 seasons in 2014/15 shows significant problems with the performance of the City's waste diversion programs, especially with the green bin program. The study does however identify opportunities for improvements.

Participation rates in the green bin program are a significant issue with only around 50% of residents sampled using their green bins. Participation rates in the recycling programs are better at around 75% but show significant room for improvement.

The low participation rates in the green bin program means that the program is only collecting between 36% and 43% of what is available. Backyard composting has not been quantified.

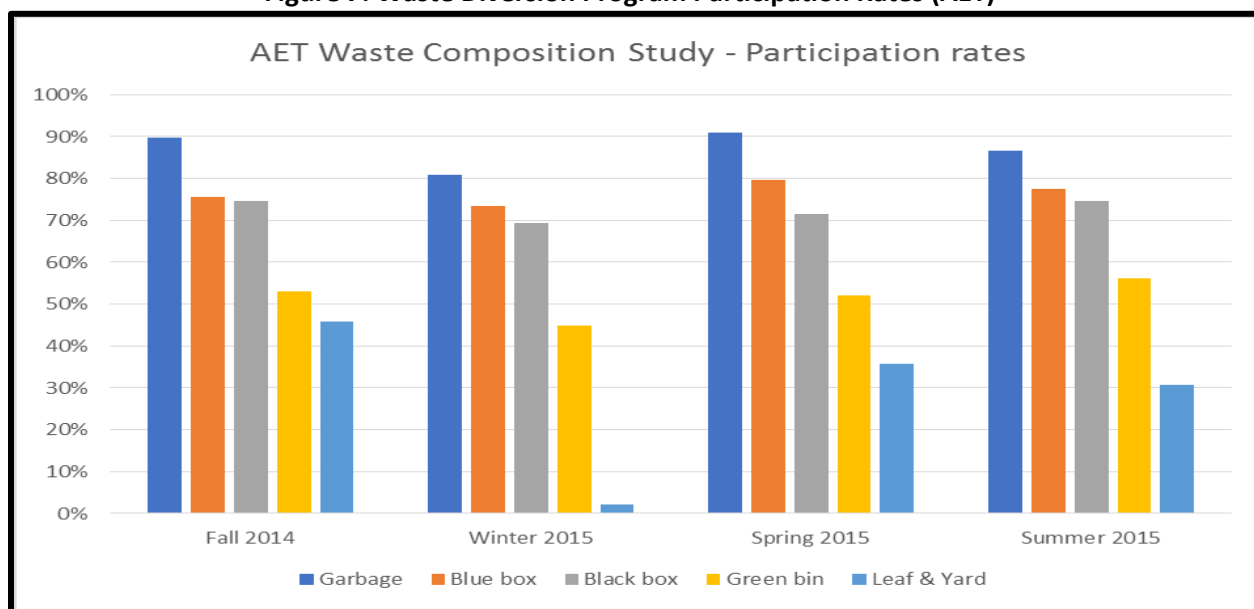
Between around 40% and 65% of the garbage that was audited was recyclable or compostable material that could and should have been diverted into the recycling and green bin programs.

The AET Study, which has not been shared with Council, provides further valuable insights into the poor performance of Ottawa's waste diversion programs and at the same time identifies areas and opportunities for improvement. Identified problem areas are discussed below.

3.1 Poor Participation Rates and Capture Rates

The report shows that there are significant problems with the levels of public participation in the current waste diversion programs as shown in Figure 7¹¹ below.

¹¹ AET Group Waste Composition Study, August 2016, Tables 3.1, 3.2, 3.3, 3.4

Figure 7: Waste Diversion Program Participation Rates (AET)

The AET report suggests that participation¹² in the blue box and black box recycling programs is fairly steady at over 75% of households surveyed over the four seasons. However, as around 25% of residents do not appear to be participating on a regular basis there is clearly room for improvement. The more obvious problem area is the green bin program where participation varies by season between 45% and 55% over the year. There is obviously significant room for improvement and according to the study significant quantities of compostable organic waste are ending up in the garbage.

The City's contract with Orgaworld for the processing of organic waste was the subject of a commercial arbitration process which is now before the courts. The major issue for the City with the contract is the City's commitment to deliver 80,000 tonnes per year of organics. Unfortunately the City pays for that quantity under the "put or pay" terms of the contract regardless of the actual tonnage delivered. Enhancing the performance of the green bin program would help address this issue.

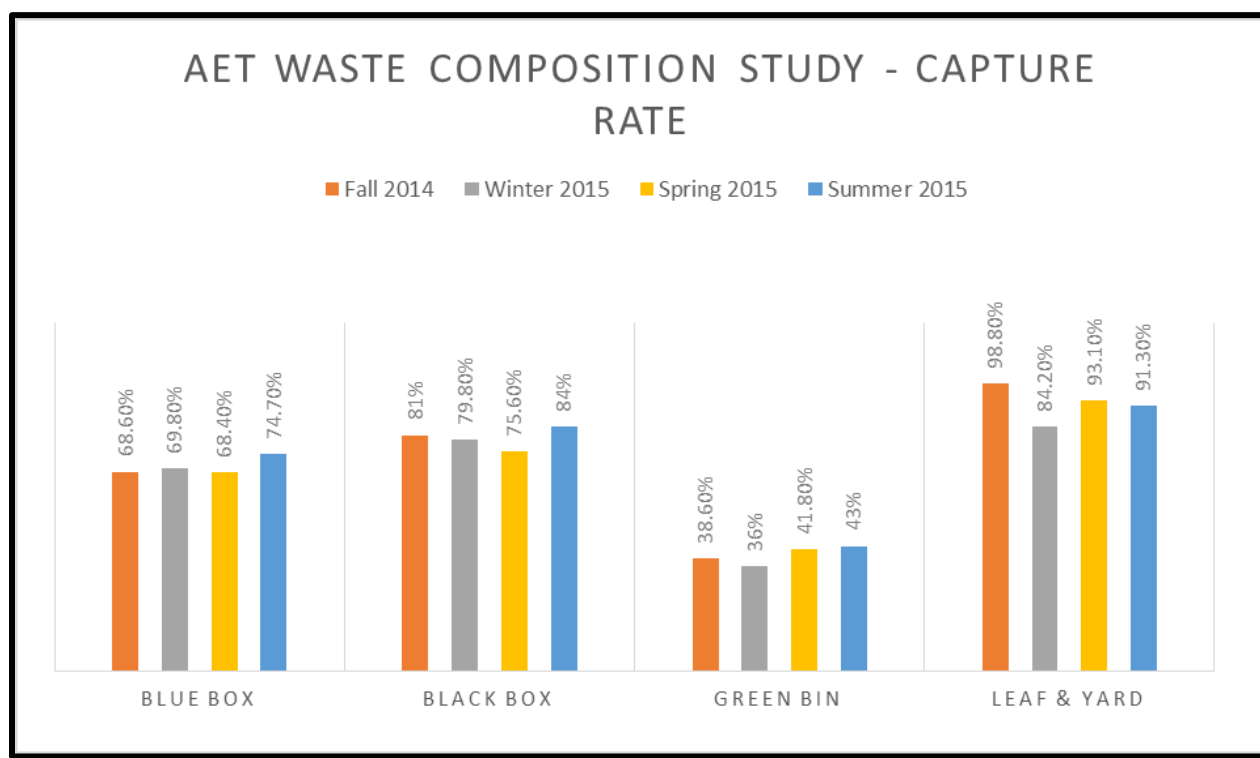
In addition, there are issues related to the quantities and timing of receipt of leaf and yard waste at the Orgaworld facility that are contentious. Variations in the collection of leaf and yard waste are documented in the AET waste composition audit. It was noted by the City Auditor General in a report of July 2014¹³ that in 2014 the City paid Orgaworld \$103.77/tonne to compost leaf and yard waste, that the City has shown can be composted at the City's Trail Road facility using City staff for \$15.65/tonne.

¹² AET study, Definitions, page 6: "Participation as the percentage of residents who set out material in a given stream at least once over the 2 week sample period"

¹³ City of Ottawa, Office of the Auditor General, Audit of Procurement Practices Related to the Source Separated Organics Contract (2011 – 2014), July 9, 2014

The participation rates shown in Figure 8, also have an influence on the capture rates¹⁴ presented in the AET report¹⁵. The capture rate numbers represent the percentage of the various divertible materials that are collected. Poor participation means that containers were not put at the curb for collection, effectively reducing the amount of recyclable material that is actually collected. In general poor participation rates contribute to poor capture rates.

Figure 8: Capture Rates for City of Ottawa Waste Diversion Programs (AET)



The graphs clearly show capture rates in the blue and black boxes being comparable to the previously cited participation rates. Similarly, the green bin program performance is problematic as the audits suggest the program is only capturing on average over the 4 seasons, around 40% of what is available for collection and should be put into the green bin.

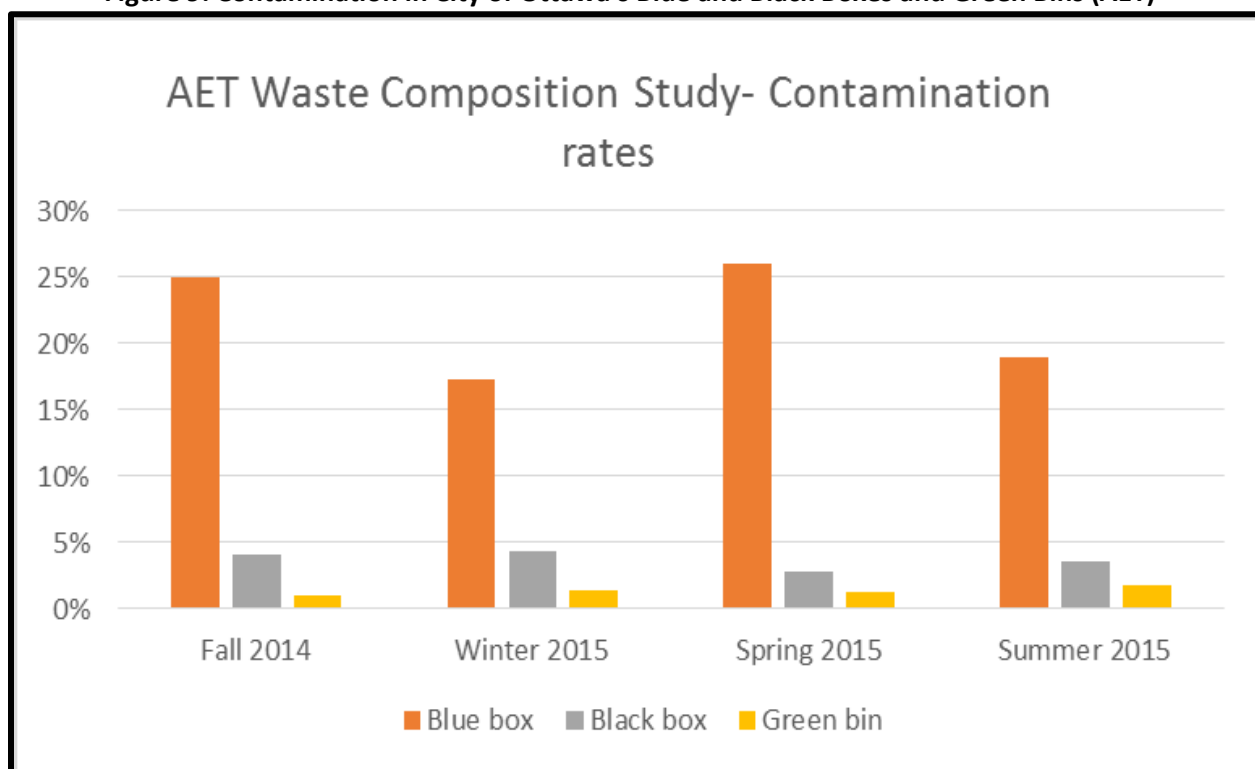
¹⁴ AET Study, Definitions, page 4: "Percentage of specified material collected in a diversion program out of the total amount of that material generated"

¹⁵ AET Study, Table 3.13

3.2 Contamination Problems

The problems identified in all of the waste diversion programs can also be seen in the documented contamination rates cited in the AET study¹⁶. Contamination rates¹⁷ are a measure of non-recyclable and non-compostable materials which were identified in the blue and black boxes surveyed and in the green bin. Contamination is costly because it requires the unacceptable materials to be sorted out and transferred for disposal. Some contaminants, such as plastic bags and film, are especially difficult to manage. In addition, contamination is a clear indication of confusion on the part of the public as to what is appropriately recyclable and compostable. The blue box program suffers from significant quantities of material collected in the bins that is not recyclable.

Figure 9: Contamination in City of Ottawa's Blue and Black Boxes and Green Bins (AET)



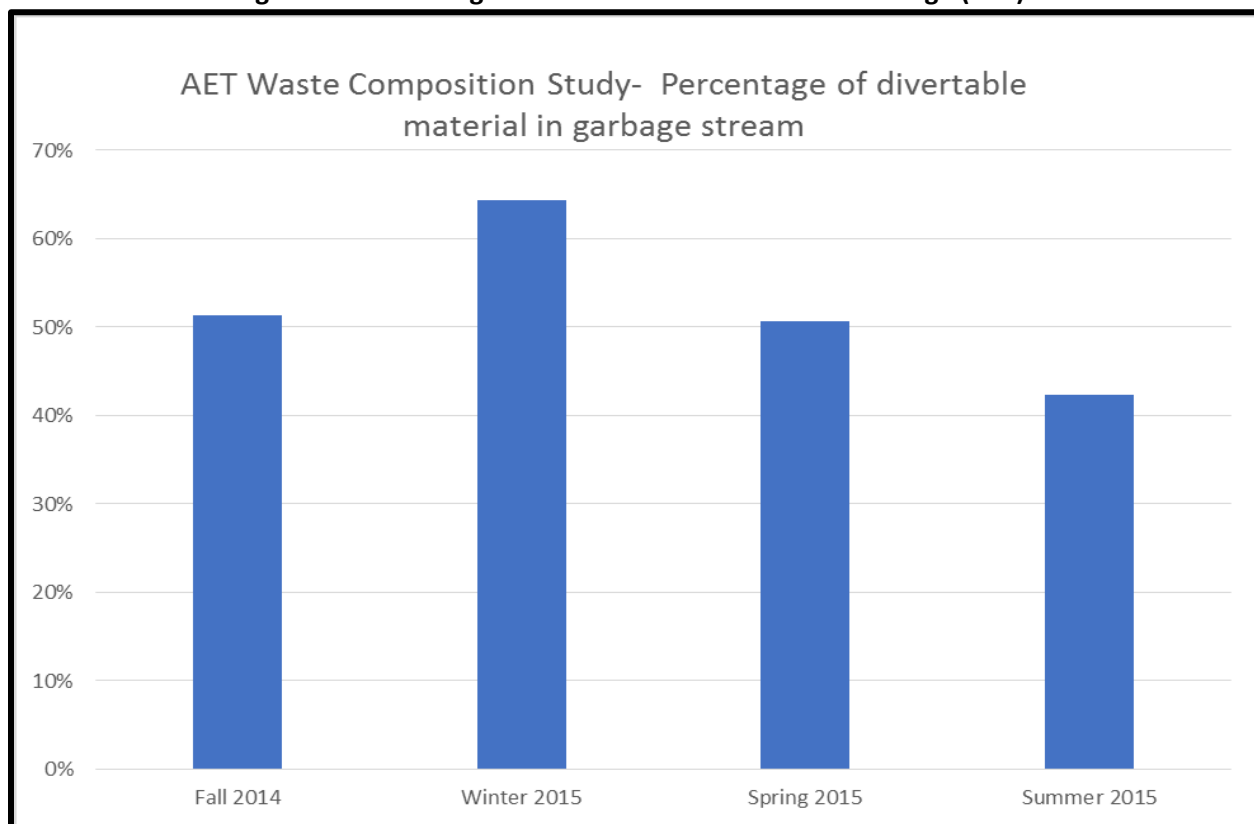
This figure shows problems with blue box recycling programs. In contrast and positively, there is very little issue with the green bin program where contamination is very low over all seasons. The real problem appears in the blue box program which focuses on containers where upwards of 25% of what is collected should not have been put into the blue box by the resident.

¹⁶ AET study, Figures 3.17 to 3.31

¹⁷ AET Study, Definitions, page 4

Viewed another way, the AET study shows in Figure 10¹⁸ that there are significant percentages of recyclable and compostable materials that are ending up in the garbage stream, putting an unnecessary burden on disposal capacity at the Trail Road landfill site.

Figure 10: Percentage of Divertible Material in the Garbage (AET)



This figure demonstrates that existing waste diversion programs are performing well below their potential. The single family residential garbage that is going to disposal at Trail was found to include between 40% and 65% divertible material that should have been put into the blue or black boxes or into the green bin. Reducing these numbers would have a significant impact on the capture rate of the recycling and green bin programs while at the same time reducing the amount of waste being disposed of.

¹⁸ AET study, Figures 3.12, 3.13, 3.14, 3.15

4.0 NEGATIVE CONSEQUENCES OF POOR PERFORMANCE

4.1 Impacts to the Life Expectancy of the Trail Road Landfill Site: Squandered Capacity

Due to the poor performance of the recycling and green bin programs considerably more waste is going to disposal than is desirable and this is unnecessarily compromising and using the capacity of the City's Trail Road landfill site.

Every increase of 1% in the rate of waste diversion means an extra 1 year of life expectancy for the Trail Road landfill site.

An increase from the current waste diversion rate of 42.5% to 55% would extend the Trail Road life expectancy from the current projected closure date of 2045 to 2055. A further increase of 10 points to 65% extends the landfill life to beyond 2065.

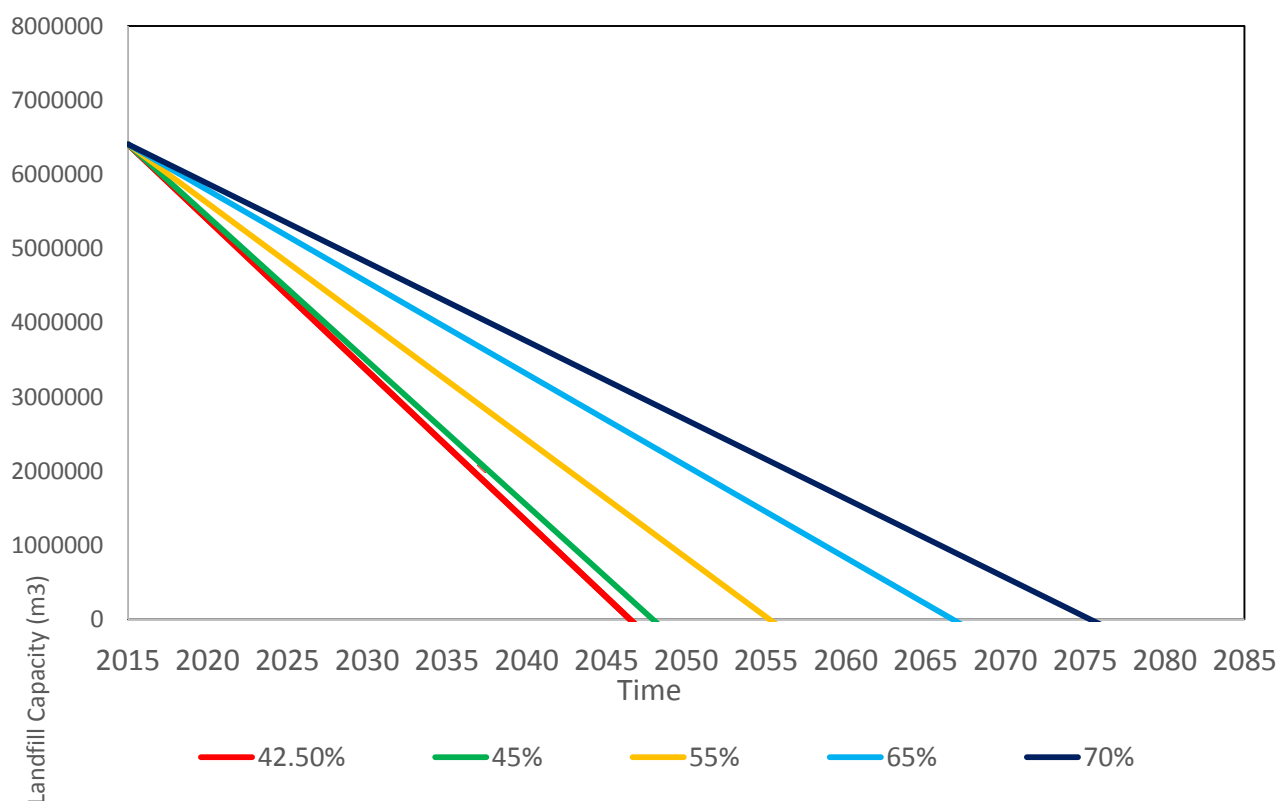
The poor and worsening performance of the current recycling and green bin organics programs in Ottawa has a direct impact on the life expectancy of the City's Trail Road landfill site.

Based on the provincially licensed capacity of the Trail Road landfill site¹⁹ current rates of disposal, with allowance for projected population growth and assuming no expansion in either the allowed footprint of the landfill or of its permitted height, the Trail Road landfill, can continue to operate until approximately 2045, or for an additional 28 years from 2017. If nothing changes in the design, operation or performance of the City's current waste diversion programs and if there is no change in the current status quo the City appears to have almost 3 decades before the Trail Road landfill will need to close and a replacement system and facility or facilities will be needed to manage waste requiring disposal.

On the other hand, if Ottawa improves its waste diversion performance, increases the amount of material collected from its recycling and green bin programs, and restructures its waste contracts, the life expectancy of the Trail Road landfill would be significantly longer. In fact, each extra percentage point of waste diversion adds one year to the life expectancy of the Trail Road landfill.

The following graph shows the increased life expectancy of the Trail Road landfill assuming the current rate of waste diversion at 42.5%, at 45% and at improved rates of 55%, 65% and 70%.

¹⁹ Ontario large landfill data base 2014, <https://www.ontario.ca/data/large-landfill-sites>

Figure 11: Trail Road Landfill Life Expectancy with Varying Rates of Waste Diversion

If the City was to improve its current waste diversion performance of 42.5% to 55% diversion the life expectancy of Trail Road would improve by an approximately 10 further years to an anticipated landfill closure date of 2055.

Reaching a diversion rate of 55% and even 65% should be possible based on the data presented in Figure 3. The rate of 55% diversion has been attained by Durham Region, Halton Region and Simcoe County, and York Region is almost at 65% with a 2015 diversion rate of 63.1%.

Worsening waste diversion performance, which would appear to be the current track with a drop from 45% in 2014 to 42.5% in 2015, will reduce the Trail Road landfill capacity below that shown by the red line in Figure 5., shorten the life span of the Trail Road landfill, and bring forward the closure date to before 2045.

4.2 The Cost of Finding a Replacement Landfill for Trail Road

Ottawa is fortunate to have significant remaining capacity at its landfill site. The replacement of the Trail Road landfill site could cost well over \$200 million, and siting of a new landfill is bound to be a lengthy and acrimonious process.

Disposal using incineration is even more expensive, with York and Durham Regions recently investing \$270 million in a Covanta mass burn Incinerator. Incineration also produces toxic emissions and ash which necessitate technically challenging and often problematic mitigation measures. Plasco never operated cleanly, and the York / Durham Covanta facility has at times exceeded permitted emissions of pollutants.

Ottawa is fortunate to own and operate a landfill within its borders with significant disposal capacity and a life expectancy of over 25 years. There are many large municipalities across the country such as Metro Vancouver, Edmonton and Toronto which, because they no longer have local landfill capacity or have landfills that are close to full, have had to resort to more costly options to manage their garbage including trucking it some distance beyond their municipal boundaries.

Finding a replacement for a landfill site is a time consuming and costly process fraught with community and political controversy. A large scale disposal facility that would need to be sited, engineered, and capitalized to replace a landfill the size of Trail Road could cost over \$200 million. In 2006 the City of Toronto spent \$220 million to purchase the Green Lane landfill near London Ontario for the City's future waste disposal needs²⁰. Incineration is likely an even more expensive option, with York and Durham Regions recently opening a new 140,000 tonne per year mass burn incinerator built by Covanta under contract with the Regions at a cost of \$270 million²¹. It continues, episodically, to exceed permitted emissions.

It is likely that the Province of Ontario will not approve another incinerator being built with the Province's climate change concerns over air quality and GHG emissions. Citizen groups' opposition to incinerators has hardened and other greener options, such as enhanced material recovery technologies, are coming forward and being considered. It is likely easier to convince residents about the environmental merits of capturing landfill gas to generate electricity than to try to tell them that burning unsorted municipal waste is a green solution.

²⁰ CBC News Toronto, Toronto Spends \$220M for London area dump-site, December 20, 2006

²¹ Durham Region.com, December 30, 2010, report on signing of agreement with Covanta Energy

4.3 The Waste Management Planning Timeline: Implications of Stalled Waste Diversion Planning on Landfill Capacity

Waste Management Planning Time Horizons

Despite first appearances the current estimated life expectancy of Trail Road of around 28 years is not a long time to study, plan, invest and construct a replacement facility.

The City stopped all waste planning in 2016 and the earliest the City would be able to restart such an undertaking given the anticipated provincial timetable could be as late as 2024.

Based on experiences of other municipalities waste planning processes leading to the selection and implementation of a new waste disposal facility could take between ten (10) and fifteen (15) years.

Given commencing a new plan in 2024 and assuming a process of between 10 and 15 years until the completion of the exercise, the City would be ready with a new disposal facility around 6 to 10 years before the anticipated closure of Trail Road.

Any increase in waste going to disposal and any further reduction of waste diversion will reduce the 6 to 10 year cushion of time before a new disposal facility needs to be fully operational.

While the anticipated 28 year life expectancy of the Trail Road landfill may seem like a long time and no cause for immediate worry, it is not a long time to plan. A new landfill would need to get the necessary approvals, financing, conduct extensive consultations, and then construct a significant and likely very controversial piece of new municipal infrastructure.

New Provincial Waste Priorities

In the fall of 2016 the Province of Ontario adopted the *Waste Free Ontario Act* and in December 2016 released the final version of its *Strategy for a Waste Free Ontario: Building the Circular Economy*. The new legislation and the lengthy timelines set out in the *Waste Free Strategy* have been used by the City of Ottawa as a rationale to not undertake any waste diversion planning at the present time. This means that the Trail Road landfill site will continue to accept more waste than is necessary and desirable.

A City of Ottawa staff report to the Environment Committee in February 2016²² on the then proposed *Waste Free Ontario Act* raised concerns regarding uncertainties over curbside recycling funding and operation. Consistent with staff recommendations City Council decided on February 24, 2016 to support the “ . . . delay of the Service Delivery Review of Solid Waste management services, the completion of the City's Waste Plan and any related programs and policies affected by the proposed legislation until the municipal role is clarified.”

One of the major ways the legislation intends to meet the waste free objective is by establishing “full producer responsibility by making producers environmentally accountable and financially responsible for recovering resources and reducing waste associated with their products and packaging²³”. The Act proposes to transition existing producer responsibility programs for used tires, waste electronics and electrical equipment, some household hazardous wastes and blue box packaging and printed paper from their existing operational frameworks to new producer responsibility frameworks within which producers, brand owners and importers of designated products would be individually responsible for the funding and operation of end-of-life management and recycling programs.

The area of blue box packaging and printed paper (PPP) is of particular interest to Ontario municipalities because the Province's legislation and strategy suggests that the existing municipal responsibility for PPP and curbside recycling with its nominal 50% funding provided by producers through Stewardship Ontario will be transitioned to a program with 100% funding and 100% operation by producers. The Waste Free Ontario Strategy indicates that a decision on a new approach and transition in the operation and funding of packaging and printed paper programs will not be completed until 2022 – 2023.

Recent correspondence²⁴ released by the Ontario Minister of Environment and Climate Change has given the RPRA and Stewardship Ontario the responsibility to prepare for the Minister by February 15, 2018 a proposal for a 2 stage transition of the blue box recycling programs. Whatever transition in funding and operation of the blue box program across Ontario that is proposed will need regulation and will likely take place over a number of years. Implementation of the new framework could be challenging and will be based on key factors such as municipal council decisions on opting into the new system, recycling collection and processing contract timetables and waste management facility ownership.

²² City of Ottawa, Comments on the proposed Waste-Free Ontario Act and Draft Strategy for a Waste Free Ontario: Building the Circular Economy, Report to Environment Committee February 16, 2016, File ACS2016-COS-ESD-0004

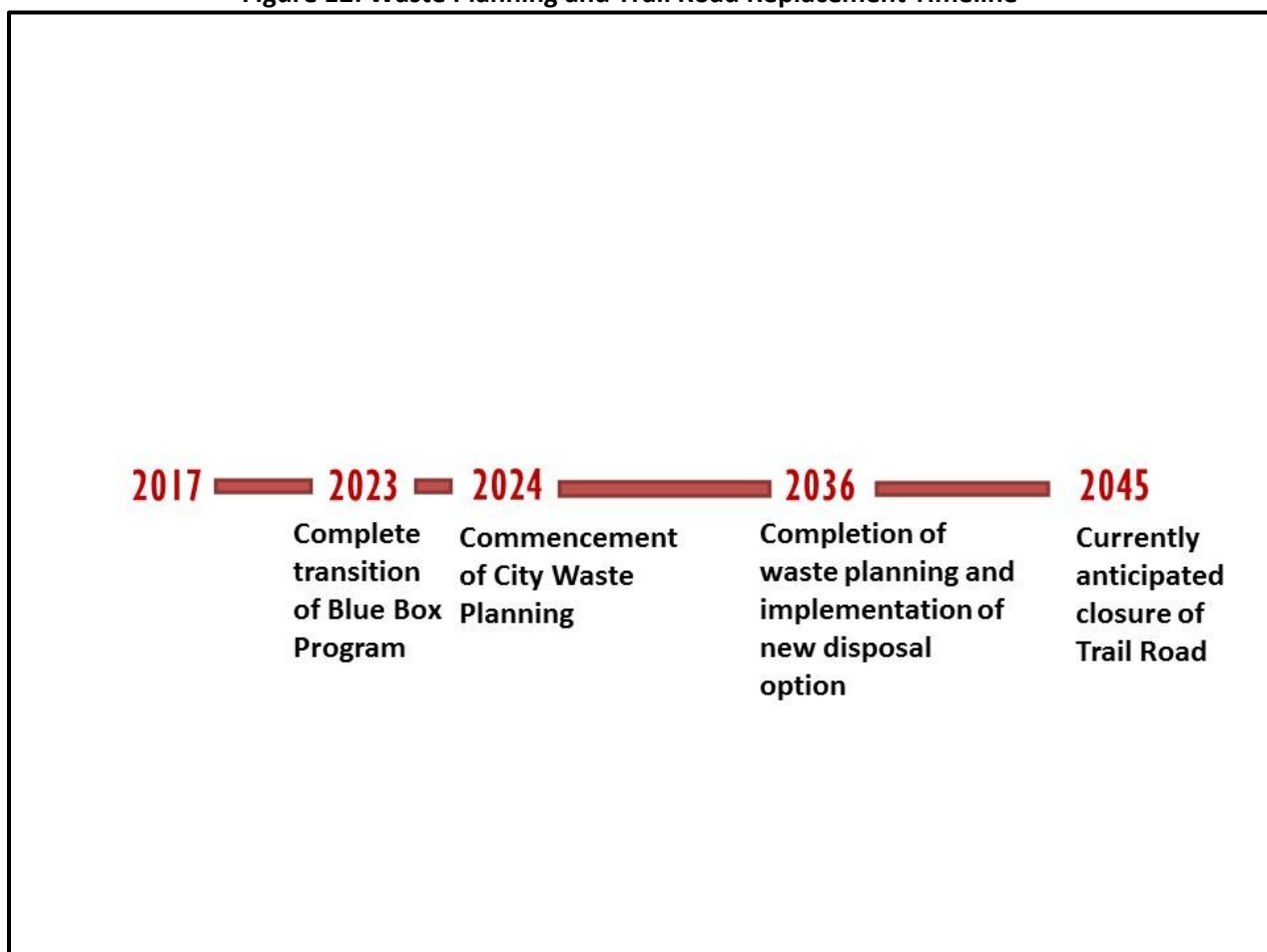
²³ Strategy for a Waste Free Ontario: Building the Circular Economy, Final Draft December 2016, page 8

²⁴ August 14, 2017 letter, Chris Ballard, Minister of Environment and Climate Change, to Glenda Gies, Chair RPRA and John Coyne, Chair Stewardship Ontario; email Wendy Ren, MOECC Director, August 15, 2017

Who is directly responsible for funding and operating the existing Ottawa blue box and black box programs will change in the future but the City is still going to be responsible for and accountable for collecting and disposing of all residual wastes, the green bin program and the operation, financing and replacement obligations associated with the Trail Road landfill site.

The following sets out a timetable for the City's anticipated waste planning process and a future decision on a replacement for the Trail Road landfill in the context of the currently anticipated closure date of the landfill given the current waste diversion rate of 42.5%.

Figure 12: Waste Planning and Trail Road Replacement Timeline



A comprehensive waste and waste diversion planning process which includes the identification and selection of a new waste disposal facility could take between 10 and 15 years. York and Durham Regions' process leading to the opening of the Covanta incinerator in 2016 took 11

years from the start of consultations in 2005 and a further year, which included some partial shutdowns, to make the facility fully operational²⁵. Any Ottawa waste planning process leading to a replacement of Trail Road would take at least that long. The preparation of a waste plan, public consultation, and decisions about what options to pursue will be controversial and could take years to resolve if experiences in other municipalities are anything to go by. In addition, once a decision is made by Council there will be a lengthy process of land acquisition, pre-qualification and tendering for construction plus the time necessary to actually construct a new facility.

Based on the City's current position of no planning for waste diversion, the earliest that any waste diversion planning would start might be as late as 2024 upon the implementation of the new blue box PPP regime. Assuming that the planning exercise and the conclusion and implementation of its' outcomes take at least 12 years, the earliest that the City would have a new landfill site or any other waste management disposal facilities in place would be 2036, around 10 years before the currently anticipated closure of the Trail Road site around 2045.

This timeline might look good on paper but a lot can go wrong, as demonstrated by the failed Plasco proposal. A 10 year period before Trail Road's closure could very quickly shrink or disappear if the City grows faster than projected, if waste disposal quantities are higher in the future than anticipated or if significant change in the current pattern of waste disposal took place such as ban or restriction on the export of commercial waste to the U.S²⁶. It would therefore be prudent both to re-launch waste planning as soon as possible and immediately work to improve the performance of the existing diversion programs by aggressively moving them towards diversion targets closer to what many municipalities are currently achieving. Any improvement in waste diversion would provide a bigger cushion of time to get any necessary new disposal capacity in place and would avoid filling up Trail Road with unnecessarily large quantities of garbage in the interim.

²⁵ Durham Region.com, December 30, 2010

²⁶ Unverifiable estimates suggest that as much as 400,000 tonnes of Ottawa area industrial, commercial and institutional waste is shipped annually to New York State for disposal in private landfills.

5.0 WHAT CAN BE DONE TO IMPROVE PERFORMANCE?

5.1 Opportunities for Improvement Identified by the AET Study

The AET waste composition study identified a number of opportunities to address the deficiencies identified with the current programs in regard to participation and levels of contamination. These can be summarized as follows²⁷:

- The green bin program is the largest potential source of improvement
- Only half of households are using their green bins to divert organics
- A large percentage of organic material that could have been composted in the green bin program was put in the garbage stream
- Approximately 30% of households are not participating in the recycling programs and are placing recyclable materials into the garbage
- The capacity of the blue and black boxes is often not sufficient to accommodate the materials put out for collection, resulting in materials being disposed in garbage
- Enhancing collection frequency for recycling and more or larger boxes may serve to improve program performance
- Education identifying what is recyclable could reduce contamination in the blue box
- A lower limit on the collection of garbage may provide an incentive to increase recycling and green bin organics program participation

5.2 Opportunities for Enhancing Existing Waste Diversion Programs Identified by WWO

Based on the review of the RPRA reports and the AET study WWO has identified a number of options to improve the City's waste diversion performance in 6 general areas: green bin organics, blue and black box recycling, multi-residential buildings, garbage, promotion and education and waste reduction.

With a couple of notable exceptions in all cases the options are built around the objective of significantly improving the existing programs rather than building an entire new set of programs.

These waste diversion options are being successfully used by other municipalities and are very likely the reason that their performance is so much better than Ottawa's.

Significant improvement in waste diversion could result from the adoption of a clear bag and user pay or pay as you throw system to discourage waste generation and provide incentives to participate in the recycling and green bin programs.

²⁷ AET Waste Composition Study, Section 5.0 Opportunities, page 53

In addition to the observations and suggestions presented by the AET study, WWO, with the assistance of the University of Ottawa Capstone students, conducted a high level overview of some of the best municipal waste diversion practices elsewhere in Ontario and across Canada. The options presented below are strongly suggested as waste diversion policies and programs that should be implemented and considered as part of the renewal, enhancement and expansion of the current waste diversion programs and a re-launch of the stalled waste planning process. All of the options are aimed at improving the performance and scope of the existing programs and increasing waste diversion towards the higher levels of performance shown by most other large municipalities in the province.

The options are designed to leverage the potential of existing programs and services and in all cases are options that have been successfully adopted by other municipalities or have been identified in municipal waste management and diversion plans. The successful adoption and implementation of the options will serve to lengthen the life expectancy of the Trail Road landfill site and will postpone for the next number of years the need for any significant new major waste management infrastructure investments.

It should be noted that the list of options does not claim to be definitive. It is a list that responds to what have been identified as problems with the existing programs as documented by the AET study and the WWO review of the RPRA data. The options are presented in 6 categories: organics, blue and black box recycling, multi-residential buildings, garbage, promotion and education, and waste reduction with options listed on the left and comments and rationales on the right.

Blue Box and Black Box Recycling	
Opportunities	Rationale
Aggressively work to enhance participation in the programs and to minimize contamination in the blue boxes	While the recycling program is performing somewhat successfully there is considerable room for improvement particularly as regards the levels of contamination in the blue box portion of the program. Aggressive and consistent promotion and education is needed.
Amend the existing blue and black box programs to allow bigger boxes and more frequent collection	The volume of recyclable materials available for collection is greater than the current relatively small capacity of the recycling containers that the City provides. The issue can be addressed by either providing additional containers or larger bins or by picking up both streams of recyclables once a week rather than the current alternate blue box/black box collection schedule.
Promote and expand the existing small business recycling program by allowing access to the program without the necessity of registering and paying for the "Yellow Bag" small business garbage program	Small businesses can access recycling services if they register and pay for the "yellow bag" garbage collection program. To encourage participation recycling should be independent of garbage collection and should be free.
Open recycling depots and mobile drop off sites with specific attention to home renovation waste	Recycling depots and mobile drop off sites which could be targeted at areas with higher density residential development and commercial areas would improve the quantities of materials collected.
Implement targeted recycling programs, including depots, for specific wastes streams such as textiles and home renovation waste	Depots can be established and assigned for other recyclable materials such as textiles and some types of home renovation wastes which are not now eligible for collection in the current programs.
Aggressively adopt recycling and waste reduction programs in all City facilities and programs and expand outreach to promote waste diversion in public institutions such as schools and hospitals.	The City needs to ensure that recycling programs in place in all of its facilities and programs are given the highest possible profile.
Pilot single stream recycling to determine whether or not it is a means to increase the amount of divertible material collected particularly in multi-residential buildings	Single stream recycling whereby all divertible materials are collected together has shown some promise albeit with costs and challenges associated with sorting the materials. The City should develop a pilot particularly for multi-residential buildings as was in fact put forward for consideration as part of the City's original, 2011/2012 waste plan and discussions.
Promote the mandatory source separation of waste into recyclables, organics, leaf and yard waste and residual garbage	Active promotion of mandatory source separation and participation in waste diversion program can have an impact. Mandatory source separation can be used in conjunction with the introduction of a clear bag program for waste.

Green Bin Organics	
Opportunities	Rationale
Aggressively work to enhance participation in the green bin program	The AET study suggests that the largest single contributor to an improvement in waste diversion lies in significantly improving the participation in the green bin program and the capture of organics that are currently going to landfill disposal.
Identify and act on opportunities for on-site and community based organics processing	An aggressive promotion and education program is essential to address the challenge of very poor participation.
Promote and expand organics collection services to small businesses and restaurants that are eligible for and pay for participation in the "Yellow Bag" program and work to ensure that all those eligible, especially restaurants, are participating	The benefits of enhanced organics composting include not only extending the life of the Trail Road landfill, but also lie in supporting climate change goals. Methane produced by landfills is a potent greenhouse gas that can be reduced by reducing the amount of organics that are deposited. Broadening the scope of organics collection and experimenting with smaller scale composting facilities will also serve to increase the organics and overall waste diversion rate. The City provides a user pay garbage recycling service to small businesses and does provide recycling bins and green bins, but it is unclear how effective this program is and to what extent it is serving restaurants in particular.
Multi Residential Buildings	
Opportunities	Rationale
Target waste diversion promotion specifically at multi-residential buildings	Although the data available does not provide a clear picture of the impact of the waste diversion programs in multi-residential buildings it is well known that the levels of participation and the diversion tonnages from multi-unit residential buildings are problematic and performance is well below that of households with curbside collection. Ottawa is likely no exception.
As part of an enhanced promotion program organize and encourage buildings to compete for the highest waste diversion rates	Special efforts need to be undertaken to address this challenge and there is no evidence that such efforts are underway in Ottawa. Other municipalities such as Toronto have focused considerable attention in this area both with current programs and planned programs arising from waste management plans and Ottawa needs to do likewise. The Toronto Mayor's "Towering Challenge" program for example promotes the 3Rs in multi-residential buildings.
Rigorously enforce the existing mandatory requirement for source separation and participation in recycling programs in all multi-unit residential buildings	The City does provide and mandate the use of recycling services in any multi-residential building using the City's garbage collection service. Any focus on multi-residential buildings needs to be backed up with staff resources and aggressive by-law enforcement in such buildings.
Provide educational materials to each unit and large posters for recycling areas on an annual basis	
Waste Reduction	
Opportunities	Rationale
Adopt a "Zero Waste" philosophy, set clear and ambitious waste diversion targets and join the National Zero Waste Council	The City needs to set clear targets for waste diversion in its recycling and green bin programs based on targets with proven success in other municipalities. The City should adopt a more aspirational higher waste diversion target overall such as the 70% residential waste diversion target that has been set by Toronto or the 80% target that has been set by the City of Markham in York Region.
Develop and launch a program specifically to promote waste	The City should join the Vancouver based National Zero Waste Council, that includes

reduction	among its members the Federation of Canadian Municipalities (FCM) and individual municipalities as well as private sector companies.
Garbage and Residuals Management	
Opportunities	Rationale
Consider and consult on the adoption a “pay as you throw” user pay system	The City operates a user pay “Yellow Bag” program for the collection of small quantities of garbage from small businesses. Small businesses buy the yellow bags as a proof of eligibility for City garbage collection and this type funding and management approach could be adopted for all residential waste collection.
Consider and consult on the implementation of a clear bag garbage collection program	Numerous other municipalities have adopted various forms of user pay / pay as you throw systems including programs where a set number of bags and bins are collected with no explicit charge (in effect paid for through property taxes) and with a price levied through either a tag or bag purchase per container for any number above that. Other systems use mechanized bin collection with charges linked to each collection and in some cases the weight of garbage put out. Such programs operate on a similar basis to water and waste water services and to hydro where costs are linked to the level of service and the amount of water or electricity consumed.
More aggressively enforce the current collection bans on waste electronics, paints, construction waste, hazardous wastes and other materials	Paying explicitly for garbage collection has been shown to provide incentives to enhance use of waste diversion programs as a way of avoiding costs of garbage collection.
Tighten limits on the amount of garbage that can be put out for collection	Mandating the collection of garbage using clear bags is a way to ensure that recyclable and organic materials are not put into the garbage. Bags which contain divertible materials are not collected. It is a way to enforce bans on the collection of items such as waste electronics and encourages more careful and considered participation in recycling and organics programs.
	Ottawa still has a generous limit of 6 bags or containers of waste allowed for collection. This should be reduced.

Promotion and Education	
Opportunities	Rationale
Increase and undertake consistent year over year investment in waste diversion promotion and education including through social media	Poor rates of program participation and levels of contamination strongly suggest that there is insufficient education, communications and messaging to residents about the importance of their role to divert waste from disposal.
	There needs to be both a larger amount and more consistent and more targeted outreach using both conventional and social media.
Open a waste diversion education centre at Trail Road targeting and in partnership with area school boards	Other municipalities with higher rates of waste diversion performance are the same municipalities which spend more on promotion and education than Ottawa.
	The City has an opportunity to develop its facility at Trail Road as an education centre to help promote waste diversion practices with the general public and area students. Suggestions made over the years that Trail Road volunteer to be part of “Doors Open Ottawa” have not been accepted. The City of Edmonton operates one of the best known and successful education programs at its Waste Management Centre and offers tours for individuals and groups, especially schools

6.0 PRIORITIES TO IMPROVE PERFORMANCE

6.1 Priority Opportunities Selected from Above List to Improve Performance

Action is necessary across a broad number of fronts as soon as possible:

- Much of the poor performance of the existing waste diversion programs is almost certainly attributable to low spending on promotion and education and these are areas which cry out for immediate attention and improvement.
- More complicated and possibly controversial changes such as those associated with moving to a clear bag or user pay or pay as you throw system will need more time for review and consultation but there is no reason why work in this direction cannot be started promptly.
- It is clear from the findings of the AET study and the analysis of the RPRA data that better and more regular communication with residents to encourage higher rates of participation and a higher quality of participation in all programs is badly needed. New and expanded promotion and education campaigns can be launched fairly easily and should be considered as a high priority. Targeting such new and expanded communications to enhance participation in the green bin program is particularly important and should be undertaken as soon as possible.
- The weak performance of waste diversion in multi-residential buildings which is common to all municipalities is another high priority area. There is very little reason why programs targeting such buildings cannot be launched as top priority actions and they can be linked to the more broadly based outreach applied to the curbside programs.
- The City should start looking at establishing recycling depots and specially target materials such as textiles as soon as possible, with implementation to take place over next couple of years. Planning and development of such depots can be done in conjunction in partners associated with the targeted waste streams. For example, a textiles depot program could be planned and organized in partnership with any the many charities that currently operate textiles recovery initiatives.

- Improvements to the existing levels and approach to blue and black box recycling collection may take longer to implement and will need to be timed in coordination with the timelines on the existing collection contracts. However new initiatives along these lines can be further explored and planned starting right away.
- More complex and challenging to implement over the short term would be any type of user pay/ pay as you throw system or a clear bag program. Such options represent a significant restructuring of current programs and although successfully operating in other municipalities, will be controversial. Looking closely at what other municipalities have done and public consultation will be necessary with the options presented in the context of enhancing waste diversion and need to preserve the capacity at the Trail Road landfill for as long as possible. Timing of a change over to such new systems will need to be coordinated with the retendering or extension of the current collection contracts. An effort should however commence right away to explore and plan for such a new system-wide approach to funding and waste diversion incentives.

6.2 No Need to Explore Options to Replace the Trail Road Landfill in the Short Term

If the priority opportunities listed above are implemented, this will significantly improve the performance of existing recycling and green bin programs. Since the current life expectancy of Trail Road is relatively long and there are prospects to significantly improve that timeline towards a closure around 2065, there is no immediate need for the City to pursue investment in capital intensive disposal facilities. The City should however exercise due diligence and maintain a watching brief on new waste programs, technologies and systems.

The options described in the previous section are built around the need to get the existing programs operating at much higher levels of effectiveness without the need to undertake any significant new capital expenditures in the short run. Ultimately the reality is that despite any enhancement in waste diversion there is always going to be some residual garbage which will require disposal and the day will come when Trail Road will have to close. If the City embraces the options cited in this report there is no immediate need to invest in any major capital or effort to replace Trail Road in the foreseeable future because with successful growth in waste diversion as described and with the achievement of a 70% diversion rate, Trail Road's capacity can be extended to around 2075, considerably past the current date for closure.

Although the primary objective and focus for the next number of years is to reduce the amount of waste going to disposal to the smallest tonnage possible by enhancing existing programs, the City does need to keep a close eye on the ultimate need to replace Trail Road even if that need is in the long term.

7.0 RECOMMENDATIONS AND A CALL TO ACTION

In view of the findings contained in this report Waste Watch Ottawa calls on the City of Ottawa to:

- Formally respond in writing to this report within 3 months and no later than the end of December 2017.
- Rescind the decision of February 2016 to cease any further waste planning.
- As part of the City-wide budget setting process for 2018 present a plan and budget to significantly expand promotion and education funding starting in 2018 to levels comparable with expenditures made by other large Ontario municipalities with a view to addressing the program short comings identified in the AET report.
- Re-launch the waste planning process no later than March 2018 to address the options contained in this report with a public consultation program and a timeline which specifically includes a review of user pay / pay as you throw program options for curbside garbage collection.
- As part of the budget setting process for 2019 present a budget and plans to act on initiatives such as recycling depots and programs to enhance recycling in multi-residential buildings.

8.0 CONCLUSIONS

The City of Ottawa appears to have assigned a low priority to its waste management and recycling programs that are languishing at the bottom of performance rankings among comparable Ontario municipalities. Following on the failure of the Plasco proposal the city appears overly cautious and demonstrates an apparent lack of concern about waste disposal rather than a positive attitude focused on learning from mistakes and stepping up to improve waste diversion performance. There appears to be a complacency which is perhaps rooted in the view that there is no short term concern about the capacity of the Trail Road landfill to handle the City's waste.

Ottawa has, through good fortune and the early establishment of recycling programs, found itself in a relatively unique position compared to many other large Canadian municipalities of having capacity at a disposal facility that it owns within its own borders to handle waste quantities for over 25 years. Toronto, Metro Vancouver, and Edmonton are not so lucky and are expending effort and considerable money to truck waste some distance outside their borders or in the case of Edmonton to invest heavily in pioneering and slow to operationalize Enerkem ethanol technology²⁸ to try to manage waste in ways other than through landfill disposal.

Instead of working to improve its waste diversion performance, by for example better informing residents and encouraging participation, the City is squandering its landfill capacity by disposing considerably more waste at Trail Road than is necessary. Trail Road is a valuable and possibly irreplaceable asset that should be husbanded and managed to maximize its long term capacity, with a view to foregoing for as long as possible the environmentally difficult, politically challenging and expensive undertaking of finding and financing a replacement disposal facility - a process with no guarantee of quick or easy success and which could easily require a capital investment in excess of \$200 million. Disposing of more waste than is absolutely necessary, waste that could be diverted from disposal using proven approaches used by other municipalities, flies in the face of the City's 2015 – 2018 Strategic Plan²⁹ commitment to:

“... provide sustainable environmental services that balance protection of our natural resources and support the planned growth of the city with the duty to ensure fiscal sustainability and meet legislative requirements in the delivery of municipal services”

²⁸ Edmonton Sun, April 19, 2017, Edmonton plant that converts old carpet, shoes to ethanol set to start production this summer

²⁹ City of Ottawa 2015 – 2018 Strategic Plan, July 2015, ES-1 Sustainable Environmental Services

The City has a legacy of early leadership in waste diversion. The former municipalities of Ottawa, Nepean and Gloucester jointly launched the blue box recycling program in 1987. It was only the third program of its kind in Canada and in fact the world. We are now in a situation many years later where that legacy appears to have been forgotten. Ottawa's waste diversion programs are under performing compared to both the provincial average and compared to other large municipalities in Ontario.

City residents have a right to expect that an essential service such as waste management is conducted in keeping with best management practices and performance goals. Other municipalities appear to have invested more time, effort and dollars to maintain and improve their programs over time, to engage with their residents to increase participation and to achieve considerably better rates of waste diversion than Ottawa.