

The Regional Municipality of York

Committee of the Whole
Environmental Services
June 13, 2019

Report of the Commissioner of Environmental Services

SM4RT Living Waste Management Plan 2018 Annual Update

1. Recommendation

It is recommended that the Regional Clerk circulate this report to the local municipalities and the Minister of Environment, Conservation and Parks.

2. Summary

This report is the annual update to Council on implementation of the [SM4RT Living Waste Management Master Plan](#). The Plan sets direction for waste management policy and programs, with a focus on waste reduction and continuous improvement of services in the integrated waste management system. It is jointly delivered by the Region and its local municipal partners, in collaboration with the community. The Balanced Scorecard (Attachment 1) provides a summary of key metrics and programs delivered as part of the SM4RT Living Plan.

Key Points:

- The waste generation rate continues to decrease. The rate shows curbside and depot-collected material separately to better track and understand trends in components of the overall system
- The Region and our local municipalities are participating in consultations with the Province to prepare for transition under the *Waste-Free Ontario Act*
- The Region and our local municipalities continue to expand and improve SM4RT Living programs with support from community partners
- The focus of our SM4RT Living Plan on waste reduction is well aligned with the Province's shift towards a circular economy and has positioned the Region to adapt to challenges faced in Ontario and beyond. The Update will continue to refine the direction and tools we need to continuously improve resiliency in the integrated waste management system.

3. Background

First five years of the SM4RT Living Plan focussed on research and pilot testing new programs

The SM4RT Living Plan shifts focus from diversion to waste reduction. York Region was the first Ontario municipality to move in this direction; in the last five years, more communities including City of Toronto and Peel Region have followed suit and the Province is also making this shift. In the first five years, 32 priority initiatives were explored as outlined in the [2017 Balanced Scorecard](#). Work in the initial years included pilot testing of new programs, research, policy development, and data collection.

Key areas of focus included:

- Food waste reduction
- Reuse and repair
- Improving performance in the multi-residential sector
- Advocating Council endorsed principles and preparing for transition of the Blue Box to full producer responsibility

In 2018 a review and update of the SM4RT Living plan was initiated. The scope of the project includes: expanding and refining successful programs; building partnerships to deliver programs efficiently; preparing infrastructure and contracts for the Region's changing needs including transition of waste diversion programs to full producer responsibility; examining promising practices to improve performance in the multi-residential sector and reducing impacts of single-use plastics.

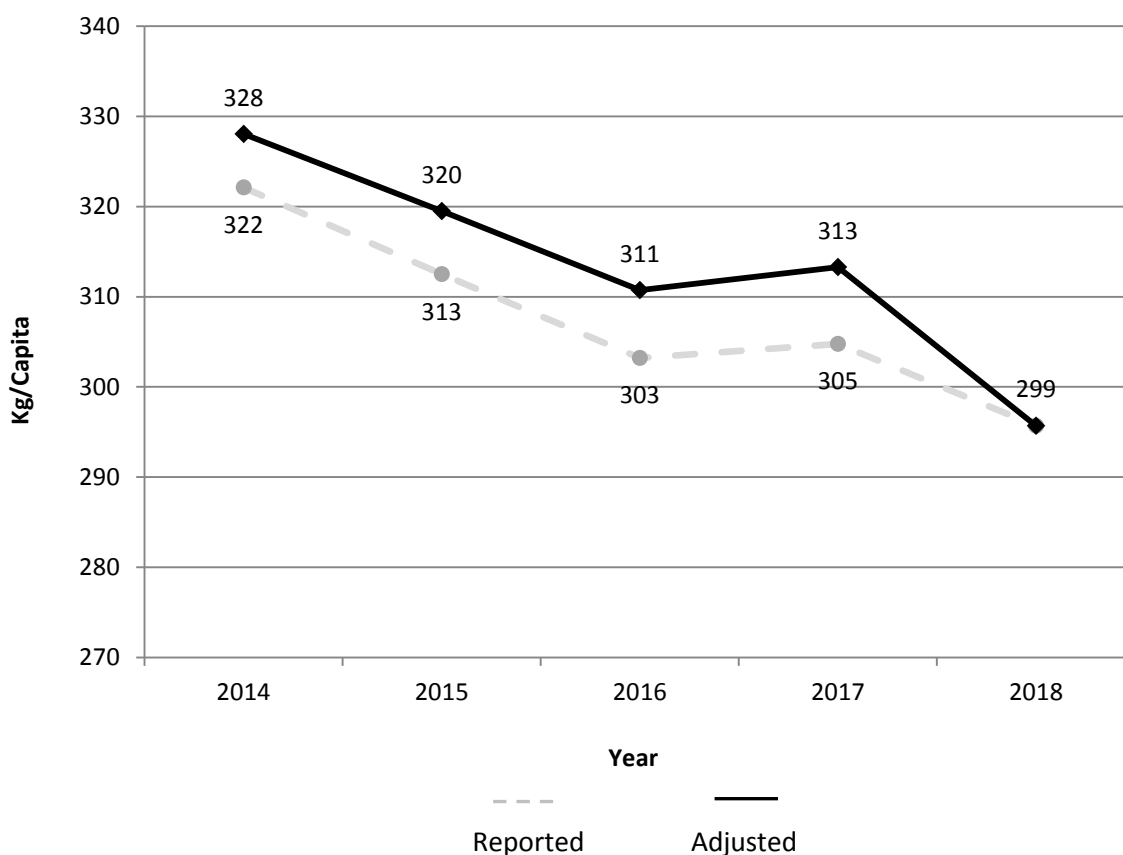
4. Analysis

Waste generation rate tracks progress towards the SM4RT Living Plan long term target

The waste generation rate is reported annually and represents all of the material managed through local and Regional waste programs on a per capita basis (kg/capita). It tracks progress towards the SM4RT Living Plan's target of 289 kg/capita by 2031. The 2018 waste generation rate has been adjusted to reflect the release of the 2016 census data.

Accordingly, the 2018 waste generation rate more accurately reflects actual growth that occurred between 2014 and 2018 and the resultant waste generation rate for those years. Actual population growth was lower than previously forecasted resulting in a higher per capita waste generation rate. As seen in Figure 1, a downward trend in waste generation occurred in 2014 through to 2018.

Figure 1
Waste Generation Rate: 2014 - 2018



2018 waste generation rate shows changing usage patterns at waste depots

The waste generation rate decreased by 4.5 per cent in 2018, compared to 2017. Much of this decrease was driven by changes in usage patterns at the community environmental centres. In the past, the Centres have received heavy loads from repeat commercial customers, taking advantage of below-market pricing due to the previous volume-based fee structure. These loads were causing slow downs and long line ups at the sites. In 2017, a temporary ban on large commercial vans at Elgin Mills Community Environmental Centre was instituted to address the slow downs while construction was occurring. Some traffic was redirected to McCleary Court while other customers shifted to private waste management options. Recent upgrades at the sites included adding scales to allow for more transparent and equitable weight-based fees aligned with comparable sites in the Greater Toronto Area. The scales provide more data on individual transactions and capture both paid and free material drop-off transactions.

In 2018, the Community Environmental Centres saw a shift in customer use patterns as a result of the new fees. The 2018 paid transactions at the sites decreased by two per cent from 2017 and the average load per transaction decreased from 367 kg in 2017 to 184 kg in

2018. This suggests that customers with heavier loads using these facilities because of the volume-based fees found other options, while the new weight-based fees are working well for residential and small business customers. In 2019, the Region will be working on a strategy to attract more of these users to ensure the sites are used to their full potential.

Trends in curbside waste generation reflect influence of housing type, consumer trends and climate patterns

The curbside waste generation rate includes material collected by local municipal programs at the curb, at multi-residential buildings and through special programs such as textiles and e-waste. Curbside waste represents almost 90 per cent of the waste managed through the waste system. This metric most closely tracks the impact of SM4RT Living waste reduction and diversion programs, which primarily target household waste. Table 1 shows the 2018 curbside generation rate by municipality.

Table 1
2018 Curbside Waste Generation Rate (Kg/capita⁺)

Municipality	Garbage	Blue Box*	Green Bin	Yard Waste	Other**	Total Curbside
Aurora	99	78	76	38	2	293
East Gwillimbury	78	71	74	38	<1	261
Georgina	93	79	71	29	<1	272
King	82	88	80	43	1	294
Markham	59	67	91	32	9	258
Newmarket	83	75	73	38	<1	269
Richmond Hill	77	67	80	32	<1	256
Vaughan	88	65	83	31	<1	267
Whitchurch-Stouffville	90	69	78	28	2	267
Overall	77	69	83	33	3	265
2018 vs 2017	-1	-2	0	+2	+1	0

+ Based on total population, including privately serviced condominiums. Impact on waste generation rate is minimal as it represents less than one per cent of overall tonnage, mostly in Vaughan

*Blue Box generation rate not adjusted for contaminated loads

**includes textiles, waste electronics, scrap metal, batteries

The curbside generation rate remained the same between 2017 and 2018. A slight decrease was seen in garbage and Blue Box rates, while green bin rates remained constant and the yard waste and other streams increased slightly.

Across the local municipalities, a number of factors influence differences in waste generation from households:

- Higher density communities such as Markham, Richmond Hill and Vaughan may see lower generation due to more multi-residential homes with limited space
- Use of collection-based enforcement approaches such as mandatory clear bags for garbage and curbside bans on textiles, electronics and household hazardous waste materials contribute to the lower waste generation rate in Markham
- Higher rates of new development such as that occurring in East Gwillimbury, introduce more uncertainty in the waste generation rate because new homes may not be using the waste system for the full year, depending on their move-in date and when they begin to receive collection services
- Changing weather patterns and storm events due to climate change affect the quantity and timing of yard waste generation
- Yard waste generation may also be influenced by property types – larger urban lots in established neighbourhoods in Aurora and King may generate more yard waste due to larger trees and lot sizes; rural communities such as Georgina and Whitchurch-Stouffville may be composting yard waste instead of using curbside collection
- Success of local municipal textile collection, electronic waste events and depot programs is reflected in the growth of the ‘Other Programs’ category
- Consumer trends such as buying second-hand, repairing instead of replacing items, renting or sharing instead of purchasing, choosing durable products with minimal packaging or reading digital media instead of print reduces waste generation. These trends are influenced by SM4RT Living reduction and reuse programs

Rising contamination rates in blue box requires coordinated education and enforcement at the curb

The Curbside Waste Generation Rates in Table 1 are based on participation at the curb and are not adjusted to reflect rising contamination levels in the Blue Box stream. Table 2 below shows Blue Box contamination rate by municipality based on 2018 audits.

Table 2
2018 Blue Box Contamination Rate by municipality

Municipality	Contamination Rate
Whitchurch –Stouffville	9%
East Gwillimbury	12%
Newmarket	13%
Georgina	14%
Aurora	16%
King	19%
Richmond Hill	19%
Vaughan	23%
Markham	31%

There has been a steady increase in the level of contamination in the blue box since 2010. While some contamination is expected in a single stream blue box program, the southern three municipalities, which account for over 70 per cent of curbside blue box tonnes, have contamination levels that are impacting the ability to effectively market materials, particularly given the recent contamination restrictions by international end-markets. Clear communication regarding placing recyclables loose in the blue box as well as tips on what items can go in the blue box is being coordinated between the Region and our Local Municipal partners to improve the quality of materials at the curb. Staff from the Region and southern three municipalities have been meeting to discuss best means to reduce contamination at the curb through education and enforcement.

Expansion of reduction and reuse programs continues with support from local municipal and community partners

The SM4RT Living plan identified numerous pilot programs to drive change in consumer behaviours through community-based programming on reduction and reuse. In 2018, the Region and local partners worked to expand successful pilots and programs. The 2018 Balanced Scorecard (Attachment 1) showcases these efforts across the Region. Community partners have played a key role in the success of this expansion. The Repair Café series in 2018 was made possible through the support of several public libraries and local municipal partners as well as York Region Makers and a host of dedicated volunteers. In 2019, the

program will include more than a dozen events across the Region, with over half led by community partners such as the Markham Public Library and King Township.

Partnerships established through this program also led to the development of the Lendery, a new initiative launching at Markham Public Library in July 2019 and planned for Newmarket Public Library in early 2020. The Lendery allows patrons of the library to borrow tools, sporting goods, kitchen gadgets and other infrequently used items instead of buying their own. Continued support for community collaborations will be key to future expansion of reduction and reuse programs and new approaches are being explored as part of the 5 year update.

SM4RT Living Plan priorities supported by Provincial Food and Organic Waste Policy

In 2018 the Ontario government released its *Food and Organic Waste Framework*, detailing new requirements for waste reduction and resource recovery activities for municipalities and private sector. Through the shift in government after the spring election, some elements of the action plan were removed but the focus on food waste reduction and diversion remains. York Region is a leader in this area, with a well-established Green Bin program complimented by the Good Food consumer education program launched in 2015. Communities across the province will now be required to follow suit to meet reduction and diversion targets for food waste. This will generate opportunities for partnership with other municipalities, retailers and institutions on food waste education. The Region is well positioned to lead this work with the Ontario Food Collaborative, a municipal partnership that supports food waste and food literacy education. The Policy will also increase demand for organics processing in Ontario; the Region is continuing to plan for long term organics processing capacity. Building on the feasibility study completed in 2017, the Region is developing an implementation plan for an organics processing facility as part of the Update.

Provincial Environment Plan signals continued focus on waste, including transition to full producer responsibility and reduction of single use plastics

The Province recently released several documents for comment, including their road map for environmental programs, the *Made-in-Ontario Environment Plan* and a follow up discussion paper specifically addressing litter and waste reduction in Ontario. The Region and its local municipal partners are working together to provide holistic comments and recommendations to the Province on behalf of our residents. The Update will identify key actions needed to ensure the Region and local municipalities are proactively preparing for changes in the waste management system over the next five years.

5. Financial

SM4RT Living Plan's focus on reduction and reuse is the most cost effective approach to providing efficient waste management services

When the SM4RT Living Plan was approved in 2013, staff identified that the low hanging fruit in terms of diversion had been addressed, resulting in only incremental gains since 2008. Continuing to add new diversion programs could significantly increase costs to deliver waste management services in York Region and provide only marginal returns in diversion. The SM4RT Living Plan focuses on decreasing waste generation to allow for 'infra-stretching' or the ability to extend the life of assets and cost effectively manage increasing demand associated with growth. As of today, this focus maintains its priority as challenges continue to plague waste management infrastructure while meeting growth demands and cost pressures.

Region and local municipalities managing uncertainty around Blue Box transition

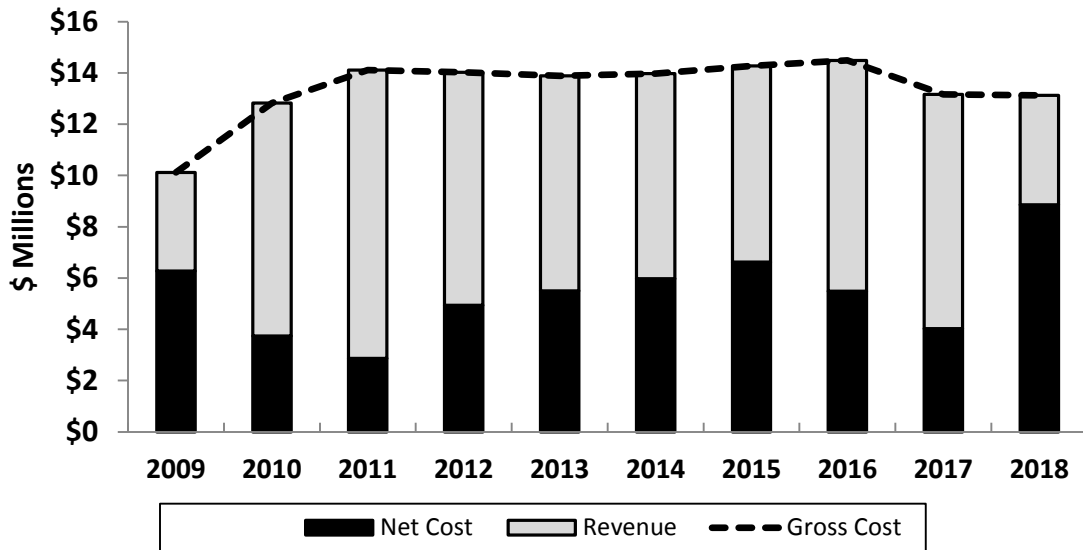
A significant challenge on waste management infrastructure is most evident with the Blue Box program. While the province has signaled continued commitment to moving ahead with transitioning this program to full producer responsibility, details have not been forthcoming. The Region and local municipalities must continue to plan for provision of Blue Box collection and processing for the foreseeable future, including contract extensions, new contracts and investments in infrastructure to accommodate new materials and new market requirements.

Tightening markets and increasing contamination cause declining revenues for the Blue Box program

Since 2011, the Region has invested over \$18 million in upgrades at the Materials Recovery and Transfer Facility to improve sorting technology to keep with up change in material composition, increased contamination level and, more recently, stringent quality requirements imposed by end markets. Despite these upgrades, the net operating cost is extremely inconsistent as it is dependent on revenues received from the sales of recovered recyclables. As shown in Figure 2 below, the gross annual Blue Box operating costs are relatively consistent over the past ten years while net cost ranges from \$8.9 million (2018) to \$2.9 million (2011). While 2019 revenue is a forecasted \$1.8 million higher than 2018, stringent end market quality requirements and saturation of other oversea recyclable markets will most likely continue to result in declining revenues from sales of recovered recyclables. This impact may increase the Region's overall net Blue Box operating cost moving forward.

Further impacts may be realized through increasing contamination loads as seen at the Earl Turcott Transfer Station in Markham where contamination has doubled since 2010. Contamination includes organic material found mixed in with recyclables, especially where recyclables were collected in plastic bags. Lowering contamination levels is a necessity in order to market recyclable materials which would not only help yield higher revenue but also ensure that materials collected in the Blue Box are actually recycled.

Figure 2: Blue Box Annual Operating Cost and Revenue (2009-2018)



At the same time, producers continue to dispute the amount of the annual Blue Box funding allocation, requiring costly and time consuming negotiations. As a result, the Municipal 3Rs Collaborative is advocating for full transition of the Blue Box program with a phased approach initiated as soon as possible and completed by 2024. Accelerating the implementation of the circular economy is a means to resolve this issue and reduce the strain on taxpayers. Region staff continue to actively participate in the Municipal 3Rs Collaborative and ensure Regional and local municipal interests are represented.

6. Local Impact

Region and Local Municipal partnership key to success of Blue Box program

York Region staff, together with local municipal staff will continue to work collaboratively to address the issue of contamination. Ultimately, contamination will need to be addressed at the curb with clear and consistent messaging and enforcement. A collaborative approach is necessary to minimize confusion for residents on how to participate in the Blue Box program and ensure contamination is managed at the curb so that materials collected can be recycled.

Continued coordinated efforts are needed at the curb to ensure readiness for transition to full producer responsibility

In previous discussions, producers have indicated that one possible outcome under full producer responsibility includes municipalities as service providers for curbside collection. Under this scenario, it is possible that municipalities would incur penalties if the municipality is unable to comply with strict contamination thresholds. In other jurisdictions such as British

Columbia, where full producer responsibility is in place, producers set contamination limits as low as 3 per cent, with penalties applying if the contamination exceeds this threshold. Municipalities that implement strict curbside enforcement and are able to reduce contamination levels will be in a better position to meet expectations once the blue box program is transitioned to full producer responsibility.

Local municipalities continue to drive reuse by expanding successful programs and partnerships

York Region, together with our local municipal partners, is leading in programs and initiatives that focus on waste reduction and reuse and as a result there are currently no municipal comparators. Staff have discussed with other municipalities the need to streamline key metrics, such as the waste generation rate, to help standardize performance measurement as it relates to reduction and reuse.

Local municipalities have expanded successful programs such as curbside giveaway days, with additional events for existing participants, expansion to East Gwillimbury and Richmond Hill, and collaboration on common dates and promotion in partnership with the Region. This low cost program continues to be popular with residents, receiving positive feedback and engagement on social media and high resident satisfaction on follow up surveys.

Seven local municipalities launched or expanded textile education and diversion programs in partnership with charities. These activities diverted over 2600 tonnes of textiles from the waste stream in 2018:

- Markham continues to expand its very successful collection bin program across the City
- Aurora, Whitchurch-Stouffville and Newmarket established a new partnership with Diabetes Canada to provide collection bins in those communities
- King Township continued its popular bin program and piloted curbside collection on several dates
- Richmond Hill developed an education program that supports existing community donation programs and encourages waste reduction
- City of Vaughan offered textile collection at Environment Days and is exploring options to provide collection bins to multi-residential buildings

7. Conclusion

SM4RT Living Plan Five Year Update sets course for continued leadership and success of the integrated waste management system

Council's leadership in endorsing the SM4RT Living Plan in 2013, with its unique focus on waste reduction has positioned the Region and local municipalities as leaders in the municipal waste sector in Canada. The Update recommendations, brought forward to Council in early 2020, will include:

- Plans to continue momentum on current initiatives promoting reduction, reuse and recycling
- New ideas and approaches to deal with litter, single use plastics, and multi-residential engagement
- Implementation plan for an organics processing solution to meet future demand and reduce greenhouse gas emissions
- Advocacy and planning for managing transition to extended producer responsibility

This work will ensure that the Region and our local municipal partners are prepared for the challenges and opportunities in the waste management sector over the next five years.

For more information on this report, please contact Laura McDowell, Director, Environmental Promotion and Protection at 1-877-464-9675 ext.75077. Accessible formats or communication supports are available upon request.

Recommended by:

Erin Mahoney, M. Eng.
Commissioner of Environmental Services

Approved for Submission:

Bruce Macgregor
Chief Administrative Officer

May 31, 2019
Attachments (1)
9064410