

2019 ANNUAL WASTE MANAGEMENT REPORT



**PARTNERSHIPS
DRIVING**

- REDUCTION
- REUSE
- RECYCLING
- RECOVERY

The Regional Municipality of York

Waste Facilities

- 1 Public Yard Waste Drop-off
- 2 Regional Household Hazardous Waste Depot
- 3 Regional Recycling Depot
- 4 Transfer Station
- 5 Local Municipal Recycling Depot
- 6 Community Environmental Centre
- 7 Waste Management Centre (not open to public)

WASTE DEPOT HOURS

- 1 **Bloomington Yard Waste Depot**
April 1 to November 30
Monday to Saturday: 7:30 a.m. to 5 p.m.
Sunday: Closed

December 1 to March 31
Monday to Friday: 8 a.m. to 4 p.m.
Saturday and Sunday: Closed

- 4 **Earl Turcott Transfer Station**
Monday: 8 a.m. to 7 p.m.
Tuesday to Friday: Closed
Saturday: 8 a.m. – 5 p.m. (Year Round)
Sunday: 10 a.m. – 3 p.m. (Closed December – April)

- 2 **East Gwillimbury Household Hazardous Waste and Recycling Depot**

- 3 Monday: 8:30 a.m. to 4:30 p.m.
Tuesday and Wednesday: Closed
Thursday to Saturday: 8:30 a.m. to 4:30 p.m.
Sunday: 8:30 a.m. to 3:30 p.m.

- 2 **Elgin Mills and McCleary Court Community Environmental Centres**

- 6 Monday and Tuesday: Closed
Wednesday to Saturday: 8:30 a.m. to 4:30 p.m.
Sunday: 8:30 a.m. to 3:30 p.m.

- 1 **Georgina Transfer Station, Household Hazardous Waste and Recycling Depot**

- 3 Monday to Saturday: 8 a.m. to 5 p.m.
Sunday: Closed
- 4 HHW Depot Open Tuesday and Saturday

- 2 **Markham Household Hazardous Waste Depot**

- Monday: 8:30 a.m. to 4:30 p.m.
Tuesday and Wednesday: Closed
Thursday to Saturday: 8:30 a.m. to 4:30 p.m.
Sunday: 8:30 a.m. to 3:30 p.m.

- 5 **Markham Unionville Depot**

- Monday: 10 a.m. to 6 p.m.
Tuesday: 12 p.m. to 8 p.m.
Wednesday: Closed
Thursday: 12 p.m. to 8 p.m.
Saturday: 8 a.m. to 4 p.m.
Sunday: Closed

- 5 **Markham Village Depot**

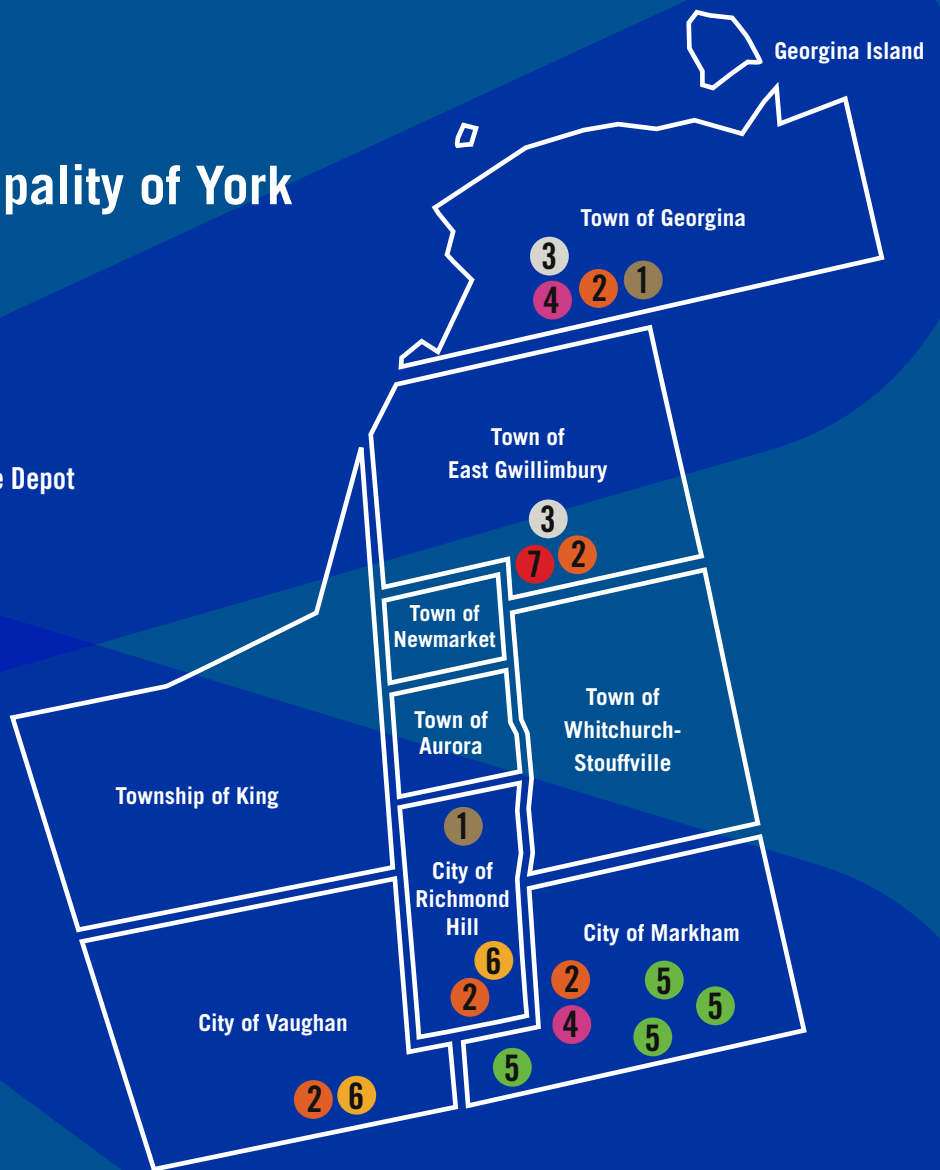
- Monday: 8 a.m. to 4 p.m.
Tuesday: Closed
Wednesday: 8 a.m. to 4 p.m.
Thursday: 12 p.m. to 8 p.m.
Friday: 8 a.m. to 4 p.m.
Saturday: 8 a.m. to 4 p.m.
Sunday: Closed

- 5 **Milliken Mills Depot**

- Saturday: 9 a.m. to 3 p.m.

- 5 **Thornhill Depot**

- Monday: Closed
Tuesday: 12 p.m. to 8 p.m.
Wednesday: 8 a.m. to 4 p.m.
Thursday: 12 p.m. to 8 p.m.
Friday: Closed
Saturday: 8 a.m. to 4 p.m.
Sunday: 9 a.m. to 3 p.m.



INTRODUCTION

The Regional Municipality of York's 2019 Annual Waste Management Report summarizes York Region's integrated waste management system and reports on progress of the Region's SM4RT Living Integrated Waste Management Master Plan (SM4RT Living Plan).

Over the past few years, York Region has provided two annual reports for waste management performance:

1. The Annual Solid Waste Diversion Report which provided information about the amount of overall material collected, processed and diverted
2. The Balanced Scorecard which summarized progress toward goals set out in the SM4RT Living Plan

These two reports will now be combined and shared with York Regional Council and submitted annually to the Ministry of the Environment, Conservation and Parks to satisfy the Durham York Energy Centre Environmental Assessment condition for diversion reporting.

York Region consists of nine local cities and towns and provides a variety of programs and services to almost 1.2 million residents and 54,000 businesses with 650,000 employees.

York Region, in partnership with its local cities and towns, continues to implement innovative waste reduction, diversion and disposal programs to meet the needs of our growing communities. Waste management services are delivered to residents through a two-tier structure where local cities and towns manage curbside waste collection and York Region processes and disposes of waste.

As reported in 2019, the Region has achieved the highest diversion rate for a large urban municipality in the Resource Recovery and Productivity Authority data call every year since 2012. Starting in 2016, the Region has surpassed the Regional Official Plan target with over 90% of waste diverted from landfill.

In 2019, the Region consulted with various stakeholders to review and update the SM4RT Living Plan. The Plan was first developed in 2013 and included an update cycle once every five years to check progress, evaluate successes and consider key learnings to enhance future approaches. During the

update process, experiences of local municipal partners along with global scans of current waste challenges and innovations helped shape objectives for the next five years. The updated Plan was approved by York Regional Council in April 2020 with the following key objectives:

- Successfully navigate legislative changes
- Use resources and infrastructure more strategically to achieve SM4RT Living
- Inspire people across the Region to embrace SM4RT Living and advance the circular economy

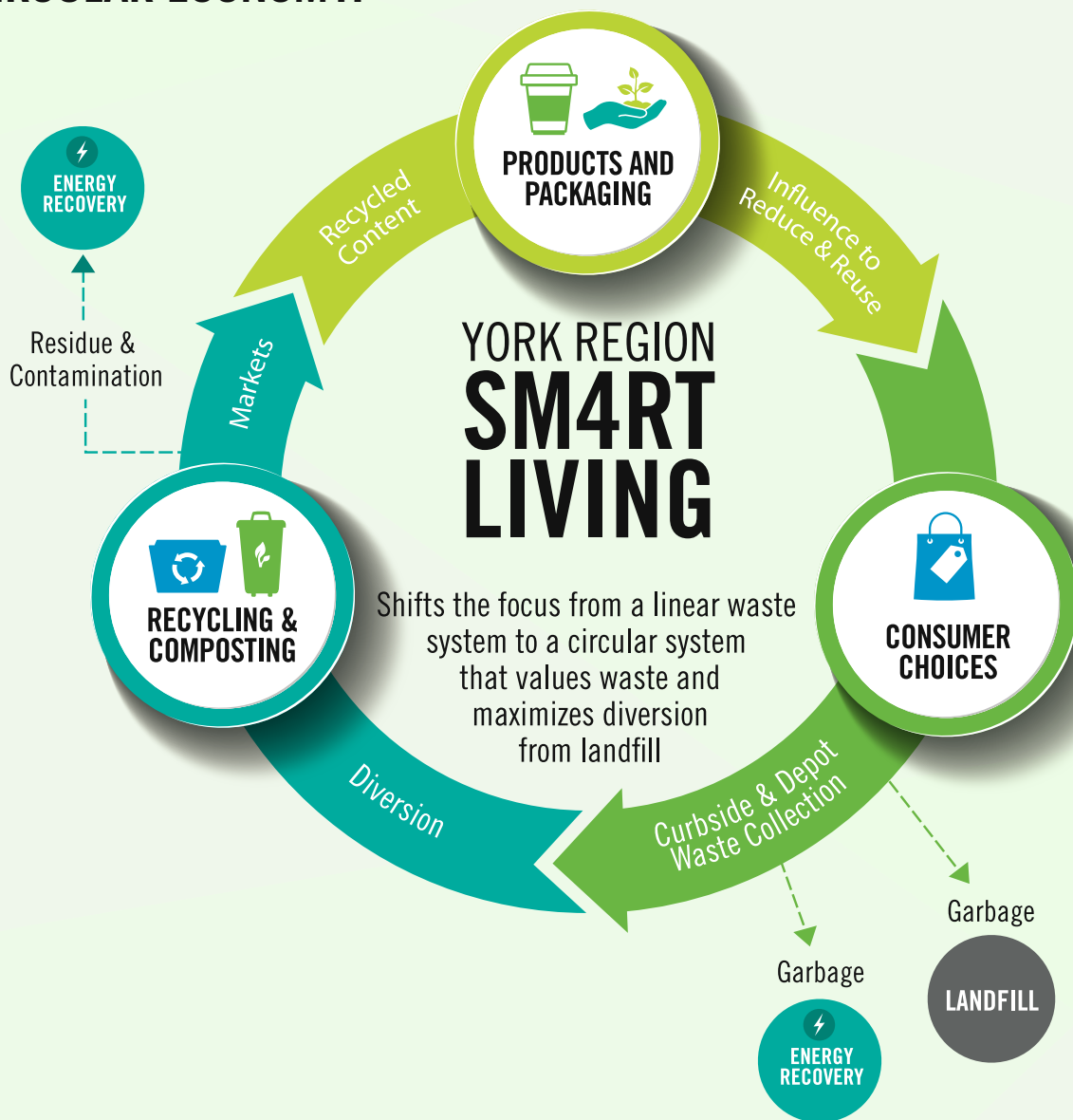
These newly developed objectives and accompanying priorities will help guide the Region through an evolving waste management landscape in Ontario; most notably, the upcoming transition of Ontario's Blue Box Program to full producer responsibility. The Plan emphasizes collaborative decision-making, compliance with changing legislation, continuous improvement of the waste management system, commitment to partnerships and support for community-led action. These key actions are important for the Region's success as it continues to improve the integrated waste management system's sustainability.

York Region, in partnership with its local municipalities, continues to implement innovative waste reduction, diversion and disposal programs to meet the needs of our growing communities.

LINEAR ECONOMY:



CIRCULAR ECONOMY:



THE SM4RT LIVING PLAN

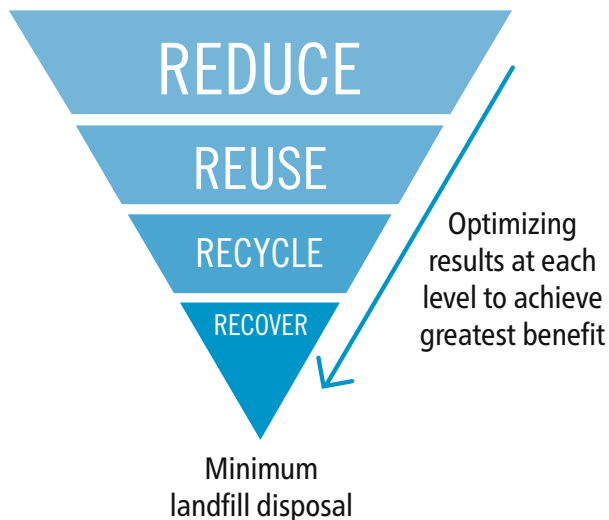
Moving Toward a World with No Waste

York Region's SM4RT Living Integrated Waste Management Master Plan (SM4RT Living Plan) outlines strategies to achieve a visionary goal of a world where nothing goes to waste. With the emphasis on expanding the focus of policy and programming from diversion to waste reduction, the SM4RT Living Plan commits to '4Rs':

1. Reduce the amount of waste generated in York Region
2. Reuse items instead of discarding them
3. Recycle as many materials as possible into new products
4. Recover energy-from-waste that cannot be managed in other ways

With the mission of leading the way through partnering, innovating and inspiring change, the SM4RT Living Plan combines successful diversion programs with efforts to prevent waste. The SM4RT Living Plan is moving York Region away from the traditional linear model of waste management to a more sustainable circular economy approach.

Additionally, the SM4RT Living Plan prioritizes the need to support future growth efficiently by maximizing the value of current infrastructure. The cost for delivering all waste management programs and services in York Region, including SM4RT Living initiatives, curbside collection, processing, depot operations and education services is about \$300 per household per year. This represents great value provided to residents for less than \$1 per day, substantially less than comparable utilities such as energy and natural gas.



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Building on Success: SM4RT Living Plan Objectives and Actions

As approved by Regional Council in April 2020, the updated SM4RT Living Plan outlines a revised visionary goal and a mission to guide the Region towards its long-term targets. The priorities included in the Plan are organized into three objectives and several key actions which are summarized in the table that follows. These key actions will be monitored and results will be reported to Council on an annual basis beginning in 2021.

VISIONARY GOAL:

A world in which nothing goes to waste.

MISSION:

The local municipalities and the Region lead the way through partnering, innovating and inspiring change.





The SM4RT Living Plan: Objectives and Actions

| Objective 1 | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|---|---|------|------|------|
| <p>Successfully navigate legislative changes</p> <p>This is about responding flexibly and using legislative changes to continually improve SM4RT Living.</p> | Region and local municipalities leverage existing framework for collaborative decision-making to navigate legislative changes | | | | |
| | Region and local municipalities ensure compliance with changing legislation (e.g., Food and Organics Waste Policy Statement and Resource Recovery and Circular Economy Act), including reviewing Official Plan and bylaws | | | | |
| | Local municipalities and Region together explore legal mechanisms to ensure producers manage their waste as required in the Region | | | | |
| | During the transition to full producer responsibility, Region and local municipal partners continue to monitor and address blue box contamination and Region ensures the Materials Recovery Facility performs as needed | | | | |
| Objective 2 | 2020 | 2021 | 2022 | 2023 | 2024 |
| <p>Use resources and infrastructure more strategically to achieve SM4RT Living</p> <p>This is about focusing efforts, innovating and improving coordination to create a more seamless, cost-effective system and do more with available resources.</p> | The Region and local municipalities leverage technology to improve data collection, analysis and information sharing from facilities and operations, in support of greater efficiency and more strategic decisions | | | | |
| | Region and local municipalities maintain leadership in waste diversion by researching and sharing best practices, approaches and technologies, particularly for multi-residential buildings | Local municipalities take the lead in testing and applying new approaches and sharing lessons learned | | | |
| | Local municipalities include standards for waste diversion and material storage and collection in the approval process for new multi-residential developments | | | | |
| | The Region contracts for anaerobic processing capacity to diversify its portfolio and inform future investment decisions | | | | |
| | Region and local municipalities work towards consistent messaging and education to reduce food waste, including promoting backyard composting to help manage SSO pressures and costs | | | | |
| | Local municipalities and Region apply best practices and tools to work towards consistency in waste collection services, messaging, enforcement and performance monitoring | | | | |
| | Region works with other Ontario municipalities to standardize record-keeping and data reporting across the province to provide consistent evidence for advocacy positions | | | | |
| | Region secures long-term contracts to recover energy from residual materials | | | | |
| | Objective 3 | 2020 | 2021 | 2022 | 2023 |
| <p>Inspire people across the Region to embrace SM4RT Living and advance the circular economy</p> <p>This is about the value of partners and pioneers in igniting the uptake of SM4RT Living and the circular economy across our communities.</p> | Region and local municipalities celebrate and encourage grassroots community initiatives that align with the SM4RT Living philosophy | | | | |
| | Region improves support for partnerships, including establishing a \$100,000 Circular Economy grant program that would help community partners, new social enterprises and businesses advance SM4RT Living Plan goals | | | | |
| | Region identifies and promotes how SM4RT Living connects to broader Regional initiatives around healthy communities and social well-being and builds linkages where appropriate | | | | |
| | Through strategic partnerships, the Region and local municipalities support opportunities for residents to repair, share, reuse and repurpose items | | | | |
| | Region and local municipalities work to implement an "Ask First" voluntary program across the Region to reduce single-use items, and show leadership by reducing consumption at their own facilities | Region and local municipalities assess results of "Ask First" program, review federal and provincial policies if available, and determine if a mandatory approach is needed | | | |
| | Region and local municipalities advocate for provincial and/or federal policies and legislation that advance the circular economy | | | | |
| | Region researches, consults and shares findings to build understanding of the circular economy in York Region and how it connects to SM4RT Living | Region encourages residents, not-for-profit groups, businesses and others in York Region to move to the circular economy | | | |

WASTE GENERATION

DID YOU KNOW?

The COVID-19 pandemic will impact waste generation rates in 2020.

Tonnages collected for curbside garbage, blue box and green bin all showed a higher than typical increase during the COVID-19-impacted period compared to tonnages collected in 2019.

This is expected to impact curbside waste generation rates for 2020.

Waste Generation At-A-Glance

Waste generation rate is a tonnage per person measurement (kg/capita) used to track progress toward the SM4RT Living Plan waste reduction targets. The original SM4RT Living Plan included an overall waste generation target of 289 kg/capita by 2031 based on all waste managed through the York Region system. This included curbside garbage, green bin, blue box, yard waste and depot programs, materials collected through local municipalities' special events and programs as well as non-residential sources such as business improvement areas (BIAs) and municipal facilities.

With the move to producer responsibility for the Blue Box Program, the SM4RT Living Plan update recommends reporting focus shifts toward two key streams of collected curbside waste – green bin organics and garbage – which will remain as mandated municipal responsibilities. New targets were identified for these streams. Yard waste generation rate is not included as this waste stream is the most unpredictable, with yard waste tonnage greatly influenced by weather, not York Region's program efforts.

SM4RT Living initiatives will continue to drive long-term behaviour change to help reduce waste generation and move the Region closer to its targets. Annual reporting will include an overall green bin and garbage generation rate for the Region and an individual rate for each local city and town as shown on the next few pages.

NEW TARGETS



GREEN BIN

The new target is 71 kilograms per capita by 2031, down 15% from the baseline of 84 kilograms in 2014.



GARBAGE

The new target is 66 kilograms per capita by 2031, a 20% reduction from the baseline of 82 kilograms in 2014.



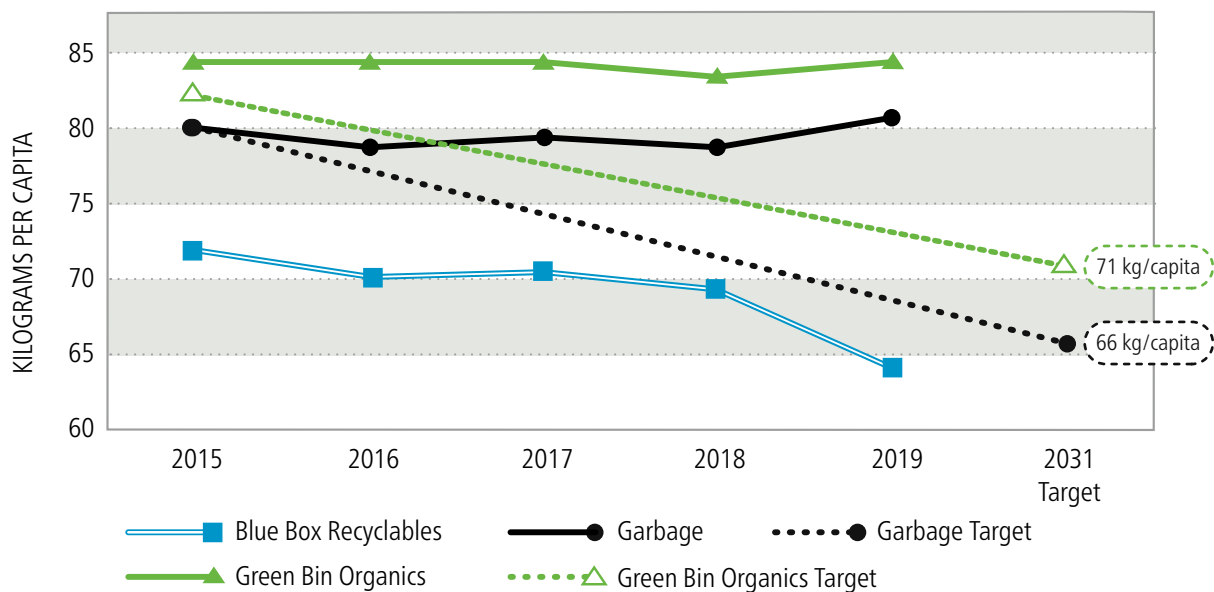


Region's Green Bin and Garbage Generation Rates Remain Steady

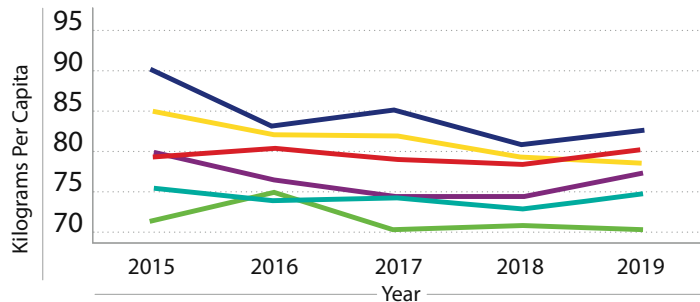
In York Region, green bin and garbage generation rates have been steady over the past five years. The garbage generation rate increased slightly, with a rate of 78 kilograms per person in 2018 and 81 kilograms per person in 2019. This increase was mainly due to removal of contaminant materials in the recycling stream. In 2019, a process was implemented at the Earl Turcott Waste Management Centre in the City of Markham to assess incoming blue box loads and redirect those with heavy contamination directly to energy-from-waste instead of processing. Consequently, the curbside blue box generation rate saw a more significant downward trend in 2019 compared to past years, moving from 69 kilograms per person in 2018 to 64 kilograms per person.

SM4RT Living initiatives will continue to drive long-term behaviour change to help reduce waste generation and move the Region closer to its targets.

York Region Residential Curbside Waste Generation Rate (kg/capita)

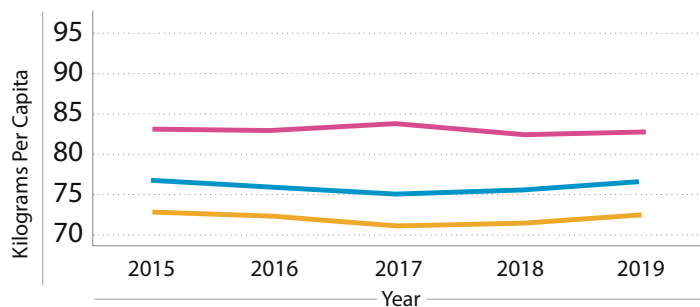


Northern Towns' Green Bin Waste Generation Rate (kg/capita)



| Local Town or City | 2015 | 2016 | 2017 | 2018 | 2019 |
|------------------------|------|------|------|------|------|
| Aurora | 79 | 80 | 78 | 77 | 80 |
| East Gwillimbury | 80 | 76 | 74 | 74 | 77 |
| Georgina | 72 | 75 | 70 | 71 | 71 |
| King | 90 | 83 | 85 | 81 | 83 |
| Newmarket | 76 | 74 | 74 | 73 | 75 |
| Whitchurch-Stouffville | 85 | 82 | 82 | 79 | 77 |

Southern Cities' Green Bin Waste Generation Rate (kg/capita)



| Local Town or City | 2015 | 2016 | 2017 | 2018 | 2019 |
|--------------------|------|------|------|------|------|
| Markham | 91 | 91 | 92 | 91 | 91 |
| Richmond Hill | 81 | 81 | 80 | 80 | 81 |
| Vaughan | 85 | 84 | 83 | 84 | 85 |

The green bin generation rate has typically been higher among the southern cities than it has been for the northern towns. The five-year trend analysis reveals the southern three cities had little or no change from their 2015 green bin generation rates. The green bin generation rate for all northern towns trended downward in 2019 when compared to the generation rate they recorded in 2015, with the exception of one town. A similar pattern is observed for the garbage generation rate, where the southern cities have generally remained more stable while the northern towns have experienced more peaks and valleys throughout the years. Two of the three southern cities have experienced an increase in their 2019 garbage generation rate when compared to their 2015 rate. In 2019, the northern towns had a garbage generation rate that was lower than their 2015 rate.

The steady or downward trend (from 2015 to 2019) in both streams for most cities and towns suggests promotion and education work being done by the Region and local towns and cities is impacting residents and knowledge gained is actually being translated into meaningful behaviours. A review of audit data reveals improper sorting of waste is impacting generation rates for some municipalities. Based on this data, there is an opportunity to reduce waste generation in all municipalities by reducing the amount of avoidable food waste. Additionally, in some municipalities, residents in multi-residential buildings do not have access to green bin collection and this could also impact the garbage generation rate of the municipality.

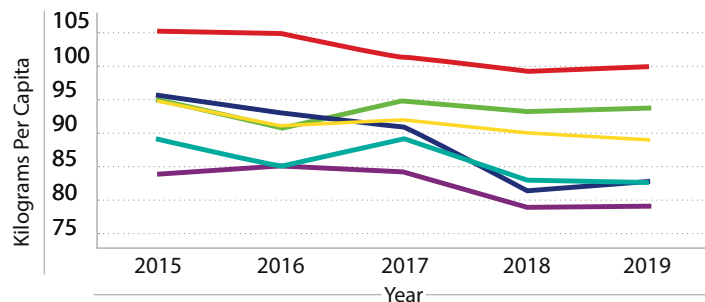




Promotion and education work is having an impact on residents and knowledge gained is being translated into meaningful behaviours.

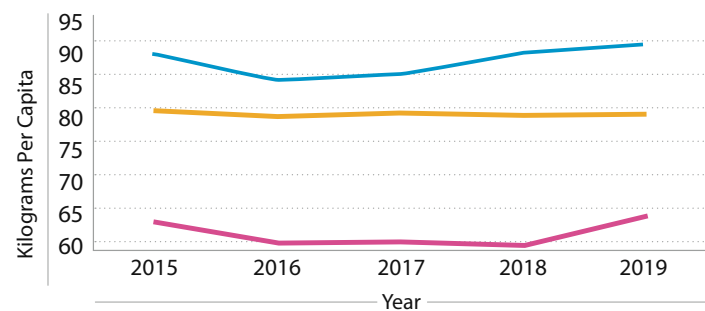


Northern Towns' Residual Waste (Garbage) Generation Rate (kg/capita)



| Local Town or City | 2015 | 2016 | 2017 | 2018 | 2019 |
|------------------------|------|------|------|------|------|
| Aurora | 105 | 105 | 101 | 99 | 100 |
| East Gwillimbury | 84 | 85 | 84 | 78 | 77 |
| Georgina | 95 | 91 | 95 | 93 | 94 |
| King | 96 | 93 | 91 | 82 | 83 |
| Newmarket | 88 | 85 | 88 | 83 | 83 |
| Whitchurch-Stouffville | 95 | 91 | 92 | 90 | 89 |

Southern Cities' Residual Waste (Garbage) Generation Rate (kg/capita)



| Local Town or City | 2015 | 2016 | 2017 | 2018 | 2019 |
|--------------------|------|------|------|------|------|
| Markham | 63 | 60 | 60 | 59 | 64 |
| Richmond Hill | 80 | 77 | 78 | 77 | 78 |
| Vaughan | 87 | 84 | 85 | 88 | 94 |

NOTE: Increase in Markham primarily due to contaminant materials that were pulled from the blue box stream and moved to the garbage stream.

PARTNERSHIPS FOR SUCCESS



Collaboration Drives Innovative Approaches to Reduction, Reuse and Diversion

York Region and its nine local cities and towns collaborate to provide integrated waste management services and programs focusing on reduction, reuse and recycling initiatives. Together, we deliver innovative programming to our communities including repair cafés, curbside giveaway days, battery, electronic waste and textile diversion programs and regular curbside collection.

Various community partners also work with the Region on innovative programs that combine waste prevention efforts with community building. These partnerships drive policy and program changes, deliver progress on the SM4RT Living Plan, share information and develop metrics to measure success.



Collaboration is a key theme of York Region's SM4RT Living Plan.





Waste Reduction and Collection Programs Provided by Local Cities and Towns

| COLLECTION TYPE | WASTE TYPE | Aurora | East Gwillimbury | Georgina | King | Markham | Newmarket | Richmond Hill | Vaughan | Whitchurch-Stouffville |
|--|------------------------|--------|------------------|----------|------|---------|-----------|---------------|---------|------------------------|
| Curbside Collection | Garbage | • | • | • | • | • | • | • | • | • |
| | Recycling | • | • | • | • | • | • | • | • | • |
| | Green Bin | • | • | • | • | • | • | • | • | • |
| | Leaf and Yard Waste | • | • | • | • | • | • | • | • | • |
| | White Goods | • | • | • | • | • | • | • | • | • |
| | Bulky Items | • | • | • | • | • | • | • | • | • |
| Special Programs | Textile Diversion | • | | | • | • | • | • | • | • |
| | Education and Outreach | • | • | • | • | • | • | • | • | • |
| Multi-Residential Collection | Garbage | • | | • | | • | • | • | • | • |
| | Recycling | • | | • | | • | • | • | • | • |
| | Green Bin | | | • | | • | | • | | |
| | Electronic Waste | • | | | | • | | | | |
| | Batteries | • | | | | • | | | | |
| School Collection | Recycling | • | | | | • | | | | |
| | Green Bin | • | | | | • | | | | |
| Municipal Facilities | Recycling | • | • | • | • | • | • | • | • | • |
| | Green Bin | • | • | • | | • | • | • | • | |
| | Batteries | • | | | • | • | • | • | • | |
| Public Spaces (parks, BIAs, etc.) | Garbage | • | • | • | • | • | • | • | • | • |
| | Recycling | • | • | | | • | • | • | • | • |
| | Green Bin | | | | | | • | | | |



"The Earth is what we all have in common."






— Wendell Berry

DIVERSION ACHIEVEMENTS

York Region Remains a Leader in Ontario with Verified Diversion Rate of 68% in 2018

York Region, in partnership with our local cities and towns, submits waste management program data to the Resource Productivity and Recovery Authority (the Authority) through the annual Datacall. The information is used to determine blue box costs and allocate funding from producers to assist with the cost of operating the Blue Box Program. The Datacall produces a ranking of municipal diversion rates across the province. York Region continues to be a leader with the highest verified diversion rate of 68% in 2018 in the large urban category.

Resource Productivity and Recovery Authority Annual Waste Diversion

| | | | |
|-------------|------------------------------------|---|--------------|
| 2015 | 1st for Large Urban Municipalities |  | 63% |
| 2016 | 1st Overall in the Province |  | 66% |
| 2017 | 1st for Large Urban Municipalities |  | 68% |
| 2018 | 1st for Large Urban Municipalities |  | 68%* |
| 2019 | Pending Verification |  | 66%** |

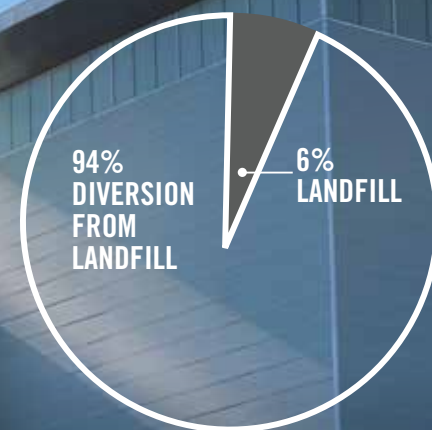
All values are rounded. The Authority does not recognize energy-from-waste as diversion. *Updated to reflect finalized 2018 RPRR diversion rate.

**2019 diversion rate impacted by high contamination in the blue box stream. The 2019 diversion data presented is pending verification by the Authority at the time of printing.

| TONNES COLLECTED | | | | | |
|----------------------------------|---------|---------|---------|---------|---------|
| Material | 2015 | 2016 | 2017 | 2018 | 2019 |
| Residual Waste | 128,148 | 130,400 | 134,249 | 124,319 | 129,144 |
| Organics | 96,593 | 97,044 | 97,877 | 99,065 | 100,874 |
| Blue Box | 85,335 | 84,468 | 85,298 | 83,526 | 78,243 |
| Leaf and Yard Waste | 44,370 | 37,407 | 39,477 | 42,287 | 42,814 |
| Other Diversion - Depots | 5,944 | 6,196 | 5,061 | 2,580 | 2,659 |
| Household Hazardous Waste | 1,305 | 1,268 | 1,256 | 1,219 | 1,297 |
| Electronics | 1,554 | 1,460 | 1,344 | 1,124 | 1,117 |

York Region continues to exceed the Regional Official Plan goal of 90% waste diversion from landfill.

In 2019, York Region achieved 94% waste diversion from landfill, which includes all tonnes collected through curbside and depot diversion programs and tonnes managed through energy-from-waste.





BLUE BOX RECYCLING

DID YOU KNOW?



In August 2019, the Ministry of the Environment, Conservation and Parks announced the Blue Box program would transition starting January 1, 2023 and ending December 31, 2025.

Municipalities led by Association of Municipalities of Ontario are self-nominating their preferred transition timing through Council resolutions. This process will help inform the transition mechanism in the regulations. York Region and its local municipalities have identified 2025 as its preferred transition timing.

Focus on Tackling Contamination and Managing Impacts of End Market Challenges

In 2019, 78,243 tonnes of blue box recyclables was collected, accounting for 22% of the total material collected in York Region. There were increased levels of contamination in the blue box stream, which resulted in a decline in York Region's marketable blue box tonnes from 2018 to 2019.

Changing composition of products and packaging creates confusion for residents and challenges for municipal programs. Newer, lighter-weight packaging such as drink pouches and coffee cups often mix two or more materials; they have no viable end markets and can end up contaminating bales of other materials during sorting.

Bagged recyclables and organics are two major sources of contamination in the blue box stream. York Region continues to emphasize promotion and education efforts along with enforcement at the curb, as such efforts are necessary to re-establish diversion success and realize cost efficiencies.

In addition to contamination, more stringent end market restrictions continue to pose a challenge. A total of 4,311 tonnes of collected mixed paper that could have been shipped under previous market criteria could not be marketed in 2019 due to contamination from a high level of food waste and was instead managed through contracts with privately owned energy-from-waste facilities.

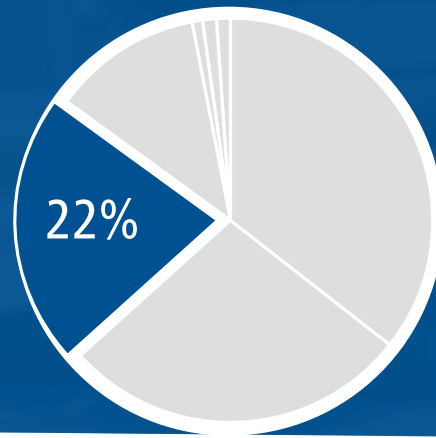
Between 2015 and 2017, around 60% of the blue box tonnage was marketed in overseas markets, with a large portion attributed to

paper bales. However, with stricter quality requirements imposed by overseas paper markets and increased levels of contamination received at York Region's Material Recovery Facility (MRF) in the Town of East Gwillimbury, it became more challenging to find paper end markets. To address this issue, the Region invested \$6.9M in capital upgrades in 2018 to reduce contamination within paper bales, which reduced the total tonnage of paper sent to end markets. Coupled with a decline in paper received at the MRF, there were fewer blue box tonnes marketed in general. For these reasons, only 31% of the blue box tonnage was managed overseas in 2019, while the remaining materials like plastics, metal cans, glass, and cardboard were sent to North American destinations for processing.

There was a significant reduction in tonnages of paper marketed by the Region in 2019 due to contamination. The Region and local cities and towns remain committed to improving the current system and have collaborated on a working group addressing blue box challenges. Eight additional staff were hired at the MRF in 2019 to remove contaminants to improve overall quality. In addition, the Region completed a \$1.4M capital upgrade in late 2019 to reduce contamination within the mixed paper bales and is now able to market all mixed paper bales as of mid-January 2020.

NOT THIS.



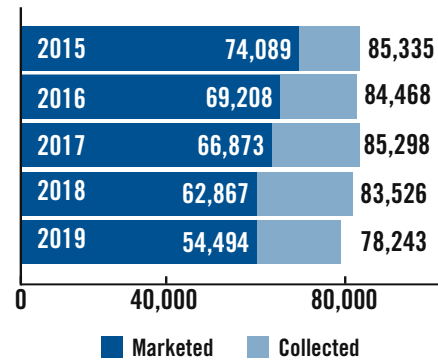


Preparing for a New Blue Box Program

The Ontario Ministry of the Environment, Conservation and Parks is moving ahead with a new provincial framework that makes producers fully responsible for the Blue Box Program. In 2019, the Ontario Government announced the timeline for transition of the program. Operations and costs for blue box materials will move from municipalities to producers beginning in January 2023 with all transfers expected to be complete by the end of 2025.

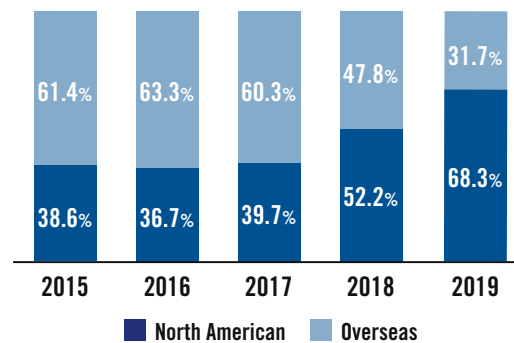
During transition, an important role for the Region, and its local cities and towns, will be ensuring the shift is seamless for residents. Collaboration at the local and Regional levels will help identify potential impacts of transition for the Region's integrated waste management system and prepare York Regional Council to make informed decisions as the process moves forward. During the lead up to transition, the Region and local cities and towns will continue to manage the current system, working to significantly reduce contamination in the blue box. As the process continues, York Region will remain engaged through the Association of Municipalities of Ontario and the Municipal Resource Recovery and Research Collaborative (Municipal 3Rs Collaborative), actively participate in consultations and continue to align current and future programs with the shift to full producer responsibility.

Blue Box Tonnes Collected and Marketed

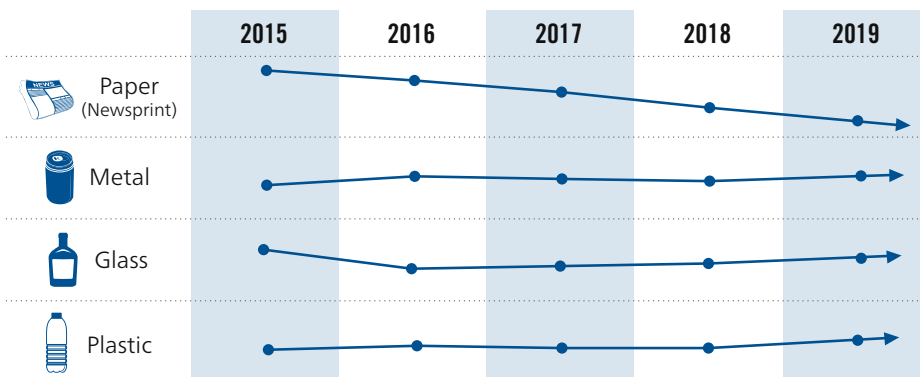


Note: 2019 Blue Box Residue Rate - 23% of collected blue box material was rejected during processing. This excludes the 4,311 tonnes of mixed paper recovered but not marketed due to contamination from leakage of organic material in collection trucks.

End Market of York Region Blue Box Material

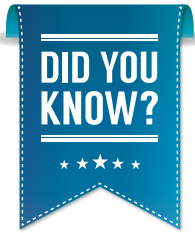
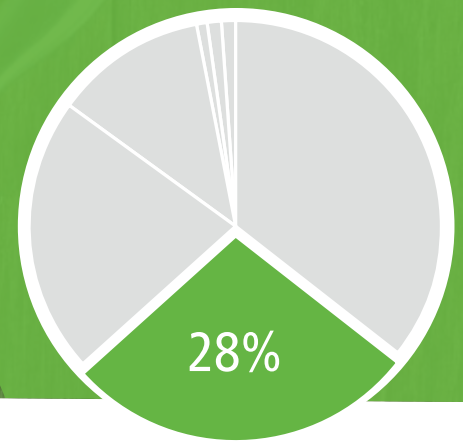


Trend of Marketed Blue Box Tonnes





ORGANIC WASTE



Two main types of technology are used to process diverted organic waste:

Aerobic Processing

In aerobic processing, organic material decomposes in the presence of oxygen, releasing carbon dioxide and leaving behind a dark, crumbly, soil-like substance that may be directly applied to farm fields. Modern processing typically occurs indoors and the air is treated to reduce odours before release to the environment.

Anaerobic Digestion

Anaerobic digestion takes place in a contained vessel under carefully controlled conditions. It excludes oxygen from the decomposition process and produces biogas, largely made up of methane, that can be harvested for fuel and leaves a mix of solid and liquid material called "digestate" that is rich in nutrients and has value as soil conditioner or fertilizer.

Region's Approach to Organics Processing Will Help Reduce Greenhouse Gas Emissions

York Region continues to be a leader in food waste reduction in Ontario. In 2019, we continued to promote York Region's Good Food program by working with partners such as grocery stores, farmers markets and local chefs to raise awareness and take action to reduce food waste. In 2019, 6,411 people were engaged at 67 Good Food outreach events. The Region also continues to collaborate with other municipalities and public health agencies through the Ontario Food Collaborative which supports efforts to reduce food waste and increase food literacy across the province.

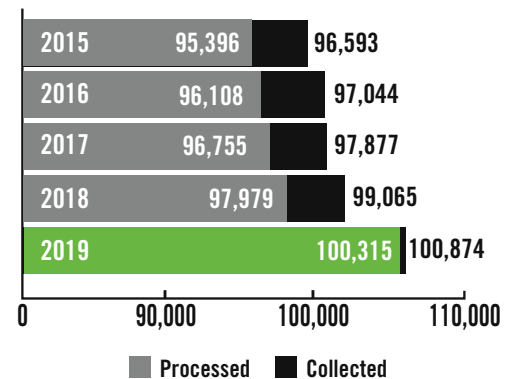
The municipal curbside green bin collection program is critical for keeping food and other organic waste out of landfill. The Region has one of the most inclusive green bin programs in the Province of Ontario. In York Region, organic waste represents 28% of the total waste collected. York Region residents generated 100,874 tonnes of green bin organics in 2019, with 100,315 tonnes being shipped to contracted facilities in Ontario for processing.

The Region distributed 1,246 backyard composters to residents in 2019. By starting to compost at home using these composters, families will divert an estimated 126 tonnes of organics from the curb each year.

York Region has secured reliable organic waste processing capacity until 2027. The Region's long-term plan favours anaerobic over aerobic composting, which is expected to reduce the Region's greenhouse gas emissions by roughly 15,000 tonnes per year.

The Region will issue a request for proposals in early 2021 to provide anaerobic digestion capacity for processing the Region's organics at privately owned facilities. The request for proposals will include transportation and anaerobic digestion processing for a period of 20 years, currently projected to commence as early as 2024.

Source Separated Organics Tonnes Collected and Processed

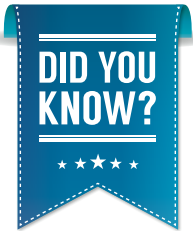
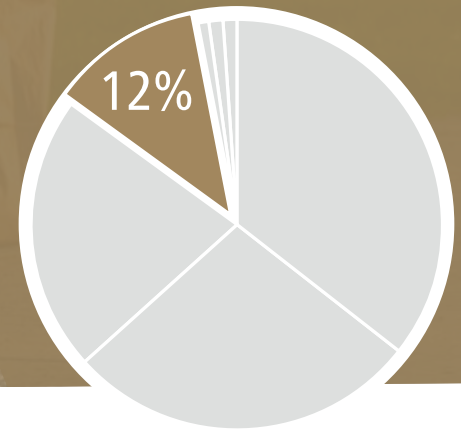


Organic Waste Processing Facility Contracts

| Facility | Current Term Expiry Date | Extension Term Expiry Date |
|--|--------------------------|----------------------------|
| Cornerstone Renewables (Elmira and Leamington, ON) | June 30, 2022 | N/A |
| GFL Environmental (Moose Creek, ON) | June 30, 2020 | June 2027 |
| Convertus (Formerly Renewi) (London, ON) | June 30, 2022 | June 2027 |



LEAF & YARD WASTE



Residents may drop off yard waste materials at two facilities in York Region – the Georgina Transfer Station and the Miller Waste Bloomington Yard Waste Facility. Yard waste is turned into nutrient-rich compost.

Community members are encouraged to reduce leaf and yard waste by utilizing a backyard composter.

Each composter can divert approximately 100 kg of organic waste per year.

Flexible Long-Term Processing Contracts Offer Stability to This Unpredictable Waste Stream

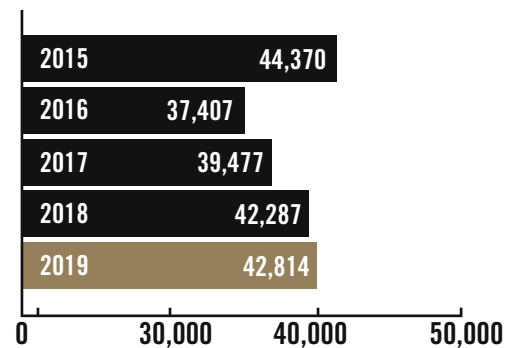
Leaf and yard waste is the most unpredictable waste stream as the tonnages collected are directly affected by weather and may also be impacted by invasive species infestations. During storms or wet conditions, the Region experiences more leaf and yard waste than during dry or drought conditions. Extreme weather events like ice storms, wind storms or seasonal changes can also affect the amount of leaf and yard waste generated making it difficult to predict collection capacity and timing.

York Region’s local cities and towns offer residents seasonal curbside leaf and yard waste collection programs every other week from spring to fall. Some of them have also added extra yard waste collections in the fall to account for trees losing their leaves very late in the season. Residents can also drop off leaf and yard waste at the Bloomington Yard Waste Facility in the City of Richmond Hill and the Georgina Transfer Station in the Town of Georgina. One of York Region’s waste contractors, Miller Waste, composts all yard waste collected in York Region at their Bloomington Facility. In 2019, York Region residents generated 42,814 tonnes of leaf and yard waste, representing 12% of total waste collected.

The Region has secured long-term leaf and yard waste processing capacity to accommodate annual tonnage fluctuations and unanticipated weather events. In 2015, the Region entered into a 10-year agreement with Miller Waste to process leaf and yard waste collected by local municipal partners

and at the Region’s Georgina Transfer Station with no annual maximum tonnage specified. The contract can be extended by mutual agreement for five years until October 2030, after which a further extension may be negotiated. Before the current contract expires, the Region will review and evaluate available options and present a preferred option to York Regional Council for approval.

Leaf and Yard Waste Tonnes Collected





WASTE DEPOT COLLECTION

DID YOU KNOW?



In 2019, residents recycled approximately 20,851 litres of cooking oil at York Region's waste depots.

Depots Increase Access to Diversion Programs

York Region's five public drop-off depots provide convenient outlets for residents and small businesses to drop off a variety of waste materials. In 2019, York Region collected 2,659 tonnes of divertible materials through depot collection. Divertible materials include: cooking oil, concrete, drywall, electronic waste, polystyrene foam, refrigerated appliances, scrap metal, shredded paper, textiles, tires and wood.

In January 2018, some key service level changes and operational enhancements were implemented at the York Region Community Environmental Centres (CEC) and the Georgina Transfer Station including modified hours of operation to provide residents with more convenient access to disposal services.

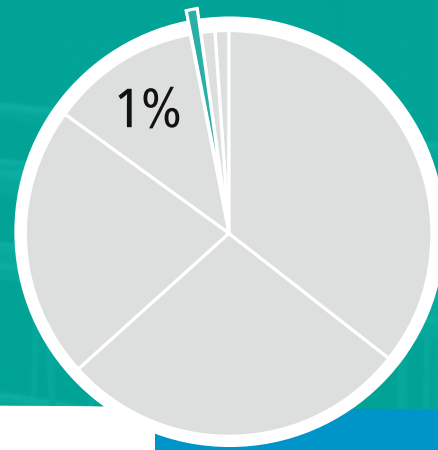
Additionally, the Region introduced weighing scales and weight-based fees for residual waste, concrete, drywall and wood. The fee changes brought fees in line with neighbouring municipalities and significantly improved cost recovery on high cost divertible material. With the introduction of scales and weight-based fees, these locations are now able to monitor the total number of visitors whereas prior to 2018 only paid transactions were tracked.

Based on customer use patterns and staff observations, it is evident residential users are adapting to new fees as they continue to use the CECs and the Georgina Transfer Station. Compared to 2018 visits, there was a 21% increase in the number of visits to Elgin Mills CEC while visits to McCleary Court remained almost the same.

Adding textile collection in 2019 could also drive more visitors to the sites in the future.

In January 2019, the Used Tire Collection Program transitioned to full producer responsibility under the Resource Recovery and Circular Economy Act, 2016. Under this new approach, producers are not required to compensate municipal depots for collecting used tires if they can achieve the regulated capture targets through private collection points. There are approximately 200 private tire collection points in York Region; however, there was still a notable spike in tonnage of tires collected at the Region's depots in 2019. A total of 291 tonnes of tires were collected, which is a 51% increase when compared to the tonnes collected in 2018. The increase in tonnage of tires collected was seen at all three facilities that accept tires, but most significantly at the Georgina Transfer Station. This increase can be attributed to the new regulation, which mandates collection points must accept up to 10 tires per day per customer, from both residential and small business customers, compared to the previous program with a limit of 4 tires per day accepted from residents only.

In 2019, York Region collected 2,659 tonnes of divertible materials through depot collection.



York Region has partnered with the Regions of Peel and Halton on a co-operative agreement to jointly procure the services of Evolve Recycling for the pick-up, transportation, processing and recycling of tires collected at the Region’s depots. The joint procurement helped reduce cost and leverage total tonnages of tires collected by the three municipalities to get the most favourable bid. The contract was initially for a 12-month term with allowances for four additional one-year extensions.

Total Tonnes of All Materials Collected at Community Environmental Centres (CEC) and Georgina Transfer Station

| TOTAL TONNES COLLECTED | | | | | |
|---------------------------|---------------|---------------|---------------|---------------|---------------|
| Location | 2015 | 2016 | 2017 | 2018 | 2019 |
| Elgin Mills CEC | 16,148 | 21,301 | 19,708 | 9,057 | 10,470 |
| McCleary Court CEC | 9,830 | 10,080 | 12,356 | 7,055 | 7,020 |
| Georgina Transfer Station | 16,383 | 16,876 | 16,333 | 15,020 | 14,484 |
| Total Tonnages | 42,361 | 48,257 | 48,397 | 31,132 | 31,975 |

The recycling landscape in Ontario is changing

Producers of the following items are becoming fully responsible for collecting and managing their products and packaging after consumers have finished using them:

- Batteries
- Blue Box
- Electronic waste
- Household hazardous waste
- Used tires

The Resource Productivity and Recovery Authority is responsible for oversight and enforcement.

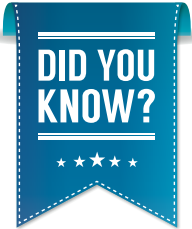
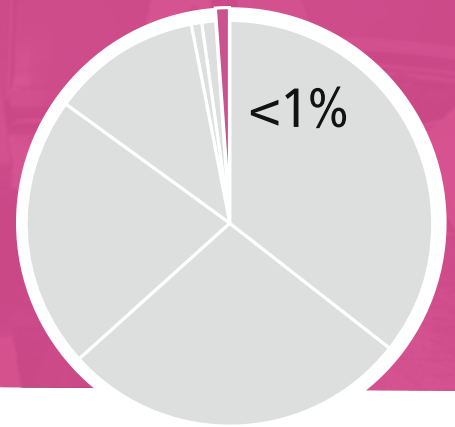
Used tires were the first material to move to this new model on January 1, 2019, with single-use batteries following in July 2020. Waste electronics will transition in January 2021, hazardous or special waste in July 2021 and blue box by the end of 2025.

Divertible materials include:
 cooking oil, concrete, drywall,
 electronic waste, polystyrene foam,
 refrigerated appliances, scrap
 metal, shredded paper, textiles,
 tires and wood.





ELECTRONIC WASTE



Electronic waste (e-waste) includes electronic equipment that is no longer wanted or has reached its end-of-life. E-waste piles up in our homes and in our landfills.

E-waste is hazardous material and over time can leak toxic elements, like mercury and lead, which can be harmful to the environment and to humans.

Bringing electronics to a local waste depot ensures proper recycling at safely managed sites to control any hazards.

Recycling also allows reliable resources found in electronics – recyclable plastics and even gold – to be reclaimed.

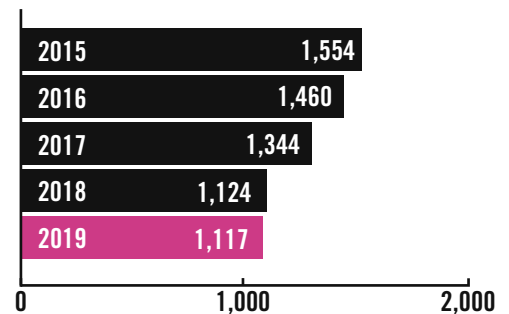
Electronic Waste Program to Transition to Full Producer Responsibility by End of 2020

End-of-life electronics such as computers, printers, televisions and smartphones are managed by the Ontario Electronic Stewardship (OES) under the Waste Electrical and Electronic Equipment (WEEE) program. The program includes the collection, processing, recycling and disposal of electronic waste material and is funded by brand owners and first importers of these products. Collected electronic waste is sent for recycling to recover valuable raw materials through environmentally responsible de-manufacturing of waste electronics.

In 2018, the Minister of the Environment, Conservation and Parks directed OES to prepare for the end of the WEEE program to enable transition of electronic waste to full producer responsibility. OES submitted its windup plan to the Resource Productivity and Recovery Authority (RPR) in December 2018 and consultations were held in the first quarter of 2019 before the plan was approved in August 2019. The WEEE program is expected to end on December 31, 2020. The program will continue operating during the transition period and York Region staff will remain involved in consultations throughout the windup process.

York Region provides residents with a network of drop-off facilities for electronic waste including Georgina Transfer Station, East Gwillimbury Household Hazardous Waste (HHW) and Recycling Depot, Markham HHW Depot and McCleary Court and Elgin Mills Community Environmental Centres (CEC). Regional depots collected 1,117 tonnes of electronic waste in 2019.

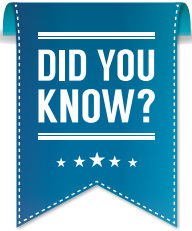
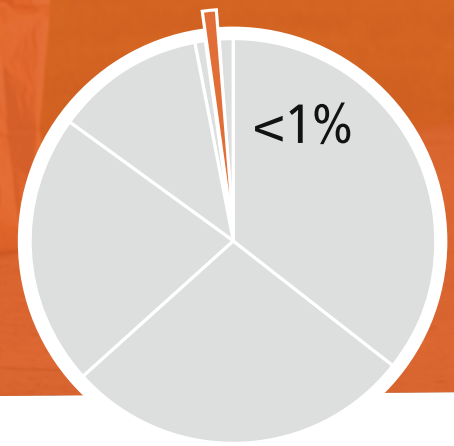
Waste Electrical and Electronic Equipment Tonnes Collected



Bringing electronics to a local waste depot ensures proper recycling at safely managed sites to control any hazards.



HAZARDOUS WASTE



Batteries that are improperly disposed of are the number one source of fires at our CECs and Waste Management Centres. Batteries can ignite other wastes in collection trucks and waste facilities, creating a serious safety risk. Always take batteries to a Household Hazardous Waste Depot or participating retailer that offers battery collection.

Battery Program Now Under Full Producer Responsibility

The Municipal Hazardous or Special Waste (MHSW) program is operated by Stewardship Ontario (SO) and allows residents to safely dispose household products that require special handling. Collection, processing and disposal of such material is funded by brand owners and first importers of these products and will continue to operate under the Waste Diversion Transition Act until the MHSW program is transitioned to full producer responsibility.

The collection program for single-use batteries transitioned to full producer responsibility on June 30, 2020 to coincide with the process of transitioning the Waste Electrical and Electronic Equipment program. All other designated materials will be fully transitioned on June 30, 2021. York Region continues to monitor regulatory changes and will remain engaged during transition.

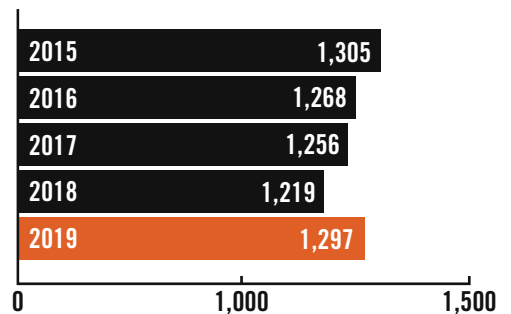
A new batteries regulation came into effect on July 1, 2020, following the transition of the battery recycling program in June. Battery producers are now individually accountable and financially responsible for collecting and reusing, refurbishing or recycling their batteries when consumers discard them. The new regulation includes both single-use and rechargeable batteries that weigh five kilograms or less and are not embedded in products. Batteries are collected at all Regional Depots and each site can accept up to 15 kilograms of batteries per day from any person.

Residents can drop off Household Hazardous Waste (HHW) at all five York Region public waste depots. Materials are recycled or treated and disposed of in an environmentally

responsible manner through specialized contract services. A new HHW Depot was introduced at the Elgin Mills Community Environmental Centre (CEC) in July 2018, making 2019 the first full year offering HHW service at that location. Additionally, York Region made service level changes in 2018 to better cater to customer needs, adjusting depot hours to ensure at least one HHW depot is open each day of the week. The total tonnages collected under the MHSW program at Elgin Mills CEC more than doubled in a one-year period, with 99 tonnes collected in 2018 and 211 tonnes collected in 2019.

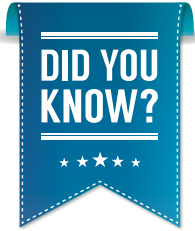
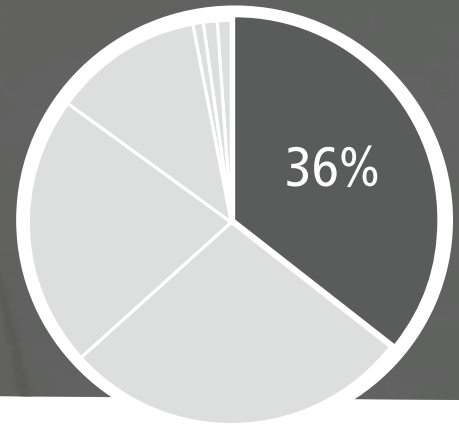
York Region collected 1,297 tonnes of HHW materials at Regional public drop-off depots in 2019. Many retailers also offer take-back programs for some HHW materials. Municipal depots and retail take-back locations ensure materials are safely managed to end-of-life and divert harmful substances from landfill, waterways and forests. Many HHW items contain materials that can be recovered, refined and reused in manufacturing new products, reducing the need for virgin resources.

Household Hazardous Waste Tonnes Collected





RESIDUAL WASTE



In 2019, costs for residual waste was budgeted at \$105 per tonne. This included costs for administration as well as hauling, transferring and processing residual waste.

Each York Region resident generates an average of 81 kg of household garbage each year. Every day actions such as choosing reusable items over single-use plastics, sharing, repairing and donating household goods instead of buying new and fully participating in diversion programs will help reduce our waste footprint in York Region.

Energy Recovery Helps to Achieve SM4RT Living Visionary Goal

In line with the SM4RT Living visionary goal of a world where nothing goes to waste, York Region prioritizes reduction, reuse and recycling diversion efforts, while any remaining residual waste is managed primarily through energy-from-waste recovery. Energy-from-waste captures energy content of residual waste, lowers greenhouse gas emissions, recovers metals and reduces the volume of waste going to landfill by 90%.

In 2019, the Region managed 151,510 tonnes of residual waste, which includes tonnes collected at the curb and drop-off depots as well as unmarketable recovered recyclables and residues from the blue box program. Residual waste accounts for 36% of the total waste collected in York Region – a 5% increase largely due to higher levels of contamination in the blue box stream and the incineration of contaminated mixed paper bales. The Region shipped 127,858 tonnes of residual waste for energy recovery: 58,069 tonnes to Covanta Niagara in New York, 38,023 tonnes to Emerald Energy from Waste in Brampton, Ontario and the remaining 31,765 tonnes to the Durham York Energy Centre (DYEC) in Clarington, Ontario.

York Region achieved 94% diversion from landfill in 2019, exceeding the 90% target established in the Regional Official Plan. This was achieved through successful diversion programs and commitment to sustainable waste management programs.

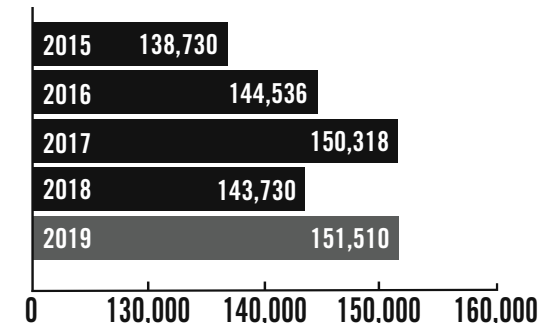
Residual Waste Shipments

| Destination | Tonnes |
|-----------------------------|----------------|
| Energy-From-Waste | 127,858 |
| Landfill | 22,900 |
| Year-End Carry Over* | 753 |
| Total Residual Waste | 151,510 |

Note: *Change in transfer station inventory January 1, 2019 and December 31, 2019.

Material sent for energy recovery includes blue box residue and residual waste collected curbside and at waste depots. Landfill disposal remains a last resort for managing Regional waste materials, once all other diversion options have been exhausted. Bulky items like mattresses and sofas are most likely to be sent to landfills as they can block the feed chute and ash discharger in energy-from-waste facilities, making them unsuitable for energy recovery. In 2019, York Region sent 22,900 tonnes of residual waste to Walker South Landfill in Thorold, Ontario and Twin Creeks Landfill in Watford, Ontario.

Residual Waste Collected Including Blue Box Residue Tonnes





“Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it is the only thing that ever has.”

—Margaret Mead

COMMUNITY ENGAGEMENT

Promotion and Education Drive Community Participation in Waste Reduction, Reuse and Diversion

York Region actively promotes waste reduction, reuse and diversion through engaging public communication and education programs in collaboration with community partners. Local cities and towns also provide education and information through their initiatives including annual waste collection calendars distributed to their residents. York Region is committed to continued collaboration with our local cities and towns, recognizing the importance of consistent messaging to minimize public confusion, educate and motivate residents to become waste ambassadors.

A key program expansion in 2019 was the launch of the Lendery, a library of things from which residents can borrow infrequently used items instead of purchasing them. The Lendery was first launched at Markham Public Library's Milliken Mills branch in July 2019 and has since opened a second location at the Newmarket Public Library in February 2020.

In 2019, York Region's waste communication and education campaigns included



BLUE BOX SOCIAL MEDIA

30+ TOTAL POSTS ON ALL PLATFORMS

FACEBOOK:

Reach **54,338**
Engagement **4,820**
Shares **118**
Comments **135**

TWITTER:

Retweets **19**
Likes **32**



67
OUTREACH EVENTS

6,411
RESIDENTS ENGAGED



385
PARTICIPANTS

267
ITEMS FIXED



York Region is committed to continued collaboration with our local cities and towns, recognizing the importance of consistent messaging to educate and motivate residents to become waste ambassadors.



TEXTILES

188 | **2,003**

MUNICIPAL
COLLECTION BINS

TONNES OF TEXTILES
COLLECTED

40 EVENTS

MOST COMMON ITEM:
FURNITURE



MULTI-RESIDENTIAL



PROMOTION AND EDUCATION
MATERIALS DELIVERED TO

5,700 UNITS

COMPOSTING



1,246

COMPOSTERS SOLD

126

TONNES OF
ORGANICS DIVERTED



2 PRESENTATIONS

24 STUDENTS
ENGAGED



139
ACTIVE
USERS

71
LENDERY
ITEMS

311
CHECK-
OUTS



SUMMARY



York Region Remains a Leader in Waste Management Now and Into the Future

York Region residents are part of an extensive integrated waste management system delivered with our local cities and towns. Together with community partners, new and innovative programming is being implemented through the updated SM4RT Living Plan showcasing York Region's leadership in sustainable waste management and inspiring change through the 4Rs - Reduce, Reuse, Recycle and Recover.

York Region continues to rank first among its peers for highest diversion rate in the large urban category year after year. York Regional and local Councils have made waste reduction and diversion a priority and continue to advocate to federal and provincial governments on waste management issues.



Regional and local Councils have made waste reduction and diversion a priority and continue to advocate to provincial and federal governments on waste management issues.

127,858
TONNES
RESIDUAL WASTE
SENT TO ENERGY-FROM-
WASTE FACILITIES

+

100,315
TONNES
ORGANIC
WASTE
PROCESSED

+

54,494
TONNES
BLUE BOX &
RECYCLING
MARKETED

42,814
TONNES
LEAF &
YARD WASTE
COMPOSTED

+

2,659
TONNES
DEPOT
DIVERSION
RECYCLED

+

1,297
TONNES
HOUSEHOLD
HAZARDOUS
WASTE
PROPERLY DISPOSED

+

1,117
TONNES
ELECTRONIC
WASTE
RECYCLED



94% DIVERSION FROM LANDFILL

THANK YOU TO OUR PARTNERS:

