ATTACHMENT 1

2020 ANNUAL WASTE MANAGEMENT REPORT

PARTNERSHIPS DRIVING
Reduction | Reuse | Recycling | Recovery

York Region

INTRODUCTION

The Regional Municipality of York 2020 Annual Waste Management Report summarizes York Region's integrated waste management system and reports on progress of the Region's waste management system and reports on progress of the Region's SM4RT Living Integrated Waste Management Master Plan (SM4RT Living Plan). The report provides information about the overall amount of material collected and processed and includes highlights on progress being made towards the objectives set out in the SM4RT Living Plan. This report will be submitted to the Ministry of Environment, Conservation and Parks to satisfy the Durham York Energy Centre Environmental Assessment condition for diversion reporting.

York Region delivers programs and services to more than 1.2 million residents in nine cities and towns: the Towns of Aurora, East Gwillimbury, Georgina, Newmarket, Whitchurch-Stouffville, the Township of King and the Cities of Markham, Richmond Hill and Vaughan.

2020 was a year filled with uncertainty for many Canadians as the COVID-19 pandemic impacted lives worldwide. A state of emergency declaration and stay-at-home orders have proved challenging for York Region residents and staff. Despite these challenges, York Region, in partnership with its nine local cities and towns, demonstrated resiliency and quickly adapted to observe COVID-19 safety protocols as staff continued to implement innovative waste programs. While there were some changes to program delivery, waste management services were provided to residents through the Region's two-tier structure where local cities and towns manage curbside collection of waste and York Region manages waste transfer, processing and disposal. York Region experienced an increase in tonnages for all curbside materials in 2020 as a result of changing waste behaviours. In-person events were cancelled due to COVID-19; however, the Region and its partners were able to pivot resources and pilot innovative programs in digital formats.

Throughout 2020, York Region remained involved in consultations and provided advocacy for various legislative changes, including Blue Box Transition, Food and Organic Waste Policy Statement and Household Hazardous Waste regulations.

The Region will remain engaged as the waste management landscape in Ontario evolves. Continued participation is critical for the Region to successfully improve the sustainability of its integrated waste management system.

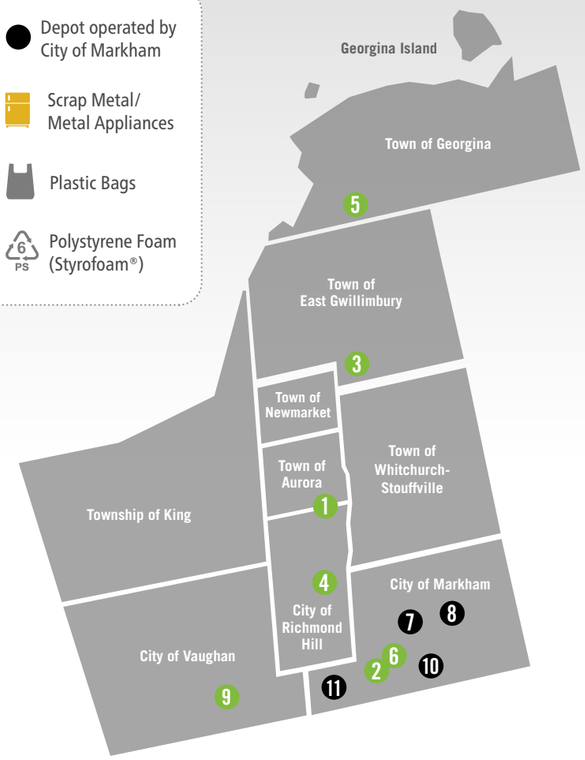
Despite these challenges, York Region, in partnership with its area nine local cities and towns, demonstrated resiliency and quickly adapted to observe COVID-19 safety protocols as staff continued to implement innovative waste programs.

Note: Images featured in this document were taken prior to COVID-19.

WASTE DEPOT LOCATIONS AND ACCEPTED ITEMS

LEGEND

- Depot operated by York Region
- Depot operated by City of Markham
- Yard Waste
- Household Hazardous Waste
- Scrap Metal/ Metal Appliances
- Blue Box Recyclables
- Garbage
- Plastic Bags
- Electronics
- Clothing and Fabrics
- Polystyrene Foam (Styrofoam®)



1. Bloomington Yard Waste Depot
2. Earl Turcott Transfer Station (Not open to the public for drop off)
3. East Gwillimbury Household Hazardous Waste and Recycling Depot
4. Elgin Mills Community Environmental Centre
5. Georgina Transfer Station, Household Hazardous Waste and Recycling Depot
6. Markham Household Hazardous Waste Depot
7. Markham Unionville Depot
8. Markham Village Depot
9. McCleary Court Community Environmental Centre
10. Milliken Mills Depot
11. Thornhill Depot

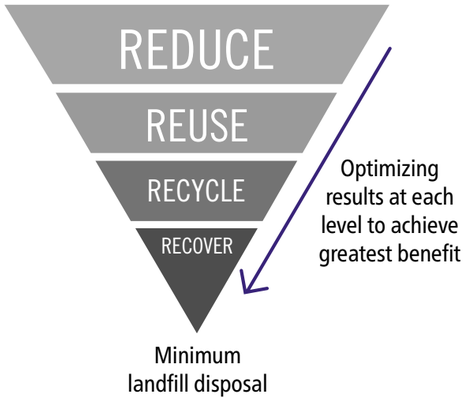
SM4RT LIVING

Recovery and Resilience through the Circular Economy

York Region's Integrated Waste Management Master Plan (SM4RT Living Plan) declares a visionary goal of a world where nothing goes to waste. The SM4RT Living Plan identifies the Region's strategy to move away from the traditional linear economy where resources are lost after use to a more sustainable circular economy approach, where resources are continuously recaptured and reused. The Region's focus on a circular economy can support a strong recovery from impacts of COVID-19 by supporting local innovations in resource recovery, product design and zero waste services through implementation of policy and programs identified in the SM4RT Living Plan. Work completed under the SM4RT Living Plan in 2020 included advocacy for circular economy in waste management regulations, continued focus on food waste reduction and diversion and planning for the 2021 launch of the Circular Economy Initiatives Fund. This work supports more innovation in the non-profit sector and will extend the Region's reach. Strong collaborations and partnerships with community groups, businesses and other levels of government ensures resiliency and sustained long-term efforts to reduce waste and promote a circular economy. In 2021, the plan identifies more opportunities to focus on internal practices and community programs to reduce single-use items, engage community stakeholders and research opportunities to drive circularity alongside municipal peers in City of Toronto, City of Guelph and other communities nationwide. These efforts will provide more opportunities to drive York Region's commitment to the 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

Building circular economy knowledge and capacity will be essential to help accelerate the transition for a lasting recovery. The linear model of waste management is reactive in a time of crisis, while a circular economy anticipates possible risks of future crises and has built-in capabilities to ensure the Region's resilience.



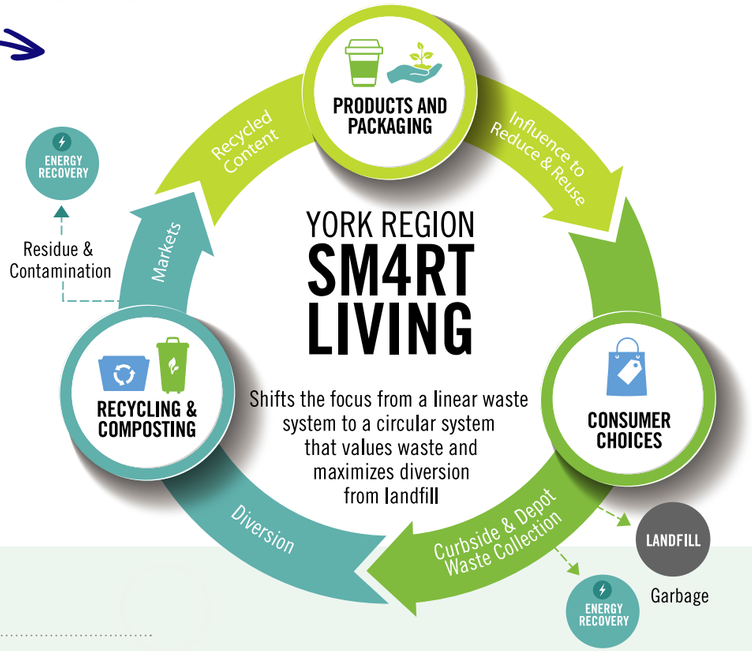
The Region's focus on a circular economy can support a strong recovery from the impacts of the COVID-19 pandemic.

LINEAR ECONOMY

Where we are

CIRCULAR ECONOMY

Where we want to be



Products and Packaging

- Advocating to the Province to make producers responsible for capture and recycling of their products to drive better packaging and product design that is more recyclable and durable for reuse
- Advocating for provincial leadership to drive change and create opportunities for innovative solutions that result in increased diversion and improved environmental outcomes

Influence Consumer Choices

- Providing residents opportunities for reuse and repair through innovative programs such as Repair Cafés, Curbside Giveaway Days and textile diversion
- Building community partnerships to expand programs and shift mindsets and behaviours to reduce consumption and increase reuse

Increasing Diversion through Recycling and Composting

- Providing convenient, accessible and efficient collection programs to single-family and multi-residential homes
- Reclaiming energy and resources such as metals from residual waste
- Proactively planning for long-term capacity needs and leveraging technology to improve efficiency of infrastructure
- Maximizing opportunities for recycled material to become new products and packaging

Images taken prior to COVID-19

Building on Success: SM4RT Living Plan Objectives and Actions

As approved by York 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. Some actions have been delayed due to public health restrictions and broader impacts of COVID-19.

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

APPROVED BY COUNCIL IN APRIL 2020

OBJECTIVE 1: Successfully navigate legislative changes

This is about responding flexibly and using legislative changes to continually improve SM4RT Living.	●	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 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: Use resources and infrastructure more strategically to achieve SM4RT Living

This is about focusing efforts, innovating and improving coordination to create a more seamless, cost-effective system and do more with available resources.	●	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.
	●	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: Inspire people across the Region to embrace SM4RT Living and advance the circular economy

This is about the value of partners and pioneers in igniting the uptake of SM4RT Living and the circular economy across our communities.	●	Region and local municipalities encourage grassroots community initiatives that align with 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.

● ONGOING ● INITIATED ● DELAYED

WASTE GENERATION

TARGETS

GREEN BIN

71 kilograms per capita by 2031

GARBAGE

66 kilograms per capita by 2031

Behaviour Change due to COVID-19 Affected Waste Generation

York Region monitors its progress toward the SM4RT Living Plan waste reduction targets by tracking waste generation.

Waste generation rate measures the tonnage of waste per person (kg/capita) collected curbside. As the Province moves to full producer responsibility for the blue box program, the Region will focus its reporting on green bin (organics) and garbage generation, the two key streams that will remain as mandated municipal responsibilities.

Due to COVID-19, 2020 was an unprecedented year as the way people lived and worked changed drastically. As seen in Graph 1, there was a significant increase in both curbside green bin and curbside garbage generation rates in 2020. For the green bin, the generation rate increased from 84 kilograms per person in 2019 to 92 kilograms per person in 2020, while the garbage generation rate increased from 81 kilograms per person in 2019 to 91 kilograms per person in 2020. Interestingly, there was also a slight increase in the blue box generation rate from 2019 to 2020. This rate was previously on a downward trend. All nine local cities and towns also recorded increases in their green bin and garbage generation rates, as seen in Graphs 2 to 5.

These notable increases were most likely due to the impacts of COVID-19. The stay-at-home orders issued in early 2020 resulted in different behaviour patterns at home that impacted waste generation and curbside tonnages. Additionally, many people began working from home, shifting waste from the industrial, commercial and institutional (ICI) sector to the residential waste stream.

Studies done in 2020 concluded there have been considerable changes in waste generation in Canada during the pandemic. One study conducted a few months after the lockdowns started found several Ontario municipalities, representing close to 8.5 million residents, experienced an increase in materials at the curb. These municipalities collected on average 4% more residential garbage and 12% more residential green bin materials.

Additionally, spending more time at home appears to have impacted household food consumption habits. A study conducted by Dalhousie University provided evidence food waste generated by Canadians at home increased during the pandemic, with the average Canadian household generating 13.5% more food waste. As many residents remain at home, this increase in organic waste generation is expected to continue into 2021. The green bin program will continue to be an important way to divert food waste from disposal and recover resources and energy in the waste stream. The Region's planned shift to anaerobic digestion for processing will further reduce greenhouse gas emissions from processing. York Region continues to work with partners to raise awareness and take action to reduce organic waste through continued promotion of the Region's food waste reduction initiative, the Good Food Program. The Region also continues to collaborate with provincial, regional and municipal stakeholders through the Ontario Food Collaborative, which encourages residents to eat well and reduce food waste.

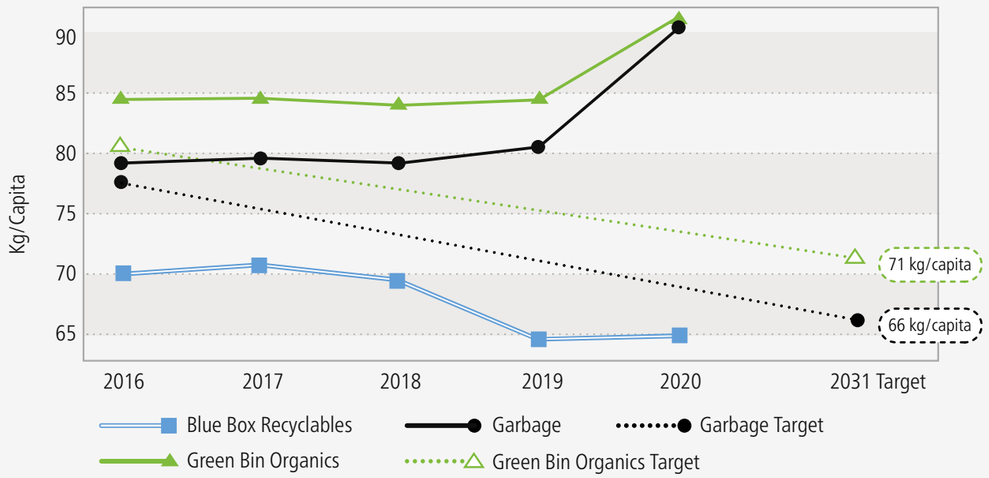
In the initial stages of the pandemic, restrictions such as garbage bag limits in some municipalities and enforcement at the curb were relaxed; these changes could have also resulted in increased generation rates. There was anecdotal evidence that residents were not as diligent with sorting waste due to COVID-19 concerns. Once the pandemic ends, it might be challenging to reverse this and other new waste behaviours. It will be essential to track waste generation trends over the next few years to understand whether changes during the pandemic and resulting differences in the subsequent post-COVID-19 era will affect residents' waste behaviours.

Although the pandemic negatively impacted the Region's waste generation rates, there were noteworthy happenings in 2020 that allowed the Region to continue to serve and remain engaged with residents. This continued engagement will be critical to help reverse the current waste generation direction as the Region recovers and drive long-term behaviour change to help reduce waste generation and move the Region closer to its targets. The Region and local municipalities have been able to maintain curbside and depot waste management services to residents throughout the pandemic in a manner that prioritized safety. Staff remained flexible and adapted quickly as they navigated a constantly evolving situation.

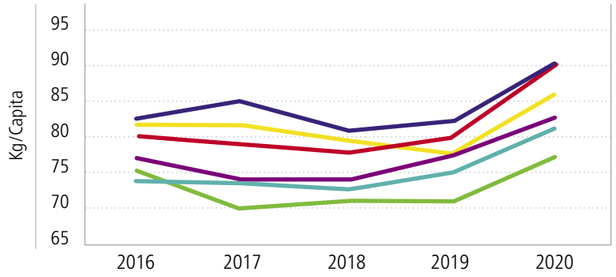
Through collaboration with its local cities and towns and strengthened partnerships with community groups, the Region was able to pivot in a time of uncertainty and deliver programs in creative and innovative ways. As a result, the Region was still able to positively impact residents. Examples of the Region's collaborations and innovative program delivery are detailed in the 'Partnerships' and 'Community Engagement' sections of this report.

Through collaboration with its local cities and towns and strengthened partnerships with community groups.

Graph 1: York Region Residential Curbside Waste Generation Rate (kg/capita)

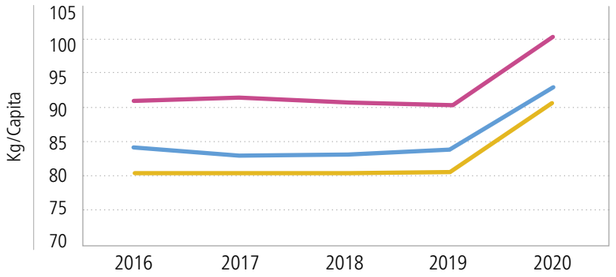


Graph 2: Northern Towns' Green Bin Waste Generation Rate (kg/capita)



Local Town	2016	2017	2018	2019	2020
Aurora	80	78	77	80	90
East Gwillimbury	76	74	74	77	83
Georgina	75	70	71	71	76
King	83	85	81	83	90
Newmarket	74	74	73	75	81
Whitchurch-Stouffville	82	82	79	77	86

Graph 3: Southern Cities' Green Bin Waste Generation Rate (kg/capita)

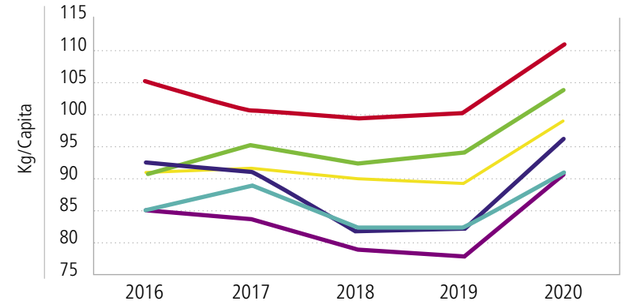


Local City	2016	2017	2018	2019	2020
Markham	91	92	91	91	100
Richmond Hill	81	80	80	81	91
Vaughan	84	83	84	85	93

Looking ahead, the Region is well positioned to recover and get back on track with its targets, based on the continued engagement with residents throughout the pandemic as well as a focus on moving toward a circular economy. Through its SM4RT Living Plan, York Region has identified several initiatives to encourage that mindset shift from a linear (take-make-dispose) model to a circular way of thinking, where everything has value. The Circular Economy Initiatives Fund launched in March 2021 is one such initiative. The Fund will empower community partners to develop and execute waste reduction and reuse projects that are expected to help the Region achieve its waste generation targets.

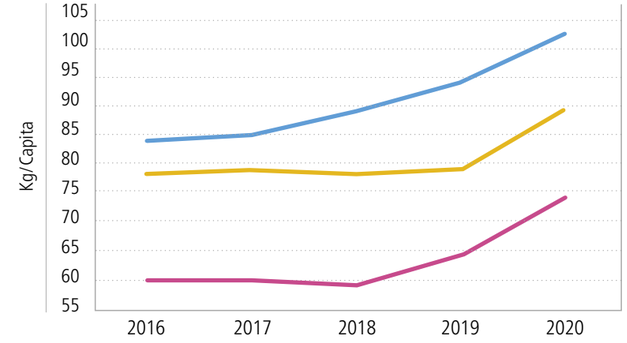
York Region has identified several initiatives that will help encourage that mindset shift from a linear model to a circular way of thinking.

Graph 4: Northern Towns' Residual Waste (Garbage) Generation Rate (kg/capita)



Local Town	2016	2017	2018	2019	2020
Aurora	105	101	99	100	111
East Gwillimbury	85	84	78	77	91
Georgina	91	95	93	94	104
King	93	91	82	83	96
Newmarket	85	88	83	83	91
Whitchurch-Stouffville	91	92	90	89	98

Graph 5: Southern Cities' Residual Waste (Garbage) Generation Rate (kg/capita)



Local City	2016	2017	2018	2019	2020
Markham	60	60	59	64	74
Richmond Hill	77	78	77	78	89
Vaughan	84	85	88	94	103

PARTNERSHIPS

Images taken prior to COVID-19

Local Municipalities and Community Partners Help the Region Deliver Innovative Programs

York Region and its nine local cities and towns continue to collaborate to provide integrated waste management services and programs focusing on reduction, reuse and recycling initiatives. In 2020, most services were maintained with only a few being modified to adjust to the impacts of COVID-19. The Region was able to adapt and modify in-person programs to deliver drive-through events, increase virtual engagement and education through social media and waste applications and, in some cases, resume activities in reduced family-sized groups.

These impacts will continue to affect program delivery for 2021 and modifications for COVID-19 safety protocols will be incorporated into future programs.

The Region continues to build community partnerships that will help drive innovative programs that promote waste prevention and community building.

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	•			•	•	•	•	•	

DIVERSION ACHIEVEMENTS

York Region Remains a Leader in Ontario with Verified Diversion Rate of 66% in 2019

York Region, in partnership with its local cities and towns, submits an annual Datacall to the province through the Resource Productivity and Recovery Authority (RPRA/the Authority). The information is used to determine blue box costs and to 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 66% in 2019 in the large urban category.

Resource Productivity and Recovery Authority Annual Waste Diversion

2016	1st Overall in the Province	**66%**
2017	1st for Large Urban Municipalities	**68%**
2018	1st for Large Urban Municipalities	**68%**
2019	1st for Large Urban Municipalities	**66%***
2020	Pending Verification	**66%****

All values are rounded. The Authority does not recognize energy-from-waste as diversion.

*Updated to reflect finalized 2019 RPRA diversion rate.

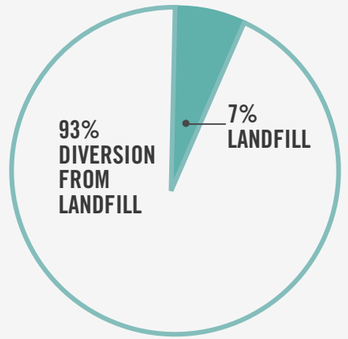
**The 2020 diversion data presented is pending verification by the Authority at the time of printing.

Table 1: Total Tonnes Collected

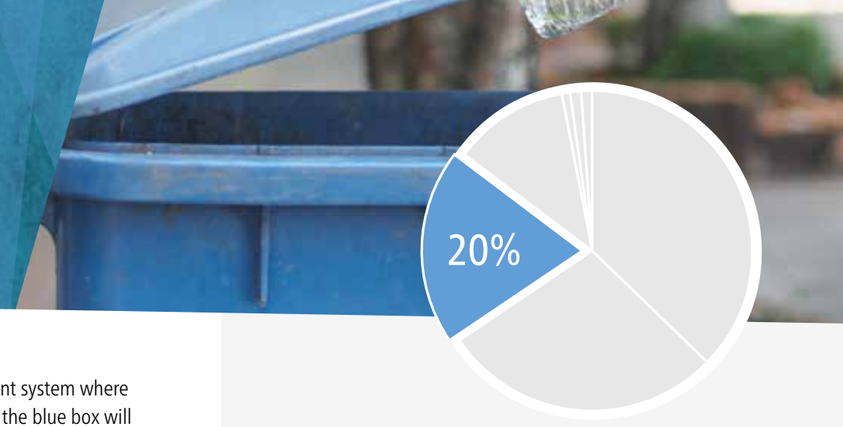
Tonnes Collected					
Material	**2016**	**2017**	**2018**	**2019**	**2020**
Residual Waste	130,400	134,249	124,319	129,144	145,464
Organics	97,044	97,877	99,065	100,874	112,403
Blue Box	84,468	85,298	83,526	78,243	79,087
Leaf and Yard Waste	37,407	39,477	42,287	42,814	44,216
Other Diversion - Depots	6,196	5,061	2,580	2,659	1,612
Household Hazardous Waste	1,268	1,256	1,219	1,297	1,459
Electronics	1,460	1,344	1,124	1,117	1,205

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

In 2020, York Region achieved 93% waste diversion from landfill, which includes all tonnes collected through curbside and depot diversion programs and tonnes managed through energy-from-waste.



BLUE BOX



DID YOU KNOW?

Since the beginning of the pandemic, the Region received over 120,000 masks and gloves (PPE) at its recycling facilities.

Collaboration to Confront Continued Contamination During COVID-19

As shown in Graph 6, there have been fluctuations in the amount of blue box recyclables collected and marketed in the past five years. In 2020, 79,087 tonnes of blue box recyclables were collected, accounting for 20% of the total material collected in York Region, which was a slight increase in tonnage compared to 2019. This was unusual compared to the overall downward trend seen from 2016 to 2018 that was most likely due to an increased amount of lightweight material like plastics instead of heavier materials such as paper fibers in the recyclables collected.

With the onset of the COVID-19 pandemic in 2020, the ongoing challenge of blue box contamination was exacerbated by personal protective equipment (PPE) such as masks and gloves being placed in the blue box.

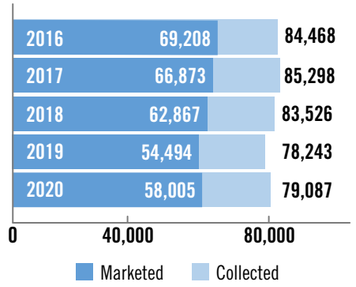
Overall, contamination was broad across all cities and towns. Future efforts by the Region will focus on more education to help residents best understand acceptable items for recycling and 'what goes in the blue box'. The Region's estimated contamination rate from in-bound waste audits was 18.8%.

The Region is working with local municipalities on a two-phase approach to reduce blue box contamination. Phase one, developed and implemented by Region and local municipal staff from the southern three municipalities, targeted PPE found in the blue box and was launched in October 2020 through a multi-faceted communication and enforcement campaign.

Phase two will explore how to expand efforts to address contamination across all nine cities and towns targeting common offenders such as bagged materials. An integrative and collaborative approach is needed to address broader contamination as no two communities are alike and specific tactics are required to address different problematic materials based on community needs. Addressing contamination will not only result in a more resilient integrated waste management system where residents can trust what they place in the blue box will be recycled, but it will also contribute towards a smooth transition to full producer responsibility.

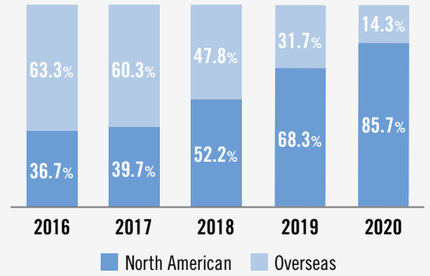
In 2019, the Region completed a $1.4M capital upgrade to reduce contamination within the mixed paper bales; this resulted in a slight increase in York Region's marketable blue box tonnes from 2019 to 2020 as shown in Graph 6. Notwithstanding these measures, approximately 634 tonnes of collected mixed paper could not be marketed due to contamination in 2020 and had to be managed through energy-from-waste facilities. This is a significant reduction from the 4,311 tonnes that could not be marketed due to contamination in 2019. The upgrade also resulted in a large increase of mixed paper bales marketed in North American end markets. In 2020, unlike previous years, the majority of blue box tonnages marketed (86%) were sent to North American destinations for processing with only 14% of blue box tonnages sent to overseas markets as shown in Graphs 7 and 8. This is a significant and positive shift towards securing closer recycling destinations.

Graph 6: Blue Box Tonnes Collected and Marketed

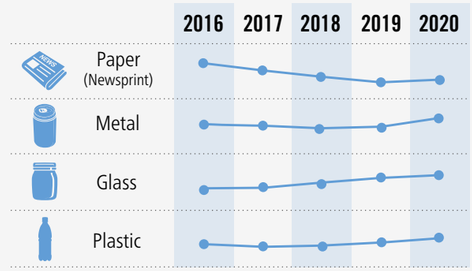


Note: 2020 Blue Box Residue Rate - 25.5% of collected blue box material was rejected during processing.

Graph 7: End Market of York Region Blue Box Material



Graph 8: Trend of Marketed Blue Box Tonnes



Addressing contamination will not only promote a more resilient integrated waste management system, but it will also contribute towards a smooth transition to full producer responsibility.

Transition Toward a New Blue Box Program

The Ontario Ministry of the Environment, Conservation and Parks (Ministry) is moving ahead with a new provincial framework that makes producers fully responsible for the Blue Box Program. In 2020, York Region participated in working groups, webinars and consultations that informed the development of the proposed Blue Box regulations and Stewardship Ontario's wind-up plan. Led by the Association of Municipalities of Ontario (AMO), municipalities self-nominated their preferred transition date through Council resolutions to aid the development of a transition schedule. In June, all nine local municipal councils and Regional Council passed resolutions to request transition in 2025, as the later transition date allowed greater certainty and minimized risk. In October 2020, the Ministry released the proposed Regulation (including proposed regulatory amendments to make producers responsible for operating the Blue Box Program under the Resource Recovery and Circular Economy Act, 2016) for public comment. York Region staff submitted comments that included local municipal feedback and concerns and aligned with other municipal peers through the Association of Municipalities of Ontario and the Municipal 3Rs Collaborative. The Ministry is expected to finalize the Blue Box regulation in 2021.

2021 » 2022 » 2023 » 2024 » 2025

Producers preparing to assume control of the program.

Producers negotiate funding and contract terms with interested municipalities and service providers.

Operations and costs transition from local towns and cities to producers.

TRANSITION COMPLETE BY THE END OF 2025

During transition, the Region will work towards a seamless shift for residents. The Ministry has directed that residents should experience the same or improved access to blue box services and the list of acceptable materials will be consistent across Ontario under the producer-led Blue Box Program. As the process continues, York Region will remain engaged through the Association of Municipalities of Ontario and the Municipal 3Rs Collaborative, actively participate in consultations, and will continue to align current and future programs with the shift to full producer responsibility.

Managing **Blue Box Contamination**

TRANSITION
Addressing contamination will help municipalities meet stringent post-transition contamination requirements.

HEALTH & SAFETY
Proper disposal of PPE and hazardous waste reduces health and safety risks to collection and recycling facility staff.

TRANSPARENCY
Residents should have confidence in the blue box program and trust that what is put in the blue box is recycled.

COST
There are significant costs if contamination is not addressed. Contamination impacts revenue generated from marketing blue box materials.

COMMUNICATION
York Region and local municipalities collaborate to develop effective, multifaceted communication campaigns to target contamination.

EDUCATION
Everyone has a part to play to reduce contamination. Through various methods residents are reminded of recycling best practices and the impact of contamination.

ENFORCEMENT
Curbside enforcement techniques, including targeted education for repeat offenders, are used to inform residents.

TRACKING & MONITORING
Progress is monitored through waste audits and observational data. Data is leveraged to inform actions.

In an ideal state, the blue box program is more convenient, less complex and produces good environmental outcomes.

Delivering a blue box program that meets these standards will give residents confidence that products or packaging labelled as recyclable will be properly recycled through the program.

- ☑ Leverage data
- ☑ Work with partners
- ☑ Target education
- ☑ Modify as needed

ORGANIC WASTE

DID YOU KNOW?

You can save time, money and food waste by trying these simple tips:

- *Shop your pantry, fridge and freezer first*
- *Prepare a meal with your family*
- *Plan a night for leftovers*
- *Create and shop with a list*
- *Choose local food*
- *Buy only what you need*
- *Store or freeze food properly to keep it longer*
- *Organize shelves so older items are up front*
- *Make meals using perishable items first*
- *Serve smaller portions*
- *Compost fruit and veggie peels*

York Region Has a Long-Term Plan for Securing Organics Processing Capacity

Organic waste represents 29% of the total waste collected in York Region. As shown in Graph 9, York Region residents generated 112,403 tonnes of source separated organics in 2020, a notable increase of an additional 12,000 tonnes compared to 2019. In 2020, there were 111,532 tonnes of source separated organics, including leachate, shipped to contracted composting facilities in Ontario for processing. This was also an increase of 11,217 tonnes compared to the previous year.

York Region has secured reliable organic waste processing capacity until 2027 as shown in Table 2. The Region's long-term plan, approved by Regional Council in 2020, favours anaerobic digestion technology over aerobic composting. This technology is expected to reduce the Region's greenhouse gas emissions by up to 15,000 tonnes per year. In 2021, York Region will issue a request for proposals to provide anaerobic digestion capacity for processing the Region's organics at privately-owned facilities. To incentivize a facility to locate close to York Region, proposals will be evaluated using a greenhouse gas (GHG) emissions calculation. The GHG calculation will consider emissions from the transportation of unprocessed Source Separated Organics, transportation of end products and residues, process energy requirements, and biogas end-use among other factors. Proponents will be required to use anaerobic digestion technology to produce energy and soil amendment products. The request for proposals will include transportation and anaerobic digestion processing for a period of 20 years, currently projected to start as early as 2024.

Staff Provided Recommendations for the Amendments to the Province's Food and Organic Waste Policy Statement

The Ministry of Environment Conservation and Parks proposed amendments to the Food and Organic Waste Policy Statement at the end of 2020. While the Provincial Food and Organic Waste Policy Statement aligns with the Region's existing commitments and leadership on food waste reduction and organics diversion through our Good Food and green bin programs, some of the proposed changes raised concerns and the Region and local cities and towns collaborated on comments to the Province.

The Region's plans to shift to anaerobic digestion for processing green bin materials supports the policy direction to maximize resource recovery and supports development of capacity for local organics processing. However, there are concerns with the proposed amendments to the Policy Statement encouraging the inclusion of compostable products and packaging in municipal green bin programs. Establishing producer responsibility must be a priority as producers continue to advertise products and packaging as compostable despite being incompatible with most municipal green bin programs. Once these incompatible materials are placed in the green bin and fail to break down, the result is increased costs for processing, increased residue rates and reduced consumer confidence in the waste management system. Producers, not municipalities, must be held responsible for finding cost-effective solutions to manage their compostable packaging.

Regional comments also included the recommendation for collaboration with the federal government to improve national compostable standards to align with single-use plastics strategy (for items such as straws, plastic takeout containers and grocery bags). This stakeholder collaboration among producers, municipalities, facility owners and standards agencies is key to the development of certification standards and labelling requirements, and finding innovative and environmentally-beneficial solutions to ensure these products can be managed and recovered for beneficial use.

Anaerobic digestion technology is expected to reduce the Region's greenhouse gas emissions by up to 15,000 tonnes per year.

Graph 9: Source Separated Organics Tonnes Collected and Processed

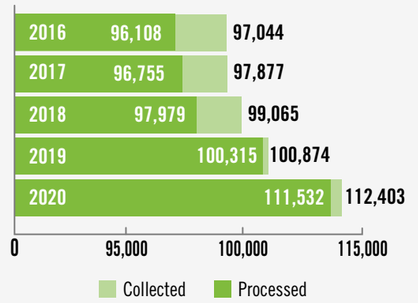
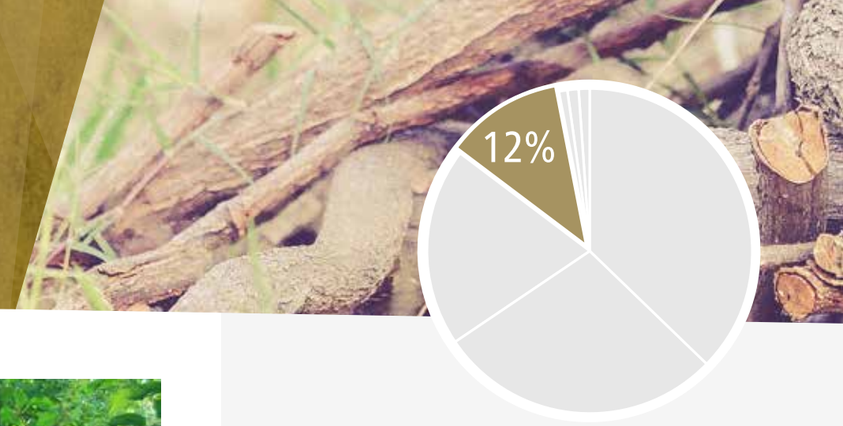


Table 2: Organic Waste Processing Facility Contracts

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 and Ottawa, ON)	June 30, 2022	June 2027

LEAF & YARD WASTE



DID YOU KNOW?

Residents can drop off excess yard waste for a fee at three waste depot locations in York Region- the Georgina Transfer Station, the McCleary Court Community Environmental Centre (as of September 2, 2020) and the Bloomington Yard Waste Depot (owned and operated by Miller Waste), where yard waste will be turned into nutrient-rich compost. Residents can reduce their yard waste by leaf mulching, grass cycling (leaving clippings on the lawn) and backyard composting.

Composting Benefits Gardens, Enriches Soil and Reduces Waste

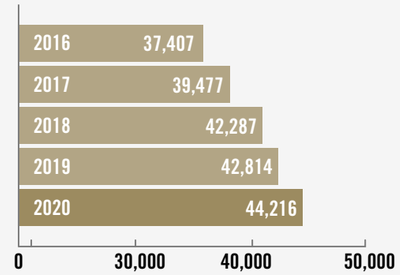
Yard waste is the most unpredictable waste stream as the tonnages collected are directly affected by weather and may also be impacted by invasive species infestations. During storms or wet conditions, the Region experiences more leaf and yard waste than during dry or drought conditions. Extreme weather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

In 2020, York Region residents generated 44,216 tonnes of leaf and yard waste, representing 12% of total waste collected as seen in Graph 10. This is a slight increase of 2,000 tonnes that may have occurred from more residents being at home and choosing to participate in outdoor activities such as gardening and cleanups. Gardening proved to be a popular pandemic pastime as the Region and its partners sold 1,430 backyard composters to residents in 2020 through a modified sale event that included curbside pickup and delivery options for the first time. These new backyard composting households will be diverting an estimated 143 tonnes of organics from the curb each year they use their composter.

Due to the high demand observed at the Bloomington Yard Waste Depot, yard waste for the cities of Richmond Hill and Vaughan was collected every two weeks as of April 20. Miller Waste composts all yard waste collected in York Region at their Bloomington Facility.

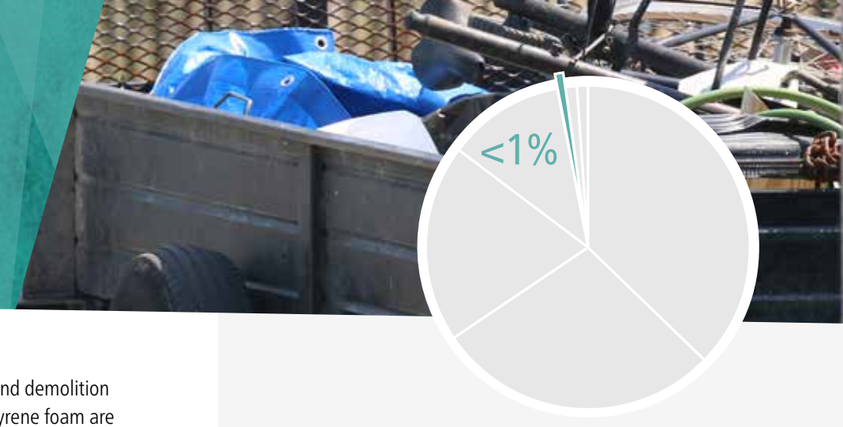
Image taken prior to COVID-19

Graph 10: Leaf and Yard Waste Tonnes Collected



Gardening proved to be a popular pandemic pastime as the Region and its partners sold 1,430 backyard composters to residents in 2020, through a modified sale event that included curbside pickup and delivery options for the first time.

DEPOT COLLECTION



DID YOU KNOW?

In 2020, residents recycled 17,399 kgs of cooking oil at York Region Waste Depots.

Increased Use of Depots Despite Program Changes due to COVID-19 Impacts

From the start of the pandemic in March 2020, York Region's five public drop-off waste depots quickly adapted operations, providing convenient service for residents and small businesses to drop off a variety of waste materials. Modified services and changes to drop-off areas were implemented to ensure safety of staff and the public at the sites. The depots remained in compliance and observed all COVID-19 safety protocols by: streamlining operations on-site to maintain required physical distancing for resident drop-off; performing daily cleaning and disinfection; implementing a no cash policy for payment of fees; and providing clear communication through signage at sites, website updates and York Region's Contact Centre. At the operational level, there were contingency plans for staffing; masks were mandatory for all staff where physical distancing could not be maintained.

Some diversion programs were temporarily suspended at the beginning of the pandemic to allow for increased physical distancing at the site; however, they resumed when it was safe to do so.

York Region collected 2,664 tonnes of divertible materials through depot collection in 2020.

Depot Modifications due to COVID-19

- March 27: Elgin Mills Community Environmental Centre, Georgina Transfer Station and McCleary Court Environmental Centre limited services to only household hazardous waste (HHW) and garbage while Markham and East Gwillimbury HHW Depots accepted HHW only
- May 8: Leaf and yard waste service was reinstated at the Georgina Transfer Station
- May 14: Depots resumed collection of e-waste and scrap metal
- June 3: Collection services for tires, cardboard, blue box and shredded paper resumed
- July 8: Textile diversion service resumed after being briefly suspended at the request of Diabetes Canada from March until July. There was a surge in usage of this service when the program resumed on July 8 and for the remainder of the year, suggesting residents may have used their time at home to clean out closets

The recycling programs for construction and demolition concrete, drywall, clean wood and polystyrene foam are currently on hold until the sites can accommodate normal traffic conditions without restrictions on physical distancing between customers and staff. Staff will assess when it is safe to accommodate more on-site sorting and collection of these materials.

As shown in Table 3, during the pandemic, there was a significant increase in demand for depot services overall. There was a large increase in visitors accessing Georgina Transfer Station, Elgin Mills and McCleary Court Community Environmental Centres as shown in Graph 11. The number of visitors to the sites increased by approximately 13,000 in total, with McCleary Court recording a 13% increase in visitors.

York Region collected 2,664 tonnes of divertible materials through depot collection in 2020. Divertible materials include cooking oil, refrigerated appliances, scrap metal, shredded paper and tires.

In 2020, there was a slight increase in the number of tires collected at York Region Depots with a total of 300 tonnes of tires collected in 2020 compared to 291 tonnes in 2019.

DEPOT VISITORS

Elgin Mills CEC
86,622

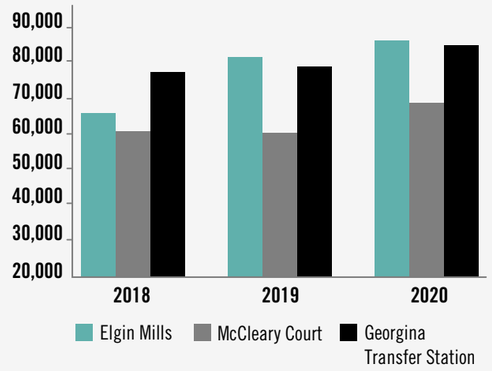
Georgina Transfer Station
86,382

McCleary Court CEC
69,105

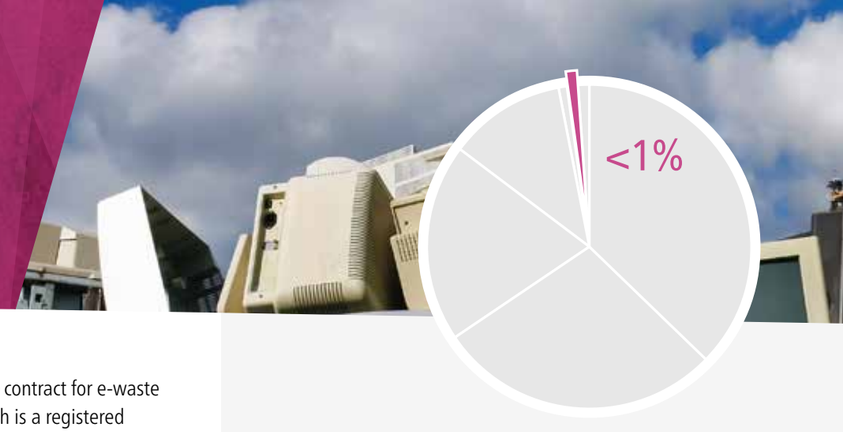
Table 3: Total Tonnes of All Materials Collected at Community Environmental Centres (CEC) and Georgina Transfer Station

TOTAL TONNES COLLECTED			
Location	**2018**	**2019**	**2020**
Elgin Mills CEC	9,057	10,470	11,240
McCleary Court CEC	7,055	7,020	7,853
Georgina Transfer Station	15,020	14,484	15,300
Total Tonnages	**31,132**	**31,975**	**34,393**

Graph 11: Total Visits to Community Environmental Centres (CEC) and Georgina Transfer Station



ELECTRONIC WASTE



DID YOU KNOW?

During the pandemic, there has been more reliance than ever on electronic devices and the importance of proper disposal is more evident. Bringing electronics to a local waste depot allows for the recovery of valuable materials including gold, platinum, glass and other metals that can be used for new products and devices.

Electronic Waste Program Completely Transitioned to Full Producer Responsibility

The Minister of the Environment, Conservation and Parks directed Ontario Electronic Stewardship (OES) to wind up the Waste Electrical and Electronic Equipment (WEEE) Program on December 31, 2020 to enable the transition of end-of-life electrical and electronic equipment to individual producer responsibility under the *Resource Recovery and Circular Economy Act, 2016*. Region staff have been actively involved in consultations on the regulation for the new program, which came into effect on January 1, 2021.

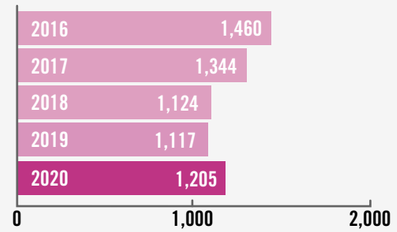
The Region has several concerns about the new Electrical and Electronic Equipment (EEE) Regulation. Earlier drafts of the regulation included a broader range of material types than what is designated under the final regulation, reducing the overall diversion potential of the program. Inconsistent environmental handling fees are also permitted under the new recycling regulations which can lead to consumer confusion. Consumer education is needed to increase understanding of the new system. Under the new regulation, producers are required to reuse, refurbish or recycle 55% of their designated materials at first, with targets increasing each year up to 70% in 2025. However, penalties for non-compliance are not yet set out in the regulations for producers not meeting the target. The Region has taken steps to ensure the changing regulation will not result in service disruptions to residents.

The Region has entered into a new contract for e-waste services with Com2 Recycling, which is a registered Producer Responsibility Organization (PRO) under the new regime. The new e-waste contract allows the Region to continue offering an inclusive electronics program product mix, in addition to what is included in the EEE regulation. Under the new regulation, there is a reporting requirement to document customer information for anyone dropping off EEE-designated material weighing over 50 kg. This has not been observed at the sites as no one has exceeded the limit to date.

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). There was a minor impact due to COVID-19 with a six-week hold on e-waste collection due to service level reductions at the depots; however, for the remainder of the year service levels were maintained. As shown in Graph 12, Regional depots collected 1,205 tonnes of electronic waste in 2020 which was an increase compared to 1,117 tonnes collection in 2019. In part, this increase may have been a result of some of the electronic waste collection events held by the local cities and towns being cancelled. Additionally, due to COVID-19, residents may have had more opportunities to clean up unwanted items at home from garages and basements and with the lack of local events, residents brought their electronic waste to the Region's sites.

Image taken prior to COVID-19

Graph 12: Waste Electrical and Electronic Equipment Tonnes Collected



Under the new regulation, producers are required to reuse, refurbish or recycle 55% of their designated materials, with the targets increasing each year up to 70% in 2025.

HAZARDOUS WASTE

DID YOU KNOW?

Despite refillable propane tanks having take-back programs, York Region has seen on average 35,000 kg per year over the last three years.

Battery Program Transitioned to Full Producer Responsibility in 2020

On June 30, 2020, the program wind-up for single-use batteries occurred while the electronic waste program wind-up was delayed until December 31, 2020. Following the transition of the battery recycling program, a new batteries regulation came into effect on July 1, 2020. Moving forward, when consumers discard their batteries, battery producers will be individually accountable and financially responsible for collecting and reusing, refurbishing or recycling these items. The new regulation includes both single-use and rechargeable batteries that weigh 5 kg or less and are not embedded in products. To date, there has been no impact to residents dropping off batteries at the depots. York Region has an agreement with Call2Recycle (C2R) for the collection of these batteries.

Under the Region's agreement with C2R, the Region will receive revenue for batteries collected. Operationally, there were some changes implemented at the depots to ensure compliance with requirements under the new agreement. These include taping battery terminals and some adjustment to packing and shipping which the depot contractors manage on our behalf. Proper battery disposal includes battery terminal protection so that terminals do not touch metal surfaces or other batteries that can spark, causing fire or explosions. None of these changes resulted in additional costs to the Region or service interruptions at the depots. All Regional HHW Depots collect batteries and each site accepts up to 15 kg of batteries per day from residents.

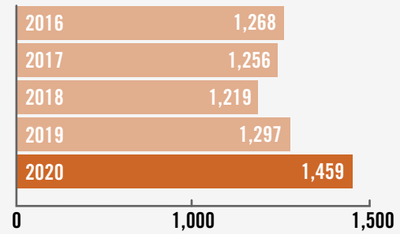
The Region's Municipal Hazardous or Special Waste (MHSW) diversion programs capture and divert potentially dangerous hazardous materials and help avoid contamination of other waste streams. The Region provides MHSW collection services to residents to meet Environmental Compliance Approval (ECA) requirements for waste disposal facilities, including the Durham York Energy Centre (energy-from-waste). Municipalities strive to ensure hazardous materials are captured as they present significant risks to human health and the environment.

York Region collected 1,459 tonnes of MHSW materials at Regional public drop-off depots in 2020 as shown in Graph 13. This slight increase may have been a result of staff having a better process to screen residents at the site and direct them to the proper site for disposals. Municipal depots ensure materials are safely managed to end-of-life and divert harmful substances from landfill, waterways and forests. MHSW items contain materials that can be recovered, refined and reused in manufacturing new products, reducing the need for virgin resources.

Current Hazardous Waste Program will Transition to Full Producer Responsibility in 2021

Stewardship Ontario (SO) operates the current MHSW program, which allows residents to safely dispose of household products that require special handling. Under the Waste Diversion Transition Act, collection, processing and disposal of such materials are funded by brand owners and first importers of these products who will continue to operate until the MHSW program fully transitions to full producer responsibility on June 30, 2021. Early in 2021, the Ministry of Environment, Conservation and Parks released a proposed regulation for comment. The content of the draft regulation was disappointing to municipalities. In the case of fertilizers, the proposed regulations suggest that producers can leverage their education program and influence consumers to 'use it up' instead of having targets for the safe collection and disposal of this material. This messaging directly conflicts with other provincial policies and regulations to reduce the usage of phosphorus and prevent its negative effects on waterways. Region staff will continue to engage and ensure the program remains effective after transition.

Graph 13: Household Hazardous Waste Tonnes Collected



Paint (latex and alkyd)
615,604 kg

Motor Oil (bulked)
149,684 kg

Batteries (single-use/rechargable)
64,179 kg

Propane Tanks & Cylinders
51,579 kg

Aerosol Containers
36,305 kg

RESIDUAL WASTE

DID YOU KNOW?

Each York Region resident generated an average of 91 kg of household garbage in 2020.

Landfill Diversion Target Continues to be Achieved Through Successful Diversion Programs and Energy Recovery

As seen in Table 4 and Graph 14, the Region managed 166,261 tonnes of residual waste in 2020. This included tonnes collected at the curb and drop-off waste depots, as well as highly contaminated recyclables that are unmarketable and residue from the blue box program. Materials that were placed in the blue box but could not be recycled were placed in the residual waste stream and sent to energy-from-waste facilities. The Region shipped 141,605 tonnes of residual waste for energy recovery: 59,923 tonnes to Covanta Niagara in New York State, 49,409 tonnes to Emerald Energy from Waste in Brampton, Ontario and the remaining 32,273 tonnes to the Durham York Energy Centre (DYEC) in Clarington, Ontario. The DYEC continues to operate in full compliance with regulatory emissions limits which are among the most stringent in the world.

York Region achieved 93% diversion from landfill in 2020, exceeding the 90% target established in the Regional Official Plan. This was achieved through successful diversion programs and commitment to sustainable waste management programs. Material sent for energy recovery includes curbside garbage collection and blue box residue. 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 can block the feed chute and ash discharger in energy-from-waste facilities making them unsuitable for energy recovery. In 2020, York Region sent a total of 25,517 tonnes of residual waste to landfill with 25,491 tonnes of residual waste to Walker South Landfill in Thorold, Ontario and 25 tonnes to Twin Creeks Landfill in Watford, Ontario.

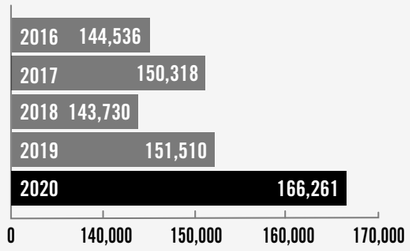
In line with the SM4RT Living goal of a world where nothing goes to waste, York Region prioritizes reduction, reuse and recycling diversion efforts, while the remaining residual waste is managed primarily through energy-from-waste recovery. Energy-from-waste captures the energy content of residual waste,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

Table 4: Residual Waste Shipments

Destination	Tonnes
Energy-From-Waste	141,605
Landfill	25,517
Year-End Carry Over*	-861
Total Residual Waste	**166,261**

*Change in transfer station inventory January 1, 2020 and December 31, 2020.

Graph 14: Residual Waste Collected Including Blue Box Residue Tonnes



In line with the SM4RT Living goal of a world where nothing goes to waste, York Region prioritizes reduction, reuse and recycling diversion.

COMMUNITY ENGAGEMENT

Despite the pandemic, York Region continued to collaborate with its local municipal partners on public education.

Partnerships and Innovation Help Region Reach Residents in 2020

The Region amended its approach to community engagement in 2020 as traditional promotion and education activities were restricted due to COVID-19. Despite the pandemic, the Region continued to collaborate with its local municipal city or town partners on public education. One initiative was the blue box enforcement blitz that started in the last quarter of 2020 and continues in 2021. Additionally, the Region strengthened partnerships with various community groups and was able to reach residents through those relationships, when in-person interactions were restricted. An online bike repair program was developed and executed through a partnership with Markham Cycles, which included nine online workshops with 688 participants. As in-person events were cancelled, York Region Food Network (YRFN) as a York Region partner, pivoted from delivering in-person cooking workshops and demonstrations to digital cook-alongs with staff, virtual zero waste workshops, composting demonstration videos and launching the compost learning hub online. Likewise, there were no in-person Good Food outreach events in 2020 due to COVID-19; however, the Region was able to reach residents online through the Region's social media as well as through partnerships with YRFN and Longo's. YRFN also hosted a #LoveYourLeftovers photo contest encouraging participants to share photos of meals inspired by using up leftover foods.

WASTE WEDNESDAY SOCIAL

58 POSTS ON FACEBOOK, TWITTER & INSTAGRAM

FACEBOOK & TWITTER:
- 1.5+M REACHED
- 141+K ENGAGEMENTS
- 14,085 LIKES | 4,757 SHARES
- 6,137 COMMENTS

FACEBOOK & INSTAGRAM STORIES:
- 124+K REACHED
- 62 SHARES | 59 REPLIES

Viewers were quizzed on proper waste sorting for blue box and other matierial.

5,330 VOTES RIGHT | 748 VOTES WRONG

WIPES, GLOVES & MASKS SOCIAL

53 POSTS ON FACEBOOK, TWITTER & INSTAGRAM

FACEBOOK & TWITTER:
- 1.5+M REACHED
- 139+K ENGAGEMENTS
- 13,966 LIKES | 4,973 SHARES
- 6,075 COMMENTS

FACEBOOK & INSTAGRAM STORIES:
- 35+K REACHED
- 20 SHARES | 23 REPLIES

Viewers were quizzed on proper waste sorting for gloves, masks and wipes.

1,301 VOTES RIGHT | 133 VOTES WRONG

TEXTILES

200 MUNICIPAL COLLECTION BINS

1,794 TONNES OF TEXTILES COLLECTED

COMPOSTING

1,430 COMPOSTERS SOLD

143 TONNES OF ORGANICS DIVERTED

markham CYCLES

66 CHILD AND YOUTH BIKES DONATED

All events observed COVID-19 safety protocols

- 569 BOOTH VISITS
- 436 VOLUNTEER HRS.
- 29 SESSIONS
- 340 BIKE TUNE-UPS
- 63 GIVEAWAYS

York Region Food Network

LOVE YOUR LEFTOVERS CAMPAIGN

85 USES OF #LOVEYOURLEFTOVERS

- 34 PHOTOS SUBMITTED
- 10 AVERAGE POSTS PER DAY
- 550 PEOPLE ENGAGED
- 433 YOUTUBE VIDEO VIEWS

THE LENDERY – A LIBRARY OF THINGS

194 ACTIVE USERS Before COVID-19

REPAIR café

50 EVENT ATTENDEES Before COVID-19

IN SUMMARY

Together with community partners, new and innovative programming is being implemented through the updated SM4RT Living Plan program.

Images taken prior to COVID-19

York Region and its Nine Local Cities and Towns Deliver Innovative Waste Reduction, Reuse, Recycling and Recovery Programs and Services

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 program showcasing York Region leadership in sustainable waste management. 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. As a result of this collaboration, York Region continues to rank first among its peers in the large urban category year after year.

1 NUMBER LARGE URBAN MUNICIPALITY

141,605 TONNES RESIDUAL WASTE SENT TO ENERGY-FROM-WASTE FACILITIES +

111,532 TONNES ORGANIC WASTE PROCESSED +

58,005 TONNES BLUE BOX RECYCLING MARKETED

44,216 TONNES LEAF & YARD WASTE COMPOSTED +

2,664 TONNES DEPOT DIVERSION RECYCLED +

1,459 TONNES HOUSEHOLD HAZARDOUS WASTE PROPERLY DISPOSED +

1,205 TONNES ELECTRONIC WASTE RECYCLED

= **93% DIVERSION** FROM **LANDFILL**

Our Visionary Goal: A world in which nothing goes to waste.

With your help, we hope to accomplish an estimated 166,000 tonnes of waste reduced and 62,000 tonnes of waste reused within the first 18 years of the SM4RT Living Plan.

THANK YOU TO OUR PARTNERS

Aurora
EG East Gwillimbury
Georgina
King
Markham
Newmarket
Richmond Hill
Vaughan
Town of Whitchurch-Stouffville
Neighbours for the Planet
Simple + Fresh Fare Market & Co. Newmarket
Newmarket Public Library Inspiring Growth
Ontario Food Collaborative
Longo's
markham cycles
King Township Public Library
Municipal 3Rs Collaborative Resource | Recovery | Research
York Region District School Board InspireLearning!
York Region Food Network
Vaughan Public Libraries
mpl Markham Public Library
Housing York Inc.
Toronto and Region Conservation Authority
NEWMAKEIT
York Farm Fresh
York Catholic District School Board

york.ca/waste

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