2018 ANNUAL SOLID WASTE

DIVERSION REPORT

PARTNERSHIPS DRIVING

REDUCTION REUSE RECYCLING RECOVERY



WASTE MANAGEMENT 1-866-665-6752 york.ca/waste



WASTE MANAGEMENT FACILITIES IN YORK REGION

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

WASTE DEPOT HOURS

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

Earl Turcott Transfer Station

Monday: 8 a.m. to 7p.m.
Tuesday to Friday: Closed
Saturday: 8 a.m. — 5 p.m.
(Year Round)
Sunday: 10 a.m. — 3 p.m.
(Closed December — April)

- East Gwillimbury Household Hazardous Waste and Recycling 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.
- 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.

- Georgina Transfer Station,
 Household Hazardous Waste
 and Recycling Depot
- 3 Monday to Saturday: 8 a.m. to 5 p.m.
- Sunday: Closed
- HHW Depot Open Tuesday and Saturday
- 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.

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 2018 Annual Solid Waste Diversion Report summarizes York Region's integrated waste management system. The report is submitted annually to the Ministry of the Environment, Conservation and Parks to satisfy the Durham York Energy Centre Environmental Assessment condition for diversion reporting.

The Regional Municipality of York delivers programs and services to almost 1.2 million residents, across 377,000 households in nine cities and towns: the Towns of Aurora, East Gwillimbury, Georgina, Newmarket and Whitchurch-Stouffville, the Township of King and the Cities of Markham, Richmond Hill and Vaughan. 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. Waste management services are delivered to residents through a two-tier structure where the local cities and towns manage curbside collection of waste and York Region is responsible for waste processing and disposal.

On August 15, 2019, Minister Yurek issued direction to begin transition of the Blue Box Program to full producer responsibility. Given the changing waste management landscape in Ontario, York Region and our local cities and towns remain committed to continued delivery of high quality, sustainable waste management services to our communities. Minister Yurek's announcement to begin transition of Ontario's Blue Box Program indicates the province recognizes the need to improve recycling and that producers are best suited to find innovative and cost-effective ways to divert the printed paper and packaging they use. York Region and our local cities and towns will continue to be engaged through stakeholder consultations and will work collaboratively to advance the municipal perspective and work towards a successful transition.



York Region's **SM4RT** Living Integrated Waste Management Master Plan (SM4RT Living Plan) driven programs and innovative technologies that emphasize reduction, reuse and recycling before recovery to improve sustainability of the integrated waste management system. In 2018, York Region together with local cities and towns initiated a review and update of the SM4RT Living Plan to provide direction for strategies, policies, and initiatives for the next five years with a final report and recommendations expected in early 2020.

PARTNERSHIPS FOR SUCCESS

COLLABORATION DRIVES INNOVATIVE APPROACHES TO REDUCTION 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 curbside giveaway days, repair cafés, battery, electronic waste and textile collection as well as regular curbside collection. The partnership drives policy and program changes, delivers progress on the *SM4RT Living Plan*, shares information and develops metrics to measure performance.

Waste Reduction and Collection Programs Provided by Local Cities and Towns

			Aurora	East Gwillimbury	Georgina	King	Markham	Newmarket	Richmond Hill	Vaughan	Whitchurch- Stouffville
Curbside Collection	Residual Waste	Ă	•	•	•	•	•	•	•	•	•
	Recycling	ő	•	•	•	•	•	•	•	•	•
	Organics	•	•	•	•	•	•	•	•	•	•
	Leaf & Yard Waste	2	•	•	•	•	•	•	•	•	•
	White Goods	III	•	•	•	•	•	•	•	•	•
	Bulky Items		•	•	•	•	•	•	•	•	•
Special Events	Textile Diversion	1	•			•	•	•	•	•	•
Special Events	Education & Outreach	328	•	•	•	•	•	•	•	•	•
	Residual Waste	Ă	•		•		•	•	•	•	•
	Recycling	8	•		•		•	•	•	•	•
Multi-Residential Collection	Organics*						•		•		
	E-waste	Ŏ	•				•				
	Batteries	Î	•				•				
Municipal Facilities Collection	Recycling	8	•	•	•	•	•	•	•	•	•
	Organics	•	•	•	•		•	•	•	•	
	Batteries	⊕	•			•	•	•	•	•	

^{*} Organics collection programs in mid and high rise multi-residential buildings

DIVERSION ACHIEVEMENTS

YORK REGION IS A LEADER IN ONTARIO WITH A DIVERSION RATE OF 68%

York Region, in partnership with our local cities and towns, submits an annual datacall to the province through the Resource Productivity and Recovery Authority (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 68% in 2017, in the large urban category.

Resource Productivity and Recovery Authority Annual Waste Diversion

2014	1st for Large Urban Municipalities	~ 63%
2015	1st for Large Urban Municipalities	Y 63%
2016	1st Overall in the Province	66%
2017	1st for Large Urban Municipalities	Y 68%*
2018	Pending Verification**	68%

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

Tonnes Collected

Material	2014	2015	2016	2017	2018
Residual Waste	124,011	128,148	130,400	134,249	124,319
Organics*	94,700	96,593	97,044	97,877	99,065
Blue Box*	87,645	85,335	84,468	85,298	83,526
Leaf & Yard Waste	52,457	44,370	37,407	39,477	42,287
Other Diversion - Depots	4,930	5,944	6,196	5,061	2,580
Household Hazardous Waste	1,203	1,305	1,268	1,256	1,219
Electronics	1,489	1,554	1,460	1,344	1,124

*Note total blue box and organics tonnes collected at curbside and depots include contaminated materials

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

In 2018, 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.



^{*}Updated to reflect finalized 2017 RPRA diversion rate.

^{** 2018} diversion data presented is pending verification by the Authority at the time of printing. Until this method is revised, future York Region datacall submissions and resulting diversion rates will continue to be adjusted.

BLUE BOX RECYCLING



Recyclables must be placed loose in the blue box, not in plastic bags. York Region's MRF sorts materials mechanically by size, shape and weight. Materials placed in plastic bags cannot be sorted and plastic bags become entangled in the equipment, as seen in the photo below.



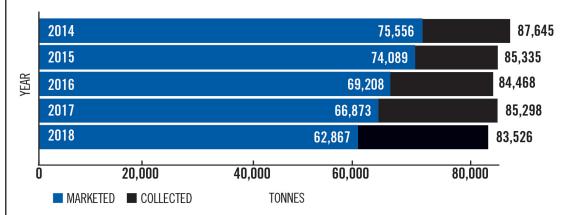
RAPIDLY EVOLVING MIX OF MATERIALS, END MARKET RESTRICTIONS AND CONTAMINATION PLAGUE THE BLUE BOX

In 2018, 83,526 tonnes of blue box recyclables was collected, accounting for 24% of the total material collected in York Region. The three main challenges affecting the blue box are a rapidly changing composition of products and packaging, contamination and end market restrictions. These factors make it difficult to produce clean high quality materials to send to end markets. The Region provides a list of acceptable material on its website, any item not on this list is considered contamination. Currently the top contaminants in York Region are recycling in plastic bags, garbage in plastic bag, and organic waste. The top contaminants change over time as a result of resident behaviour, rapidly changing as well as complex packaging available in the marketplace.

York Region's marketable blue box tonnes declined from 2017 to 2018, with paper seeing the biggest reduction as a result of continued unstable paper markets, limiting the movement of paper. In 2018, the Region invested \$7 million in sorting equipment at the Materials Recovery Facility (MRF). Six additional MRF staff were hired in 2018 to remove contaminants from paper products to improve overall quality. A total of 1,219 tonnes of recyclables was sent to energy from-waste facilities (Covanta Niagara and Emerald Energy-from-Waste) in 2018, due to storage constraints and a week long shutdown required for equipment installation.

Despite the equipment upgrades, end market restrictions continue to affect the marketability of recovered fibre. In 2019, low market demand and high supply have impacted cardboard end markets. As paper and cardboard make up 70% of the blue box these issues have a great effect on the net operating costs of the Blue Box Program. Revenue from blue box materials fell from \$8.9 million in 2017 to \$3.9 million in 2018. The revenue reduction is a primary result of significantly lower revenue received due to paper end market constraints.

2018 Blue Box Tonnes Collected and Marketed



Minister issues direction to transition Ontario's Blue Box Program

The Ministry of the Environment, Conservation and Parks posted the final report on August 6, 2019 on the Blue Box mediation process authored by Mr. David Lindsay, Special Advisor on Recycling and Plastic Waste. On August 15, 2019, the Minister, in a joint announcement with Steve Clark, Minister of Municipal Affairs and Housing, issued direction to Stewardship Ontario and the Resource Productivity and Recovery Authority (the Authority) to begin to transition Ontario's Blue Box Program to full producer responsibility by December 31, 2025.

The direction letter outlines a six-year transition of the Blue Box Program to full producer responsibility (i.e. direction issued in 2019, regulation development (2019-2020), a two-year preparation process (2021-2022), and a three-year transition for all municipal programs (2023-2025)). The Minister's acceptance of the recommendations in Mr. Lindsay's report signals an active commitment and if successfully implemented would provide savings to Ontario residents, grow the local economy as producers innovate to reduce waste and develop more easily recyclable packaging. The recommendations within the report are generally aligned with municipal positions and provide many opportunities for stakeholder and public input going forward.

Municipal governments have been advocating for this transition because our waste systems are not well positioned to respond to the rapidly changing composition of products and packaging, the necessary investments in collection and processing infrastructure, and the demands of end markets. Producers can best reduce waste, increase the resources that are recovered and reincorporated into the economy, and enable a consistent, provincewide system that makes recycling easier and more accessible. 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.

Trend of Marketed Blue Box Tonnes







Studies show every dollar spent on food and organic waste prevention and reduction returns an average of \$14 in financial benefit for businesses.



FOOD WASTE REDUCTION PROVIDES ENVIRONMENTAL AND FINANCIAL BENEFITS

In 2018, the province prioritized food waste reduction and diversion through the Food and Organic Waste Framework. York Region is one of the first municipalities to establish a target for food waste reduction in the green bin of 15% by 2031, and continues to work with partners to raise awareness through continued promotion of the Region's food waste reduction program, the Good Food program. In 2015, the Region created the Ontario Food Collaborative, bringing together provincial, regional and municipal government stakeholders, including industry organizations, to take an integrated food systems approach and support residents to eat well and reduce food waste through public education.

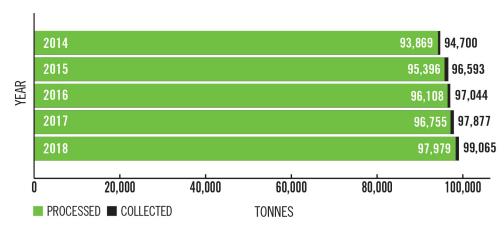
Processing organic waste into compost represents 28% of the total waste collected in York Region. In 2018, York Region residents generated 99,065 tonnes of source separated organics; 96,639 tonnes was shipped to contracted composting facilities in Ontario, 1,340 tonnes of leachate were managed through approved treatment facilities in Ontario and 1,086 tonnes were lost to evaporation.

York Region has secured reliable organic waste processing capacity until 2027. Through a 2017 technology selection study, York Region has identified anaerobic digestion as the preferred technology for managing its organic waste. In 2019, staff are developing an implementation plan to secure capacity needed to meet its long term processing needs and emissions reduction goals.

Organic Waste Processing Facility

Facility	2018 Tonnes Processed	Contract Expiry Date
Cornerstone Renewable Elmira and Leamington, Ontario	5,050	6/30/2022
GFL Environmental Moose Creek, Ontario	40,052	6/30/2027
Renewi (formerly Orgaworld) London, Ontario	51,537	6/30/2027

Organic Waste Processed and Collected





LEAF AND YARD WASTE

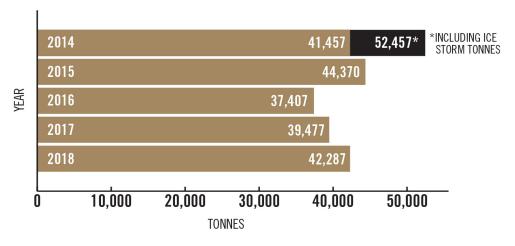
COMPOSTING LEAF AND YARD WASTE IMPROVES AND **ENRICHES SOIL CONDITIONS**

York Region's local cities and towns offer residents seasonal curbside leaf and yard waste collection programs every other week from spring to fall. In addition, residents can drop off leaf and yard waste at the Bloomington Yard Waste Depot in the City of Richmond Hill and the Georgina Transfer Station in the Town of Georgina. Miller Waste composts all yard waste collected in York Region at their Bloomington facility.

In 2018, York Region residents generated 42,287 tonnes of leaf and yard waste, representing 12% of the total collected material. Leaf and yard waste is the most unpredictable waste stream. Unforeseen spikes in yard waste generation occur due to weather conditions and can be affected by invasive species infestations, such as emerald ash borer. Leaf and yard waste tonnages are trending upward after the initial spike and drop off caused by the 2013 ice storm.

Climate change is affecting our weather patterns with more unpredictable extreme weather events. Weather directly affects the amount of leaf and yard waste collected during the growing season. 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 early/late seasonal changes can affect the amount of leaf and yard waste generated making it difficult to predict collection capacity and timing. Some local municipalities have added extra yard waste collections in the fall to account for trees losing their leaves very late in the season. The Region has secured long-term leaf and yard waste capacity to accommodate annual tonnage fluctuations and unanticipated weather events.

Leaf and Yard Waste Collected

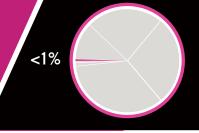




In 2018, York Region sold 911 backyard composters diverting an estimated 91 tonnes of kitchen scraps, leaf and yard waste.



ELECTRONIC WASTE





Electronic waste has 40 to 50 times greater concentration of valuable materials such as gold, silver and platinum than mined ore extraction.



ELECTRONIC WASTE CONTAINS VALUABLE RESOURCES CAPTURED THROUGH RECYCLING

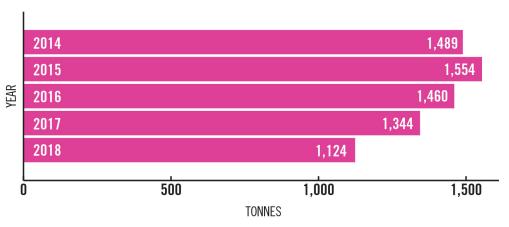
The Waste Electrical and Electronic Equipment (WEEE) program, managed by the Ontario Electronic Stewardship (OES), includes collection, processing, recycling and disposal of electronic waste material and is funded by brand owners and first importers of these products. Collected electronic waste is sent for recycling to recover valuable raw materials through environmentally responsible de-manufacturing of waste electronics. In 2018, the Ministry issued a letter to OES to wind up the electronic waste program and transition to full producer responsibility by June 30, 2020. York Region staff continue to participate in consultations throughout the wind up process.

In 2018, York Region collected 1,124 tonnes of electronic waste at the 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). Electronic devices are getting smaller, thinner and lighter over time resulting in fewer tonnes collected each year. Local cities and towns organized 36 electronic waste collection events. These special recycling events, combined with public drop-off depots, provide residents with convenient options for the safe recycling of electronic waste.

The average LCD and LED televisions are 81% lighter than older technologies such as cathode ray tube televisions.



Waste Electrical and Electronic Equipment Tonnes Collected



HOUSEHOLD HAZARDOUS WASTE

SAFELY MANAGING AND DIVERTING HOUSEHOLD HAZARDOUS WASTE PROTECTS THE ENVIRONMENT

The Municipal Hazardous or Special Waste (MHSW) program was established in 2008, designated under the previous Waste Diversion Act, 2002, and continues to operate under the Waste Diversion Transition Act for the collection, processing and disposal of this material, funded by brand owners and first importers of these products. In April 2018, the Minister issued direction to Stewardship Ontario to wind up the MHSW program by December 31, 2020. In December 2018, the Minister amended timelines for the wind up of single-use batteries to June 30, 2020 to allow for coordination with WEEE program wind up. York Region continues to monitor regulatory changes and will remain engaged during transition.

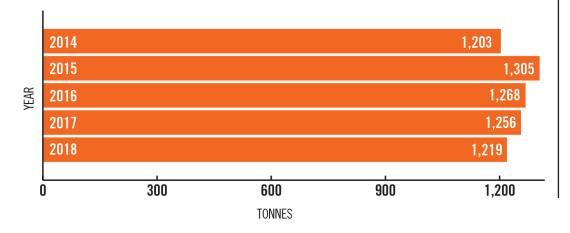
Residents can drop off HHW at all five York Region public drop-off depots. Materials are recycled or treated and disposed of in an environmentally responsible manner through specialized contract services. In July 2018, a new HHW Depot was introduced at the Elgin Mills CEC. In addition, York Region revised public drop-off depot hours to better reflect customer needs through continued service excellence. HHW depot hours were adjusted in January 2018 to ensure at least one HHW depot is open each day of the week.

York Region collected 1,219 tonnes of HHW materials at Regional public drop-off depots, representing less than 1% of the total material collected in York Region. Many retailers offer take-back programs for HHW materials. Municipal depots and retail take-back locations ensure materials are safely managed to end-of-life and divert harmful substances from landfill, energy-from-waste, waterways and forests. Many HHW items contain materials that can be recovered, refined and reused in manufacturing new products such as paints and batteries, reducing the need for virgin resources.

> Batteries must be disposed of properly and never placed in the garbage as this poses a fire hazard.



Household Hazardous Waste Tonnes Collected





In 2018, York Region residents made over 81.000 visits to HHW public drop-off depots.





DEPOT COLLECTION



In 2018, residents recycled 18,190 kilograms of cooking oil at York Region's public drop-off depots. Cooking oil is accepted in small containers, as seen in photo below.



DEPOT COLLECTION PROGRAMS INCREASE ACCESS TO **DIVERSION PROGRAMS**

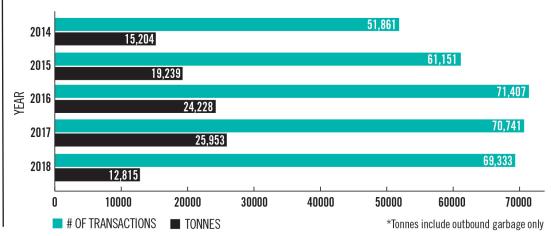
York Region's five public drop-off depots provide convenient outlets for residents and small businesses to drop off a variety of waste materials. York Region collected 2,580 tonnes of divertible materials through depot collection in 2018. Divertible materials include: cooking oil, concrete, drywall, polystyrene foam, refrigerated appliances, scrap metal, shredded paper, tires and wood.

In January 2018, York Region Community Environmental Centres (CEC) completed enhancements and the hours of operation were revised to provide residents with more convenient access to disposal services by adding an hour of service at the CECs. Enhancements included the introduction of weigh scales and weight-based fees for residual waste, concrete, drywall and wood. The fee changes have brought depot fees in line with neighbouring municipalities and have significantly improved cost recovery on construction and demolition materials, a high cost divertible material.

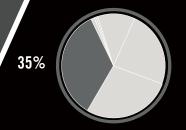
As a result of the construction and new fees, the CECs saw a shift in customer use patterns. The number of paid transactions at the sites decreased slightly in 2018, while the total corresponding paid tonnes at the CECs saw a larger decrease as seen in the graph below. On-site staff have observed that business customers with heavier loads are no longer using the sites, while residential customers with smaller loads continue to use the CECs. In 2019, the Region will be working on a strategy to attract more of these types of users to ensure the sites are used to their full potential.

As of January 2019, the Used Tire Collection Program transitioned to full producer responsibility under the Resource Recovery and Circular Economy Act, 2016. Under the new full producer responsibility program, producers are responsible for ensuring used tires are collected and recycled or reused, and are not required to compensate municipal depots for collection of used tires if they can achieve the regulated capture targets through private collection points. In York Region, there are approximately 200 private tire collection points. York Region secured processing at no cost for collected tires without service disruption to public drop-off depot customers. The Region will continue to monitor and report any program impacts.

Community Environmental Centres Paid Transactions and Tonnes*



TO RESIDUAL WASTE



ENERGY RECOVERY PROVIDES A BENEFICIAL USE OF RESIDUAL 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 and recovers metals.

In 2018, residual waste accounted for 35% of the total material collected in York Region. The Region shipped a total of 123,229 tonnes of residual waste for energy recovery to Covanta Niagara in New York State, Emerald Energy From Waste in Brampton, Ontario and 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.

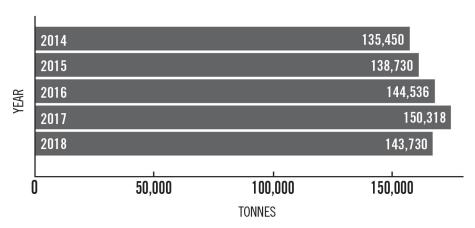
York Region achieved 94% diversion from landfill in 2018, exceeding the 90% target established in the Regional Official Plan. This was achieved through successful diversion programs and commitment to sustainable waste management programs. Material sent for energy recovery includes curbside garbage collection and blue box residue. Landfill disposal is a last resort for large bulky materials, such as mattresses and couches from York Region's public drop-off depots that are not appropriate for energy recovery. Large items block the feed chute and ash discharger at energy-from-waste facilities creating maintenance issues. In 2018, York Region sent 20,183 tonnes of residual waste to Walker South Landfill in Thorold, Ontario.

Residual Waste Shipments

Destination	Tonnes
Energy-from-waste	123,229
Landfill	20,183
Year-end carry over*	318
Total Residual Waste	143,730

^{*}Change in transfer station inventory January 1, 2018 and December 31, 2018

Residual Waste Collected Including Blue Box Residue





In 2018, York Region's residual waste produced enough electricity to power over 3,000 homes and supplied enough industrial steam to heat over 6,000 homes.



WASTE PROMOTION AND EDUCATION

PROMOTION AND EDUCATION ACTIVITIES DRIVE COMMUNITY PARTICIPATION IN WASTE REDUCTION AND DIVERSION

York Region actively promotes waste reduction and diversion through extensive public communication and education programs. Local cities and towns also provide education and information through their initiatives, including annual local waste collection calendars distributed to all York Region residents. York Region collaborates regularly with our local cities and towns, recognizing the importance of consistent messaging to minimize public confusion and to leverage economies of scale wherever possible. In 2018, York Region's Waste Management communication campaigns included:









WASTE PROMOTION AND EDUCATION

The SM4RT Living Plan relies on partnerships with local municipalities and community organizations to leverage technology, skills and knowledge to drive successful program delivery.







SUMMARY

YORK REGION AND OUR NINE LOCAL CITIES AND TOWNS DELIVER INNOVATIVE WASTE REUSE, REDUCTION, RECYCLING AND RECOVERY PROGRAMS

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 *SM4RT Living Plan* showcasing York Region's leadership in sustainable waste management. 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. As a result of this collaboration, York Region continues to rank first among our peers in the large urban category year after year.



123,229 TONNES
RESIDUAL WASTE

SENT TO ENERGY-FROM-WASTE FACILITIES

97,979 TONNES
ORGANIC WASTE PROCESSED

62,867 TONNES
BLUE BOX RECYCLING MARKETEI

42, 287 TONNES

EAF AND YARD WASTE COMPOSTED

2, 580 TONNES

DEPOT DIVERSION RECYCLED

1, 219 TONNES

HOUSEHOLD HAZARDOUS WASTE PROPERLY DISPOSED

1, 124 TONNES



94% DIVERSION FROM LANDFILL



Thank you!

Success of York Region's waste reduction and diversion programs is due to our residents and their continued commitment to building sustainable communities.

edocs#9753667

















