

Clause 7 in Report No. 14 of Committee of the Whole was adopted by the Council of The Regional Municipality of York at its meeting held on October 20, 2016, with the following addition:

3. Receipt of the communication from the Commissioner of Environmental Services, dated October 20, 2016 regarding “Clarification – 2015 Diversion Report and SM4RT Living Integrated Waste Management Master Plan Update”.

7

2015 Diversion Report and SM4RT Living
Integrated Waste Management Master Plan Update

Committee of the Whole recommends:

1. Receipt of the presentation by Laura McDowell, Director, Environmental Promotion and Protection and Lindsay Milne, Program Manager, Solid Waste and Diversion, Environmental Services.
2. Adoption of the following recommendation contained in the report dated September 23, 2016 from the Commissioner of Environmental Services:
 1. The Regional Clerk circulate this report to the local municipalities and to the Ministry of the Environment and Climate Change to satisfy the Durham York Energy Centre approval condition for diversion reporting.

Report dated September 23, 2016 from the Commissioner of Environmental Services now follows:

1. Recommendation

It is recommended that:

1. The Regional Clerk circulate this report to the local municipalities and to the Ministry of the Environment and Climate Change to satisfy the Durham York Energy Centre approval condition for diversion reporting.

2. Purpose

This report updates Council on the 2015 Annual Diversion Report and the second year of implementation of the SM4RT Living Integrated Waste Management Master Plan.

3. Background and Previous Council Direction

Since 2010, York Region has prepared an Annual Diversion Report summarizing York Region's integrated waste management system, to satisfy the Durham York Energy Centre approval condition requiring diversion reporting. The sixth Annual Diversion Report (Attachment 1) will be submitted to the Ministry of the Environment and Climate Change before the annual deadline of November 3.

York Region achieved 87 per cent diversion from landfill in 2015 including energy-from-waste

York Region is on track to achieve the 2016 Strategic Plan goal of 90 per cent diversion from landfill, including energy-from-waste. Energy-from-waste captures energy content of residual waste, lowers greenhouse gas emissions, recovers metals and reduces volume of waste going to landfill. In 2015, York Region used external energy-from-waste contracts in addition to the Durham York Energy Centre to achieve the 87 per cent diversion from landfill rate. This calculation differs from the Waste Diversion Ontario diversion rate discussed in the next section, as it includes energy-from-waste. Waste Diversion Ontario does not recognize energy-from-waste in their diversion rate calculation.

York Region ranks first with verified 2014 Waste Diversion Ontario diversion rate of 61.3 per cent

Staff reported to Committee in [June 2016](#) on the 2014 Waste Diversion Ontario Diversion Rate Verification and Adjustment Update. York Region and its local municipalities continue to rank first among large urban municipalities in Ontario as seen in Table 1.

Table 1
Waste Diversion Ontario 2014 Large Urban Municipal Diversion Rankings

Ranking	Municipality	Diversion Rate
1	Regional Municipality of York	61.3%
2	Regional Municipality of Halton	56.0%
3	City of Toronto	51.9%
4	City of Hamilton	48.0%
5	Regional Municipality of Peel	45.1%

New metrics developed through SM4RT Living Plan are better indicators of success towards waste reduction

Waste generation rates provide a better indication of resident actions that contribute toward reducing waste at the curb. Measuring waste generation considers reduction and reuse efforts that ultimately decrease the amount of waste entering the system and requiring processing. Reduction and reuse minimize reliance on raw materials and reduce greenhouse gas emissions.

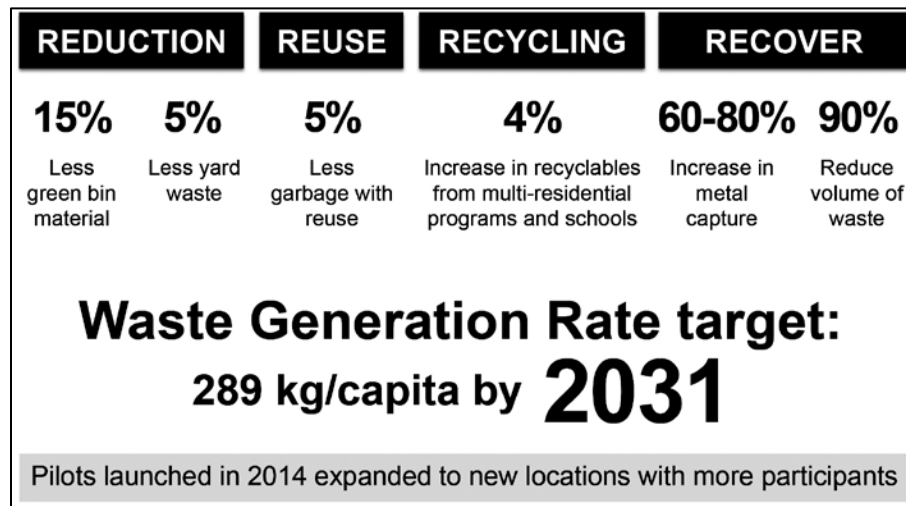
Staff will continue to report to Council on waste generation rates through the annual SM4RT Living Plan and Balanced Scorecard as a means to measure effectiveness and success in waste reduction.

4. Analysis and Implications

SM4RT Living Plan lays out direction for waste management in York Region over the next 25 to 40 years

Through 32 initiatives planned within the first five years (2014 to 2018), the primary focus is on reduction, reuse and recycling. These 32 priority initiatives support long-term targets established in the SM4RT Living Plan (Figure 1).

Figure 1
SM4RT Living Plan Long-Term Targets



The Balanced Scorecard (Attachment 2) reports on implementing the SM4RT Living Plan. Each year progress on the priority initiatives is tracked and evaluated to continue progress towards long-term targets. A list of the 2014 to 2016 priority initiatives are presented in Table 2. This Council report shares highlights of SM4RT Living Plan initiatives added in 2015 and provides updates on ongoing projects. It also updates the waste generation rate metric for 2015.

Table 2
SM4RT Living Plan 2014 to 2016 Priority Initiatives

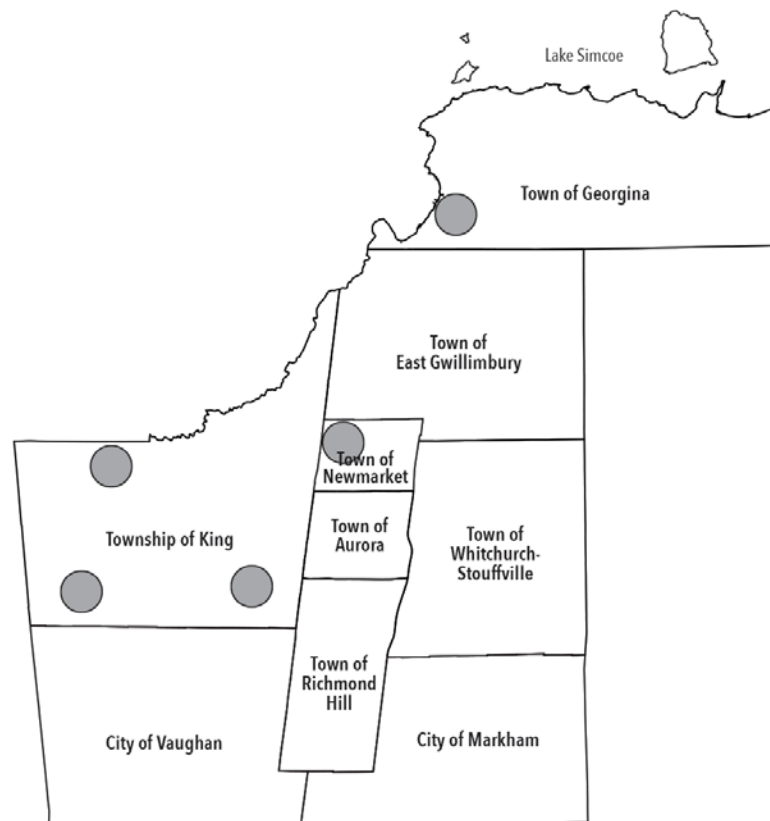
2014	2015	2016
<ul style="list-style-type: none"> ● Develop Good Food Program ● Initiate development standards ● Investigate multi-residential food waste diversion ● Conduct counter-top composter pilot ● Initiate community gardens composting pilot ● Achieve Gold 3RCertified Accreditation ● Launch Bindicator 2.0 with reuse options ● Investigate textile collection pilots ● Develop key performance indicators ● Advocate municipal position for waste legislation ● Initiate Regional Zero Waste Schools model ● Explore alternative financing strategy objectives 	<ul style="list-style-type: none"> ● Investigate feasibility of swap events ● Establish Multi-residential Working Group and data collection ● Assess material volume data at applicable multi-residential buildings ● Preliminary evaluation of long term options for source separated organics 	<ul style="list-style-type: none"> ● Investigate educational support for IC&I waste generators ● Data gathering on reuse in York Region ● Investigate reuse pilots in multi-residential buildings ● Identify community partners for reuse pilots ● Investigate reuse partners for Community Environmental Centres ● Track trends in material changes at the MRTF ● Investigate construction waste diversion in new developments ● Characterize residuals for long term processing options

Curbside swap events are a successful reuse initiative with minimal administrative costs

In 2015, the Region collaborated with local municipalities to track participation in curbside swap events. The Towns of Newmarket and Georgina along with King Township support reuse in their communities through curbside swap days. On these special days, residents place reusable items they no longer need at the curb in the morning. Throughout the day, residents can travel around the community and collect items for free from the curb. At the end of the day, all remaining items must be brought back in by the owners.

A small sample area in each community was monitored to track the number of participants and the type of items placed at the curb on swap days (Figure 2).

Figure 2
2015 Curbside Swap Monitoring Locations



Georgina held monthly swap events from April to September 2015

Georgina residents were found to be the most active 'swappers' of all the streets monitored, with furniture being the most common item placed at the curb. Although participation was good, measuring the full scope was difficult due to challenges in staff monitoring a large area across three participating local municipalities. In 2016, swap areas will be tracked using a vehicle-mounted camera to record participation rates.

The City of Vaughan and the Towns of Aurora, East Gwillimbury, Richmond Hill and Whitchurch-Stouffville are also investigating curbside swap events for 2017.

Multi-residential Working Group collaborates on data gathering, programming and educational resources for growing sector

A Multi-residential Working Group was established ahead of schedule in 2014, providing opportunities for coordinated and collaborative decision-making specific to the growing multi-residential sector. Key priorities for the group include reduction and reuse initiatives through engagement and outreach efforts with multi-residential property managers and residents, as well as effective data collection and management.

In 2015, staff developed a multi-residential database in collaboration with local municipalities to store data from all municipally collected multi-residential properties and to allow data sharing across all nine local municipalities. Data includes building addresses, number of units, container types (front-end containers vs. 95 gallon carts), waste streams collected (i.e. two stream vs. three stream), number of containers, collection frequency as well as which buildings received education materials and outreach. Data for 345 municipally collected multi-residential properties across all nine local municipalities have been entered into the database. Data will be used to inform future promotion, education and outreach initiatives and to select buildings for future waste audits and pilot studies.

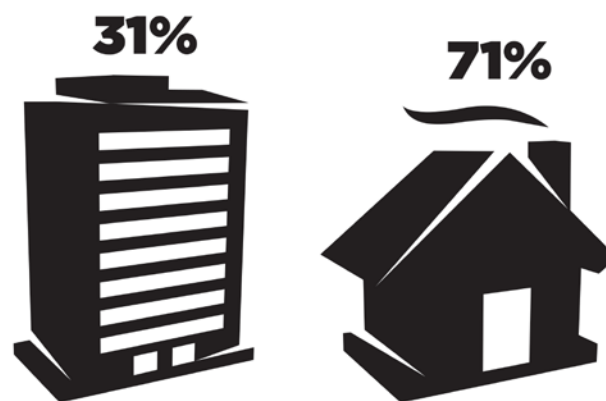
Integration and use of Radio Frequency Identification (RFID) technology for measuring waste collection frequency and weights at multi-residential properties is a critical component of the long-term strategic plan to increase waste diversion. In 2015, the Multi-residential Working Group investigated best practices for data collection through RFID as seen in Peel Region and the City of Markham. RFID technology is becoming a best practice in the multi-residential sector as it allows for accurate recording of collection data for all garbage and recycling containers. Markham currently uses RFID technology and all other local municipalities will be including the provision for RFID technology as part of their future collection contracts.

Waste audits at multi-residential properties provide insight into waste management behaviors and waste generation

Audits were conducted in Richmond Hill in 2015 at 10 multi-residential buildings, including 5 buildings that offered an organics collection program. Results show that recycling and organics streams accounted for 31 per cent by weight of the total waste sampled in the 2015 multi-residential audit as compared to 71 per cent by weight of the total waste sampled in the 2014 single family audits, as summarized in Figure 3.

Staff is working closely with local municipalities on development standards that support continued implementation of three-stream waste collection in all new multi-residential buildings as stipulated in the York Region Official Plan.

Figure 3
Percentage by weight of recycling and organics in
Multi-Residential vs. Single Family audits



To further study this sector, additional waste audits will be conducted fall 2016 at buildings in Aurora, Newmarket and Vaughan. Best practices and audit results in multi-residential properties confirm that successful waste diversion programs must be convenient, provide residents with shared waste collection areas with clear signage and be accessible and flexible to accommodate the unique requirements of each property. Continued collaboration on data gathering and public outreach through the multi-residential working group are critical to growing these waste diversion programs.

Preliminary evaluation for source separated organics processing incorporated in 'Call for Innovators' Request for Information

The SM4RT Living Plan implementation relies on community partners and service providers to support new ideas and approaches for reduction, reuse and recycling. A Request for Information was conducted in Q4 of 2015 to scan the

marketplace for new programs, services and processing technologies for all waste streams. Eighteen submissions were received, with the majority focused on technology options for green bin processing. Five potential technologies for source separated organics were identified for further exploration, all anaerobic processes with potential cogeneration of biogas for fuel. Results from the Request for Information will inform next steps as staff prepare to conduct a feasibility study to further refine requirements for long-term source separated organics processing. In August 2016, staff released a Request for Proposal for the feasibility study to find the preferred technology for source separated organics processing. The successful proponent will initiate the study in Q4 2016.

Award-winning Good Food Program exceeds outreach targets for first year of roll out

The Good Food Program, launched in March 2015, promotes food waste reduction in support of the SM4RT Living Plan goal to decrease household food waste in the green bin by 15 per cent by 2031. The 2015 objective of the Good Food Program was to raise awareness around food and food waste and motivate residents to take the initial step of visiting the webpage to learn more. Specific objectives related to raising awareness are outlined in Table 3. The Good Food Program exceeded all targets in 2015 and was recognized for excellence by the Municipal Waste Association and the Solid Waste Association of North America.

Table 3
2015 Good Food Outreach Targets

Tool	2015 target	2015 Achievements
Community Outreach	Engage approximately 5,000 residents through outreach initiatives, events, seminars	Over 6,100 residents engaged
Media/Advertising	Reach 20% of population, or approximately 200,000 residents through media tactics	Combination of print, radio, electronic and transit signage with estimated reach of over 5,000,000 views
Webpage	300 unique visits per month or 3,600 in first year of campaign	4,300 visits to webpage
Social Media	Regular social media activity inspiring York Region community to share, like, retweet, comment	Top Facebook post on York Region page in 2015; 1,700 visits and 140 entries in Pinterest contest

As program implementation continues, progress towards long term reduction targets will be tracked based on annual tonnage and per capita waste generation metrics. Curbside waste audits will continue to be conducted on a biannual basis to provide further insights into resident behaviours around food waste as well as other waste streams.

Food waste reduction programs launching in communities in Ontario and across Canada

York Region is the first Ontario municipality to identify a food waste reduction target on a long-term waste management plan. City of Toronto and City of Guelph have now also identified food waste reduction as a priority action in their long-term plans. Metro Vancouver launched a Canadian version of the UK's successful "Love Food Hate Waste" campaign, in support of their municipal waste reduction target.

York Region continues to collaborate with other Ontario municipalities and stakeholders to broaden awareness and action to reduce food waste and promote healthy eating through the Ontario Food Collaborative. The Collaborative finalized its Strategic Plan in 2015 (Attachment 3), focusing on a holistic food systems approach in supporting individuals and families to eat well and reduce food waste. Key strategic areas include public education and shared messaging, consistent data collection and shared metrics, and strong partnerships.

Greener Garden pilot in Aurora estimates use of composter could reduce organics at the curb by as much as 50 kg/person/year

Building on successes and lessons learned through the composting pilots at community gardens in 2014, the Greener Garden Composting Challenge was developed in partnership with the Town of Aurora. The pilot was designed to estimate reduction potential and gather information on challenges encountered by those new to backyard composting. Twenty households in Aurora received composters, kitchen pails, handheld scales and tracking sheets. For three months, from June to September, participants recorded the weight of material added to their composter and afterwards completed a feedback survey about their experiences.

Participants diverted an average of 19 kg/person of kitchen scraps and yard waste over the three month pilot project. Assuming keen gardeners would be willing to compost for 8 months of the year, as much as 50 kg/person could be diverted from the municipal system through composting. This would reduce the participants' per capita generation of organics (food and yard waste) by 41 per cent (Figure 4).

Figure 4
Outcomes of Greener Garden Composting Challenge Pilot



**Greener Garden Composting Challenge pilot results were extrapolated to calculate potential annual impacts to curbside waste reduction*

Survey results showed participants valued the troubleshooting support provided by municipal staff and encouraged more interaction to allow more experienced participants to help those new to the practice. Next steps will focus on expanding and promoting backyard composting using effective tactics learned through this pilot. Although the reduction potential is significant amongst participating residents should they use a backyard composter, staff recognize not all York Region households are suitable candidates for backyard composting. As a result, expansion efforts will focus on targeting keen gardeners and willing participants.

Refinements to waste generation rate method allow better allocation of tonnages from Regional depot facilities

In the 2014 Balanced Scorecard, Waste Generation Rates by municipality was introduced as a metric to track progress towards the SM4RT Living 2031 waste reduction targets. The metric identified variability between municipalities and flagged the need for further analysis. After discussion with local municipal partners and review of all available data, the method for calculating waste generation rates for each local municipality has been refined to more accurately allocate tonnages from various sources to their municipality of origin. Table 4 describes the updates made to the method and rationale.

Table 4
Refinements to Waste Generation Rate Method

Data source	Total tonnage	Old Method	New Method
Curbside trucks	88%	Allocated to municipality of origin.	Allocated to municipality of origin. Georgina population increased due to seasonal population flux.
Public drop-off facilities. i.e. HHW Depots, CECs, GTS and Bloomington	12%	Based on portion of curbside tonnage contributed by each municipality	Based on participation tracking at depots and scale data from Georgina Transfer Station
Region-wide sources (i.e. school boards, Region departments)		Based on portion of curbside tonnage from each municipality	Based on population distribution
Small Businesses		N/A	Based on participation tracking at depots

Participation records at Regional facilities indicate depot usage highest amongst residents living closest to the facility

The largest impact from this change in method is to more accurately characterise and allocate the 12 per cent of tonnage collected at the depots and Community Environmental Centres (CEC) to their municipality of origin. Previous estimates were made on the assumption that depot usage was consistent with use of the curbside programs. The previous method was spreading out the depot tonnages too widely, overestimating tonnages to some municipalities and underestimating in those closest to depots.

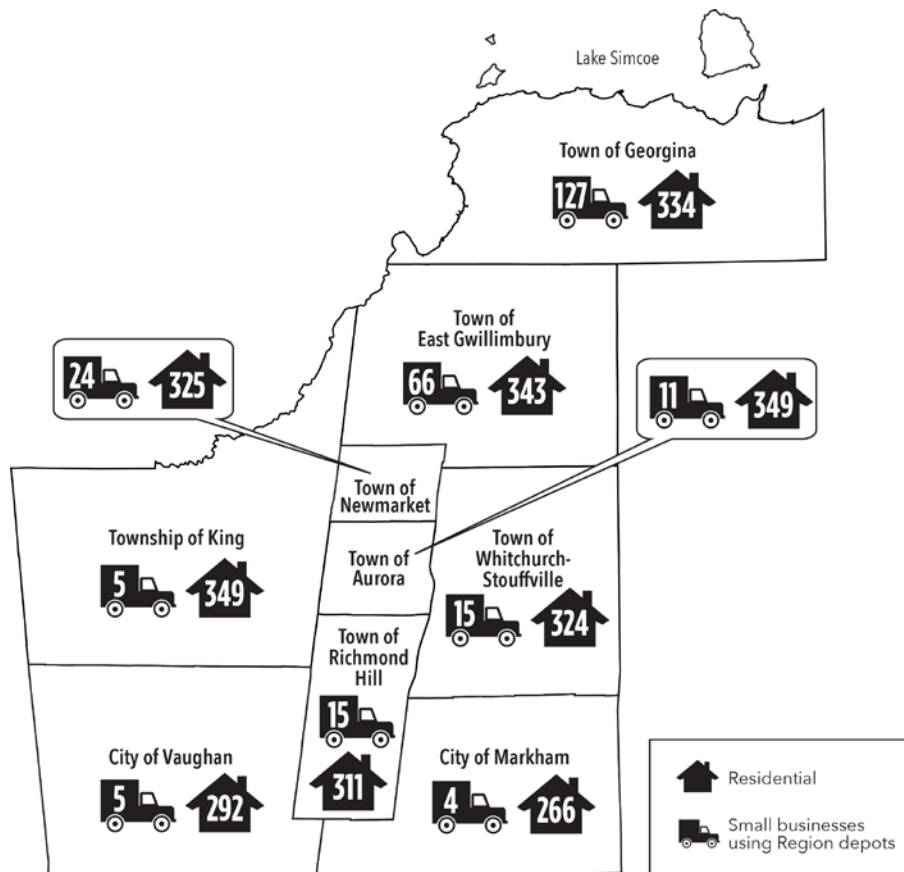
As scales are installed at the CECs, it will be possible to further improve on the accuracy of allocating tonnages from these facilities to their location of origin. Scale data for each customer accessing services at these sites will allow improved accuracy for tracking of tonnage, origin, type of material and business or residential users.

Georgina small businesses are frequent customers at the Region’s transfer station, impacting the community’s waste generation rate

Georgina Transfer Station is the Region’s busiest public drop-off facility. The site is located in an area of the Region that is not well serviced by private transfer facilities so small businesses from Georgina and East Gwillimbury are regular users of the site. With the opening of Highway 404 extension in 2015, business users from Newmarket are now able to access the site more conveniently. In the south, more private options are available so businesses do not visit Regional facilities as often.

Figure 5 shows waste generation rate of each municipality broken down into residential and small business users of Regional facilities. It is clear that the waste generation rates of northern municipalities closest to Georgina Transfer Station are higher, in part because of business users at that site.

Figure 5
2015 Waste Generation Rate (kilograms/capita)
for Residential and Small Businesses



There has been a steady increase in garbage tonnages at Elgin Mills Community Environmental Centre in Richmond Hill in the last year. This increase is attributed to limited alternate disposal options for small businesses in this area. In August 2015, Miller Waste stopped accepting waste from residents and small business customers (without self-dumping vehicles) from Tuesdays through Fridays at their Earl Turcott Transfer Station in Markham. These customers, who are mostly residential and small business customers can only use the site Mondays and Saturdays.

Waste Generation Rate lowest in more urban municipalities, suggesting property sizes and housing types may be important influences

Figure 5 illustrates residential waste generation rates are lowest in Markham, Vaughan and Richmond Hill, the most urbanized municipalities, with the highest portion of residents living in higher density multi-residential housing. These higher-density housing types may have lower waste generation due to limited storage, smaller living and outdoor areas. Residents in more urban areas also have access to a wider range of private reuse and disposal facilities so some of their waste may be managed outside the Regional system through private transfer stations and programs. Factors such as housing types, proximity to public and private depots, and municipal collection policies will continue to be analyzed in collaboration with local municipalities to gain a better understanding of their influence on waste generation rates.

Markham's clear bag system contributes to lower waste generation rate for that community

The City of Markham has the lowest waste generation rate amongst the nine local municipalities, with the largest difference in the residential garbage stream. In speaking with Markham staff, they suggested that introducing clear bags for garbage collection in 2013 has influenced this trend. Clear bags allow collectors to identify and leave behind bags containing unacceptable materials such as grass clippings. Residents are required to seek alternative means to dispose of this material. Markham staff noted an increase in questions regarding grass clippings this year.

SM4RT Living Plan supports strategic objectives of 2015 to 2019 Strategic Plan and Vision 2051

Staff identified linkages and common deliverables between the SM4RT Living Plan and the Vision 2051 living sustainably goal through waste reduction and prevention. Waste reduction supports the 2015 to 2019 Strategic Plan objective "Optimizing critical infrastructure systems capacity."

5. Financial Considerations

Waste management system delivers high performance for only four cents per tax levy dollar

Table 5 shows the breakdown of costs for the Region's component of the waste management system. Although household hazardous waste has the highest cost per tonne, the small amount of material managed means the overall program cost is lowest. Residual waste and green bin organics make up the bulk of the operating budget. The SM4RT Living Plan has targeted these streams for reduction initiatives to avoid potential cost increases as population growth increases future demand for waste infrastructure and services. Achieving the SM4RT Living reduction targets by 2031 is projected to result in an annual cost avoidance of \$11 M.

Table 5
2015 Regional Waste Management Operating Costs

Program	2015 Cost/tonne (actuals)
Residual waste	\$101
Blue Box (net)	\$78
Yard Waste	\$79
Household Hazardous waste/Electronics (net)	\$270
Green bin organics	\$187
Other public drop-off programs	\$53
Total operating costs in 2015	\$44.4 M
Estimated regional cost per household	\$118/hhld

Changes to *Development Charges Act* make new diversion program infrastructure eligible for funding

Waste management infrastructure and program costs have always been ineligible for funding from development charges so infrastructure expansion to service growth was funded through the existing tax base. The Region advocated to the Province to change this policy as it has made planning and paying for growth very challenging. Recent updates to the *Development Charges Act* have removed waste diversion projects from the ineligible list, opened up a new opportunity to use funds from development charges to fund waste diversion

infrastructure such as a processing facility for source separated organics or enhancements to the Region's Community Environmental Centres that are needed to support new growth. The Region has established a multi-departmental team to prepare an update the Region's Development Charges bylaw to allow newly eligible services to begin accessing these funds. Unfortunately the policy change did not extend to provision of waste disposal infrastructure, including recovery of energy-from-waste.

Full cost accounting study to establish baseline costs and inform future budgeting for infrastructure and program costs

A consultant was engaged in 2015 to complete a full cost accounting study for the Regional and local municipal components of the waste system. Eight of nine local municipalities are participating, with City of Markham opting to take their own approach. The study will identify costs for each stream of the waste management system and provide a baseline and a template for ongoing tracking of key performance metrics such as cost per household for both single family and multi-residential and cost per tonne by material type.

The project will support implementation of the SM4RT Living Plan by providing baseline information required for further exploration of sustainable funding options for large capital projects. The project also aligns with Regional Council's commitment to a tax rate increase of two per cent or lower.

The study has taken on increased importance because of potential changes to the integrated waste management system with the introduction of the *Waste-Free Ontario Act, 2016*. A complete and accurate financial picture is necessary to most effectively advocate for fair compensation for municipal waste management services.

A template for collecting financial and system data has been developed and participating municipalities and the Region are working on compiling information for analysis. Outcomes of the study will be shared with Council in 2017.

6. Local Municipal Impact

The SM4RT Living Plan is based on collaboration between the Region and its local municipal partners. Joint development and delivery of pilot programs allows testing of differing approaches suited to unique local communities and sharing of lessons learned to inform expansion of successful initiatives to other areas. In addition to support Region-wide initiatives like Good Food and the Full Cost Accounting Study, several local partners led initiatives that support implementation of the SM4RT Living Plan in their communities in 2015.

Local municipal partners led textile collection pilot to promote reuse in their communities

The City of Markham and Town of Aurora programming options for textiles recycling in 2016. Markham is partnering with Salvation Army to provide convenient collection boxes at municipal facilities. Aurora is working with Textile Waste Diversion to offer seasonal curbside collection and collection bins at municipal facilities. Outcomes will be shared with other local municipal partners to expand successful elements of these pilots to other areas.

Local municipalities continue to work on year one initiatives

Work on implementing multi-residential development standards continues in all local municipalities, except Markham, where a standard is already in place. In addition, all local municipalities engaged their residents at community events and through social media on waste initiatives, particularly the Good Food Program. Collectively, the Region and local municipal partners had a presence at 180 local events and made more than 300 social media posts about waste issues.

7. Conclusion

Implementation of SM4RT Living Integrated Waste Management Master Plan on track with 16 of 32 priority initiatives underway

The SM4RT Living Integrated Waste Management Master Plan identified 32 priority initiatives to be implemented in the first five years (2014-2018). At the end of 2015, 16 were underway, with another eight started in 2016. The final eight are scheduled for 2017. The Plan will be updated every four years to coincide with terms of Council, with the first update in 2018/2019.

For more information on this report, please contact Laura McDowell, Director, Environmental Promotion and Protection at ext. 75077.

The Senior Management Group has reviewed this report.

September 23, 2016

Attachments (3)

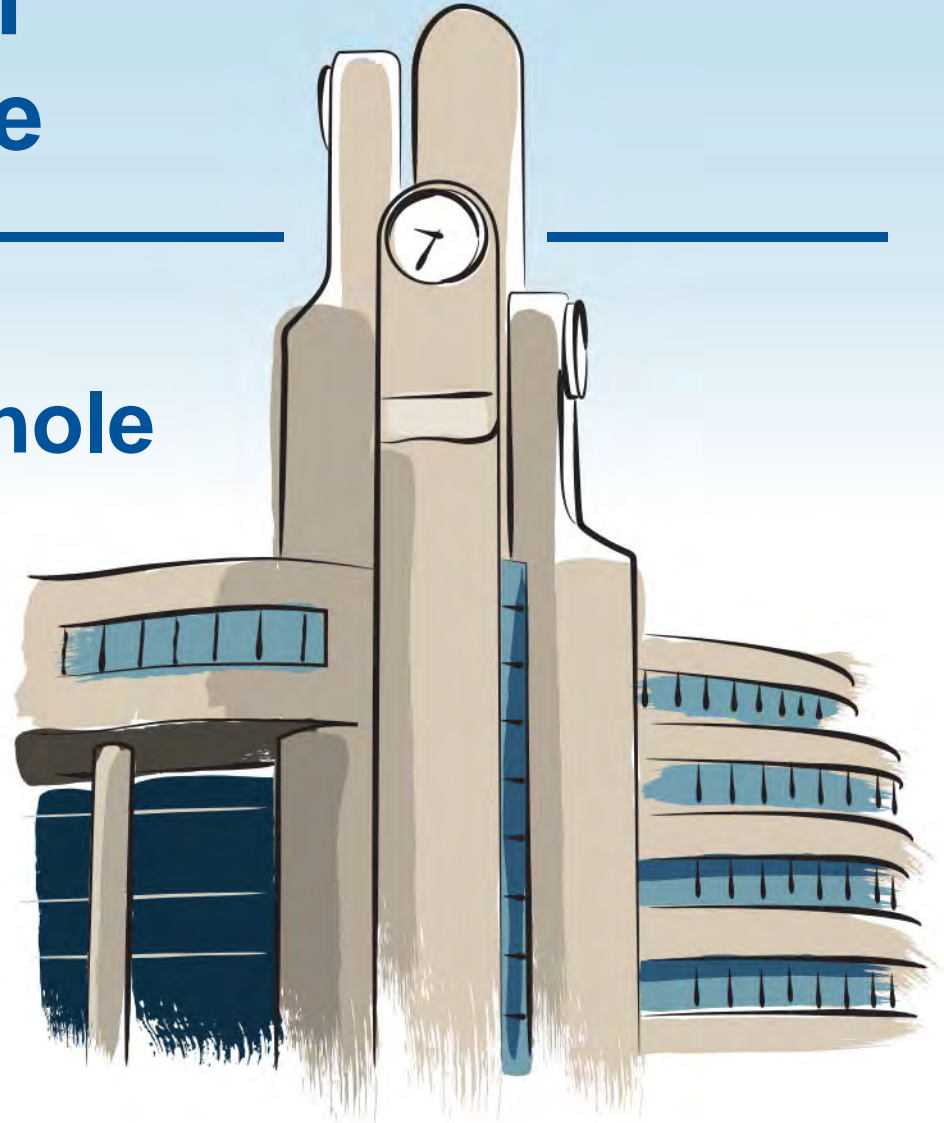
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Accessible formats or communication supports are available upon request

2015 Annual Diversion Report and SM4RT Living Plan Update

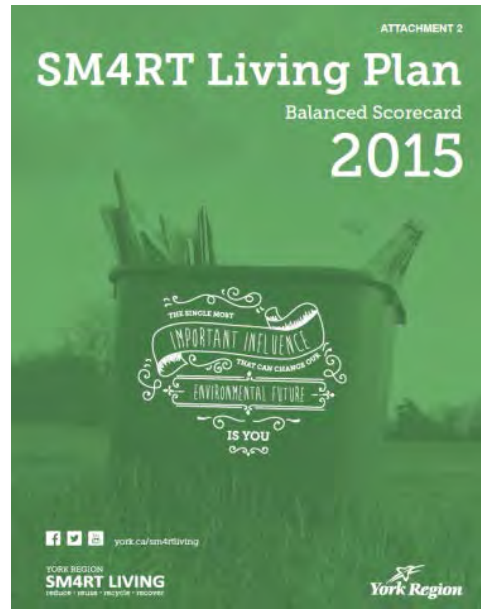
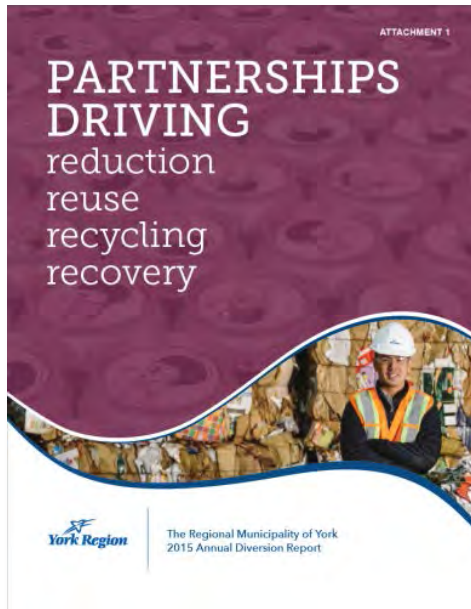
Presentation to
Committee of the Whole

Laura McDowell and Lindsay Milne
October 6, 2016



Overview

- 2015 Diversion from Landfill
- SM4RT Living progress and pilots
- 2015 Waste Generation Rates



York Region achieved 87 per cent diversion from landfill in 2015



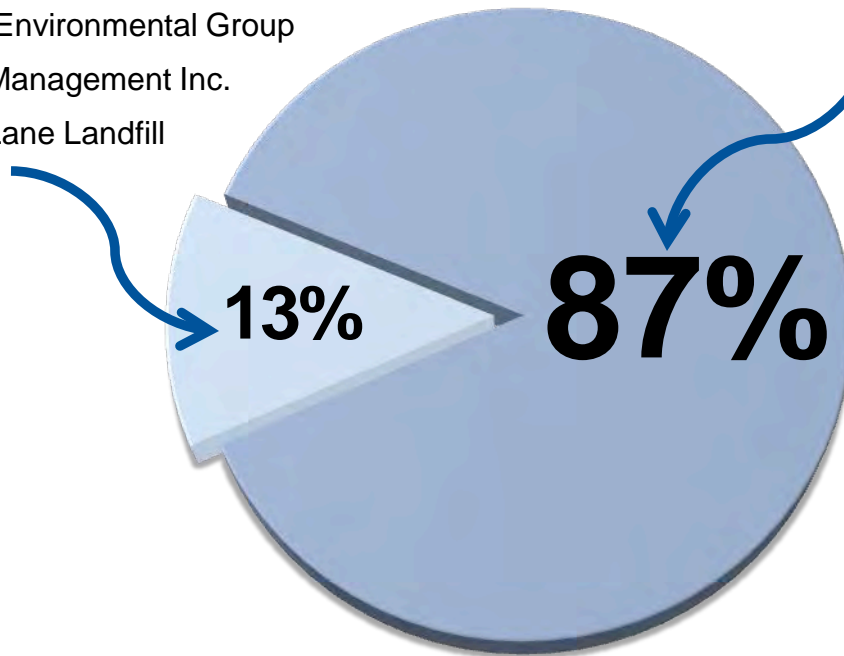
LANDFILL

Walker Environmental Group
Waste Management Inc.
Green Lane Landfill



DIVERSION FROM LANDFILL

Organics: Orgaworld, Lafleche Environmental
Blue Box: Material Recovery Facility
Yard Waste: Miller Waste Bloomington Road Facility
Household Hazardous Waste: Hotz Environmental
Waste Electronics and Electrical Equipment: Global Electric Electronic Processing
Other Diversion: Construction and demolition, polystyrene, used cooking oil and tires
Energy-From-Waste: Covanta Niagara, Emerald Energy-From-Waste, Durham York Energy Centre



On track to achieve the 2016 strategic plan goal of 90 per cent diversion from landfill

By 2031, SM4RT Living targets result in \$11 million in annual avoided costs



15% **5%**

Less green
bin material

Less yard
waste



5%

Less garbage
with reuse



4%

Increase in recyclables
from multi-residential
programs and schools



60-80% **90%**

Increase in
metal capture

Reduce
volume of
waste



Waste Generation Rate target:

289 kg/capita by 2031

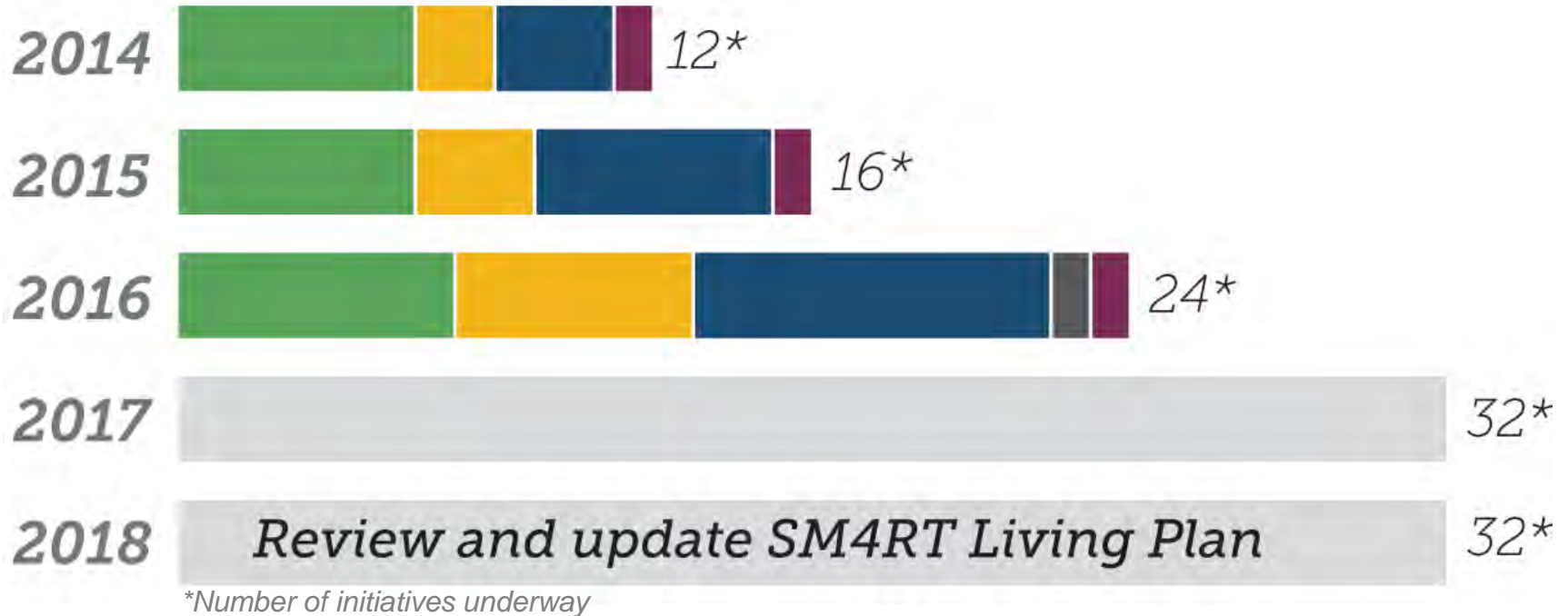
32 priority initiatives launched in first 5 years to support long term targets.



SM4RT Living initiatives help achieve long term target

2014 Completed:	2015 Completed:	2016 – On track to Complete:
12 INITIATIVES	4 INITIATIVES	8 INITIATIVES
 <p>Focus on food waste reduction, waste advocacy and researching pilot opportunities</p>	 <p>Focus on multi-residential working group and data collection as well as researching swap events</p>	 <p>Focus on developing reuse strategy and investigating reuse and diversion opportunities for construction waste and businesses</p>

In 2016, on track to implement 24 of 32 SM4RT Living initiatives



The plan will be updated in 2018 to identify key priorities for next phase of implementation

Award winning Good Food Program exceeds outreach target in 2015

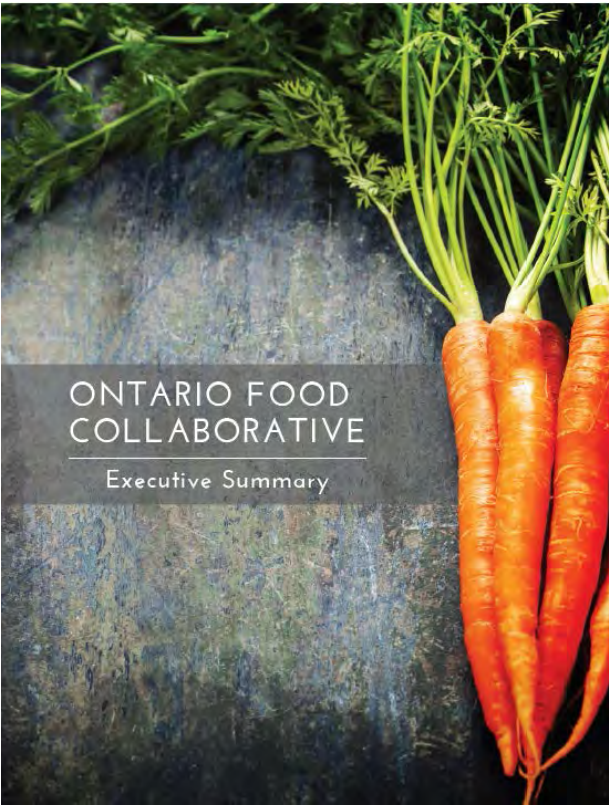
- ✓ Attended and hosted more than **40 events**
- ✓ **5,000 people** engaged where Good Food was featured
- ✓ **4,300 visits to webpage**
- ✓ Pin-to-Win contest received **1,700 visits** and **140 submissions**
- ✓ Region Pinterest page reached **57 per cent increase** during Pin-to-Win contest
- ✓ Facebook photo contest from **October to December**



- Launched in March 2015
- Recognized for excellence by the Municipal Waste Association and the Solid Waste Association of North America

Holiday tips for reducing waste was most liked and shared post on Region's Facebook page

Ontario Food Collaborative establishes three year strategic plan



- **Mission:** bring together stakeholders to take a holistic food systems approach in supporting individuals and families to eat well and reduce food waste.
- London
- Toronto
- Simcoe
- Durham
- Halton
- Middlesex-London
- York Region
- Niagara
- Province of Ontario (OMAFRA)
- Provision Coalition
- Peel
- Sustain Ontario
- University of Guelph
- York Region Food Network

Ontario Food Collaborative’s focus on consistent messaging, metrics and strategic partnerships key to reduce food waste collectively.

Greener Garden pilot shows potential to compost 50 kg per participant/year



- 2015 - conducted pilot study with 20 households
- 2016 - expanded program distributing over 300 composters in Aurora and Richmond Hill
- Newmarket, King and Whitchurch-Stouffville expressed interest in program in 2017

Backyard composting contributes to food waste reduction targets



‘Curbside Swap’ days are cost effective means to promote reuse



- 2015 - King, Newmarket and Georgina held swap days over the summer/fall
- 2016 – improved tracking through use of GoPro camera
- Vaughan, Aurora, Whitchurch-Stouffville and East Gwillimbury considering for 2017; Additional promotion tactics will increase awareness and participation



700 households participated in curbside swap days in 2015



Textile waste identified as a key focus for reuse in SM4RT Living plan

Your neighbourhood has been selected to pilot a new recycling collection service for Aurora!

DOOR-TO-DOOR CLUTTER COLLECTION

Get rid of unwanted clothing, textiles and household goods free-of-charge with convenient pick-up at your doorstep.

Place any of the accepted items listed below in the bag provided or in a clear bag marked 'T' for 'textile'. Leave the bag outside your front door on the following Mondays:

JULY 25, 2016
SEPTEMBER 12, 2016
JANUARY 9, 2017



We will collect the following materials in any condition (gently used or worn and torn) as long as they are clean, dry and odourless. Materials that cannot be re-sold or re-used will be recycled. Please tie bags tightly to protect items from getting wet.

WE ACCEPT:

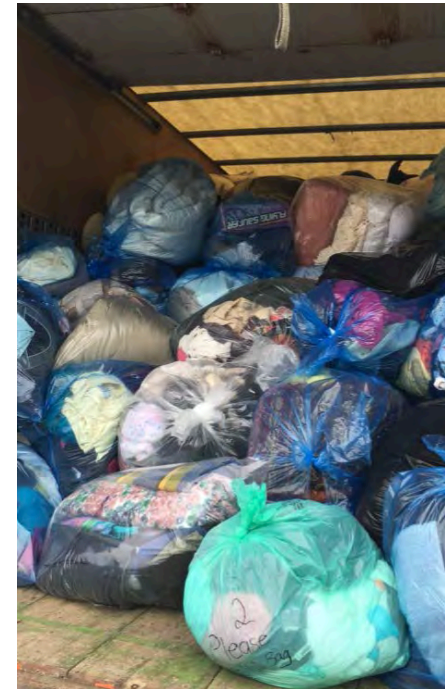
- Blankets, bedding, sheets, pillows
- Clothing
- Drapery, curtains
- Footwear
- Housewares (e.g. home décor items)
- Jackets, overcoats
- Kitchenware
- Linens, towels, washcloths

WE DO NOT ACCEPT:

- Appliances
- Furniture
- Hazardous waste

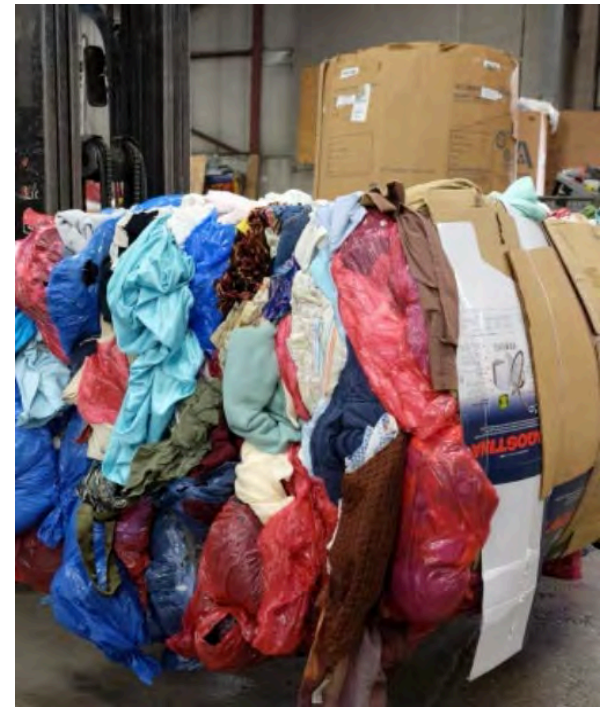
WE ACCEPT:

- Reading glasses
- Purses, hats, belts and ties
- Sleeping bags
- Soft toys
- Toys, sports equipment



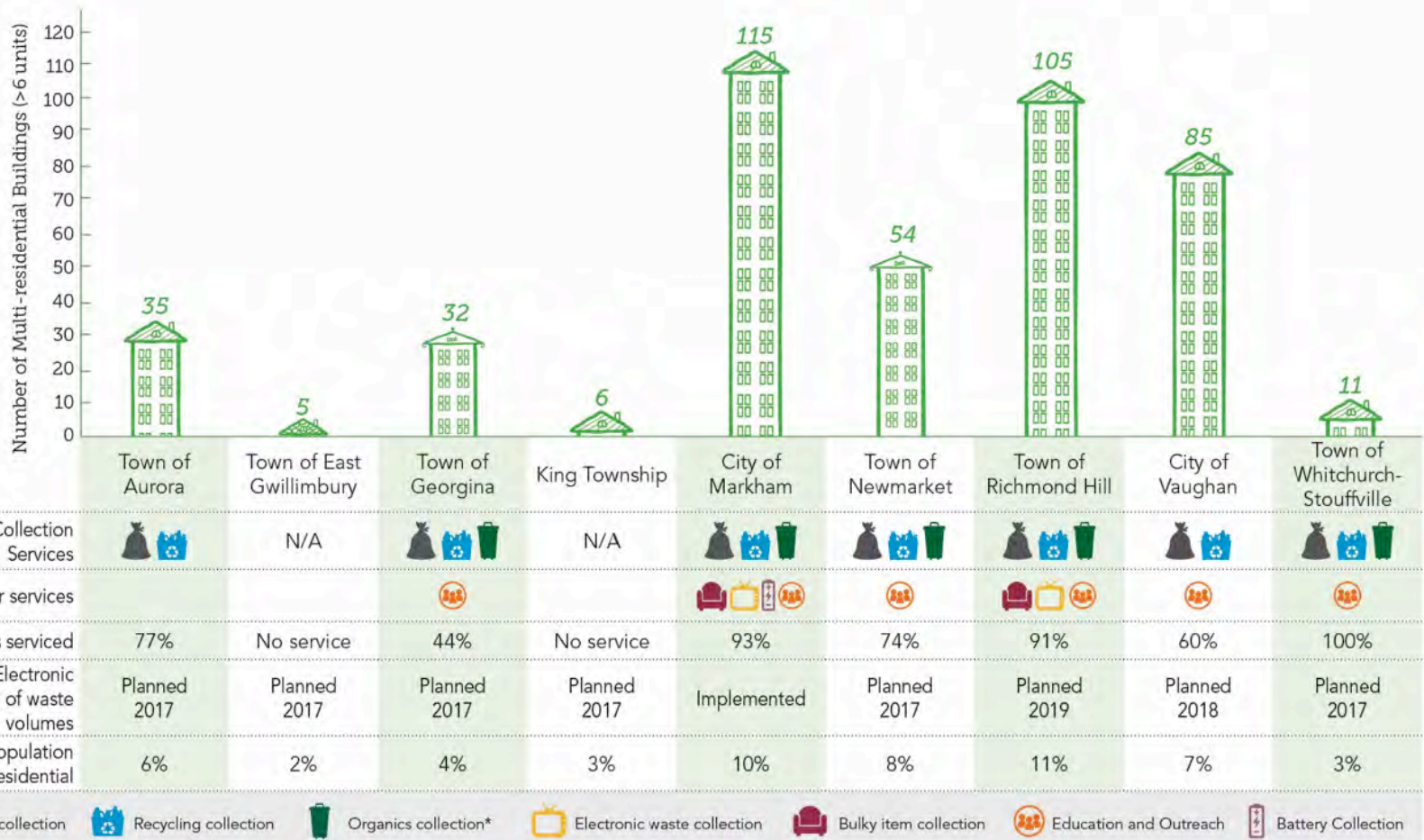
Aurora launched textile collection pilot in 2016; 162 households participated in first collection day, diverting 2,500 kg from garbage

Municipal collection bins in Markham support reuse with clean, convenient drop off locations



Messaging about textile recycling encourages residents to donate more materials, increasing diversion potential of the program

2015 Multi-Residential Working Group supports SM4RT Living Reuse/Recycling targets



*Organics collection includes municipal curbside or front end bin/tote collection; may not be available at all buildings

Multi-residential audits show participation rate at 31%, highlighting need for additional support and programming in this growing sector

2016 Multi-Residential Working Group is piloting improved signage and reuse programs

What goes in the BLUE BOX?

Plastic
Clamshell Containers, Food Trays, Cups (No Straws), Tubs & Lids, Jugs, Bottles & Jars

Paper
Cardboard (Flattened), Newspapers, Office Paper & Envelopes, Toilet Paper & Paper Towel Rolls, Boxboard (No Liners), Magazines, Egg Cartons, Juice, Soup & Milk Cartons, Chip cans

Metal
Aluminum Foil & Trays, Aluminum Cans, Empty Paint & Aerosol Cans (Lids Separate), Food Cans & Tins

Glass
Empty Bottles & Jars

ALL CONTAINERS MUST BE EMPTY & RINSED

REMOVE METAL LIDS AND PLACE IN THE BLUE BOX

What does NOT go in the blue box?

GARBAGE
Foam Food Containers, Broken Toys, Coat Hangers, Plastic Bags & Wrap

OTHER ITEMS
Batteries, CFL bulbs

BRING TO A HOUSEHOLD HAZARDOUS WASTE DEPOT

Still don't know where it goes?
Try the **Bandicator** - York Region's online, easy-to-use waste directory york.ca/bandicator

For more information on York Region's waste programs, visit york.ca/waste or call 1-866-665-6752

York Region

SWAP & SHARE

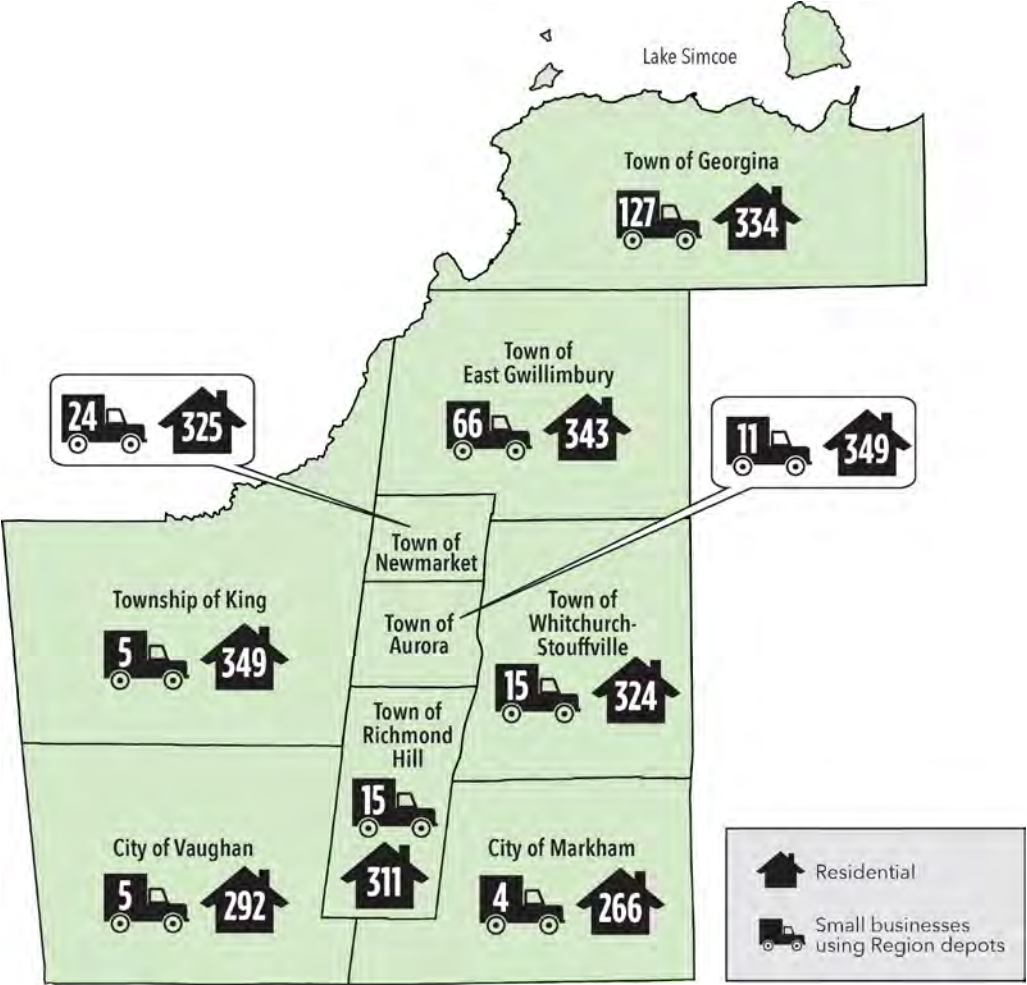
DO YOU HAVE GOOD QUALITY, UNWANTED ITEMS TAKING UP SPACE?

NOT SURE WHAT TO DO WITH THEM?

WE HAVE A SOLUTION!

Swap room being piloted in multi-residential building in Fall 2016

Waste Generation metric tracks progress towards waste reduction targets



Waste Generation Rate refined to better reflect allocation by municipality and contribution from small business users at depots.

Key variables may influence trends in waste generation rates



Housing type, access to Regional or private waste depots, waste policies and education/enforcement may contribute to waste generation rates

Integrated partnership supports diversion and SM4RT Living targets

- On track to achieving 90% diversion from landfill in 2016
- Staff will submit Annual Diversion Report to the Ministry of Environment and Climate Change by November 3, 2016



Staff will continue to work with municipal partners and track progress on SM4RT Living targets to achieve \$11 million annual cost avoidance by 2031



ANY QUESTIONS?





Memorandum

TO: Regional Council
FROM: Erin Mahoney, Commissioner of Environmental Services
DATE: October 20, 2016
RE: **Clarification on Item E.2.1, October 6, 2016 Committee of the Whole**

On October 6, 2016, staff presented to Committee of the Whole Item E.2.1 *2015 Diversion Report and SM4RT Living Integrated Waste Management Master Plan Update*. The Committee sought clarification on Figure 3, "Participation rates for Multi-Residential vs. Single Family", stating that 71 per cent participation rate for single family homes was low.

Participation rates have been used to describe set out rates for single family homes, and refer to the number of households placing out blue box and green bin containers. In the 2014 single family homes audit, the participation rate for York Region was 97 per cent for blue box and 86 per cent for green bin. In multi-residential building audits, participation rates for each apartment cannot be calculated the same way as single family set out rates for each apartment unit as waste materials are mixed in common waste drop off areas. Instead, staff calculated the percentage by weight of material placed in recycling and organics for multi-residential buildings to compare the percentage by weight for single family homes using the audit data. Comparing percentage by weight from multi-residential buildings and single family homes overcomes limitations of tracking set out rates as a measure of participation in multi-residential buildings.

After Committee of the Whole, staff reviewed Figure 3 and have proposed to revise the section titled: *Waste audits at multi-residential properties provide insight into waste management behaviors and waste generation*.

It is recommend that Council receive this memo and approve the following revision to the *2015 Diversion Report and SM4RT Living Integrated Waste Management Master Plan Update*, dated October 6, 2016:

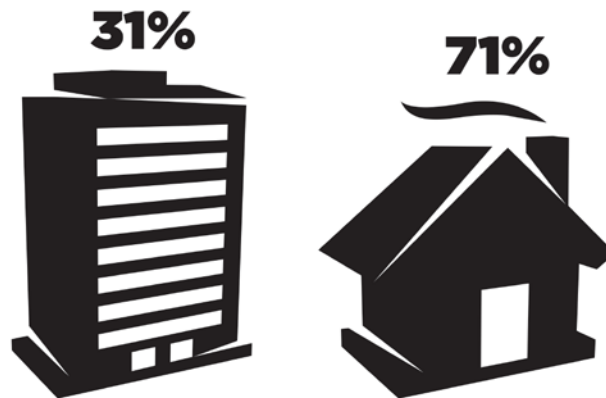
Audits were conducted in Richmond Hill in 2015 at 10 multi-residential buildings including 5 buildings that offered an organics collection program. Results show that

recycling and organics streams accounted for 31 per cent by weight of the total waste sampled in the 2015 multi-residential audit as compared to 71 per cent by weight of the total waste sampled in the 2014 single family audits, as summarized in Figure 3.

Staff is working closely with local municipalities on development standards that support continued implementation of three-stream waste collection in all new multi-residential buildings as stipulated in the York Region Official Plan.

Figure 3

**Percentage by weight of recycling and organics in
Multi-Residential vs. Single Family audits**



A copy of the revised section and changes made to the report received on October 6 can be found in Attachment 1.

In 2016, more audits are being conducted at multi-residential buildings in Aurora, Newmarket and Vaughan. Staff will evaluate results and determine the best metrics to provide insight into behaviors and generation rates to track progress on SM4RT Living Plan targets.

Erin Mahoney, M. Eng.
Commissioner of Environmental Services

LM/Im

Attachment

#7029470

Multi-residential Working Group collaborates on data gathering, programming and educational resources for growing sector

A Multi-residential Working Group was established ahead of schedule in 2014, providing opportunities for coordinated and collaborative decision-making specific to the growing multi-residential sector. Key priorities for the group include reduction and reuse initiatives through engagement and outreach efforts with multi-residential property managers and residents, as well as effective data collection and management.

In 2015, staff developed a multi-residential database in collaboration with local municipalities to store data from all municipally collected multi-residential properties and to allow data sharing across all nine local municipalities. Data includes building addresses, number of units, container types (front-end containers vs. 95 gallon carts), waste streams collected (i.e. two stream vs. three stream), number of containers, collection frequency as well as which buildings received education materials and outreach. Data for 345 municipally collected multi-residential properties across all nine local municipalities have been entered into the database. Data will be used to inform future promotion, education and outreach initiatives and to select buildings for future waste audits and pilot studies.

Integration and use of Radio Frequency Identification (RFID) technology for measuring waste collection frequency and weights at multi-residential properties is a critical component of the long-term strategic plan to increase waste diversion. In 2015, the Multi-residential Working Group investigated best practices for data collection through RFID as seen in Peel Region and the City of Markham. RFID technology is becoming a best practice in the multi-residential sector as it allows for accurate recording of collection data for all garbage and recycling containers. Markham currently uses RFID technology and all other local municipalities will be including the provision for RFID technology as part of their future collection contracts.

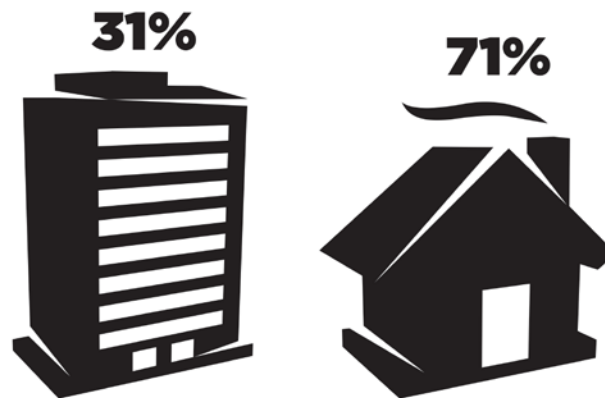
Waste audits at multi-residential properties provide insight into waste management behaviors and waste generation

Audits were conducted in Richmond Hill in 2015 at 10 multi-residential buildings; ~~where including 5 of the buildings that~~ offered an organics collection program. Results show that ~~the participation rate for recycling and organics streams accounted for residents in multi-residential buildings was for~~ 31 per cent by weight of the total waste sampled in the 2015 multi-residential audit as compared to; ~~which is significantly lower than the~~ 71 per cent by weight of the total waste sampled in participation rate seen in the 2014 single family audits, as summarized in (Figure 3).

Staff is working closely with local municipalities on development standards that support continued implementation of three-stream waste collection in all new multi-residential buildings as stipulated in the York Region Official Plan.

Figure 3

**Percentage by weight of recycling and organics in
participation rates for Multi-Residential vs. Single Family audits**



To further study this sector, additional waste audits will be conducted fall 2016 at buildings in Aurora, Newmarket and Vaughan. Best practices and audit results in multi-residential properties confirm that successful waste diversion programs must be convenient, provide residents with shared waste collection areas with clear signage and be accessible and flexible to accommodate the unique requirements of each property. Continued collaboration on data gathering and public outreach through the multi-residential working group are critical to growing these waste diversion programs.

Preliminary evaluation for source separated organics processing incorporated in 'Call for Innovators' Request for Information

The SM4RT Living Plan implementation relies on community partners and service providers to support new ideas and approaches for reduction, reuse and recycling. A Request for Information was conducted in Q4 of 2015 to scan the marketplace for new programs, services and processing technologies for all waste streams. Eighteen submissions were received, with the majority focused on technology options for green bin processing. Five potential technologies for source separated organics were identified for further exploration, all anaerobic processes with potential cogeneration of biogas for fuel. Results from the Request for Information will inform next steps as staff prepare to conduct a feasibility study to further refine requirements for long-term source separated organics processing. In August 2016, staff released a Request for Proposal for the feasibility study to find the preferred technology for source separated organics processing. The successful proponent will initiate the study in Q4 2016.