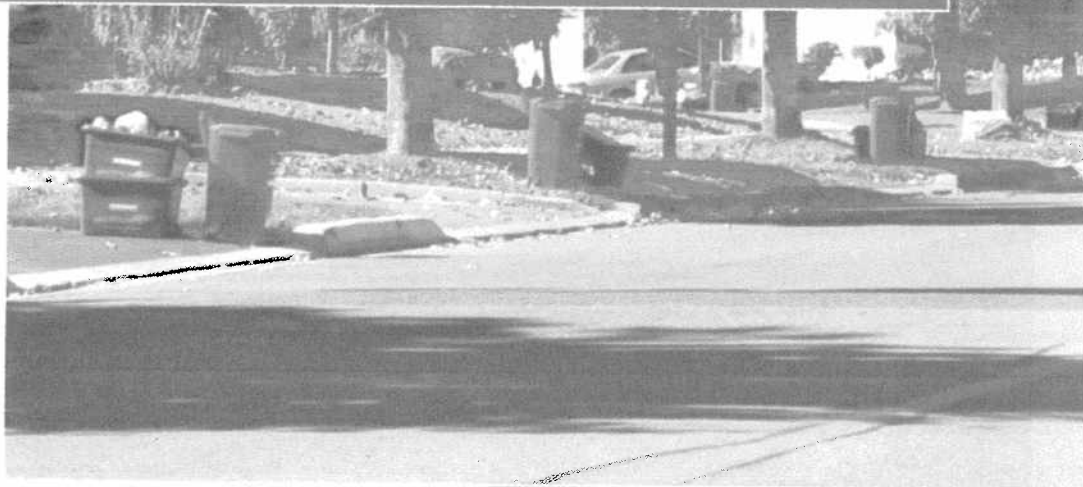


Strategy Report Prepared by:
Environmental Issues Committee
Diversion Sub Committee

2012

“The Best of the Best” Markham’s Roadmap to 80% Diversion



Diversion Sub Committee

Deputy Mayor Jack Heath Chair
Regional Councillor Joe Li
Councillor Valerie Burke
Councillor Logan Kanapathi
Mylene Bezerre, MEAC
Dave Gordon, York Region
Peter Loukes, Director, Environmental
Services
Claudia Marsales, Senior Manager
Leigh Fitzgerald, Environmental Programs
Administrator

Guests

Councillor Howard Shore
Councillor Alan Ho



Vision

The vision of Markham's 80% Diversion Strategy:

Markham will continue to be a provincial and national leader through the implementation of diversion programs that are socially, environmentally and economically responsible.

Target

Markham's new Diversion target:

Since 2006, Markham has achieved an average 72% curbside diversion rate. New, bold initiatives are needed to move towards becoming a Sustainable Community. Achieving 80% diversion would position Markham residents as the 'Best of the Best' in material diversion in Canada

Ten New Initiatives

The following initiatives can be implemented between 2012 and 2014 and together would increase Markham's diversion to 80% and position Markham as a world class leader in the 3R's:

1. Mandatory Material Separation By-law
2. Unlimited Clear Bags for Residue
3. Expanded Textile/Carpet Diversion Program
4. Zero Waste for Schools Program
5. Establish Retail Bag Policy for Markham
6. Enhanced Promotion & Education
7. Reuse Depot for Renovation Materials
8. Curbside Electronics and Battery Collection Ban
9. Establish Spring & Fall clean-up days
10. Expanded Fall Leaf/Yard Waste Collection

Where we are...

2005 - Mission Green



Collection

Markham provides weekly Blue Box and Green Bin collection and biweekly collection of residue to approximately 79,000 homes.

Yard waste is collected every other week from April to November.

Approximately 12,500 multi-residential apartment/townhouse units in over 76 buildings receive weekly recycling collection

Approximately 2,460 multi-res units receive organics collection.

All 25 Separate Schools in Markham receive weekly recycling collection.

Markham's BIA's (Business Improvement Areas) receive weekly collection of recycling, cardboard and residue.

Over 1,500 Canada Post super mailboxes receive recycling collection.

Recycling Depots!

Markham residents have 5 Community Recycling Depots – more than any other community.

The first depot opened in Unionville in 1971, followed by Thornhill Depot in 1975.

Over 120,000 Markham residents recycle at the depots annually.

The depots augment Markham's diversion by accepting:

- ✓ All Blue Box materials
- ✓ Scrap Metal
- ✓ Tires
- ✓ Cell Phones
- ✓ Ink Cartridges
- ✓ Plastic Bags
- ✓ Polystyrene Plastic #6
- ✓ Used Clothing
- ✓ Fluorescent Tubes
- ✓ Rechargeable Batteries



Year	2001	2005	2006	2007	2008	2009	2010
Diversion	33%	53%	67%	70%	72%	72%	72%

Integrated Partnership

In York Region, waste management is a two tier responsibility and waste management services are delivered in partnership with York Region.

This partnership approach has been extremely successful in launching single stream recycling and Green Bin organics.

As a result of our innovative partnership, York Region has been recognized with numerous diversion awards and according to Waste Diversion Ontario, has the highest diversion of all GTA regional municipalities.

Our unique waste management partnership model recognizes local autonomy and allows important program changes to be implemented according to local timetables, recognition of local issues and consideration of the one taxpayer principal.



Awards

- 2008 Peter J. Marshall Award for Zero Waste initiatives
- 2010 RCO Platinum Award for Diversion
- 2010 RCO Gold Award for Unique Program – Mailbox Recycling



Zero Waste Leader

In 2008, Markham Council adopted 'Zero Waste' as a sustainable program to change the municipality from waste managers to a resource management organization. Zero Waste at the municipal level challenges unsustainable purchasing policies, poor packaging design and inefficiency. .

Zero Waste:

- ✓ Planning for recycling starts at the point of purchase
- ✓ Believes that discarded materials are potentially valuable resources
- ✓ Maximizes recycling and composting

Markham is one of a handful of forward looking municipalities in Canada and around the world to move beyond recycling and adopt a sustainable Zero Waste approach to eliminating waste.

- 2011 RCO Gold Award for Diversion
- 2011 RCO Gold Award for Unique Program – Polystyrene Densifier

Guiding Principals

The following Guiding Principals were approved by Markham Council on April 5, 2011:



- ✓ Change must have a reasonable expectation to increase participation and diversion;
- ✓ Program changes should be initiated recognizing our partnership with York Region and /or collection contractor if processing and collection is impacted;
- ✓ Program cost be evaluated on single taxpayer principal;
- ✓ Program changes should be introduced simultaneously whenever possible and supported with an effective and timely communication program

Strategy Development

April 2011

Markham Council approves formation of Diversion Sub Committee as part of the Environmental Issues Committee, Chaired by Deputy Mayor Heath with representatives from York Region and Markham Environmental Advisory Committee (MEAC)

June 2011- June 2012

Diversion Sub Committee meets to explore and develop new strategies

July 2012

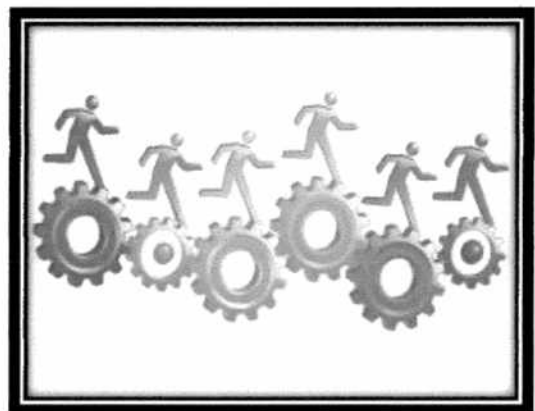
Diversion Sub Committee approves Diversion Strategy to achieve 80% by 2014

September 2012

Presentation of diversion strategy to Environmental Issues Committee

October 2012

Markham Council Approval



Markham is one of a handful of forward looking municipalities in Canada and around the world to move beyond recycling and adopt a Zero Waste approach to eliminating waste.

Where we are going...

The following actions can be implemented between 2012 and 2014 and together will increase Markham's diversion rate to 80%:

Miami Beach, Florida has passed a new law that makes recycling compulsory starting in July 2013.

"People, who live in the city of Miami Beach, must soon recycle or possibly face fines. Once the ordinance goes in effect in July 2013, people who don't recycle would be fined \$350 for their first violation, \$500 for their second violation and \$1,000 for the third violation." The fine for a fourth violation could total \$2500.

★★★★★★

The San Francisco **Mandatory Recycling and Composting Ordinance** (No. 100-09) is a local municipal ordinance requiring all persons located in San Francisco to separate their recyclables, compostables and trash and to participate in recycling and composting programs. Passed in 2009, this became the first local municipal ordinance in the United States to universally require source separation of all organic material.

Action Plan #1: Mandatory Material Separation By-law

Financial Implication: No budget impact

Recommendation:

It is recommended that Waste By-Law 32-95 be amended to require all residential homes and multi residential properties in Markham to separate their waste materials into 4 streams: recyclables, compostable, garden materials and residue effective January 1, 2013.

Rational:

In 1991, Provincial regulation required all municipalities with a population greater than 5,000 to provide curbside Blue Box collection. Twenty years later, while most people recycle, vast amounts of easily recovered materials continue to flow to landfills and incinerators. Growth in consumption continues unabated. Most Ontario communities barely divert 30% of their waste stream and the Provincial average is a shameful 20%.

While most Ontario municipalities provide Blue Box collection, only a handful require residents to recycle.

Municipalities have the authority to establish waste disposal fees, surcharges, bans and restrictions and also to require source-separation of recyclable materials. A growing number of local governments are adopting by-laws and ordinances that prohibit disposal of recyclable products in the garbage. These rules send a clear and reasonable signal to households - if it can be recycled it does not belong in a landfill or incinerator.

Seattle is enforcing a by-law requiring all waste generators to recycle. Residents will not receive pickup if their garbage contains more than 10% recyclable materials. Owen Sound recently passed a By-law with 30% as the allowable percentage.

In Markham, the proposed Mandatory Material Separation Bylaw would require both single family and multi residential residents to separate their materials into 4 streams – Blue Box, Organics, garden materials and residue. The Mandatory Material Separation Bylaw would provide the ability to issue warnings and fines to flagrant non participants.

As is commonly the case, Markham is achieving greater participation and diversion from its single-family households compared to multi-family (apartment/condo) households. More than twice as much recyclable material is collected from the average single-family household compared to serviced multi-family households. Making mandatory separation the law in Markham will strengthen our position when working with Condo Boards and Property Management companies. In addition, a by-law provides superintendants and property managers with the legal backing to further encourage material diversion where needed.

A mandatory recycling by-law can be used in conjunction with the implementation of clear garbage bags. Clear garbage bags will allow collectors to easily identify if there are prohibited items mixed in with the garbage. Mixed content bags would be left at the curb with a sticker affixed explaining why. Recent studies have shown that mandatory by-laws and clear bags result in maximum participation and diversion.

Markham remains committed to ongoing education and positive reinforcement to residents about the importance of participating in waste diversion programs. Fines would be a last resort. However, when necessary, residents and building owners could be fined for repeat, on-going non-compliance.

Many studies have concluded that mandatory participation requirements for residential recycling programs divert more material than voluntary programs and are more effective over time than user pay programs. **Policy and legislation** that support waste diversion efforts are essential and help enforce waste diversion practices.



Action Plan #2: Clear Bags for Residue – Unlimited

Financial Implication: 2013 Capital budget request \$ 40,700 ; 9 month interim position

- **Support from partners - Glad**
- **Residents already purchase garbage bags; clear bags can be used for both residue and Green Bin organics.**

Recommendation:

It is recommended that Waste By-Law 32-95 be amended to require the use of clear bags for residue effective in 2013 and elimination of the 3 bag limit and tag program to allow unlimited clear bags of residue every other week.

Rational:

A clear garbage bag program requires residents to use clear, transparent bags for residue set out for collection instead of traditional dark green garbage bags. Although changing the bag colour seems trivial, it is a powerful diversion strategy. A clear bag encourages people to separate their materials, and helps collectors monitor garbage for misplaced recyclables and other items banned from disposal. Most importantly, placing garbage in a clear bag prompts people to reflect on their waste disposal habits and encourages them to be more diligent in sorting their materials.



Nova Scotia is considered a leader in applying the concept. Currently, 13 Nova Scotia municipalities, which have had the program in place for two years experienced a 41% decrease in residential waste, a 35% increase in residential recycling, and a 38% increase in residential organics collection.

Clear bag programs are also in place in: Ontario, Prince Edward Island, Maine, New Hampshire, New York, Wisconsin, and Nebraska. There are reported to be fourteen clear bag programs in Ontario. The best known program is Guelph's wet dry system which requires clear bags for residue, green bags for organics and blue bags for recyclables.

Studies completed by Ontario's Stewardship Effectiveness & Efficiency Fund report that clear bag programs are successful in decreasing the amount of recyclables being landfilled or incinerated. The majority of jurisdictions with clear bag programs also have mandatory recycling by-laws and landfill bans in place.

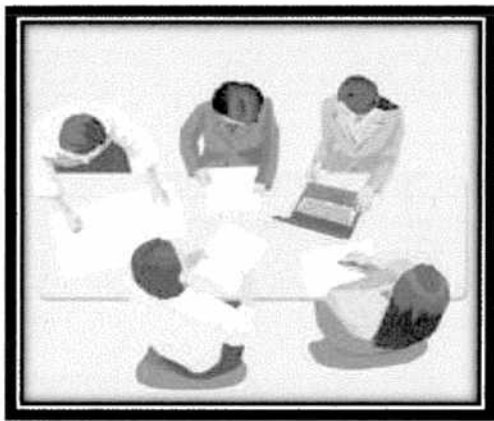
Markham Focus Group Results

Markham conducted Focus groups in 2007 and again in 2011 to test public acceptance of using clear bags for residue and mandatory recycling.

Residents were informed that while a majority of Markham residents are top recyclers, approximately 5% - 10% of households are not recycling. That represents a maximum of approximately 8,000 homes on a weekly basis that consistently do not set out Blue Boxes or Green Bins and makes enforcement challenging.

Residents were asked if they would be willing to replace the current dark green plastic bags with clear ones. Residents would be allowed to use a small, opaque 'privacy bags' inside the clear bags if needed.

Key responses:



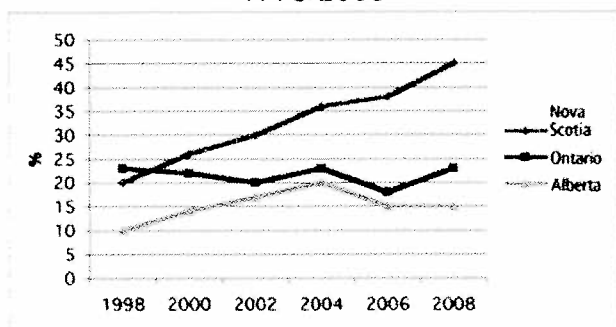
1. Recycling is definitely seen as an essential part of being a responsible resident, but there was an assumption of underpinning regulation, and residents were surprised to learn that recycling is not mandatory in Markham.
2. On clear bags, privacy issues were cited as the major concern of residents. People were concerned about others being able to view the contents of their garbage. Privacy issues must be addressed before implementing a program. Most municipalities permit an opaque bag(s) which is commonly referred to as a 'privacy bag'.
3. Using up 'old' garbage bags and an insufficient supply of clear bags at the beginning of the program was also an important issue to take into account.

Retailers should be given sufficient notice to ensure that they have enough clear bag supplies to meet demand. Some municipalities also sold clear bags to address the initial bag shortage. Likewise, sufficient notice must be given to the public to help them with the transition and to give them a chance to use up their solid coloured bags. A minimum of six months notice is required to help the public, retailers, and the municipality, make the transition.

The main concern reported by the public was the issue of privacy. People were concerned about others being able to view the contents of their garbage.

Environmental Benefits / Considerations:

Waste Diversion for Selected Provinces
1998-2008



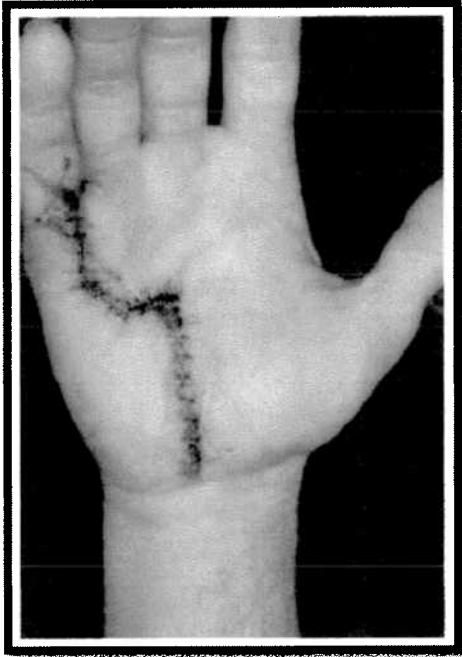
www.solidwastemaq.com June/July 2012

- ✓ 13 Nova Scotia municipalities reported a 41% decrease in residential garbage; a 35% increase in recycling; and a 38% increase in organics.
- ✓ PEI introduced clear bags in 2002 and recycling doubled by 2003.
- ✓ 49% of respondents in Centre Hastings/Madoc reported that they recycled more to comply with the clear bag program; 13% reduced the amount of hazardous waste in their garbage.
- ✓ Centre Hastings/Madoc reported 34% decrease in garbage and 12% increase in recycling.
- ✓ Organics participation increased by 14% in Durham's clear bag pilot.

Social Benefits / Considerations:

- ✓ Residents motivated to recycle due to social pressure.
- ✓ If residents forget to separate recyclables and organics from garbage, the clear bag offers a reminder.
- ✓ Provides opportunity for residents to reflect on their waste disposal habits & to consider diversion options.
- ✓ Minimizes the option of concealing hazardous materials, electronics, recyclables and organics in the garbage.
- ✓ Clear bags can also be used for organics.
- ✓ Democratic – residents may feel the program ensures equal treatment for all households.
- ✓ Ardent recyclers may feel that they are being punished.
- ✓ Opponents may feel the program is an invasion of privacy.
- ✓ An extensive promotion and education campaign would be required prior to, and during the clear garbage bag program.
- ✓ Clear bags make endorsement easier; collection crews can accept or reject a bag in seconds.





CHANGE MAY MEET WITH RESISTANCE

Solid traditional garbage bags conceal materials that can severely injure collection workers such as hazardous/liquid waste, needles, broken glass, protruding nails, and much more.

Proper enforcement will be a key element of the clear bag program. Non-compliant bags which contain 25% recyclable (one quarter) or prohibited materials will be left behind with educational material. An education program about 'privacy' will be developed to encourage residents to go 'paperless', use on line billing, and shred or tear up confidential papers and place them in their Green Bin.

Allowing residents to place out an unlimited number of clear bags when they have additional residue is realistic and reasonable and should deter illegal dumping.

Communities with Clear Bag Programs

Canada	United States
<ul style="list-style-type: none">• Guelph• Dufferin County• Township of Amaranth• Grand Valley• Township of Edwardsburgh Cardinal• Township of Galway-Cavendish and Harvey• Counties of Antigonish and Guysborough, Nova Scotia• Counties of Yarmouth and Digby, Nova Scotia• Prince Edward Island	<ul style="list-style-type: none">• Norway and Paris, Maine• Town of North Berwick, Maine• Town of Topsham, Maine• City of Omaha, Nebraska• Town of Troy, New Hampshire• City of Newburgh, New York• Fulton County, New York• Village of Hamburg, New York• Village of Homer, New York• City of Fennimore, Wisconsin• City of Sheboygan Falls, Wisconsin• Columbia County, Wisconsin• Oconto County, Wisconsin

Action Plan #3: Expanded Textile/Carpet Diversion Program

Financial Implications: None

- Private sector to provide containers and collection services

Recommendation:

It is recommended that Markham expand opportunities to recycle and reuse textiles and carpet through expanded partnerships with legitimate and approved recyclers.

Rationale:

Textile recycling has become an extremely profitable business in recent years yet waste audits indicate that up to 7% of Markham's residue contains recyclable textile materials such as clothing, bedding, and curtains.

Studies show up to 4.5% of our landfills are still comprised of textile waste. Although in North America 2.5 billion pounds of clothing and household textiles are recycled annually, it is estimated that this represents only 20% of all available textile material. There is still a lot of work to be done to ensure textile waste is recycled and re-used.



Breakdown of Recycled Textile Products:

- 30% of material recycled is sold as wiping - rags
- 20% of material recycled is sold to the fiber market
- 45% is usable clothing/bedding which is exported or sold on a wholesale basis – Value Village
- 5% other

Curbside collection of textiles is not a recommended diversion strategy due to the high collection cost and contamination issues. Bagged textiles collected at the curb would be too contaminated, rendering them unsellable.

It is being proposed that Markham:

- i) Increase the number of licensed and secured drop off locations In partnership with reputable agencies, place special collection containers in apartment buildings, schools, community centers, churches, depots
- ii) Increase education to residents on the high demand for recycled textiles, and alternatives such as charity stores.
- iii) Accept waste carpet at the Milliken Community Recycling Depot.

It is estimated that Canadians throw away close to 1 million tones of textiles annually

Action Plan #4: Zero Waste for Schools Program

Financial Implication: Funding grants provided through MESF program – upset limit of 10 schools per year

Recommendation:

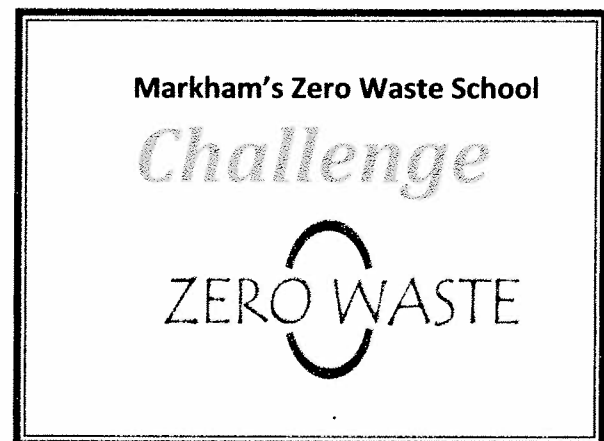
It is recommended a Zero Waste program be developed to encourage and support Markham schools to adopt Zero Waste practices.

Rationale:

Markham is already committed to 'Zero Waste, with all 42 City facilities diverting over 85% and a Zero Waste policy for City sponsored events.

But no municipality can achieve Zero Waste on its own. It is a step by step, sector by sector process. A sector suitable to achieve Zero Waste is our school system. Ten of the 72 Markham elementary schools practice Zero Waste, some with start-up funding through MESF and the City Waste & Environmental Management Department. With several successful Zero Waste schools in place, it being recommended that an official Zero Waste for Schools program be developed with funding support, if required, through MESF.

The Zero Waste program will address every aspect of the school's waste stream starting with a student run waste audit. Every section of the school will be involved - from classrooms to teacher lunchroom to washrooms. All classroom waste bins will be replaced with 'recycling stations'. A Waste-Free Lunch campaign and other waste reduction projects will focus on the remaining material that is not recyclable or compostable. Extensive and ongoing education for staff and students is integral to the program.



Who can apply:

Schools whose administration has attended a Zero Waste workshop and signed an agreement to become a Zero Waste school. Limit of 10 schools per year

Grant

\$1,000 to \$5,000 per project

Funding source:

MESF

Markham has 116 schools: 72 elementary, 14 secondary, 26 Montessori, 4 private. Schools play an important part in the community in diverting materials from landfill and to encourage sustainable waste management and recycling behaviour and practices with benefits extending to the wider community.

Action Plan #5: Establish Retail Bag Ban Policy for Council Consideration

Financial Implications: Residents use reusable bag or purchase the retail bag of their choice



Recommendation:

It is recommended that a harmonized retail bag ban policy be established in line with Toronto and other GTA municipalities, and that bag manufacturers be requested to use a minimum 10% post consumer plastic film in the manufacture of plastic garbage bags.

Rationale:

In 2011 York Region Council approved a resolution to require residents use compostable bags and not plastic bags for Green Bin material. Markham Council approved a deferral of the program implementation for further study.



In 2012, Toronto City Council decided to rescind, effective July 1, the Toronto bylaw that currently requires retailers to charge five cents for a plastic bag. Council adopted a motion to establish a new bylaw prohibiting all retail stores in Toronto from providing customers with single-use, plastic carryout shopping bags, including those advertised as compostable, biodegradable, photodegradable or similar, effective January 1, 2013. Subsequently, the City of Mississauga announced its intention to look at a similar initiative.

For many residents, the GTA is where they shop, work and play. Having different rules in bordering municipalities is both confusing and inefficient. In addition, retail chain stores are challenged to provide retail bags according to different municipal requirements.



As part of the integrated partnership with York Region, staff will consult with Regional staff on the development of a By-law or policy similar to the Toronto Bag By-Law with a view to work towards a harmonized retail bag policy.

It is being recommended that Markham continue it's program of allowing residents to use the bag of their choice in the Green Bin until York Region resolves its processing challenges or until a new regional composting facility is established.

Action Plan # 6: Enhanced Promotion & Education

Financial Implications: None

Recommendation:

It is recommended that increased use of social media, e-news, and newsletters be utilized to provide ongoing information to residents and that an annual 'Environment Day' be established to promote Markham's diversion initiatives.

Rationale:

An enhanced promotion and education program would go beyond the use of brochures and online information by establishing an ongoing dialogue with residents to assess those barriers to participation and determine on going opportunities for improvement. This program would place emphasis on the non recyclers and new residents. Such a program may include:

- ✓ Annual 'Environment Day' to promote initiatives, provide containers and education
- ✓ Increased face-to-face contact to promote specific programs, possibly at community events, ESL classes, community centers and libraries.
- ✓ Community-based social marketing approaches, among other things – Facebook page; Twitter.
- ✓ On line newsletter and reminders about specific recyclable materials or topics of concern to achieve identified problem areas (e.g., to reduce contamination levels, to clarify how to recycle problematic or confusion materials, etc);
- ✓ Sensitivity to our many cultures;
- ✓ Cost-sharing opportunities with other municipal departments or engaging community partners that have similar or complimentary mandates (e.g. beautification or anti-litter programs, newsletters from other departments or community partners, etc);
- ✓ Encouraging the adoption of waste reduction/prevention behaviors, consciously avoiding the purchase of products with excessive packaging.
- ✓ Issue an annual report card to document progress and share results and information with residents



Action Plan #7: Reuse Depot for Renovation Materials

Financial Implications: Support from Markham Economic Development Department - Private Sector Initiative

Recommendation:

It is recommended that opportunities be sought to attract and locate a Habitat for Humanity type store in Markham for recycling of renovation materials.

Rationale:

Many Ontario communities have attracted used renovation businesses that specialize in accepting and selling used renovation materials.

ReStores accept kitchens, windows, doors, bathroom fixtures, light fixtures, office furniture, drywall, trim, countertops, leftover tile, carpet, sinks, and much more from residents, businesses, and contractors.

The proceeds from ReStore support the programs of Habitat for Humanity. All materials sold by ReStore were donated for that purpose—often by contractors with excess supplies, demolition crews salvaging reusable materials, retail stores with overruns, or the general public. In addition to raising funds, ReStore helps the environment by diverting thousands of tons of usable materials away from landfills. Currently there are 62 ReStores established across Canada.



Strip mall location



Action Plan #8: Curbside Electronics & Battery Collection Ban

Financial Implications: Revenue Opportunity; Collection and revenue paid by stewards

Recommendation:

It is recommended that Bylaw 32-95 be amended to ban the curbside collection of used electronics and household batteries effective January 1, 2013.

Rationale:

Like plastic, cans and newspaper, unwanted electronics should never end up in the garbage. Much of the plastic and metal in computers and TVs, for example, can be reclaimed and used to make everything from irrigation piping to coins. As well, many older electronics contain substances of concern that, if not handled properly, could have negative environmental impacts and cause health and safety concerns.

The bulk of unwanted e-waste is comprised of mobile phones, TV/VCR/DVD's, personal computers, computer monitors and peripheral devices such as scanners and printers. E-waste is also an important component of the waste stream because of its potentially hazardous nature. Some computer monitors contain lead oxide while printed circuit boards contain a range of heavy metals. E-waste should never be incinerated.

Ontario Electronic Stewardship (OES) is a not-for-profit industry organization that oversees the responsible reuse and recycling of waste electronics. The program was developed with Waste Diversion Ontario on behalf of the Ontario government under the **Waste Diversion Act, 2002**. The OES electronic waste recycling program accepts 44 items of electronic waste.



In just a little over two years, awareness of the electronic waste program in Ontario has increased from 22% to 65% and since 2009, the program has diverted more than 100,000 metric tonnes of electronic waste from landfill. In addition, the E-recycling program encourages economic and job growth in waste and recycling industries.

PHASE 1: Tag material at curb. Promotion of E waste drop off locations

PHASE 2: Collection at all multi res buildings

PHASE 3: Collection at Environment Days and special events

Action Plan# 9: Spring & Fall Clean-up days to replace 'No Tag Days' and establishment of Move-out Fee program

Financial Implications: None.

Recommendation:

That the tag program and 'no tag ' days be eliminated and replaced with spring and fall clean-up days and a Move-out Permit Fee program be established in partnership with the City By-law Department.



Rationale:

Markham currently has a tag program and 2 'no Tag' days per year where residents can place out extra material if it has a free Markham tag affixed. Administering the tag program costs an estimated 5 thousand dollars per year and drains resources from other activities.

It is recommended that Markham eliminate the tag program and replace the service with a spring and fall clean-up program.

An ongoing issue in Markham relates to 'move outs' where landlords or tenants place a large amount of items at the curb for collection by Markham's collection contractor.

It is being recommended that a permit system be established to require the property owner to pay a fee to obtain a move out permit prior to collection of the curbside material. To encourage recycling and reuse, it is recommended that a lower fee be established for separated material.

For material placed at the curb without a permit, By-laws will be requested to issue a fine to the property owner and order a clean-up of the discarded materials..



Action Plan #10: Weekly Fall Leaf/Yard Waste Collection

Financial Implications: None – volume shifting from year to year

Recommendation:

That the current level of service for the collection of leaf and yard waste be extended to Dec. 15 of each year.

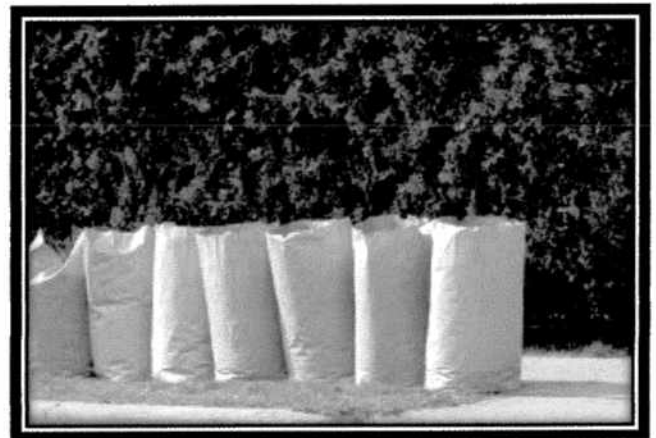
Rationale:

Several factors including changing climate conditions have altered the patterns associated with the fall and winter months. Trees are keeping their leaves longer into the fall and residents are requesting collection later into the fall/winter months.

Markham currently provides bi-weekly collection of leaf and yard material from April to November. The current cutoff date for the collection of leaf and yard material in the last week of November frequently results in residents having uncollected bags of leaves, leaves on the ground with no means for recycling, or residents are forced to store bagged leaves until spring.

To provide improved customer service, it is recommended that the Miller Waste be requested to extend collection into December.

For the purpose of this report, the estimated cost of expanding yard waste collection into December is estimated to be \$50,000 (based on an average estimated cost of \$88 per tonne for collection). This cost represents shifting tonnages collected from spring of the following year.



3 Year Implementation Schedule

2012

- Council approval of new diversion plan and 80% target
- Initiate public education program
- Mandatory material separation By-law
- Ban E-waste from curbside collection
- Multi-res E-waste program launched
- Textile diversion expansion begins
- Voluntary compostable bag for SSO

2013

- Earth Week - Introduce mandatory clear bag for residue and Green Bin
- Move-out program launched
- Implement fall leaf collection expansion and Spring/Fall clean-up days
- Launch Zero Waste for Schools program
- Promote diversion achievements
- First annual Environment Day

2014

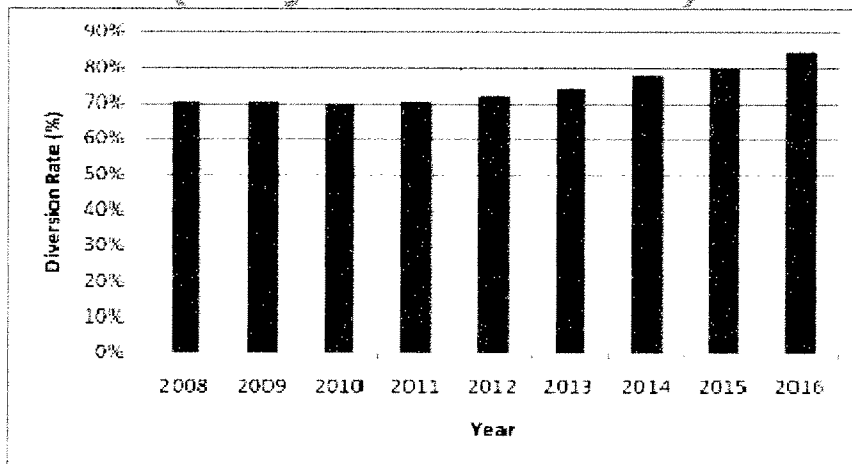
- Reuse/Renovation facility in Markham
- Potential SSO changes in preparation of new York Region compost facility
- Introduce recycling opportunities for carpet
- Complete curbside diversion audit
- Update council on diversion success

Diversion & Tax Impacts of Initiatives

2012-2016 Strategy Initiatives	Diversion (%) Baseline Diversion Rate: 72%* (2011)	
	Impact	Diversion
Mandatory Material Separation	3%	75%
Clear Bags for Residue	3%	78%
Increased Textile recycling	1%	79%
Ban electronics/Reuse	1%	80%

*Single family households are diverting 72 per cent of waste through curbside programs.

Markham's Waste Diversion Trend (Projected to 2016)



The Town of Markham serves more than 300,000 residents. Markham is committed to meeting the needs of its residents through the delivery of cost-effective, quality programs and services, including waste management

Markham's integrated waste management programs are recognized internationally and Markham is currently a waste diversion leader in Ontario.

For more information, contact
Town of Markham
905.415.7535
wastemgt@markham.ca
www.markham.ca

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Human Nature

How the fear of rejection over garbage collection just might save the environment

BY JASMINE BUDAK

FRONTIER · FROM THE OCTOBER 2010 MAGAZINE

On a just-above-freezing morning in Yarmouth, Nova Scotia, the residents of Collins Street emerge from their Victorian homes, lugging bags and bins to the curb. It's garbage day, not normally cause for anxiety, but on this particular day in April 2007 people may be feeling a little exposed. For the first time, their week's trash will be on display in newly mandated clear garbage bags. The worry is not so much that the neighbours will get a peek into the refuse of their private lives (residents are allowed a single opaque "privacy bag" for anything embarrassing), but that if a bag contains any trace of organics or recyclables, haulers will mark it with an orange sticker and leave it at the curb, branding its owner as the neighbourhood eco-boob.

This wouldn't have sat well with Nova Scotians, who pride themselves on their waste management; they were the first in Canada to initiate curbside composting back in the '90s, and for several years the province has maintained the lowest national waste disposal average, at around 420 kilograms of garbage per person per year. Provincial officials, however, felt there was still room for improvement, and set a tough new target of 300 kilograms by 2015. For a waste-conscious community, the new goal would be like losing those last five pounds: stock measures just wouldn't cut it. Indeed, educational booths, pamphlets, and house calls made little progress; but in the clear bag bylaw's first year, residents across the counties involved threw out roughly one-quarter less trash, while recycling and particularly composting rates jumped, proving that public scrutiny motivates like nothing else.

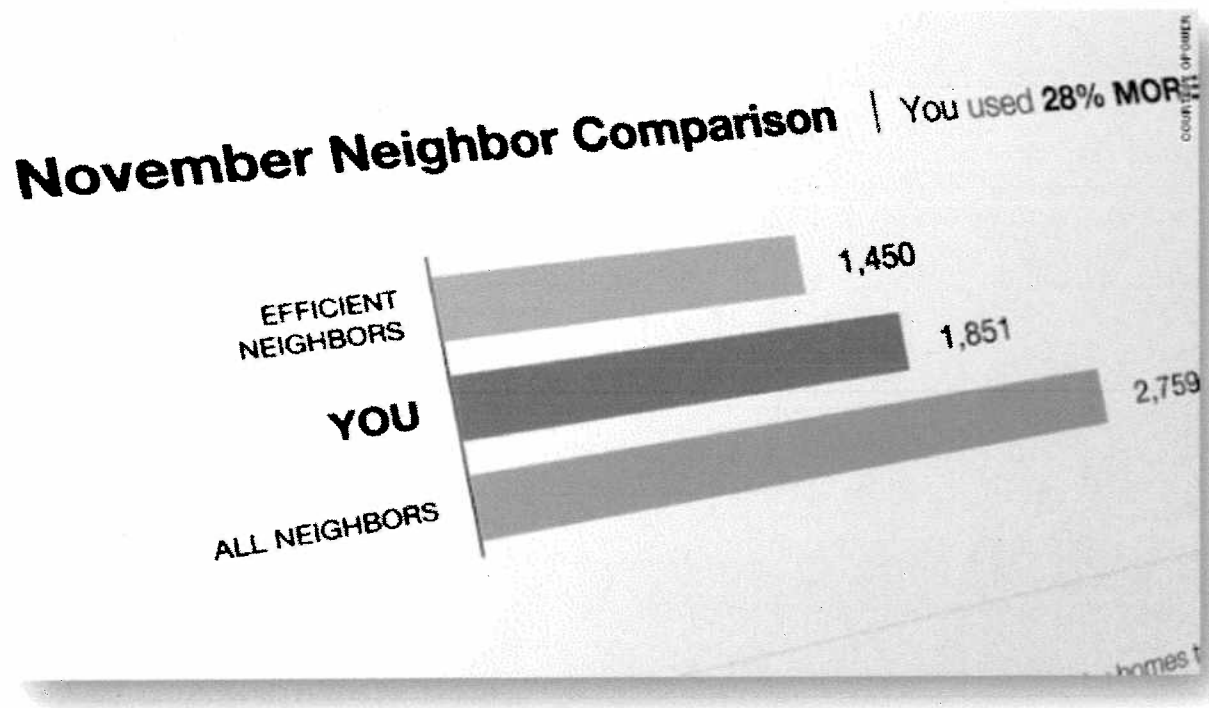


Behavioural psychologists have long known that people are suckers for peer pressure, a key tenet of social marketing that has been used to sell sneakers, stigmatize drunk driving, and save baby seals. However, only in the past decade, with all the hype about climate change, has it been employed in campaigns to save the earth. “Getting people to care about these issues enough to make changes should be relatively easy,” says Dan Dolderman, a University of Toronto psychology professor specializing in environmental behaviour. “But there’s a huge gap between people’s motivations and their actual lifestyles.” In his pioneering

1999 book, *Fostering Sustainable Behavior: An Introduction to Community-Based Social Marketing*, New Brunswick environmental psychologist Doug McKenzie-Mohr calls for a more tactical approach: raise the visibility of eco-friendly behaviours sufficiently that they become social norms. The idea is that the more a behaviour is observed, the more likely it’s deemed correct.

And the more likely people will follow suit. Take the blue box. “You see them as you drive to work in the morning, and then again when you come home — that’s a very strong social norm,” says Ken Donnelly of Lura Consulting, one of two firms in Canada that implement McKenzie-Mohr’s brand of “community-based social marketing.” Case in point: within three months of launching the country’s first community-wide recycling pilot project, in Kitchener in 1983, participation had reached 80 percent. By 1996, three million homes across Ontario had blue boxes, and today recycling is a domestic ritual on par with mowing the lawn. The use of clear garbage bags takes the principle of visibility one step further, with comparably dramatic results, and to date they’ve been mandated in thirty-five of Nova Scotia’s fifty-five municipalities.

Elsewhere, norm appeals have been incorporated in campaigns to check all manner of eco-offences, including car idling, littering, the use of lawn pesticides, and, perhaps most significant, excessive energy consumption. This year, a Virginia software company called Opower received international media attention and a visit by President Obama for its groundbreaking utility billing system, which compares energy use among neighbours and rewards the lowest consumers with a smiley face. Simply informing residents how they stacked up against their peers was enough to cut average household consumption in some test groups by 2 to 3 percent annually.



Though the strategy may seem brilliant in its simplicity, entrenching norms is labour intensive and may not always work. McKenzie-Mohr is the first to acknowledge that plenty of education up front, followed by ongoing reminders and incentives, is required to engage early adopters and spark the social norms engine. Critics, meanwhile, argue that, for all the work involved, the desired behaviours simply aren't substantial enough. "The challenges we're up against are enormous," says Tom Crompton, who studies the use of social norms in eco-campaigns for the WWF-UK. "And they are not going to be fixed by getting a few people to buy hybrid cars or change their light bulbs." Worse, norm appeals don't stimulate intrinsic values, which have been found to prompt more meaningful, more painful, sacrifices. "People feel they've done their part," he says, "so they tend to rest on their laurels."

But Ken Donnelly defends the notion of acting locally, a staple of the contemporary environmental movement. "There are billions of people on the planet, and if they're all doing little things it's going to have an impact," he says. In provinces like Nova Scotia, where recycling and composting rates are high, there have been tangible results in terms of land use and greenhouse gas emissions. "And it's not just for one year," he adds. "It's going to go on and on forever, because now it's the social norm." Besides, in the absence of better ideas, mucking around in the sandbox of human behaviour may be all we have.