



REGION OF YORK
CLERK'S OFFICE

FILE No. - 842

October 19, 2012

Mr. Denis Kelly
Regional Clerk
Regional Municipality of York
17250 Yonge St.
Newmarket, On L3Y 6Z1



RE: DIVERSION TASK FORCE REPORT (5.10)

Dear Mr. Kelly:

This will confirm that at a meeting held on October 16, 2012, Council of the City of Markham adopted the following resolution:

- "1) That the report entitled "Diversion Sub Committee Strategy – Markham's Roadmap to 80% Diversion" be received; and,
- 2) That Council endorse the attached Diversion Sub Committee Strategy "The Best of the Best – Markham's Roadmap to 80% Diversion" and the initiatives and programs outlined in the strategy form the basis of Markham's 3 year plan to attain 80% diversion by 2014; and,
- 3) That York Region be advised that Markham will support the Regions compostable bag initiative by continuing to provide education to residents on the environmental benefits of using certified compostable bags for Green Bin organics; and,
- 4) That staff be directed to report back to the General Committee relative to a roll-out program in the near future; and,
- 5) That residents be encouraged to use garbage cans together with the clear bag program; and,

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- 6) That a copy of this report be forwarded to York Region and Local Municipalities for their information; and further,
- 7) That staff be authorized and directed to do all things necessary to give effect to this resolution."

If you have any questions, please contact Claudia Marsales, Senior Manager, Waste Management & Environment, at 905-477-7000 ext. 3560.

Yours sincerely,



Martha Pettit
Acting City Clerk

Copy to: Clerk, Town of Georgina
Clerk, Town of Aurora
Clerk, City of Vaughan
Clerk, Town of Whitchurch Stouffville
Clerk, Town of Richmond Hill
Clerk, Town of Newmarket
Clerk, Township of King
Clerk, Town of East Gwillimbury



Report to: General Committee

Date Report Authored: September 01, 2012

SUBJECT: Diversion Sub Committee Strategy – Markham's Roadmap to 80% Diversion

PREPARED BY: Claudia Marsales, Senior Manager, Waste & Environmental Management Department

RECOMMENDATION:

1. THAT the report entitled "Diversion Sub Committee Strategy – Markham's Roadmap to 80% Diversion" be received;
2. AND THAT Council endorse the attached Diversion Sub Committee Strategy "The Best of the Best – Markham's Roadmap to 80% Diversion" and the initiatives and programs outlined in the strategy form the basis of Markham's 3 year plan to attain 80% diversion by 2014;
3. AND THAT York Region be advised that Markham will support the Regions compostable bag initiative by continuing to provide education to residents on the environmental benefits of using certified compostable bags for Green Bin organics;
4. AND THAT a copy of this report be forwarded to York Region and the Local Municipalities for their information.

AND FURTHER THAT Staff be authorized and directed to do all things necessary to give effect to this resolution.

EXECUTIVE SUMMARY:

- This report provides Staff comment and operational impacts of the proposed Diversion Sub Committee strategy outlining 10 initiatives to achieve 80% diversion
 - 1) Mandatory Material Separation By-Law (mandatory recycling)
 - 2) Unlimited Clear Bags for residue
 - 3) Collection Ban - Electronics and Household Batteries
 - 4) Zero Waste for Schools Program
 - 5) Establish Retail Bag Policy for Markham
 - 6) Expanded Textile/Carpet/Electronics Diversion Program
 - 7) Reuse Depot for Renovation Material
 - 8) Eliminate garbage tags, establish Spring and Fall Clean up Days
 - 9) Extended Fall Leaf and Yard Waste Collection Schedule
 - 10) Increased Promotion & Education
- Key proposal is to eliminate garbage tags and 3 bag limit, shift from black to clear garbage bags to reduce collection worker injuries, and provide residents the flexibility to place out extra waste residue when needed – as long as it is not recyclable or compostable

- By moving forward with this diversion strategy, Markham will maintain its leadership role and demonstrate commitment to zero waste and sustainability.
- Strategy would be implemented over the period 2012 to 2014.
- Strategy can be delivered with one time approved 2010 capital project budget of \$35,900 for education/promotion and a 9 month intern position which has been requested for consideration in the 2013 operating budget
- The strategies will not result in increased costs to our residents.

PURPOSE:

The purpose of this Report is to provide staff comment and outline the operational impacts of the proposed Diversion Sub Committee strategy recommending 10 initiatives to increase participation, diversion and customer services. This Report also addresses York Region's 2011 request to mandate certified compostable bags for Green Bin organics.

MARKHAM'S SUCCESSFUL 2005 MISSION GREEN PROGRAM DIVERTS OVER 70% FROM SINGLE FAMILY HOMES

Recycling in Markham, both at the curbside and community depots is interwoven into the fabric of what makes Markham, Markham.

Mission Green, launched in 2005, was designed to be an innovative program that made it easy and convenient for all our residents, "Mrs & Mr Smith" to understand and participate in. As a result, Markham's multi award winning diversion program is recognized across Canada.

Community surveys and focus groups consistently position high diversion as one of Markham's signature achievements. In 2011, Markham's municipal diversion as reported through MPMP data was 74.3%. Participation has remained constant at over 86%.

Mission Green is now in its sixth year, and it is time to review the program and consider program enhancements that will maintain high community engagement and diversion.

WASTE DIVERSION SUB COMMITTEE FORMED IN 2011 TO REVIEW AND UPDATE MARKHAM'S DIVERSION STRATEGY

In 2011, Council approved the formation of a Diversion Sub Committee to develop a package of program changes and improvements designed to provide a roadmap to 80% diversion and bring Markham closer to being a Sustainable Community as recommended in the Council approved Green Print.

The Diversion Sub-Committee was Chaired by Deputy Mayor Jack Heath and had representation from:

1. Council
2. Markham staff
3. York Region Waste Management Staff,
4. MEAC (Markham Environmental Advisory Committee)

STRATEGY RECOMMENDS TEN INITIATIVES DESIGNED TO ACHIEVE 80% DIVERSION AND IMPROVE CUSTOMER SERVICES

The strategy recommends 10 initiatives to achieve 80% diversion:

Collection Changes:

- Mandatory Material Separation By-Law (mandatory recycling)
- Unlimited Clear Bags for residue
- Collection Ban - Electronics and Household Batteries

Zero Waste:

- Zero Waste for Schools Program
- Establish Retail Bag Policy for Markham

Expanded diversion opportunities:

- Expanded Textile/Carpet/Electronics Diversion Program
- Reuse Depot for Renovation Material

Improved Services:

- Eliminate garbage tags, establish Spring and Fall Clean up Days
- Extended Fall Leaf and Yard Waste Collection Schedule
- Increased Promotion & Education

MANDATORY RECYCLING SENDS A CLEAR MESSAGE AND TARGETS REPEAT NON RECYCLERS

In 1991, Provincial regulation required all municipalities over 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 has continued unabated, and most Ontario communities are barely diverting 30% of the household waste stream.

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

As is commonly the case, Markham is achieving greater participation 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 source separation the law in Markham will strengthen our position when working with Condo Boards and Property Management companies and by-laws provide superintendants and property managers with the legal backing to further encourage waste diversion if needed.

Municipalities have the authority to require source-separation of recyclable materials as collection is a municipal responsibility. Supporting a mandatory by-law will send a clear and reasonable signal to households - if it can be recycled it does not belong in the waste residue.

Staff remain committed to educating residents about the importance of participating in diversion programs. Fines would be a last resort. However, when necessary, staff support fines for repeat non-compliance.

MANDATORY RECYCLING COMBINED WITH CLEAR BAGS MAXIMIZE DIVERSION AND PROTECTS COLLECTION WORKERS

A 'clear bag' program refers to the use of a garbage bag that is completely transparent or see-through. Most of the clear bag programs are also supported by a mandatory recycling by-law. Markham Zero Waste facilities have been using clear bags for several years to increase diversion.

The use of clear bags for garbage has several benefits:

- ✓ Clear bags reduce worker injuries and damage to roads, driveways and collection vehicles by identifying non compliant material such as paint cans, sharp objects, propane containers, and hazardous liquid waste containers in the bag;
- ✓ Residents are motivated to recycle due to social and community pressure;
- ✓ Clear bags serve as a prompt. If people forget to separate recyclables from their residue, they are visually reminded by the 'clear bag' because they can view recyclables that should be in the blue box or organics that should be in the green bin;

In Canada, Nova Scotia is considered a leader in applying the concept. Since 2005, 33 of the 55 municipalities have implemented clear bag programs.

IN ONTARIO GUELPH HAS BEEN CLEAR BAG FOR OVER 10 YEARS

Clear bag programs are growing in popularity in Ontario. Guelph has had a very popular clear bag program for over 10 years as part of its 'wet dry' collection system. Several Ontario municipalities are currently considering moving to clear

bags and have completed clear bag pilot programs including Niagara and Durham Regions. Dufferin County introduced clear bags in 2012.

Many municipalities have adopted 'user pay' tag programs or bag limits to drive diversion. Neither of these strategies has a sustainable long-term impact on behaviour change, penalize large families and allow high income residents to 'buy' their way out of recycling.

Markham currently has a bi-weekly 3 bag limit. While bag limits can be an effective diversion tool when properly enforced, they can also lead to illegal dumping, and do not recognize that holidays, parties, and events, result in times when residents will have extra waste residue. An unlimited clear bag program will not add to household costs, and is a cost effective enforcement tool.

Eliminating tags and bag limits combined with an unlimited clear bag program provides residents the flexibility to place out extra material when needed – as long as it is not recyclable or compostable.

MARKHAM 2008 CLEAR BAG PILOT CONFIRMED 'PRIVACY' IS A KEY CONCERN OF RESIDENTS

Although changing the bag colour seems trivial, staff consider it a worthwhile strategy - but not without risk. Several key issues were identified from Markham's 2008 clear bag pilot in Thornhill and Swan Lake:

- ✓ The main concern of residents was the issue of privacy. People were concerned about others being able to view the contents of their garbage and in particular their personal financial documents. Privacy issues must be addressed before implementing a program. Most municipalities permit a small opaque bag(s) which is commonly referred to as a 'privacy bag'; residents can also place their clear bag into a solid garbage can for added privacy.
- ✓ Ensuring a sufficient supply of clear bags at local stores was the second most common concern. Retailers should be given 6 months notice to ensure that they have enough clear bag supplies to meet the demand. Likewise, sufficient notice must be given to the public to help them with the transition and give them time to use up their solid coloured bags.
- ✓ Clear bags make enforcement of recycling easier and less time-consuming. With clear bags, collection crews can accept or reject a bag of garbage at a glance, leave a sticker or door hanger without the need for separate inspection or bylaw staff to visit residents. Proper enforcement is key to success.

ADDITIONAL RECOMMENDED DIVERSION STRATEGIES INCLUDE ELECTRONICS, TEXTILES, CARPET, AND RENOVATION MATERIALS

Textiles and electronics (E waste) 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 and residents continue to set out VCR's, DVD, and TV's at the curb.

Like plastic, cans and newspaper, unwanted electronics should never end up in the landfill. Much of the plastic and metal in computers and monitors can be reclaimed and used to make everything from irrigation piping to coins. As well, many older electronics contain heavy metals that, if not handled properly, could have environmental impacts and cause health and safety issues. Some computer monitors contain lead oxide, while printed circuit boards contain a range of heavy metals.

Expanded textile drop off opportunities and attraction of a reuse depot for renovation materials in Markham will provide further diversion opportunities for our residents.

Staff support the recommendations to:

- i) Increase the number of licensed, reputable and secure drop off locations for textiles and E waste at apartment buildings, schools, community centers, and depots
- ii) Increase education to residents of the high value and demand for these materials and approved reuse options
- iii) Attract a Habitat for Humanity 'Re-Store' to Markham for renovation material recycling and reuse

CONTINUED PATH TO A ZERO WASTE COMMUNITY – INNOVATIVE 'ZERO WASTE CHALLENGE' FOR MARKHAM SCHOOLS

Markham is already committed to 'Zero Waste' at all 42 City facilities and a Zero Waste policy for City events. But no community can achieve Zero Waste on its own. It is a sector by sector process.

One sector interested in pursuing Zero Waste are Markham schools. Schools play an important part in the community in diverting materials from landfill and encouraging sustainable waste management and recycling behaviour and practices, with benefits extending to the wider community. Children who learn how to recycle will continue the practise into adulthood.

Markham has 19 separate and 53 public schools. Ten Markham schools have already adopted Zero Waste practises with support from the City Waste &

Environmental Management Department. Only 2 of the 10 schools requested support through MESF to purchase blue boxes and green bins.

Building on the successful Zero Waste school program, staff support development of an official multiyear 'Zero Waste Challenge for Schools' program financially supported through MESF grants of up to a maximum \$2,500 per eligible school with an upset limit of 10 schools per year. The funds are available in the current MESF budget.

REGIONAL AUDITS INDICATE 28% OF RESIDENTS HAVE CHOSEN TO USE COMPOSTABLE BAGS IN THE GREEN BIN

In 2009, Regional Council made a decision to discourage the use of plastic bags and encourage the use of certified compostable bags in the Green Bin system for two key reasons: the Region's contracted SSO processing facilities were experiencing temporary processing disruptions and certified compostable bags are thought to be a better environmental choice than plastic bags.

Resident surveys conducted at the time indicated the major concern residents had about using certified compostable bags were their high purchase cost and sporadic availability. Many preferred using plastic bags, which are convenient, economical, address the 'yuck' factor, and since they are not accepted for recycling in the Blue Box, end up in landfill.

On December 16, 2009 Regional Council approved the mandatory use of compostable bags in the Green Bin effective May 1, 2011 and requested local municipalities amend their collection by-laws accordingly. Markham Council decided to continue to allow residents to use the bag of their choice for Green Bin organics: paper, compostable or plastic. A key consideration at the time was that a requirement to inspect Green Bins for compliance would increase collection costs and negatively impact diversion.

Table #1 below provides the recent Regional Green Bin audit results indicating the percentage of compostable bags found in municipal Green Bins after the Regional directive:

Table #1
Percentage Use of Compostable Bags

Markham	Vaughan	Richmond Hill	Newmarket	Region Average
28%	15%	16%	21%	33%

York Region's unique integrated waste management partnership model recognizes local autonomy and supports important program changes be implemented according to local timetables, recognition of local issues and consideration of the one taxpayer principal.

Markham will revisit the Region's directive once a dedicated regional compost facility is established that benefits from the use of compostable bags. Staff recommends that Markham continue to encourage voluntary behavior change by providing information on the broad environmental benefits of compostable bags.

ESTABLISH RETAIL BAG POLICY FOR MARKHAM FOR COUNCIL CONSIDERATION

In 2012, Toronto Council rescinded the Toronto by law that requires retailers to charge five cents for a plastic bag. Toronto 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 Markham residents, the GTA is where they shop, work and play. Having different retail bag rules is both confusing and inefficient and retail chain stores are challenged to provide retail bags according to municipal boundaries.

As part of the integrated partnership with York Region, staff support the development of a policy similar to the Toronto Bag By-Law for Council consideration.

IMPROVED SERVICES INCLUDE SPRING AND FALL CLEANUP DAYS AND EXTENDED LEAF AND YARD MATERIAL COLLECTION SEASON

Changing climate conditions have altered the patterns associated with the seasons, one trend is that trees are keeping their leaves longer into the fall/winter.

The current service level provides bi-weekly collection of leaf and yard material from April to November. The November cut off date for the curb side collection of leaves frequently results in residents having uncollected bags of leaves at the curb which they are forced to store until spring.

To address this situation, staff support requesting Miller Waste extend leaf collection into December (weather permitting) to ensure bags are not left at the curb. This will not impact collection costs as this service extension will not result in additional volume.

PUBLIC ENGAGEMENT AND EDUCATION IS THE KEY TO CONTINUED SUCCESS

The Diversion subcommittee will be developing a major communications campaign that will promote the benefits of unlimited clear bags for residue and how this simple switch will put Markham on the path to becoming the 'Best of the Best' with an 80% diversion target. The promotion campaign will be the same as the Mission Green campaign and include mobile signs, newsletter, in store campaigns using citizen 'ambassadors'.

The Clorox Company, manufacturers of clear residue bags under the trade name 'Glad' have offered to partner with Markham to support the switch to clear. If approved, the clear bag initiative target launch date will be during Earth Week in April 2013.

The Markham Environmental Advisory Committee will continue to be engaged in the development and execution of the diversion strategy as 'ambassadors' of the program.

80% DIVERSION AND ZERO WASTE POSITIONS MARKHAM AS LEADER IN THE GTA AND ONTARIO

By moving forward with this diversion strategy, Markham will maintain its leadership role and demonstrate commitment to sustainability.

Staff anticipate that the strategy would be implemented over the period 2012 to 2014. The strategies are envisioned as creative solutions to achieving difficult and complex behavior change. With the exception of one time capital funding for education and promotion, none of the strategies result in increased costs to our residents. It is anticipated that additional detailed reports on the strategy implementation and required by-law approvals will be presented for Council approval as required.

ALIGNMENT WITH STRATEGIC PRIORITIES:

Aligns with Environmental Strategic priorities and Green Print principals.

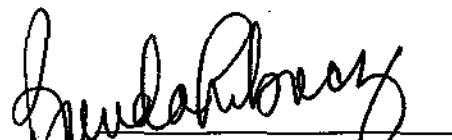
BUSINESS UNITS CONSULTED AND AFFECTED:

Communications and Community Relations; Sustainability Office; By-laws

RECOMMENDED BY:



Peter Loukes, P. Eng
Director, Operations
Community and Fire Services



Brenda Librecz, Commissioner
Community and Fire Services

Q:\Commission Share\Environmental Services\Environmental Services\2012\Diversion Plan Report final.docx

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

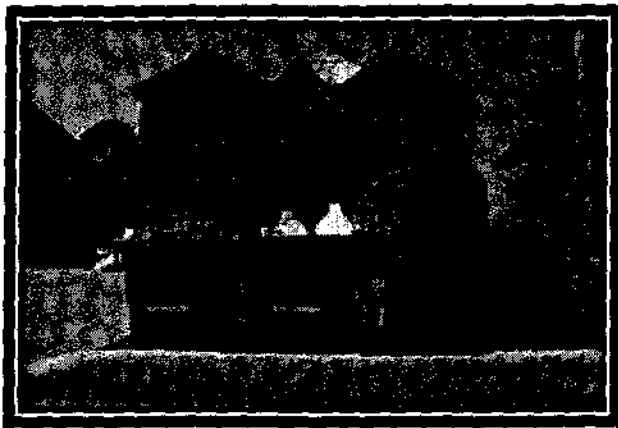
Ten New Initiatives

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 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%

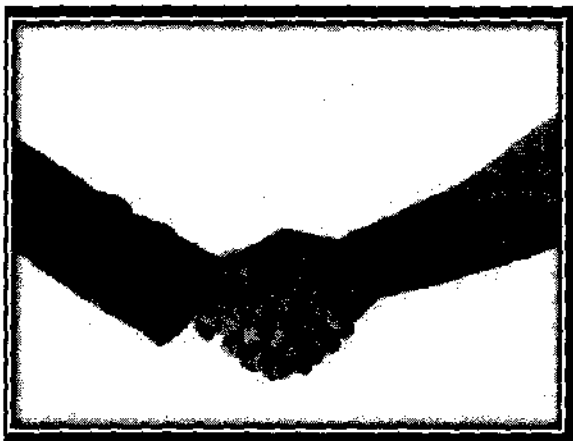
Integrated Partnership

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.

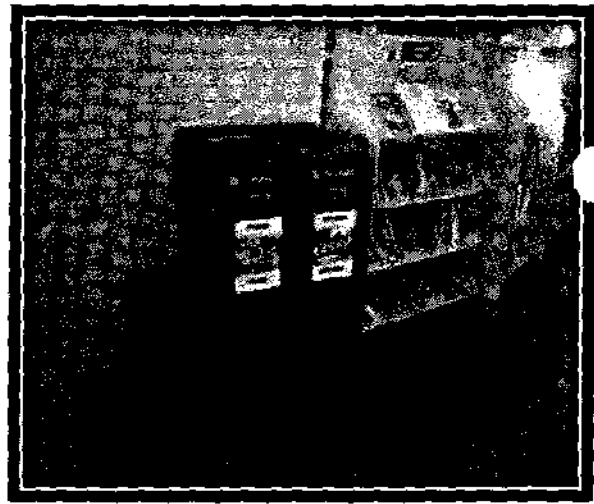
As a result of our innovative partnership, York Region has been recognized with numerous diversion awards and according to Waste Diversion Ontario, has the highest diversion of all GTA regional municipalities.

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:

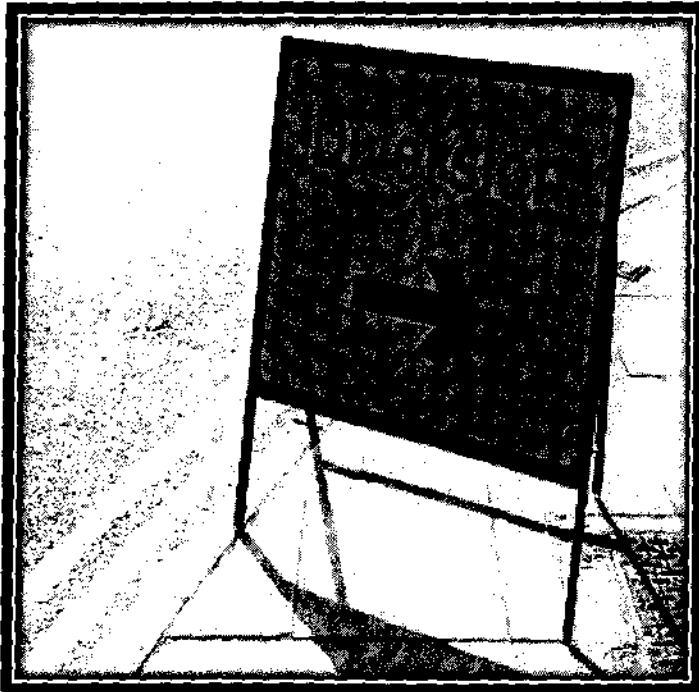
- ✓ Planning for recycling starts at the point of purchase
- ✓ Believes that discarded materials are potentially valuable resources
- ✓ Maximizes recycling and composting

Markham is one of a handful of forward thinking 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

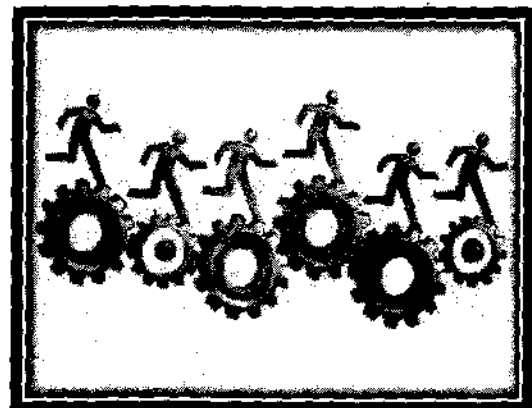
Diversion Sub Committee approves Diversion Strategy to achieve 80% by 2014

September 2012

Presentation of diversion strategy to Environmental Issues Committee

October 2012

Markham Council Approval



*and around the
nating 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.

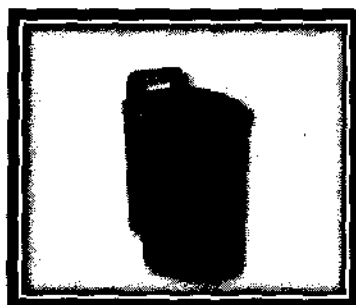
In Markham, the proposed Mandatory Material Separation Bylaw would require both single family and multi residential residents to separate their materials into 4 streams - Blue Box, Organics, garden materials and residue. The Mandatory Material Separation Bylaw would provide the ability to issue warnings 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 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 diversion efforts are essential and help enforce diversion practices.



Action Plan #2: Clear Bags for Residue – Unlimited

Financial Implication: 2010 Capital project budget: \$ 35,900 available. 9 month interim position being sought through 2013 Operating budget process.

- Direct/indirect support from partners – Glad, York Region
- 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.

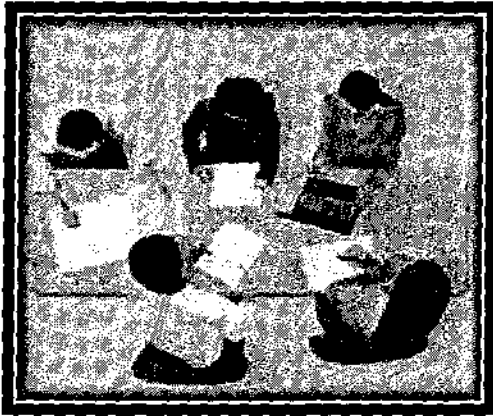
Markham Focus Group Results

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 10% - 20% of households are not recycling fully. 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 and a solid waste container.

Key resident responses:



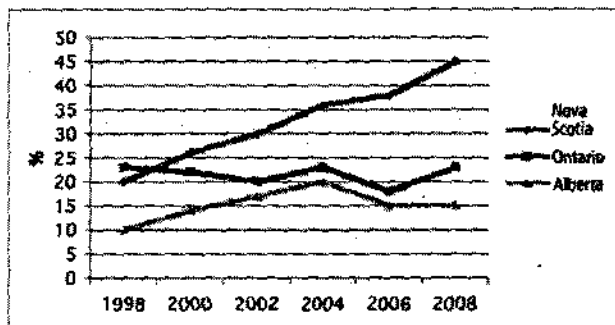
1. Recycling is definitely seen as an essential part of being a responsible resident, but there was an assumption of underpinning regulation, and residents were surprised to learn that recycling is not mandatory in Markham.
2. On clear bags, privacy issues were cited as the major concern of residents. 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.

were concerned

Environmental Benefits / Considerations:

Waste Diversion for Selected Provinces
1998-2008



www.solidwastemag.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.



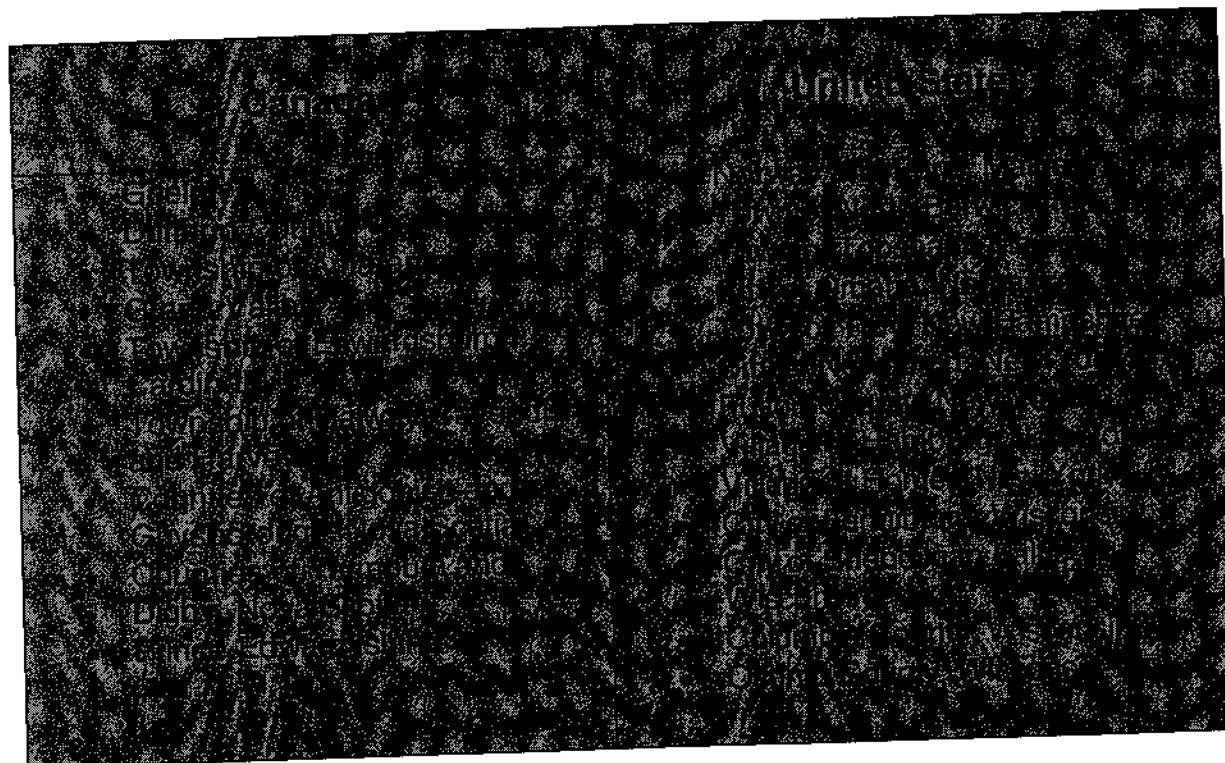
CHANGE MAY MEET WITH RESISTANCE

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. **The grim reality is that the solid waste and recycling industry is the fourth most dangerous profession in North America up from no. 7 in 2010.**

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 waste residue is realistic and reasonable and should help deter illegal dumping.

Communities with Clear Bag Programs



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 material 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.

Action Plan #4: Zero Waste for Schools Program

Financial Implication: Funding grants if required provided through MESF program – up to a limit of 10 schools per year

Recommendation:

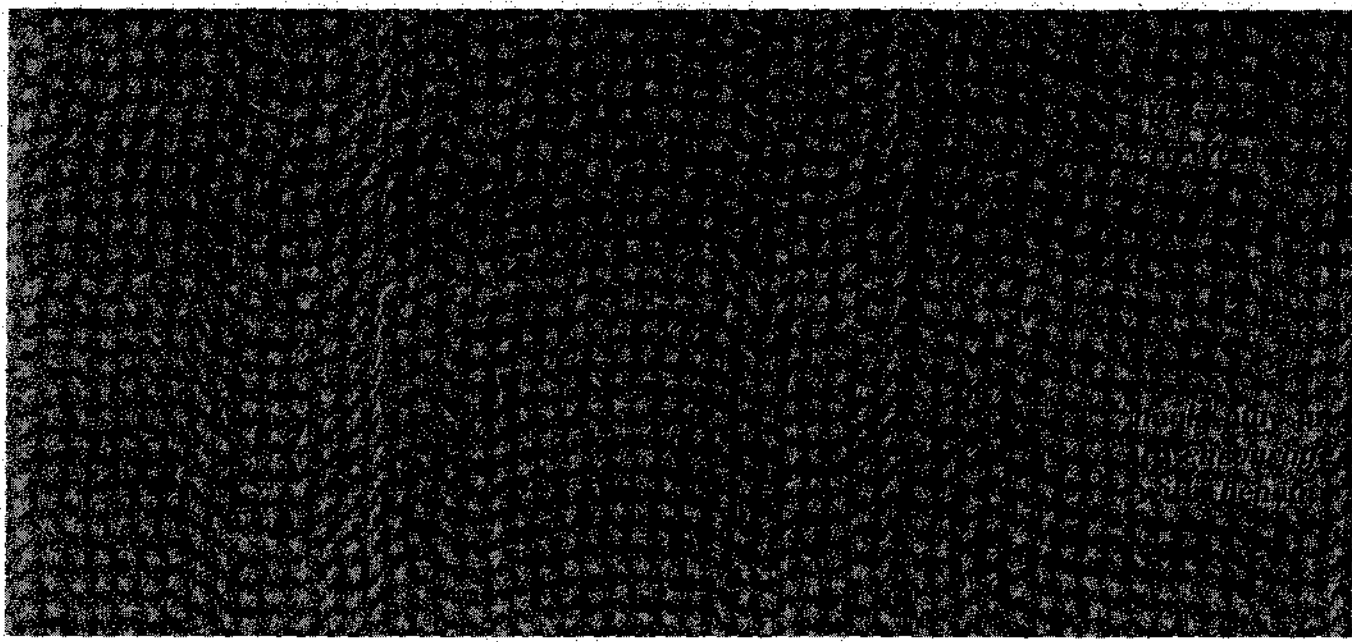
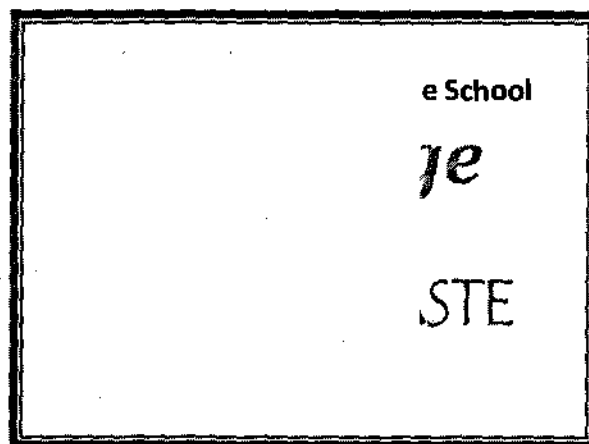
It is recommended a Zero Waste program be developed to encourage and support Markham schools to adopt Zero Waste practices.

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.

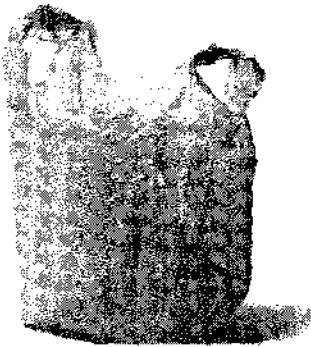
But no municipality can achieve Zero Waste on its own. It is a step by step, sector by sector process. A sector suitable to achieve Zero Waste is our school system. Ten of the 72 Markham elementary schools practice Zero Waste, some with start-up funding through MESF and the City Waste & Environmental 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.



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 at check-out

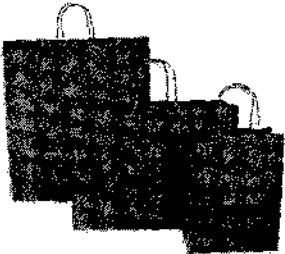


Recommendation:

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 for Enhanced Promotion & Education

Financial Implications: None

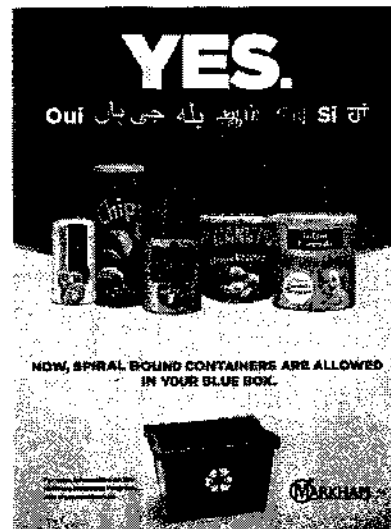
Recommendation:

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: None. 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 for E waste material

Recommendation:

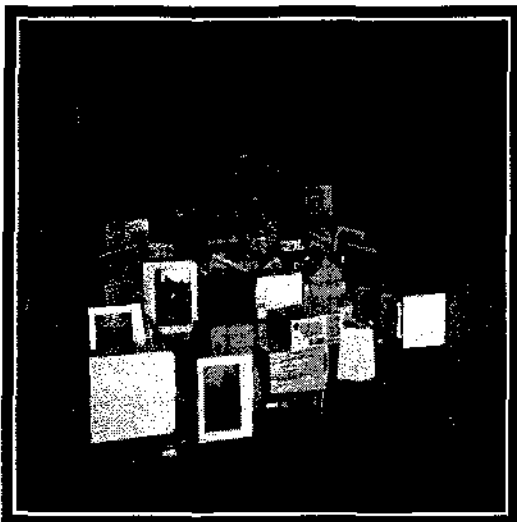
It is recommended that Bylaw 32-95 be amended to ban the curbside collection of used electronics and household batteries effective January 1, 2013.

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 and household batteries 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 electronics 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

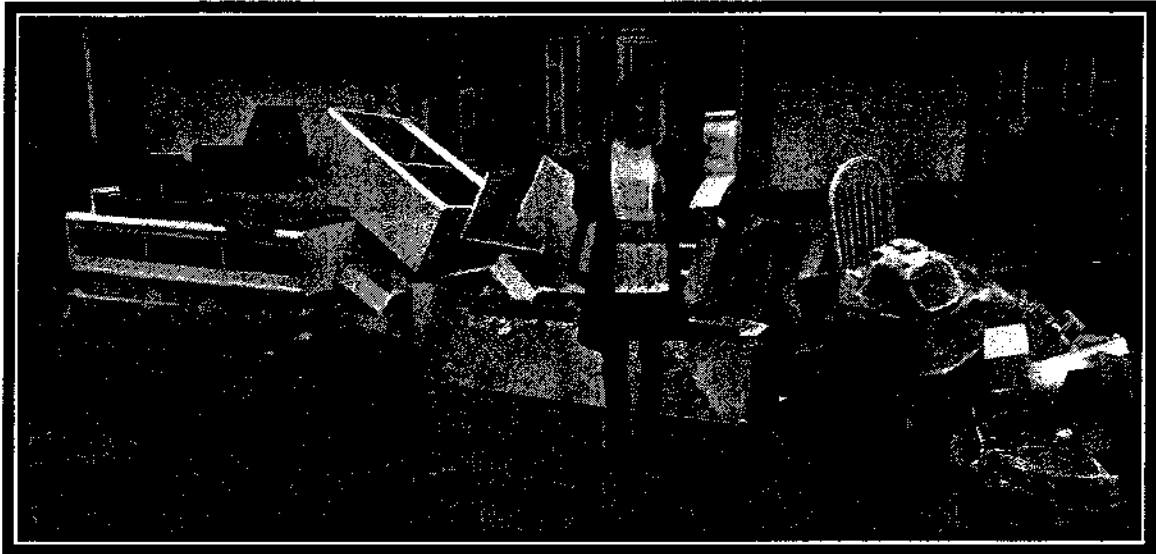
PHASE 3: Collection at Environment Days and special events

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

Financial Implications: Estimated \$5,000 savings by eliminating tag program. Potential cost recovery for improper set out.

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:

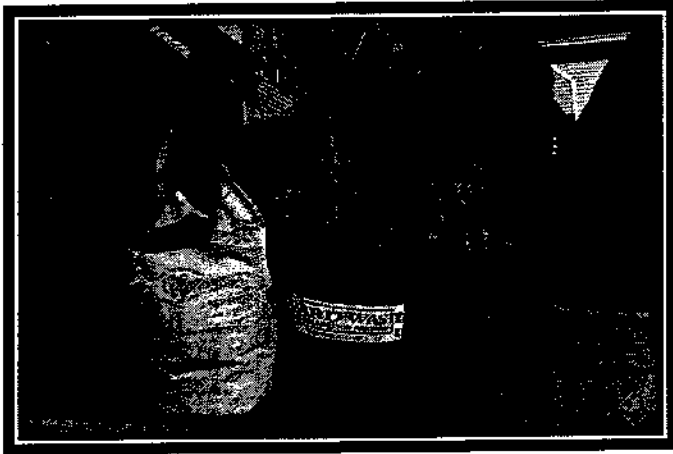
Markham currently has a tag program and 2 'no Tag' days per year where residents can place out extra material if it has a free Markham tag affixed. Administering the tag program costs an estimated 5 thousand dollars per year and drains resources from other activities.

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: Expanded Fall Leaf/Yard Waste Collection

Financial Implications: None. Collection is based on tonnage. 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.

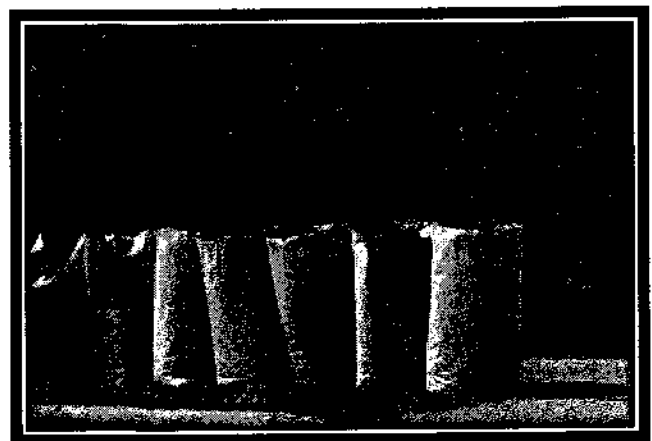
Rationale:

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 material 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

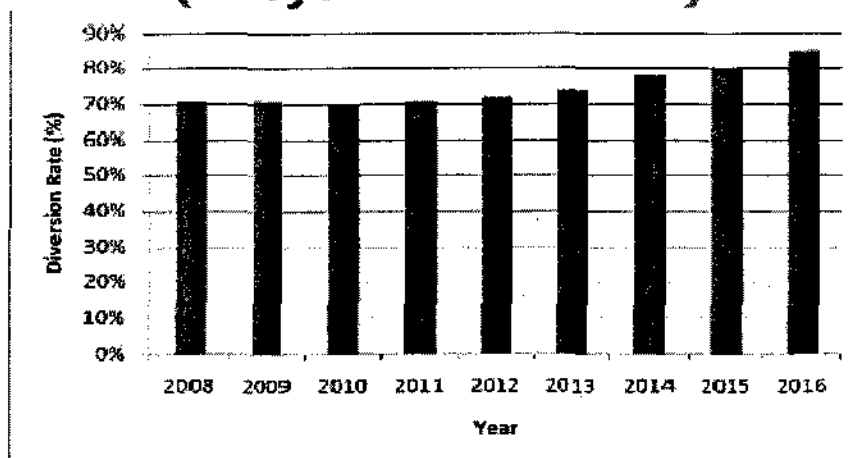
- Reuse/Renovation facility in Markham
- Potential SSO changes in preparation of new York Region compost facility
- Introduce recycling opportunities for carpet
- Complete curbside diversion audit
- Update council on diversion success

Diversion Impacts of Initiatives

2012-2014 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 -74% of materials through curbside programs.

Markham's Waste Diversion Trend (Projected to 2016)



The City 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 nationally and Markham is currently a diversion leader in Ontario.

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

“The Best of the Best” – Getting to 80% Diversion

**Strategy Report prepared by Environmental
Issues Committee Diversion Sub Committee
2012**

Target

"A diversion target of 80% would make Markham residents the "Best of the Best" in diversion in North America."

Building Markham's Future Together

Towards a Sustainable Community



Background

- Stalled at 72% Diversion
- Last changes in 2005
- Pilot Clear bag in 2008
- Council approved program review in 2011
- Diversion Sub Committee formed, chaired by Deputy Mayor Jack Heath
 - Council Members
 - Waste & Environmental Staff
 - Regional Solid Waste Staff
 - MEAC



New Initiatives

Implemented between 2012-2014

1. Mandatory Material Separation By-law
2. Unlimited Clear Bags for Residue
3. Expanded Textile 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 Cleanup Days
10. Expanded Fall Leaf/Yard Waste Collection

Building Markham's Future Together

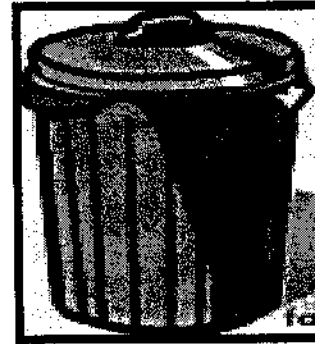
Towards a Sustainable Community



Mandatory Material Separation By-Law

Recommendation

- *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.



Unlimited Clear Bags - Residue

Recommendation:

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.



Building Markham's Future Together

Towards a Sustainable Community



Textile Diversion



Recommendation:

It is recommended that Markham expand opportunities to recycle and reuse textiles through expanded partnerships with legitimate and approved textile recyclers such as Goodwill and Salvation Army.

Zero Waste for Schools

Recommendation

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

Supported by the Markham
Environmental Sustainability Fund

Markham's Zero Waste School

Challenge

ZERO WASTE

Building Markham's Future Together

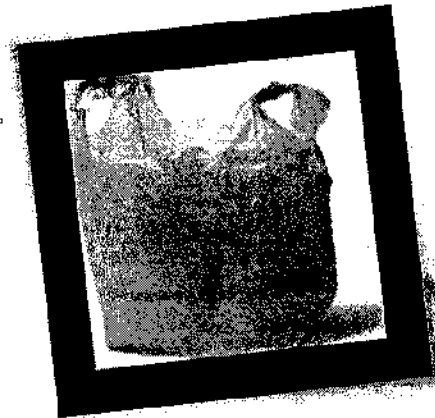
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Retail Bag Ban Policy

Recommendation:

It is recommended that a retail bag ban policy be developed in line with Toronto and other GTA municipalities (Mississauga)



Promotion and Education

Recommendation:

It is recommended that increased use of social media, e-news, and newsletters be utilized to provide ongoing information to residents



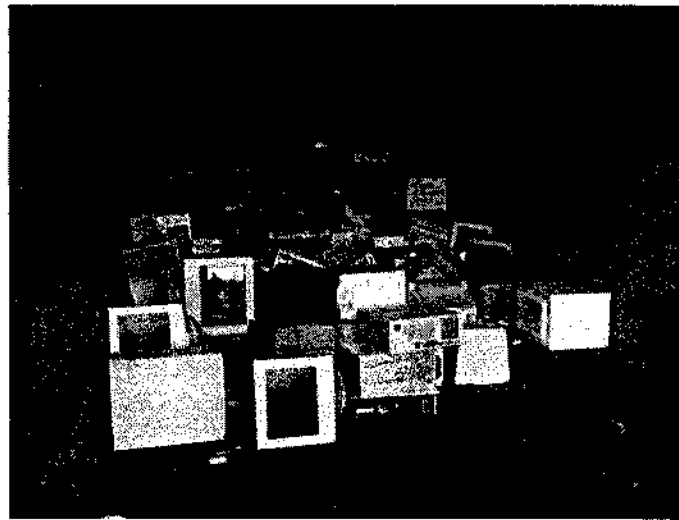
Reuse Depot for Renovation Materials

Recommendation:

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



Curbside Electronics & Battery Collection Ban



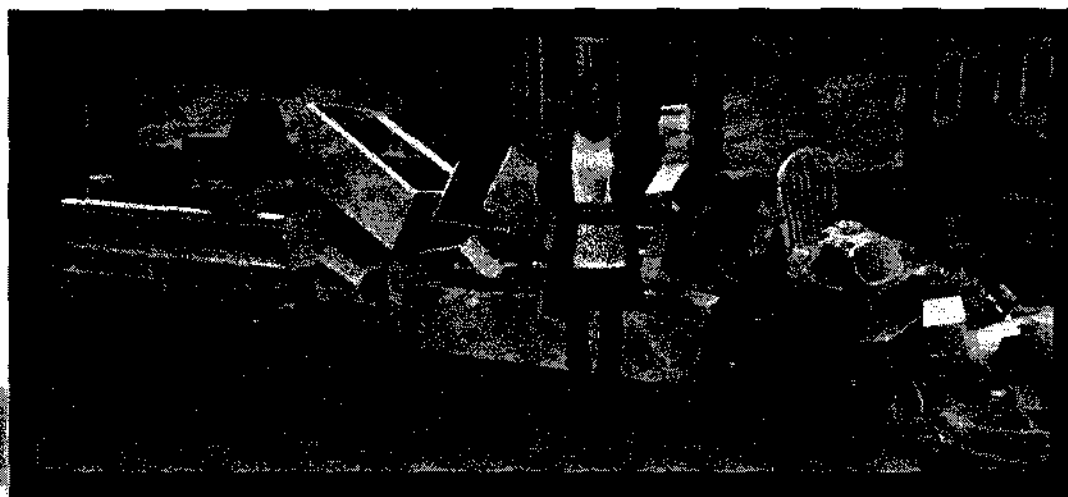
Recommendation

Ban curbside collection of
used electronics and
household batteries
effective January 1, 2013.

Establish Amnesty Days

Recommendation:

That the tag program be eliminated and replaced with spring and fall cleanup days and a move-out permit fee program be established



Weekly Fall Leaf/Yard Waste Collection

Recommendation

That the current level of service for the collection of leaf and yard waste be increased



Bi weekly collection schedule
be extended to Dec 15 of
each year

Questions?

THANK YOU

Building Markham's Future Together

Towards a Sustainable Community



