**COMMITTEE OF THE WHOLE – DECEMBER 1, 2009**

## JOINT WASTE DIVERSION STRATEGY 2009 (UPDATE)

### Recommendation

The Commissioner of Engineering and Public Works recommends:

1) That the report titled "Joint Waste Diversion Strategy - 2009" be received;

2) That Council acknowledge the successful partnership between York Region and the Local Municipalities – Joint Municipal Waste Coordinators Committee - in achieving diversion leadership status in the 'large urban' municipality category by the Waste Diversion Ontario (WDO);

3) That the Joint Municipal Waste Coordinators Committee continue to work together to assess all future programs and current program changes based on collection and processing contract impact, convenience and flexibility to encourage participation in diversion activities, and overall system costs;

4) That York Region continue to accept organics in plastic bags, and that diapers and pet waste remain as acceptable items in the municipal Green Bin program;

5) That Vaughan educate residents on the benefits of using compostable bags and the proper preparation of Green Bin materials to reduce contamination and processing residue;

6) That York Region review and implement operational improvements within the organics processing system as a means to allow for the continued use of plastic bags in the Green Bin program, as well as address and reduce the high amount of residual material generated through the existing processing operations; and,

7) That a copy of this resolution be forwarded to York Region and the Local Municipalities.

### Economic Impact

There is no significant impact on the 2010 Operating Budget as a result of the adopting the recommendations above. Communication efforts will be accomplished through the approved budget amounts.

### Communications Plan

Communications specific to the Green Bin program will be developed by Vaughan Public Works (Waste Management) staff, and where required, in consultation with York Region and the area municipalities' Promotion and Education Sub-Committee.

### Purpose

This report provides an overview of the updated Joint Waste Diversion Strategy (JWDS) which was developed in partnership with the local and regional municipal staff, and recommends improvements to Green Bin material preparation and processing practices to reduce residue.

**Background - Analysis and Options**

In 2006, York Region in partnership with the nine local municipalities developed a Joint Waste Diversion Strategy to create a waste diversion system that would divert a minimum of 65% of the residential waste stream from landfill disposal over the short term, and increase to 70% over the strategy's 10-year planning period. This plan included the decision to allow residents to include diapers, pet waste, and use plastic bags, biodegradable bags or paper bags in the Green Bin.

Since the Strategy's adoption by all Councils, the Region and the local municipalities have worked in partnership to research and implement new waste diversion programs that have greatly improved diversion. In 2008, the Region was recognized by Waste Diversion Ontario (WDO) for achieving a 45.7% (up from 34%) diversion rate (refer to Table 1) – the highest rate within the 'large urban' municipality category.

***Table 1: Diversion Rates for Large Urban Centres – Waste Diversion Ontario***

| Municipal Large Urban | Diversion Rate |
|---|---|
| York | 45.7% |
| Hamilton | 43.0% |
| Toronto | 42.8% |
| Peel | 40.6% |
| London | 39.7% |
| Halton | 36.9% |

*Source: Waste Diversion Ontario*
*Note:*

1. *2008 represents the first full year where all nine municipalities had implemented the Green Bin program.*
2. *York Region experienced temporary processing issues relating to green bin organics in 2008.*
3. *The curbside diversion rate (not including residuals) for Vaughan was approximately 67%.*
4. *The diversion rate in the above table includes residuals.*

In 2009, the Strategy was reviewed by the JWDS Committee to identify new / enhanced opportunities that could be incorporated to meet the diversion targets

Much of the discussion at the strategy sessions centered on organics processing residue and the Region's proposed program to require residents switch from plastic bags to compostable bags for organic materials. All local municipal staff expressed concerns with the requirement to use only compostable bags, as it could negatively impact participation, diversion, and current collection contracts.

The local municipalities identified a host of benefits for allowing plastic bags for organics, including:

- An easy to understand program drives participation and diversion;
- Flexibility – residents can use a bag of choice;
- Allows diapers and pet waste to be included;
- Health and safety concerns – protect waste collectors;
- Secure containment of material in collection vehicles;
- Recognition of the influence of City of Toronto's Green Bin program – Toronto's program allows plastic bags, thereby avoiding confusion generated as a result of their extensive media coverage;

- Overflow organics can be put in large clear plastic bags;
- Easier to expand organics collection to multi residential, special events, municipal offices, parks, and public spaces;
- Processing technology exists to remove plastic, mitigate odours and produce good compost;
- Less policing required curbside by contractor, and
- Compostable bags are more expensive than plastic bags (i.e. $.07 - $.20 per bag)

It is recognized that specialized processing technology would be required to remove the plastic bags more effectively. This technology is successfully used by the City of Toronto which operates a facility in Downsview and is in the process of building 2 additional facilities within the City limits to process Green Bin organics.

Although plastic material has to be removed during processing, the benefits to the resident and collection staff have driven the success of the area municipalities and York Region's diversion program. In addition, the use of plastic bags for organics is essential in order to expand the collection of organics beyond the curb to apartments, schools, public spaces and special events. Plastic bags improve the general household cleanliness of the program for residents and the use of bag liners is an important component of health and safety concerns associated with household organics. The alternative biodegradable bag does not afford these same benefits, and concerns exist regarding its ability to breakdown in the processing timeframe and would therefore end up as residue regardless.

The Province of Ontario does not have established standards for Green Bin program design. Some municipalities have chosen to not allow plastics, diapers and/or pet waste in their Green Bin program. These municipalities have found expanding organic collection programs to apartments, public spaces, and schools to be problematic, with high levels of contamination, declining participation and prohibitive bag costs.

**Proper processing technology needed to reduce residue**

In the fall of 2008, the City of Vaughan conducted an independent waste audit for green bin organics (note: this audit was done in part for the Federation of Canadian Municipalities Green Municipal Fund grant requirements). The findings of this independent audit are detailed in Table 2:

***Table 2: Summary of Vaughan Source Separated Organics Audit 2009***

| Material | % of Total |
|---|---|
| Acceptable Kitchen Organics | 74.14 |
| Paper/Napkins | 9.45 |
| Diapers/Sanitary Products | 5.75 |
| Plastic Bags | 6.01 |
| Other: Acceptable Items | 2.54 |
| Unacceptable Material | 2.10 |
| Total | 99.95 |
| **Total Plastic/Diapers/Unacceptable (Vaughan)** | **13.86** |
| **2008 York Region Reported Residual Rate** | **43.00** |

*Source: Source Separated Waste Audit prepared by Torcan Management Inc. January 2009.*

As illustrated by this data, all plastic, diaper liners and other unacceptable items totaled 13.86% for Vaughan. This is a significant variance from the Region's reported residual of 43%. York Region currently does not have an organics processing facility and currently transports organics to two private facilities in Ontario for processing: Orgaworld in London Ontario, and Universal Resource Recovery in Welland. This degree of residual resulting from the Region's contracted processing operations is not acceptable and is of concern to the Joint Municipal Waste Coordinators group.

In an effort to address the high residue resulting from these operations, York Region recently conducted a region-wide pilot program to encourage the use of compostable plastic bags in an attempt to reduce the use of plastic shopping bags, monitor public acceptance and impacts on diversion.

**Local Municipalities support keeping diapers, pet waste and plastic bags**

At the strategy discussions it was clear that all of the nine local municipalities preferred retaining some kind of plastic bag option for organics. It was felt that any mandatory change to compostable bags would result in significant decline in participation and that residents would resist purchasing compostable bags costing approximately 7 cents per bag for the kitchen catcher and 20 cents for larger bags.

Recently, several major retailers have stopped providing free plastic bags to shoppers. It is anticipated that this fundamental change will reduce the quantity of plastic bags in the marketplace and through this attrition residents will begin to voluntarily use compostable bags in their Green Bin. In addition, municipal staff agreed to educate residents on ways to reduce contamination and would advise residents to:

- Wrap diapers loosely
- Never double bag
- Loosely secure bag - avoid tight knots

The proposed voluntary strategy is based on maintaining positive participation and reducing processing residue by educating residents of the benefits of reducing the amount of plastic in the Green Bin.

Moving forward, increasing waste diversion will become more challenging. Implementation of new initiatives will represent much smaller gains in waste diversion, and greater effort will be required to achieve future waste diversion targets

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Table 3 below provides a description of the major waste diversion options identified by staff from the ten municipalities and included in the strategy update.

***Table 3: Updated Components of the Preferred Waste Diversion System (2009)***

| Priority Initiatives | Future Considerations |
|---|---|
| **Supportive** | **Supportive** |
| Community Environmental Centres | Mandatory Recycling Bylaw |
| Bag limits/financial incentives | Continued research into new initiatives and technologies to reach beyond the projected 65% diversion target |
| Enhanced Communication and Public Outreach | **Reduction** |
| Infrastructure development Advocacy | Backyard Composting |
| **Re-Use** | Fostering a culture of minimal to no waste |
| Diversion of Textiles | Municipal green purchasing |
| **Diversion** | **Re-Use** |
| SSO (implemented) | Materials exchange online service |
| Optimized Blue Box (ongoing) | **Diversion** |
| Seasonal Collection of Yard Waste (implemented) | Small quantity IC&I waste generators |
| Implementation of WDO initiatives | Residential construction & demolition waste |
| Waste Diversion in Public Places | Multi-residential Recycling and Organics |

*Source: Joint Waste Diversion Strategy Update (2009)*

This report provides an overview of the updated Joint Waste Diversion Strategy which was developed in partnership with local and regional staff and recommends improvements to Green Bin material preparation and processing practices to reduce residue. When implemented, these initiatives are anticipated to increase the amount of waste diverted from disposal to more than 70% by 2016.

## Relationship to Vaughan Vision 2020

This report is consistent with the priorities previously set by Council, specifically, "Pursue Excellence in Service Delivery" and "Lead and Promote Environmental Sustainability".

## Regional Implications

As a result of the recommendations in this report, the City is requesting York Region to improve processing efficiencies at facilities that process source separated organics, as well as continue to allow for plastic bags to be used in the Green Bin program, and that pet waste and diapers remain as acceptable materials in the Green Bin program.

## Conclusion

It is evident that residents of Vaughan and York Region have embraced the Green Bin organics program. The success of the program is largely due to its public acceptance through convenience. This is illustrated through the single stream recycling program and expanded Green Bin collection which includes diapers and pet waste, and allows residents to use the bag of their choice, including plastic shopping bags.

It is staff's view that convenience has made the Green Bin a success, and although residents should be encouraged to use compostable bags, they should not be made mandatory. Coupled with the attrition of plastic bags in the marketplace, the need to fully ban plastics from the Green Bin will be reduced.

Through the recommended approach, residents can be made aware of the benefits of using compostable bags, which in turn will result in less residual material.

**Attachments**

Joint Waste Diversion Strategy Update

**Report prepared by:**

Caroline Kirkpatrick, C.E.T., M.C.I.P.
Brian T. Anthony, CRS-S, C. Tech

Respectfully submitted,

Bill Robinson, P. Eng.
Commissioner of Engineering and Public Works

Brian T. Anthony
Director of Public Works

# Joint Waste Diversion Strategy: *Update*

## Working Together Toward a Sustainable Residential Waste Management System

**Aurora**
**East Gwillimbury**
**Georgina**
**King**
**Markham**
**Newmarket**
**Richmond Hill**
**Vaughan**
**Whitchurch-Stouffville**
**York Region**

**2009**

# Table of Contents



## Index of Figures and Tables

# Preface

This document updates the 2006 Joint Waste Diversion Strategy prepared by the Inter-municipal Waste Diversion Committee (IMWDC). The IMWDC is a committee consisting of representatives from York Region and its nine local municipalities. Its objective in 2006 was to design a waste diversion system that would divert approximately 65% of the residential waste stream from disposal in the short term and increase this rate to over 70% in the strategy's 10-year planning horizon. Recently, the IMWDC conducted a review of the strategy and prepared this update.

This update has been developed within the planning and regulatory context provided by Waste Diversion Ontario, a non-crown corporation created under Ontario's Waste Diversion Act. The WDO has initiated a series of initiatives to divert materials from disposal and encourage program consistency among municipalities. These initiatives include the Blue Box program, used oil material, used tires, municipal hazardous and special waste, and waste electrical and electronic equipment. The Region and its municipal partners are actively encouraging local participation in these programs and, through the IMWDC, will prepare implementation plans for rolling out the WDO initiatives.

The purpose of developing the Joint Waste Diversion Strategy is to provide a shared vision and goals that work toward a waste diversion system that will result in minimal waste requiring disposal in landfill. This integrated system includes recycling, source separated organics composting, safe recycling and disposal of household hazardous waste, mechanisms that encourage the reduction and reuse of waste, and will include implementation of the WDO initiatives, among other activities. This Joint Waste Diversion Strategy Update highlights the progress made by the Region and its partners since 2006 and reaffirms the Strategy's path forward. Next steps for the IMWDS will be to flesh out the agreed upon options outlined in the strategy and develop a plan that will detail the resources required to initiate and operate the various initiatives. Furthermore, this strategy document has been developed based on the current environment and therefore, it is not meant to be a static document but updated at regular intervals to remain applicable to ever changing future conditions. The waste diversion targets outlined in this document reflect commercial, institutional and residentially collected blue box materials, source separated organic materials, yard wastes, household hazardous wastes, electronics, other recyclable tonnage as indicated in the definition of Local Municipal Capture Rate found in Appendix A. To develop a common basis for comparison, the group identified the measure of Local Municipal Capture to form the basis for discussing waste diversion figures. It is considered that Local Municipal Capture provides a good gauge of community participation in diversion programs.

Targets are based on operating within today regulatory policies and do not account for future conditions that may be outside of the IMWDC's control

# 1 Introduction

In 2005, the municipalities in York Region were diverting approximately 34% of curbside collected waste from disposal[1]. To improve on this, York Region and its nine local municipalities partnered to form the Inter-municipal Waste Diversion Committee (IMWDC). This committee was formed to develop a strategy to manage the recyclable and organic material remaining in the residential waste stream. The Committee's objectives were to design a waste diversion system that would divert approximately 65% of the residential waste stream from disposal in the short term and increase this rate to over 70% in the strategy's 10-year planning horizon. The Committee's work resulted in the Joint Waste Diversion Strategy, which proposed a series of waste diversion components as part of the Region's potential waste diversion system. The strategy was approved and adopted in 2006.


Since the Strategy's adoption, the Region and its local municipalities have worked together to implement the Strategy's new waste diversion programs, which have resulted in considerable improvements in the sustainable management of solid waste in the region.

In September 2008, the IMWDC convened a workshop to review and update the strategy. As part of the review the Committee recognized program achievements since the initiation of the 2006 Strategy, assessed the validity of the original goals and objectives and identified new potential initiatives that could be included in the Strategy to meet its targets. The review resulted in the identification of following items to be included in the Strategy update:

- Updates to the guiding principles;
- Acknowledging past successes;
- Defining waste diversion;
- Defining Residential and IC&I waste;
- Updating the priority list with rankings, costs, and timing;
- Amending current priority initiatives to include enhanced education and communications, Community Environmental Centres, and continued research;
- Amending future considerations to include residential renovation waste, small quantity IC&I waste, and continued research;

[1] See Capture Rate in Appendix A, Glossary of Terms.

- Adding new future considerations such as diversion of waste in public spaces and multi-residential dwellings, and WDO initiatives;
- Clarifying roles and responsibilities of the 10 partners and mechanisms for staff to provide input; and
- Direction to review the Strategy every four to five years or earlier if required.

The estimated costs and anticipated diversion amounts in this update are based upon the experiences and best practices of other Ontario and Canadian municipalities, as well as industry reports such as the KPMG/R.W. Beck Blue Box Program Enhancement and Best Practices Assessment Project.

This document provides an update to the 2006 strategy, based on the results of the September 2008 IWMDC workshop and subsequent work. The update is organized into the following sections:

- Section 2.1 - presents new definitions.
- Section 2.2 - updates the Strategy's guiding principles.
- Section 2.3 - recognizes the progress in waste diversion made by the Region and its municipal partners.
- Section 2.4 - includes updates to the 2006 Strategy's waste diversion initiatives, including targets, how the components were updated, the updated priority and future initiatives, their implementation schedule, and estimated costs.
- Section 2.5 - explores the roles and responsibilities of the Region and the local municipalities regarding the implementation of the Strategy.

**Table 1: York Region Population Forecast**

| Municipality | Estimated Number of Households (Dec 2008) | | Population 2006 | Population 2016 | Population 2021 |
|---|---|---|---|---|---|
| | Single-Family* | Apartments | | | |
| **Aurora** | 14,997 | 1,383 | 49,150 | 63,000 | 69,000 |
| **East Gwillimbury** | 6,860 | 365 | 22,400 | 41,000 | 51,000 |
| **Georgina** | 14,536 | 1,280 | 45,600 | 59,000 | 67,000 |
| **King** | 6,270 | 335 | 20,230 | 29,000 | 32,000 |
| **Markham** | 74,404 | 11,501 | 273,800 | 304,000 | 326,000 |
| **Newmarket** | 21,655 | 4,177 | 78,250 | 91,000 | 95,000 |
| **Richmond Hill** | 47,073 | 9,592 | 173,950 | 204,000 | 212,000 |
| **Vaughan** | 70,211 | 7,469 | 243,700 | 281,000 | 305,000 |
| **Whitchurch-Stouffville** | 9,935 | 1,000 | 26,150 | 35,000 | 38,000 |
| **York Region** | 265,941 | 37,102 | 933,350 | 1,107,000 | 1,195,000 |

* Includes singles, semi and row housing types.

Source:
- 2008 Estimated Number of Households - York Region Planning Services, York Region Population Estimate, December 31, 2008. www.york.ca/NR/rdonlyres/3epsfcc37krhykeqssymbcpupwqck55bcujytohrnfgfiuiyyuipvuxzi5euhd36qln22h3tmqfqiisqku5m77np3e/12+2008.pdf Accessed August 12, 2009.
- 2006, 2016 and 2021 Population Data – York Region Planning Services, York Region Population and Employment Forecasts. www.york.ca/Departments/Planning+and+Development/Long+Range+Planning/popstat1.htm Accessed August 12, 2009.

# 2 Strategy Updates 2009

## *2.1 Definition Updates*

The IMWDC defined a series of key terms used in the strategy. These include:

- **Waste Diversion:** Reducing the amount of waste requiring disposal through reduce, reuse and recycling.
- **Residential Waste:** Residential waste is solid waste that originates from households or multi-residential buildings, such as paper, food and beverage containers, organic food products, organic material from vegetation and garbage from daily activities including goods such as old appliances, carpets or furniture. This does not include home remodeling wastes or automobile wastes such as tires and car parts.
- **Small Quantity ICI Generators:** ICI waste is solid waste generated from an institution, commercial business or industry. Small quantity generators are those commercial businesses and institutions that can comply with the local municipal waste collection policies.

- **Waste Minimization:** the process and the policy of reducing the amount of waste produced by a community

A glossary of terms has been added in Appendix A of this update. This glossary includes various definitions of diversion categories including Local Municipal Capture, which is used as the definition of diversion throughout this report.

## 2.2 Updating the Guiding Principles

The IMWDC updated the Guiding Principles that provide direction when considering diversion activities for the Regional and local waste diversion system. For a waste diversion initiative to be implemented, it must meet the following updated guiding principles, or criteria:

- The initiative has the potential to divert at least an additional 1% of the total waste stream;
- The initiative has been proven to achieve results;
- There is a reliable market/end use for materials diverted through the initiative (this includes the availability of two or more domestic markets, or a market with a stable operational history and financial security);
- The capital and operating cost to implement the program is economically feasible, with the understanding that diverting waste from landfill is generally more expensive than landfilling alone;
- It is accessible to the public; and
- It demonstrates leadership in waste diversion.

## 2.3 Acknowledging Past Successes

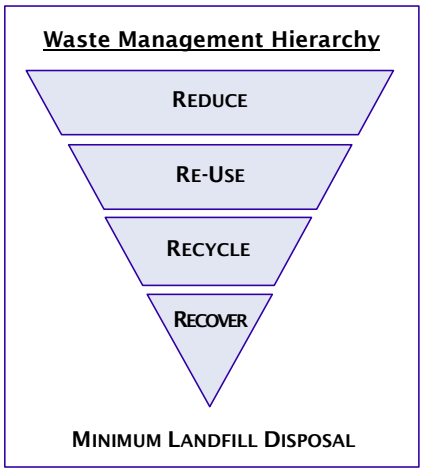
The IMWDC recognizes that the 10 partners have made significant progress in diverting waste since the Strategy's implementation. Successes include:

- Development of the McCleary Court Community Environmental Centre;
- Increased waste diversion;
- Additional recyclable materials added to the Blue Box;
- Collection of household organics in each local municipality;
- Increased blue box collection frequency;
- Increased recycling in the multi-residential sector and in public spaces;
- Improved processing facilities for recyclables and organics;
- Improved accessibility to the public Household Hazardous Waste drop off depot;
- Increased yard waste collection;

- Increased public education and outreach activities;
- Pilot waste diversion initiatives (see Appendix D for list of municipal pilot projects); and
- An Environmental Assessment on residual waste.

## *2.4 Updating the List of Waste Diversion Initiatives*

The original 2006 Strategy focused primarily on opportunities for diverting waste. However, the IMWDC recognizes that the traditional approaches of recycling and composting are not the only ones available for reducing the amount of waste going for disposal. The Waste Management Hierarchy[2] (pictured, right) holds that reduction and re-use should come before recycling (in this case for example, recycling is meant to include collection of source separated organics).




The Hierarchy also holds that wastes remaining after recycling are residuals that could be converted to energy before finally disposed of in landfill. The IMWDC agrees with this approach, and the strategy update includes opportunities for waste reduction and re-use. Energy recovery and residual disposal has not been addressed as part of this strategy document.

### 2.4.1 Diversion Targets

When the Strategy was prepared in 2006, the 10 partners were then diverting approximately 110,160 tonnes[3] of waste from disposal annually, or roughly 34% of the residential waste stream. The IMWDC had agreed to implement 10 priority waste diversion initiatives by the end of 2016 to divert, at a minimum, an additional 97,200 tonnes of waste annually. The group's objective was to reach a short-term waste diversion target of 65% and strive to achieve a target of 70% or greater by the Strategy's planning horizon of 2016.

The group had also identified additional waste diversion initiatives that were not given priority for implementation but were included in the Strategy for future consideration. Circumstances to trigger further study and potential implementation of the additional initiatives were as follows:

[2] Based on Waste Management Hierarchy diagram indentified in the York Region Official Plan.

[3] Figures represent tonnages delivered to Regional Facilities and include curbside and drop off deliveries.

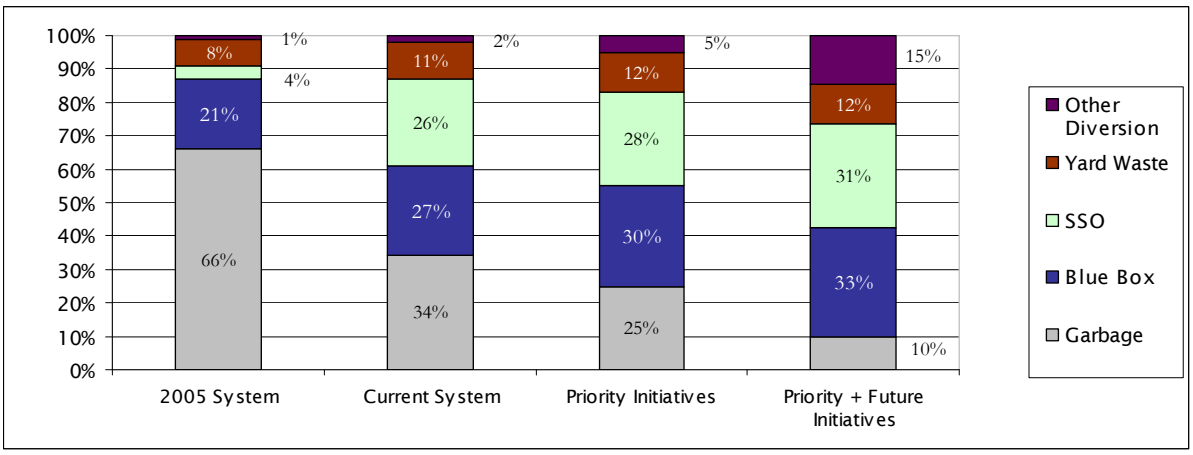
1. The priority initiatives do not reach the waste diversion target of 70% within the 10 year Waste Diversion Strategy implementation period; and/or
2. Implementation of the priority initiatives is completed before the 10 year planning horizon is reached.

Figures 1 below illustrates the diversion rates of:

- The waste management system of 2005;
- The current waste management system;
- A system that includes the projected priority initiatives; and
- A system that includes both the priority initiatives and those initiatives designated for future consideration.

As the figure illustrates, the current system[4] shows marked improvement over the 2005 system and shows progress towards the strategy's waste diversion goals. The proportion of garbage in the total waste stream has dropped to about half, while the proportion of blue box and organics (SSO and yard waste) has grown.

**Figure 1: Past, Current (2008) and Anticipated Future Diversion Rates**




*Projections based on York Region2008 waste management data.

### 2.4.2 Updating the Recommended Strategy Components

In consideration of the current curbside diversion rate, the updated guiding principles and the waste management hierarchy, the Committee re-examined the list of priority and future initiatives presented in the 2006 strategy and agreed to an updated priority list, which when implemented is anticipated to increase the amount of waste diverted from disposal to 70%

by 2016 [5]. In addition to the priority initiatives, the group outlined additional waste diversion initiatives that did not achieve group consensus as a priority component of the Strategy but were added to the list as potential initiatives for future consideration.

Each of the system components was analyzed individually to develop a list of priority and future initiatives that maximize the diversion of waste from disposal[6]. It should be noted that all of the individual components are interrelated and are evaluated from the perspective of a fully integrated waste management system. The table below provides the updated list of waste diversion components proposed for consideration as part of the preferred waste diversion system to meet the waste diversion target. These updated components are described in greater detail in sections 2.4.3 and 2.4.4 and are organized according to their position within the waste management hierarchy:

- Supportive – initiatives that provide support to the overall waste diversion system.
- Reduction – initiatives focusing on the prevention of waste.
- Re-use – initiatives that work to find a new use for unwanted goods.
- Diversion – initiatives to divert even more recyclable materials and organics from the waste stream.

An implementation schedule is provided in Section 2.4.5, followed by estimated costs in 2.4.6. The IMWDC is moving forward with the recognition that these and other regional and municipal waste management programs require flexibility in order to adapt to changing regulatory, political and environmental conditions.

[5] Targets are based on operating within today regulatory policies and do not account for future conditions that may be outside of the IMWDC's control.

[6] See Appendix C for scoring of the priority and future initiatives.

**Table 2: Updated Components of the Preferred Waste Diversion System (2008)**

| Priority Initiatives | Future Considerations |
|---|---|
| **Supportive**<br>• Community Environmental Centres<br>• Bag limits/financial incentives<br>• Enhanced Communication and Public Outreach<br>• Infrastructure development<br>• Advocacy<br><br>**Re-use**<br>• Diversion of Textiles<br><br>**Diversion**<br>• Source Separated Organics<br>• Optimized Blue Box<br>• Seasonal Collection of Yard Waste [a]<br>• Implementation of WDO Initiatives [b]<br>• Waste Diversion in Public Places [b] | **Supportive**<br>• Mandatory Recycling By-law<br>• Continued research into new initiatives and technologies to reach beyond the projected 65% diversion target<br><br>**Reduction**<br>• Backyard composting [b]<br>• Fostering a culture of minimal to no waste [b]<br>• Municipal green purchasing [b]<br><br>**Re-use**<br>• Materials exchange on-line service [b]<br><br>**Diversion**<br>• Small quantity IC&I waste generators<br>• Residential construction & demolition waste<br>• Multi-residential Recycling and Organics [b] |

[a] Previously identified in the 2006 document as a future consideration

[b] These initiatives have been added to the updated Strategy and were not included in the 2006 document.

### 2.4.3 Amended Priority Initiatives

Many of the waste management priority initiatives listed below were priority initiatives in the 2006 strategy and have been updated to reflect current conditions. New initiatives have been added to the priority list, including the seasonal collection of yard waste (a future consideration in the previous strategy), as well as the implementation of WDO initiatives and waste diversion in public spaces (both new components to the strategy).

## *Supportive Components*

### Community Environmental Centres

The development of a network of strategically located Community Environmental Centres (CECs) by the Region to provide drop-off recycling and reuse opportunities to residents in addition to those provided by curbside programs was reaffirmed by the group as a priority for implementation. The group also identified the need for these centres to reflect the siting and operational preferences of the local community and to explore creating opportunities to service small commercial waste generators.


To maximize access to the CECs, the strategy proposes developing a series of CECs strategically located through the Region in order to optimize service levels to residents in each municipality and to achieve the greatest level of capture. Siting of the CECs will be guided by the following principles:

- The CECs will be accessible, within a 20 km radius;
- Siting of locations for the CECs involves collaboration between the Region and the municipalities;
- The CEC facility meets the needs of the community;
- The CEC will enable opportunities for future diversion initiatives;
- The CEC will collaborate with community organizations
- The CEC will provide an opportunity to inform and instruct the community on waste management practices; and
- Siting and design of CECs will be flexible

The CEC initiative has been targeted to divert approximately 5,000 tonnes of recyclable materials annually from disposal. The capital cost to develop one CEC is approximately $4.5

million, although this will depend on the location, type and size of facility required. Annual operating costs for the CECs are expected to increase over time as applications for the CECs expand (see Table 5 below). The implementation of CECs will require a partnership between the Region, the municipalities, and their service providers. The suggested roll-out rate is one CEC every 1.5 years.

**Bag Limits/Financial Incentives**

In recent years, many communities in Ontario have implemented systems that limit the number of bags/items that can be set out for collection as garbage and/or initiated some type of financial incentive that imposes a fee for each item of garbage placed at the curb. Members of the IMWDC also reaffirmed an issue stated in the original strategy, that if a program were to include financial incentives, it would have to be implemented in such as way that residents could not "buy" their way out of participating in diversion programs.

Each of the municipalities in York Region already have some form of user pay and/or bag limit system in place. Consideration was given to working towards a uniform standard across the local municipalities. The group consensus was, however, that while bag limits have value, if implemented they should be included as part of a roll out for a larger regional initiative The ability to collect large or bulky items and provide temporary relief during specific times of the year (e.g., Christmas or Passover) was also identified as a concern. The group made a further recommendation to convene a sub committee that would consider the most appropriate and effective mix of bag limits and financial incentives that could be coordinated among the local municipalities. Continued discussion by the Committee on this issue in the future was recommended.

The cost of implementing this program may involve additional communication materials and thereafter would mostly be absorbed by existing communications budgets. The program is estimated to divert approximately 16,200 annual tonnes of material from disposal. Ongoing costs are not significant making this a low cost option to divert a considerable amount of additional material throughout the Region.

**Enhanced Communication and Public Outreach**

Communication strategies are an integral component of any successful waste management system. The Waste Diversion Ontario Best Practice Report, 2007 states *"Planning and implementing targeted P&E programs that support recycling and waste diversion are vital to municipal Blue Box programs"*. Public education is key to the achievement of waste diversion goals and operation of the waste management system as a whole. Delivering effective education and outreach programs can be expensive. Many of the nine local municipalities in the Region do not have the resources to develop and launch or maintain comprehensive education and community outreach programs. There is also a risk that working in isolation will repeat work that others have already done. In addition, the same work may be occurring in neighbouring regions or elsewhere in the Province. There are likely to be significant advantages from economies of scale if local municipalities work together to develop promotion and education programs for common projects.


Both the local municipalities and York Region produce solid waste management promotion and education materials. The objectives of the Promotion and Education programs are to:

- Promote participation in waste diversion programs;
- Encourage correct participation in waste diversion programs; and
- Encourage compliance with Municipal and Regional waste management policies.

The level of promotion and education materials and campaigns vary according to each municipality. Activities include in part:

- Staffing at public events and speaking engagements;
- Advertisements and articles in newspapers;
- Newsletters;
- School education program;
- A waste management program calendar;
- Brochures for various waste diversion programs (backyard composting, grasscycling, disposal bans, etc.); and
- Web sites featuring program information, tips and facts.

Recognizing that the 10 partners are communicating with the public concurrently, it is imperative that there be frequent communication between the Region and municipalities to ensure that messages to the public are consistent.

The IMWDC supported increased cooperative efforts amongst the nine local municipalities and York Region to deliver consistent messaging and initiatives, both in design and implementation while allowing enough flexibility for partners to reflect the individuality of their community. The need for the Region to provide continued support to the smaller municipalities with their promotional efforts was also recommended.

As a component of this initiative, the minimum level of promotion and education required to deliver an effective program would be determined for each municipality. This program could include targeted promotion and education material sent to residents advising them of what can be diverted and an outreach component that would provide presentations in schools, local service clubs, displays at malls, identify peer leaders in the community, develop model neighbourhoods, etc. Another component of the program would include social research to assess barriers to participation in waste diversion programs and develop tools to overcome the barriers.

The Region will continue to take the lead on the communications that include Region-wide topics. The Region's role would be to provide resources to the municipalities in the form of communications expertise and a resource bank of materials. Its responsibilities would include social marketing to encourage the adoption of waste diversion activities and to promote local and regional waste diversion successes. For example, the Region's educational activities would include showing what happens to waste materials when it leaves the curb (i.e., processing and disposal), in order to provide customer confidence that the materials are being managed properly. The Region would also be responsible for communicating program requirements to the local municipalities, such as what can and cannot be recycled/composted and how materials should be prepared. The nine local partner municipalities would be responsible for conducting education on specific municipal programs and issues.

The IMWDC recognizes that effective communication is not a one-way street, and that any enhanced communication and outreach program must provide convenient, effective methods that allow the public to communicate with its local and regional government.

A comprehensive communication and outreach program would achieve the following:

- Facilitate progress in achieving the waste diversion target by engaging and encouraging the public to incorporate waste diversion initiatives in daily practices;

- Build awareness by educating and informing residents and businesses in advance about changes to existing services and new services that will become available;
- Obtain and integrate input and feedback from residents and businesses regarding the development and continuous improvement of the system and specific service issues;
- Provide answers to commonly asked questions; and
- Potentially reduces the number of inquiries following implementation of new initiatives.

Implementation of the enhanced communication and outreach program would occur over the next 1 to 3 years and the average annual per house hold cost ranges from $2-$4 depending on the type of municipal program. A program of this nature can help to increase the diversion of materials from disposal by approximately 3 to 5%.

**Infrastructure Development**

The implications of population growth in York Region on managing the additional diversion tonnage were also considered. It was recognized that the ability of the local municipalities to roll out new collection programs is reliant upon the Region's ability to develop the necessary supporting processing and/or diversion infrastructure in a timely manner. That is, continued implementation of the Strategy may require new infrastructure or enhancement of existing infrastructure as diversion tonnages increase and new collection methods are implemented, in particular:

- Enhancement of York Region's Material Recovery Facility e.g. processing improvements;
- Viable organic food waste composting capacity;
- Yard waste composting capacity; and
- Community Environmental Centres.

The Committee recommends that the Strategy reflect the need for the Region to examine projected facility needs and capacity, and to coordinate its delivery to meet proposed future program and collection contract changes. Estimates for developing new waste management program infrastructure could take 2 to 10 years, depending on the type of equipment and facilities required and the associated planning and environmental requirements.

In addition to the infrastructure requirement listed above, it should also be noted that facilities such as Community Environmental Centres could be used to provide waste management services to small businesses. Historically, this market segment tends to be ignored by the waste haulers, and therefore does not have access to cost effective private waste diversion services. The Region will need to determine the capacity of the current infrastructure to accurately establish if it can efficiently manage recyclables and organics from small quantity waste generators.

**Advocacy**

There are some elements of waste management that are outside of the control of municipalities, but have a significant impact on the amount and type of waste that municipalities receive and process. These elements are controlled by other levels of government, and by producers and manufacturers.

While municipalities do not have direct control of such elements of waste management, it is within the ability of municipalities to advocate for responsible and effective provincial and federal waste management regulations and policies. To that end, municipalities should be proactive and contact the appropriate departments and agencies to press for action that will reduce waste and increase waste diversion in both the residential and commercial sectors.

The Committee agreed that a future consideration of the Waste Diversion Strategy should include an active role in lobbying manufacturers and senior levels of government on issues such as types of materials used for the sale of goods and extended producer responsibility. The IMWDC suggested that the Region, with the support of the municipalities, take the lead role in this initiative.

## *Re-Use*

**Diversion of Textiles**


Textiles and reusable goods diversion by not-for-profit charities such as Goodwill Industries was also discussed as a priority initiative. Textiles can include items such as clothing, curtains, towels, blankets, sheets, table cloths, and other fabric items. Promoting existing services offered by not-for-profit organizations and assisting them to implement a region-wide program to capture textiles was identified as a viable and economic solution to capture this portion of the waste stream. It was recommended that municipalities continue to work with these groups to determine how best to deliver an effective program.

The cost to implement this initiative would include staff time to coordinate with not-for-profit organizations regarding logistics and promotion of the program. A comprehensive program will divert approximately 5,800 tonnes per year of material from disposal.

## *Diversion*

### Source Separated Organics

A source separated organics program includes the collection of household compostable material such as food waste, pet waste, diapers and soiled paper products. Like recyclables, household organics are source separated from regular garbage and put into a special bag or container. The organics are then collected at the curb to be composted at a central composting facility.

Waste composition studies show that food waste makes up approximately 30% of the residential waste stream[7]. In 2008, the organics program collected 86,300 annual tonnes[8] of organic material from curbside

As of September of 2007, all nine York Region municipalities provide a program for the curbside collection of residential food waste (not including multi-residential buildings, such as apartment buildings or condominiums).

### Optimized Blue Box

There are two types of residential recycling programs in the Region to collect Blue Box materials - curbside collection and drop off depots.

All single family residences (e.g. residences receiving curbside garbage collection) within the Region have access to curbside collection of recyclable materials through the municipal Blue Box collection program. Some multi-family buildings also receive a collection program for recyclable materials using large wheeled blue carts and/or front end bins for the on-site storage of materials.

[7] WDO, Waste Audits, 2000

[8] Before processing.

Optimization of the existing blue box program includes a number of alternatives ranging from the addition of new materials to the use of alternative collection containers. Some of the issues raised regarding implementation of this initiative include the cost and technical requirements to manage alternative collection methods such as debagging recyclables, and the need to ensure new materials have stable long-term markets before they are added to the recycling program.

It was recommended that prior to future program changes, further consideration and research should be completed to examine the timing of municipal contracts, end markets for new materials, alternative collection methodologies and service multi-residential buildings.

While it is difficult to estimate the cost of future changes to the program, new initiatives will most likely require capital investments which could range in amounts to more than $2 million and an annual operating cost of approximately $950,000 - $1,500,000. In 2008, the Blue Box program collected 89,500 tonnes of material (before processing) from curbside in York Region.

**Enhanced Yard Waste Collection**


Improving yard waste collection locally to a minimum service standard of bi-weekly collection was explored in the 2006 Strategy and has since been implemented. The frequency of yard waste collection differed amongst the municipalities of York Region, ranging from weekly to every two weeks during the yard waste season, or less.

The local municipalities now collect at leaf and yard waste on a regular basis throughout the growing season, diverting approximately 9% of the waste stream.

In 2005, approximately 23,000 tonnes of yard waste was collected in York Region and composted. By 2008, this has increased to an estimated 36,361 tonnes[9]. The cost of collecting leaf and yard waste is approximately $95 per tonne, with composting costs at approximately $66 per tonne.

[9] Extrapolated from waste tonnage data from York Region for January – September 2008.

**Implementation of WDO Initiatives**

Waste Diversion Ontario (WDO) has initiated a series of initiatives to divert problematic materials from disposal. The WDO's involvement provides a provincial scope and a regulatory backdrop to encourage a consistency among municipalities and an impetus for action. These initiatives include the Blue Box program, used oil material, used tires, municipal hazardous and special waste, and waste electrical and electronic equipment.

The Region and local municipalities commit to being an active participant in these programs. The Region will encourage participation in these programs by its residents by including the programs in its promotion and education activities. Additionally, the Region, through the IMWDC and in cooperation with the local municipalities, will prepare implementation plans for rolling out the WDO initiatives locally.

**Waste Diversion in Public Places**

The diversion of recyclables and organics could be increased by improving their collection from public spaces, such as municipal and community buildings and parks. This would likely require adjusting current collection methods and enhancing related community education and promotion.

The Town of Newmarket and York Region ran a pilot for a new three stream (recycling, composting, garbage) waste management park program. The goal of the pilot study was to identify which type of receptacle and signage would best encourage residents to use this new program. The pilot ran from June 14 to August 29, 2008 along a selected pilot area of the Tom Taylor Trail between Green Lane and Mulock Drive and outside the Ray Twinney Recreation Complex in Newmarket.

Several receptacle styles were tested and monitored in the pilot area. Receptacle effectiveness was measured by the ease of use for residents, the amount of recyclable and compostable materials properly discarded, and the level of contamination caused by incorrectly placed materials. Examples of the compost and recycling labels and lids are shown below.

**Figure 2: Newmarket/York Region Compost and Recycling Receptacle Labels and Lids**


### 2.4.4 Amended Future Considerations

Similar to the priority initiatives, several of the future considerations listed below were also listed in the 2006 strategy. They have been updated to reflect current conditions, and five new future considerations have been added: backyard composting, fostering a culture of waste minimization, municipal green purchasing, a materials exchange on-line service, and multi-residential recycling and organics.

#### *Supportive Components*

**Mandatory Recycling and Enforcement**

The use of mandatory by-laws by the Region and/or local municipalities to require local residents to recycle was discussed briefly. The consensus was that these by-laws are costly and difficult to enforce and research has shown that by-laws have minimal success in improving diversion rates. Further examination of this utility at some point in the future was recommended.

Several municipalities in York Region have policies in place requiring residents to participate in their recycling program. Region-wide enforcement and promotion and education could range from $200,000 to $400,000 annually depending on the level of program that is developed (e.g. hiring by-law officers and/or additional monitoring staff). Implementation of this initiative could involve a range of Region/municipal enforcement that will require further consideration by the IMWDC. While difficult to quantify, other municipalities that have imposed a mandatory recycling by-law have indicated an increase in the diversion of material from disposal.

**Continued Research**

The aim of the Strategy is to maximize the amount of waste diverted from disposal today and into the future in an environmental, social and financially responsible manner as indicated in the 2006 Strategy document. Therefore, the Committee recommended that it continue to research new initiatives and technologies that may arise in the future and evaluate implementation requirements (coordination of municipal contracts, changes in equipment, financial considerations, etc.) to assist the local municipalities and York Region create efficiencies and maximize the diversion of waste from disposal.

Current topics requiring additional research include:

- New collection methods, including:
  - Automated and semi automated collection;
  - Alternative types of containers (e.g., bins, bags, etc) for recycling, organics and waste collection; and
  - Multi-residential dwellings;
- Single stream recycling;
- Plastic bag issues, such as:
  - Use for Blue Box overflow;
  - Plastic bags in organics; and
  - Use of bag breakers in processing facilities;
- Various waste studies and audits, as required;
- Collection/disposal bans, in particular how they tie in with disposal alternatives;
- How best to expand the collection of blue box materials, as markets allow; and
- Assessing time frames and procedures for implementing new initiatives, such as:
  - Plastic bags (for Blue Box overflow and use in organics) (estimated 1 to 2 years); and
  - Multi-residential recycling and organics (estimated 1 to 3 years).

## *Reduction and Re-use*

The Strategy includes an emphasis on waste reduction and re-use. Backyard composting will be encouraged through the enhanced promotion and education activities, including providing subsidized composters and a "Master Composting" training program.

The benefits of re-use will be sought through the co-promotion of re-use programs and activities with local non-profit groups with the establishment of materials exchange online database or service.

The Region and municipalities will encourage their residents to move towards waste minimization. Targeted education programs will aim to foster more sustainable purchasing habits among consumers, while municipal procurement will be encouraged to adopt policies that favour products that are durable, renewable, recyclable and/or are recycled or contain recycled content.

The Region will work also with local municipalities to establish a material landfill ban for materials that can be recycled.

The additional diversion potential for these activities is considerable, with the added benefit of potentially significant reductions in the volume of material requiring collection and processing. The estimated cost for this initiative is $75,000 to $150,000 per year in social marketing and enhanced promotion and education.

## *Diversion*

### Residential Construction and Demolition Waste

Quantities of construction and demolition (C&D) waste from residential homes are not typically managed by the municipalities and will not be managed through curbside programming. Residents are usually required to manage these materials themselves.

The amount of C&D waste generated is approximately 1.5% of the waste stream and holds considerable potential for reuse. Opportunities and tools for encouraging reuse could be targeted with the enhanced education and outreach program. This material could be handled through the Region's Community Environmental Centres or managed in partnership with not for profit organizations like Habitat for Humanity or online material exchanges.

Targeting residential renovation waste could increase diversion by another 5% with an annual operating cost of approximately $600,000 per year. The estimated timing for this initiative is 2 to 5 years.

### Small Quantity Waste Generators

The Committee identified potential diversion opportunities if the municipalities were to provide a service for recyclable materials to small generators in the industrial, commercial and institutional (IC&I) sectors. This includes curbside collection from Business Improvement Areas (BIA), the use of CECs by small quantity waste generators, and the establishment of online materials exchange services such as those available in other

jurisdictions [10].

Although most IC&I waste is not under the control of the municipalities, some of the Committee members were of the opinion that municipalities should take a lead role and establish opportunities to divert waste from all sectors that generate waste within York Region's borders. The group determined that while a motherhood approach should be taken to maximize diversion from all sectors within its municipal boundaries, further research is required to determine the potential number of facilities, tonnages, types of programs and costs that would be connected to this type of initiative before giving it further consideration. The estimated timeframe for completing this research is 1 to 3 years.

**Multi-Residential Recycling and Organics**

Addressing recycling and organics collection issues in multi-residential buildings will be required to maximize waste diversion opportunities. One option is to target the multi-residential sector through the enhanced education and outreach initiative in order to overcome inherent issues, such as transience and increased difficulty in communicating directly with residents. An organics collection program can also be added in addition to maximizing the output of recyclables from this sector. Some municipalities in York Region are currently doing this.

Another option is to consider tools or approaches that encourage architectural designs that accommodate waste diversion activities. This can be accomplished in part through initiating policies that promote the inclusion of these tools into the regulatory planning environment such as the Region and local municipal Official Plans.

These approaches are estimated to increase diversion of recyclables by 1.5% and organics by 2%. The projected roll-out of these initiatives is 2 to 3 years and would include capital costs of approximately $100,000 and operating costs of between $900,000 to $1,300,000 per year.

### 2.4.5 Suggested Implementation Schedule

Tables 3 and 4 show the updated implementation schedules for the priority initiatives and future considerations. While the purpose of the schedule identified in the table below is to drive the implementation of the initiatives outlined in this document, it is important that it

[10] Examples of online materials exchange services include Freecycle.org (available in York Region) the Nova Scotia Materials exchange (www.nsmaterials.com), , and www.iwastenot.com (only available in the United States).

remains flexible to adapt to future political, social and regulatory that may change the current conditions on which the initiatives were based on.

**Table 3: Suggested Implementation Schedule of Priority Initiatives**

| Priority Initiatives | Year | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
| CECs | | | | | | | | | |
| • *Vaughan* | | | | | | | | | |
| • *Additional CECs* | | | | | | | | | |
| Bag limits and Financial Incentives | | | | | | | | | |
| Enhanced Promotion and Education | | | | | | | | | |
| Infrastructure Development | | | | | | | | | |
| • *Reliable Organics Processing* | | | | | | | | | |
| • *Processing Small ICI* | | | | | | | | | |
| • *Single Stream Recycling* | | | | | | | | | |
| Advocacy | | | | | | | | | |
| Textiles Diversion | | | | | | | | | |
| Source Separated Organics | | | | | | | | | |
| Blue Box Optimization | | | | | | | | | |
| Yard Waste Special Collection | | | | | | | | | |
| WDO Initiatives | | | | | | | | | |
| Diversion in Public Places | | | | | | | | | |

**Table 4: Suggested Implementation Schedule of Future Initiatives**

| Future Initiatives | Year | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
| Mandatory Recycling By-law | | | | | | | | | |
| Continued Research | | | | | | | | | |
| • *Plastic Bag Issues* | | | | | | | | | |
| • *Recycling Containers* | | | | | | | | | |
| • *Automated Collection* | | | | | | | | | |
| Waste Reduction and Re-use | | | | | | | | | |
| Small Quantity ICI | | | | | | | | | |
| Residential Renovation Waste | | | | | | | | | |
| Multi-Residential | | | | | | | | | |

### 2.4.6 Component Cost

Once the Strategy updates receive approval from local and Regional councils, further work will be required by the various municipal staff to develop detailed cost/benefit analyses, implementation schedules, and budget estimates for each of the approved initiatives. These more detailed evaluations of the various initiatives will, in most instances, need to be submitted to the appropriate municipal Councils for final endorsement before implementation can proceed.

Table 5 below identifies the approximate additional tonnages that can be diverted through the updated waste diversion initiatives and the associated incremental operating costs. The approximate increase of the annual waste diversion program operating cost due to implementation of the priority initiatives is $13 million to $21 million. In addition to annual operating costs, the capital cost required to develop Community Environmental Centres and new and additional capacity for recyclable and organic material will be approximately $20 million to $35 million over the Strategy's planning period.

**Table 5: Anticipated Program Initiative Incremental Tonnage and Cost**

| Option | Timing | Additional Diverted Tonnage | Annual Operating Cost | |
|---|---|---|---|---|
| | | | Total | Per Unit* |
| Source Separated Organics Diversion | Implemented | 22,500 | $11,500,000 - $17,000,000 | $38-$56 |
| Optimized Blue Box Diversion | Ongoing | 15,600 | $950,000 - $1,500,000 | $3.10-$5 |
| Enhanced Communication and Public Outreach | Ongoing | 3-5% increase in tonnage of operating diversion programs | $720,000- $1,200,000 | $2.40-$4 |
| Textiles Diversion | Immediate Implementation | 5,832 | N/A | |
| Use of CECs | Ongoing | 5,000 | $705,000 – $1,400,000 | $2.30-$4.60 |
| Expansion of Regional Processing Infrastructure | Immediate Implementation | N/A | Included in the cost to optimize Blue Box | |
| Improved Yard Waste Diversion | Implemented | 7,000 | $1,015,000- $2,000,000 | $3.40-$6.60 |
| Use of Bag Limits & Financial Incentives | For Future Consideration | 16,200 | N/A | |
| Use of Mandatory Recycling By-laws | For Future Consideration | 6,000 | $200,000- $400,000 | $0.70 -$1.30 |
| Expanded Advocacy Efforts by the Region | For Future Consideration | N/A | N/A | |
| Diversion in Public Spaces (Pilot) | For Future Consideration (pilot in 2009) | 15,000 | $90,000 - $130,000 | $0.30 – $0.40 |
| Waste Reduction | For Future Consideration | 16,000 | $75,000 - $150,000 | $0.25 - $0.50 |
| Multi-residential | For Future Consideration | 9,500 | $900,000 - $1,300,000 | $3 - $4.30 |
| Residential C&D Waste | For Future Consideration | 15,000 | $600,000 | $2 |

*Total number of single family and multi-residential units stated in Table 1, York Region Population Forecast

## *2.5 Roles and Responsibilities*

The implementation and performance of the waste diversion programs will be monitored by the IWMDC, as it is made up of waste management department representatives from the nine local municipalities and York Region. The Region's waste management business unit plans, finances and delivers environmentally sound solid waste diversion and disposal programs that ensure the public's health and safety. This includes organic waste and blue

box processing, management of public drop-offs, and transportation and disposal of municipally-collected waste. The nine local municipalities are responsible to plan, finance and deliver collection programs for garbage, blue box materials, and organics that ensure public health and safety.

This IMWDC's role will be to:

- Review the effectiveness of the Waste Diversion Strategy at a minimum every four to five years, or sooner if required;
- Recommend updates to the Strategy as required to maximize diversion of waste from disposal as required;
- Identify potential joint projects that require Regional and/or inter-municipal coordination; and
- Report their results back to their respective Municipalities.

This group will meet at a minimum of twice each year to review progress towards implementation of the Strategy, and receive reports on the effectiveness of the programs delivered. This Strategy will be formally reviewed every four to five years as need; however, the Inter-municipal Waste Diversion Committee members will be expected to report annually to their respective Councils on its achievements for the past year and to recommend actions for the following year.

Delivery of the Strategy will be the joint responsibility of the partners. A Terms of Reference (ToR) will provide clear direction for all parties on their specific roles and responsibilities. In particular, municipal responsibilities will include:

- Delivering public waste collection programs; and
- Delivering instructional/educational information on waste collection programs to the public.

The Region's responsibilities will include:

- The development and management of required infrastructure;
- Conducting umbrella promotion and education activities to support waste processing, disposal and social marketing; and
- Supporting municipalities with promotion and education resources; and
- Lobby manufacturers and senior levels of government on waste management issues such as types of materials used for the sale of goods and extended producer responsibility.

Table 6 below provides a summary of the Region and the local municipalities' respective roles and responsibilities.

**Table 6: Roles and Responsibilities**

| Role | Responsibility | |
|---|---|---|
| | Region | Municipalities |
| Waste Diversion Strategy planning | ✓ | ✓ |
| Planning and management for waste processing | ✓ | |
| Management of public drop-off facilities | ✓ | ✓ |
| Development and delivery of pilot projects | ✓ | ✓ |
| Development and management of infrastructure required to deliver waste diversion initiatives | ✓ | ✓ |
| Conducting promotion and education activities to support waste diversion initiatives | ✓ | ✓ |
| Delivering public waste collection programs | | ✓ |
| Transportation and disposal of municipally-collected waste | ✓ | |

# Appendix A: Glossary of Terms

| | |
|---|---|
| **BIA** | Business Improvement Area |
| **C&D Waste** | Construction and demolition waste, such as wood scraps, shingles, and bricks. |
| **Capture (local municipal capture) Rate**[11] | IC& I and residentially collected (including curbside, drop-off depots and special events) blue box materials, source separated organic materials, yard wastes, household hazardous wastes, electronics, other recyclables and municipally sponsored re-use.<br><br>Divided by:<br><br>All of the above and materials disposed at landfill or used for energy recovery.<br><br>This definition does not account for processing residues and is referred to by some Local Municipalities as a measure of community participation in diversion efforts. |
| **Curbside Collection Rate** | IC& I and residentially collected (curbside only) blue box materials, source separated organic materials and yard wastes.<br><br>Divided by:<br><br>All of the above and materials disposed at landfill or used for energy recovery.<br><br>Note: This definition does not account for processing residues and is referred to by some Local Municipalities as a broad gauge of collection system contributions to diversion efforts. |

[11] Source: Report No. 2 of the Solid Waste Management Committee. Regional Council Meeting of March 26, 2009.

| | |
|---|---|
| **Disposal** | The final disposition of waste material that is not recycled or composted. For example, this may include the landfilling of residual waste, or the safe disposal of non-recyclable or non-reusable hazardous household wastes. |
| **Diversion From Landfill Rate**[12] | Residentially collected (including curbside, drop-off depots and special events) and processed: blue box materials, source separated organic materials, yard wastes, household hazardous wastes, electronics and other recyclables as well as backyard composting, bottle returns, materials used for energy recovery (i.e. Dongara and Durham York EFW) and Municipally sponsored re-use, less all landfilled processing residues.<br><br>Divided by:<br><br>All of the above and materials disposed at landfill only (including landfilled processing residues).<br><br>Note: This is referred to by York Region and is the only rate which considers energy from waste as diversion. This formula is used to assess performance related to the diversion goal stated in the Joint Waste Diversion Strategy of 65% diversion from landfill by 2010. |
| **Diversion Rate** | See:<br>• Waste Diversion Ontario Diversion Rate<br>• Diversion From Landfill Rate |
| **Fibres** | Typically refers to paper, boxboard and cardboard (i.e., paper fibre) products. |
| **Household Hazardous Waste** | Includes chemicals used in the home and other materials that require special handling or processing for disposal or recycling, for example, paint, household cleaners, used oil and filters, batteries, etc. |

[12] Source: Ibid.

| | |
|---|---|
| **IC&I** | Industrial, Commercial and Institutional |
| **IC&I Waste** | The solid waste generated by the Industrial, Commercial and Institutional sector. |
| **MRF** | Material Recovery Facility. Materials collected for recycling are brought to the MRF to be sorted, processed (e.g., shredded, crushed, compacted, etc) and shipped to market. |
| **PET** | Polyethylene terephthalate plastic, commonly used to make plastic bottles. Recognized  by the symbol |
| **Residential Waste** | The solid waste originating from households or multi-residential buildings, including paper, food and beverage containers, food products, vegetation and garbage from daily activities including goods such as old appliances, carpets or furniture. This does *not* include home remodeling wastes or automobile wastes such as tires and car parts. |
| **Residuals, or Residual Waste** | The waste that cannot be eliminated or diverted through composting or recycling and ultimately requires disposal. |
| **Small Quantity Waste Generators** | Those commercial businesses and institutions that can comply with local municipal waste collection policies. |
| **SSO** | Source Separated Organics. Typically consists of food and other compostable waste (e.g., non-recyclable paper, plant trimmings, etc). |
| **Three-Stream Waste Management Systems** | A waste management system where waste is sorted into three streams, including recyclables, organics and garbage. |
| **Waste Diversion** | Reducing the amount of waste requiring disposal through reduce, reuse and recycling. |

| | |
|---|---|
| **Waste Diversion Ontario Diversion Rate**[13] | Residentially collected (including curbside, drop-off depots and special events) and processed: blue box materials, source separated organic materials, yard wastes, household hazardous wastes, electronics and other recyclables as well as backyard composting, bottle returns and Municipally sponsored re-use, less all processing residues.<br><br>Divided by:<br><br>All of the above and materials disposed at landfill or used for energy recovery (including all processing residues).<br><br>York Region has adopted this as its primary diversion metric as it is the only formally recognized, Province-wide and audited standard diversion rate. Calculations of the Waste Diversion Ontario Diversion Rate performed by York or any party other than Waste Diversion Ontario can be considered as estimates only. |
| **Waste Reduction** | Practices that avoid the generation of waste, such as purchasing products that have less packaging, or using a reusable coffee mug instead of a disposable paper cup. |
| **Waste Minimization** | The process and the policy of reducing the amount of waste produced by a community. |

[13] Source: Ibid.

# Appendix B: Existing Municipal Programs and Frequency of Collection as of January 2009

| Waste Management Program | *Jurisdiction* | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Aurora | East Gwillimbury | Georgina | King | Richmond Hill | Markham | Newmarket | Vaughan | Whitchurch - Stouffville | York Region |
| Garbage | Every other week | Every other week | Every other week | Every other week | Every other week | Every other week | Every other week | Every other week | Every other week | Transfer & disposal |
| Blue Box | Weekly | Weekly | Weekly | Weekly | Weekly | Weekly | Weekly | Weekly | Weekly | Processes material |
| Bag limits | 3 | 2 | 1 free item/bag | 2 free items/bags, plus another 3 with tags | 4 free items/bags | 3 free items/bags | 3 free items/bags plus 3 tagged items/bags | 3 free bags/bulky items | 3 free items/bags | NA |
| Financial Incentives | No | No | 1 free bag all others $1/item/bag | 2 free items/bags then $1/item/bag up to a maximum of 5 bags total | $2/item/bag above 4-item/bag limit | Bag above 3-item/bag limit must be tagged | $2.40 a tag for additional items/bags | $1/items/bags over 3 | $2/item/bag above 3-item/bag limit | NA |
| Yard Waste | Every 2nd Monday, Apr to Nov | Every 2nd Monday, Apr to Nov | Every 2nd Monday, Apr to Nov | Every 2nd Monday, Apr to Nov | Every 2nd Monday, Apr to Nov | Every other week Apr to Nov | Every other week Apr to Nov | Weekly Apr - May, Oct - Nov; bi-weekly Jun - Oct | Every other week Apr to Nov | Processes material |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Promotion & Education | Waste Collection Calendar; Website; Recycling guide | Waste Collection Calendar; brochure; website | Waste Collection Calendar; Reference guide; website | Waste Collection Calendar; website | Engineering and Public Works calendar; website; brochures, 2 newsletters per year, ads in papers, school presentations, displays at events | Waste Collection Calendar; Apartment recycling guide; brochures; newsletters; website; school presentations; display; newspaper articles; branding | Waste Collection Calendar; website, notices and ads in local newspaper | Garbage & recycling calendar; brochures; newsletters; door hangers; website; mobile signs; displays; newspaper articles; branding; door to door outreach | Waste Collection Calendar; website, notices and ads in local newspaper | Brochures; displays; video; website |
| Organics | Weekly | Weekly | Weekly | Weekly | Weekly | Weekly | Weekly | Weekly | Weekly | Processes material |

# Appendix C: Initiative Scoring

## Scores - Priority Initiatives*

| Rank | Priority | % Waste Diverted | Proven Results | Reliable Market/End | Economically Feasible | Accessible to Public | Demonstrates Leadership | Total |
|---|---|---|---|---|---|---|---|---|
| **1** | Infrastructure Development | 5 | 5 | 5 | 4 | 5 | 5 | **29** |
| **2** | Seasonal Yard Waste Collection | 4 | 5 | 5 | 5 | 5 | 5 | **29** |
| **3** | Source Separated Organics | 5 | 5 | 4 | 4 | 5 | 5 | **28** |
| **4** | Optimized Blue Box | 4 | 5 | 4 | 5 | 5 | 5 | **28** |
| **5** | Bag Limits/ Financial Incentives | 3 | 5 | 5 | 5 | 5 | 5 | **28** |
| **6** | Enhanced Comm. & Public Outreach | 3 | 5 | 5 | 5 | 5 | 5 | **28** |
| **7** | CECs | 3 | 5 | 4 | 5 | 5 | 5 | **27** |
| **8** | Advocacy | 2 | 4 | 5 | 5 | 5 | 5 | **26** |
| **9** | Diversion of Textiles | 2 | 3 | 4 | 5 | 5 | 5 | **24** |
| **10** | Implement WDO Initiatives | 3 | 3 | 3 | 5 | 5 | 5 | **24** |

* Scored from 1 to 5, where 1 is of lowest priority and 5 is highest.

## Scores – Future Considerations*

| Rank | Priority | % Waste Diverted | Proven Results | Reliable Market/End | Economically Feasible | Accessible to Public | Demonstrates Leadership | Total |
|---|---|---|---|---|---|---|---|---|
| **1** | Multi-residential Recycling | 4 | 3 | 4 | 3 | 5 | 4 | **23** |
| **2** | Mandatory Recycling By-law | 2 | 4 | 4 | 5 | 5 | 3 | **23** |
| **3** | Small Quantity IC&I | 2 | 3 | 4 | 4 | 5 | 5 | **23** |
| **4** | Residential Renovation Waste | 2 | 3 | 2 | 4 | 5 | 5 | **20** |
| **5** | Public Space Recycling/Composting | 3 | 2 | 3 | 3 | 5 | 4 | **20** |
| **6** | Continued Research | 3 | 3 | 3 | 3 | 3 | 3 | **18** |

* Scored from 1 to 5, where 1 is of lowest priority and 5 is highest.

# Appendix D: Municipal Pilot Projects Undertaken Since 2006

Town of Aurora

- Downtown Yonge Street Garbage Cans Project;
- Resident Compliance and Participation Project;
- Turtle Island Compliance Project;
- Town Facilities Project;
- 3 Bag Limit Study Project.

Town of East Gwillimbury

- Open space recycling program in parks;
- The Town now provides biodegradable doggy "poop and scoop" bags in certain parks for pet waste.

Town of Georgina

- Recycling At Special Events And Public Buildings;
- Open Space Recycling (Soccer Fields and Baseball Diamonds).

Township of King

- Alternative Blue Box Container Study;
- Schomberg Blue Box Study;
- Yard Waste Drop Off Depot And Transfer Study.

Town of Newmarket

- Joint Pilot Project (Town and Region) to provide three stream collection in Parks and Trail System
- Bag Limit Audit in 2008

Town of Richmond Hill

- Alternative Blue Box Container Study;
- Front End Recycling in Apartment Buildings;
- Organic Collection in Apartment Buildings;
- Organic Collection in Town facilities and offices;
- 200 Home Participation Study.

York Region

- Plastic Bag Take Back Project

Whitchurch-Stouffville

- Open Space Recycling (Special events and parks)
- Multi-residential Recycling
- BIA Pilot Project

# Appendix E: Joint Waste Diversion Strategy (2006)