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JOINT WASTE DIVERSION STRATEGY 2009 UPDATE

(Regional Council at its meeting on December 16, 2009, amended Attachment 1, to this report as follows:

Attachment 1, Table 1, York Region Population Forecast, to be revised by staff to reflect the most recent available population numbers.)

The Environmental Services Committee recommends:

- 1. Receipt of the presentation by Brian Jones, Director of Public Works Services, Town of Newmarket; and**
- 2. Adoption of the recommendations contained in the following report dated November 11, 2009, from the Commissioner of Environmental Services.**

1. RECOMMENDATIONS

It is recommended that:

1. Council approve the Joint Waste Diversion Strategy 2009 Update.
2. The Regional Clerk be directed to notify the Region's nine local municipalities of Council's approval.

2. PURPOSE

This report provides an overview of the updated Joint Waste Diversion Strategy which was developed in cooperation by the Local and Regional municipal staff in 2006. The Joint Waste Diversion Strategy Update presents progress on key initiatives of common interest to the local municipalities and the Region in achieving near-term waste diversion goals (i.e., approximately 5 years) and presents a strong foundation for the development of a long term Integrated Waste Management Plan.

3. BACKGROUND

In 2006, waste management staff from York Region and the nine Local Municipalities developed a Joint Waste Diversion Strategy. The objective of the 2006 Strategy was to design a waste diversion system that would divert 65% of the residential waste stream from disposal over the short term and increase this rate to greater than 70% over the

strategy's 10-year planning period (based on tonnages from the region's curbside collection programs and drop off facilities).

Updating the Strategy drives continuous improvement

Since the Strategy's adoption, the Region and its local municipalities have collaborated on research and implementation of new waste diversion programs that have improved the diversion and management of waste in the Region at a faster pace than was forecast in the Strategy. Furthermore, considerable change to the provincial waste management regulatory and policy environment has taken place over the last few years. For these reasons, a review of the Strategy was undertaken in 2009 to assess the original goals and identify new initiatives that could be incorporated to meet the Strategy targets. The review resulted in the identification of following items:

- Updates to the original guiding principles
- Acknowledgement of successes since adoption of the 2006 Strategy
- Updating the list of priority and future waste diversion initiatives
- Clarification of the roles and responsibilities of the 10 partners
- Direction to review the Strategy every four to five years or earlier if required

Speaking a Common Language on Waste Diversion

In the March 2009 Report to Solid Waste Management Committee, staff presented a series of definitions of the term "diversion" to reduce confusion surrounding the many disparate uses of the term. The diversion definitions presented provide flexibility to reflect different perspectives and view points of waste management, while still providing a common basis for understanding. York Region typically reports on diversion in terms of the "WDO Diversion Rate", which reflects the Province-wide standard reported for all communities and accounts for losses such as processing residue. York also reports on diversion in terms of "Diversion from Landfill", which reflects Council's commitment to energy recovery from solid waste as a residual waste management alternative preferable to landfill.

Some local municipalities express diversion in terms of "Local Municipal Capture", which considers all those materials collected and does not account for processing residues. Local Municipal Capture provides a good gauge of community participation in diversion programs.

For the purpose of the 2009 Joint Waste Diversion Strategy Update, York's local municipalities expressed a strong preference for using the definition of Local Municipal Capture as the diversion measure throughout the document.

The following graphically represents the Local Municipal Capture Rate:

Local Municipal Capture Rate

IC&I and Residential: Curbside Collection + Municipal
and York Region Drop-off Depots + Special Events



Legend



4. ANALYSIS AND OPTIONS

Staff identified waste diversion options to increase Local Municipal Capture

The focus of the 2006 Strategy was primarily on opportunities for diverting waste from disposal through recycling and composting. As part of the 2008/2009 review, staff acknowledged that greater focus on reduction and reuse, in accordance with the waste management hierarchy, should be realized prior to recycling and composting. This hierarchy, which was added to the updated Strategy, also recognizes the recovery of energy from residuals prior to final disposal in landfill. However, energy recovery and

residual disposal is not part of the joint waste diversion strategy; these waste management strategies will be considered in the Region’s long term Integrated Waste Management Plan.

Staff from the 10 municipalities reviewed the original Strategy initiatives and assessed them based on the following factors:

- current and prospective regulatory environment
- current curb-side diversion rate
- updated guiding principles and
- waste management hierarchy

Based on this assessment, an updated list of priority initiatives was developed which will make a direct contribution to diversion. When implemented, these priority initiatives are anticipated to increase Local Municipal Capture to 70% by 2016.

Several other potentially beneficial actions were identified which while not providing a direct contribution to diversion, were categorized as warranting future consideration.

Table 1 below provides a description of the major waste diversion options identified by staff from the ten municipalities and included in the strategy update. Waste diversion initiatives implemented since the 2006 Strategy such as enhanced blue box recycling and source separated composting represent the “low hanging fruit” and have provided the greatest gains in waste diversion. Moving forward, increasing diversion in York Region will become more challenging: improvements to existing programs and introduction of new initiatives will result in much smaller diversion increases and higher program costs. To ensure we are getting value for investment in our diversion programs we must continue to pursue extended producer responsibility for reducing the persistence of non-recyclable and hard-to-recycle products from the market place.

Table 1
 Recommended Components of the Joint Waste Diversion Strategy
 (2009 Update)

| Priority Initiatives | Future Considerations |
|----------------------|---|
| | <p>Reduction</p> <ul style="list-style-type: none"> • Backyard composting ^b • Fostering a culture of minimal to no waste^b • Municipal green purchasing ^b |

| Priority Initiatives | Future Considerations |
|--|--|
| <p>Supportive</p> <ul style="list-style-type: none"> • Community Environmental Centres ^a • Bag limits/financial incentives • Enhanced Communication and Public Outreach • Infrastructure development • Advocacy | <p>Supportive</p> <ul style="list-style-type: none"> • Mandatory Recycling By-law • Continued research into new initiatives and technologies to increase Local Municipal Capture |
| <p>Re-use</p> <ul style="list-style-type: none"> • Diversion of Textiles | <p>Re-use</p> <ul style="list-style-type: none"> • Materials exchange on-line service ^b |
| <p>Diversion</p> <ul style="list-style-type: none"> • Source Separated Organics • Optimized Blue Box • Seasonal Collection of Yard Waste ^a • Implementation of WDO Initiatives • Waste Diversion in Public Places | <p>Diversion</p> <ul style="list-style-type: none"> • Small quantity IC&I waste generators • Residential construction & demolition waste • 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.

Figure 1 below shows that the priority initiatives listed above could increase Local Municipal Capture to 70%, and illustrates the longer-term potential to achieve 90% Local Municipal Capture relying on future initiatives extending beyond the time-frame of the Joint Waste Diversion Strategy Update.

Many of the waste management priority initiatives listed in Table 1 above were also identified as priorities in the 2006 strategy and have now been updated to reflect current conditions. Updated priority initiatives include ongoing optimization of the Blue Box program. New initiatives added to the priority list include seasonal collection of yard waste (a future consideration in the 2006 strategy), waste diversion in public spaces and implementation of initiatives driven by future reforms to the Ontario Waste Diversion Act and its regulations.

Many of the future considerations identified in Table 1 were also listed in the 2006 strategy. Future considerations are those actions and programs that the group felt should be considered for implementation but were seen as not contributing directly to diversion within the near term time frame of the Update. This list has also been updated to reflect current conditions, and five new future considerations have been added, including:

- backyard composting
- fostering a culture of waste minimization
- municipal green purchasing

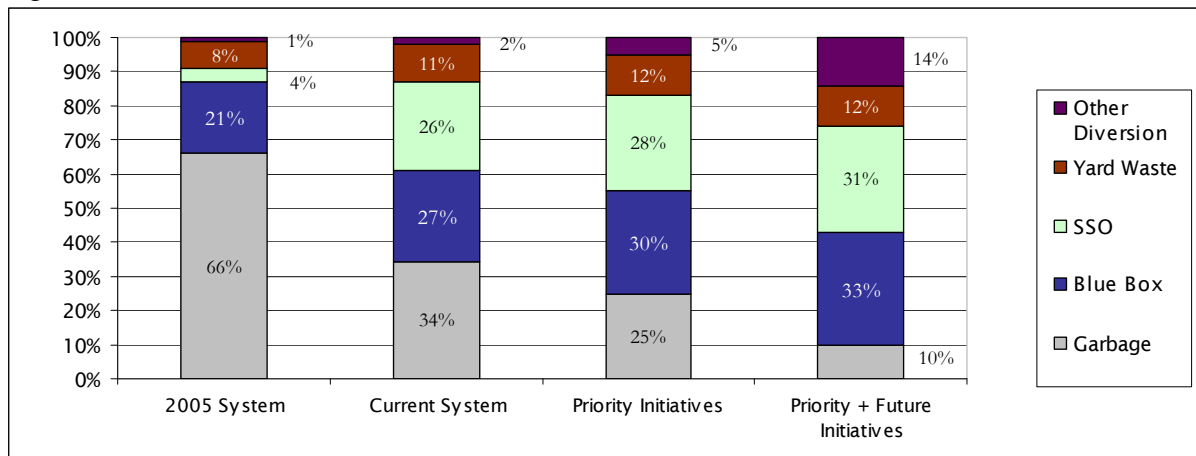
- materials exchange on-line service and
- multi-unit residential recycling and organics

While the Region’s overall housing stock currently is predominated by single-family dwellings, it is recognized that there is a strong and growing trend towards multi-unit apartments. Some of the Region’s Local Municipalities are already implementing increased collection from multi-unit residential dwellings while others are anticipating this trend for the future. Regional and Local Municipal staff will collaborate to be able to respond effectively to this changing characteristic of York Region’s waste management customer profile. This is an important issue that will be one of several key points of focus for development of the Regional Integrated Waste Management Plan.

Targeting 70% Local Municipal Capture by 2016

When the 2006 Waste Diversion Strategy was drafted, the municipalities in York Region were diverting approximately 34% of waste from disposal. Now a few years into implementation of the original strategy, the municipal recycling and organic collection programs are diverting more than 60% based on the definition of Local Municipal Capture. Figure 1 below illustrates the waste management system of 2005, the current waste management system, a future system that includes the priority initiatives, and lastly a system that includes potential diversion from both the priority initiatives and those initiatives that have been designated for further consideration.

Figure 1: Past, Current and Potential Future Diversion*



*Note: Local Municipal Capture is used as the measure of waste diversion in the context of the Joint Waste Diversion Strategy Update.

Strategy targets have been based on today’s regulatory policies and do not account for future conditions outside municipal control. While implementation of both the priority and future initiatives suggest the potential to drive Local Municipal Capture close to 90%, it should be noted that the current system has already implemented programs that are proven to divert large quantities of waste. New waste diversion initiatives will net smaller diversion tonnage and require greater effort to maximize their performance.

Increasing Local Municipal Capture will concurrently increase the Region's WDO diversion rate.

Building upon success of the Joint Waste Diversion Strategy, towards a Long Term Integrated Waste Management Plan.

Building upon the success of the Joint Waste Diversion Strategy, a Long Term Integrated Waste Management Plan will address a full spectrum of waste management options integrating local solutions enabling York Region to:

- Respond to future legislation
- Adapt to increasing Provincial diversion targets
- Prepare for population growth including servicing increased multi-residential units across the Region

This plan will look at York Region's waste management business as a whole, including the use of the fourth "R", energy recovery, as one of the Region's key residual waste management options. The goals of the plan will align with those set out in the Region's Official Plan, Sustainability Strategy and Vision 2026. This document will also discuss the Ministry of the Environment's current review of the Waste Diversion Act and the Blue Box Program Plan, and will explore how the Region's waste management business can align with the outcome of these reforms as we move forward into the era of increasing extended producer responsibility. It is anticipated that in 2010 York Region staff will carry out a series of stakeholder consultations to assist with development of a terms of reference for the Integrated Waste Management Plan. The total budget for the development of the plan has been included in the 2010 Budget.

5. FINANCIAL IMPLICATIONS

The Regions diversion programs have quickly capitalized on the significant, lower cost diversion opportunities (i.e. "low hanging fruit"). Future increases in diversion rates are expected to require greater effort and greater expenditures yielding proportionately smaller gains.

While the Strategy document includes preliminary cost estimates for each of the various diversion initiatives considered, these estimates serve primarily as a basis for relative comparison and evaluation of diversion options. More detailed budgetary estimates will be prepared for each of the specific diversion initiatives and included in the corresponding annual and outlook capital and operating budgets when brought forward for Council approval.

6. LOCAL MUNICIPAL IMPACT

The Joint Waste Diversion Strategy Update was developed jointly amongst the nine Local Municipalities and the Region. The primary purpose of the initiative was to establish a strategy that could be supported by all ten jurisdictions to coordinate and maximize waste diversion efforts in York Region. Implementation of the options included in the updated strategy is expected to have significant cost and service level implications to York Region and local municipal waste management programs.

A report template was prepared to assist each local municipality communicate the results of the updated strategy to their respective Councils.

7. CONCLUSION

Recent changes to the waste management programs within York Region and the various waste diversion initiatives promoted by the province created a need to update the Joint Waste Diversion Strategy to reaffirm its goals and objectives and adjust to current conditions. During the Strategy's review, it has been shown to be a strong example of regional/municipal cooperation. The Strategy and its update are the result of a successful collaborative process between the Region and its nine local municipalities, and one that has achieved its short term target, is on track to reaching its long-term target, and has made significant strides toward environmental protection in the Region.

The Strategy update has confirmed and updated the original goals and objectives of the 2006 Strategy and has updated priority and future waste diversion initiatives to reflect current conditions. This update will help to ensure the Region and its nine municipal partners build on recent successes as they continue to increase waste diversion and protect quality of life in the Region.

The diversion success enjoyed by the Region has resulted from the principles in the Joint Waste Diversion Strategy. This update builds on these principles and establishes a strong foundation for the Region to move forward with development of its broad based, long term Integrated Waste Management Plan to guide future success. As achieving future waste diversion becomes more and more challenging it will become increasingly important to pursue innovative approaches providing greater sustainability benefits. The Region will continue to lead the way by embracing important waste management options such as energy recovery.

For more information on this report, please contact Laura McDowell, Director, Environmental Promotion and Protection at (905) 830-4444 Ext. 5077.

The Senior Management Group has reviewed this report.

(The attachment referred to in this clause is attached to this report).

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

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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 disposal¹. 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/3epsfcc37krhykeqssymbcpupwqck55bcujyrohrnfgfuiyyuipvuxzi5euhd36qln22h3tmqfqiisqku5m77np3e/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:

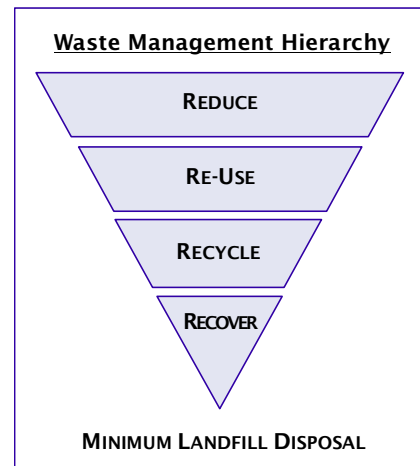
- Development of the McCleary Court Community Environmental Centre;
- Increased waste diversion;
- Additional recyclable materials added to the Blue Box;
- Collection of household organics in each local municipality;
- Increased blue box collection frequency;
- Increased recycling in the multi-residential 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 Hierarchy² (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 tonnes³ 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 identified in the York Region Official Plan.

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

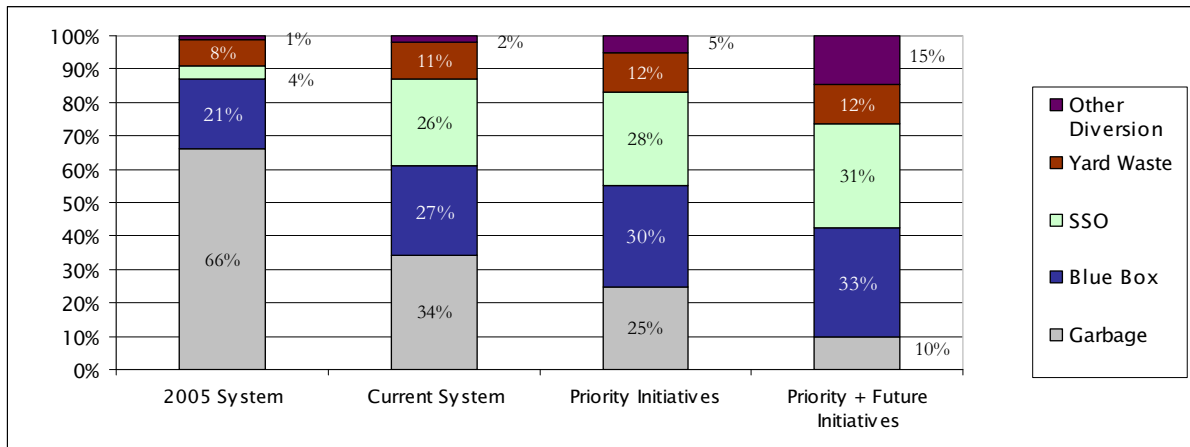
1. The priority initiatives do not reach the waste diversion target of 70% within the 10 year Waste Diversion Strategy implementation period; and/or
2. Implementation of the priority initiatives is completed before the 10 year planning horizon is reached.

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 system⁴ 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 Region 2008 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 2016⁵. 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 disposal⁶. 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 |
|---|---|
| <p>Supportive</p> <ul style="list-style-type: none"> • Community Environmental Centres • Bag limits/financial incentives • Enhanced Communication and Public Outreach • Infrastructure development • Advocacy <p>Re-use</p> <ul style="list-style-type: none"> • Diversion of Textiles <p>Diversion</p> <ul style="list-style-type: none"> • Source Separated Organics • Optimized Blue Box • Seasonal Collection of Yard Waste ^a • Implementation of WDO Initiatives ^b • Waste Diversion in Public Places ^b | <p>Supportive</p> <ul style="list-style-type: none"> • Mandatory Recycling By-law • Continued research into new initiatives and technologies to reach beyond the projected 65% diversion target <p>Reduction</p> <ul style="list-style-type: none"> • Backyard composting ^b • Fostering a culture of minimal to no waste ^b • Municipal green purchasing ^b <p>Re-use</p> <ul style="list-style-type: none"> • Materials exchange on-line service ^b <p>Diversion</p> <ul style="list-style-type: none"> • Small quantity IC&I waste generators • Residential construction & demolition waste • 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 a 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 household 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 stream⁷. In 2008, the organics program collected 86,300 annual tonnes⁸ 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 tonnes⁹. 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 | | | | | | | | | |
| • <i>Vaughan</i> | | | | | | | | | |
| • <i>Additional CECs</i> | | | | | | | | | |
| Bag limits and Financial Incentives | | | | | | | | | |
| Enhanced Promotion and Education | | | | | | | | | |
| Infrastructure Development | | | | | | | | | |
| • <i>Reliable Organics Processing</i> | | | | | | | | | |
| • <i>Processing Small ICI</i> | | | | | | | | | |
| • <i>Single Stream Recycling</i> | | | | | | | | | |
| 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 | | | | | | | | | | |
| • <i>Plastic Bag Issues</i> | | | | | | | | | | |
| • <i>Recycling Containers</i> | | | | | | | | | | |
| • <i>Automated Collection</i> | | | | | | | | | | |
| 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 IWMD, 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) Rate¹¹ | <p>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.</p> <p>Divided by:</p> <p>All of the above and materials disposed at landfill or used for energy recovery.</p> <p>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.</p> |
| Curbside Collection Rate | <p>IC& I and residentially collected (curbside only) blue box materials, source separated organic materials and yard wastes.</p> <p>Divided by:</p> <p>All of the above and materials disposed at landfill or used for energy recovery.</p> <p>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.</p> |

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 Rate¹² 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.

Divided by:

All of the above and materials disposed at landfill only (including landfilled processing residues).

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:

- Waste Diversion Ontario Diversion Rate
- 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 <i>not</i> 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
Rate¹³**

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.

Divided by:

All of the above and materials disposed at landfill or used for energy recovery (including all processing residues).

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 | <i>Jurisdiction</i> | | | | | | | | | |
|--------------------------|------------------------------|------------------------------|------------------------------------|---|-------------------------------------|---|--|--|-------------------------------------|---------------------|
| | 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; 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 | 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)