

A Waste Recycling Strategy for
The Municipality of North Grenville
FINAL

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Prepared with assistance from
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Appendix 1 Waste Recycling Option Scores

1.0 Introduction

This Waste Recycling Strategy (Strategy) was initiated by the Municipality of North Grenville (Municipality) to develop a plan to increase the efficiency and effectiveness of its recycling program and to maximize the amount of Blue Box material diverted from disposal. This plan will be updated at least every five years.

Specifically, the purpose of this Strategy is to:

- Maximize Best Practices funding;
- Identify and demonstrate continuous improvements toward Best Practices;
- Clarify long term Blue Box diversion goals; and
- Identify cost effective options to maximize Blue Box diversion for the Municipality.

The Municipality's obligations for managing municipal waste include the following:

- Weekly residential curbside collection of waste (Tomlinson Environmental);
- Alternating weekly Blue Box collection (Week 1 Fibres, Week 2 Containers) for both rural and urban residents throughout Municipality;
- One drop off Blue Box depot service (Oxford Mills Transfer Site);
- Municipally owned and operated waste transfer station (Oxford Mills);
- Year round MHSW depot at Oxford Mills Transfer Station;
- Drop off depot for E-waste at Kemptville Youth Centre;
- Leaf and yard waste drop off and Tire Stewardship Program at Oxford Mills; and
- Provide administration and support for Waste Reduction Committee.

The Municipality faces some waste management challenges that this Strategy can address including:

- Provision of curbside Blue Box service inclusive of commercial sector (providing they meet the 10 bag waste limit);
- Commercial and Residential Blue Box tonnages are not clearly segregated skewing overall Blue Box capture rates; and
- Depot operating practices have become routine over a number of years by depot attendant staff. It will be challenging to change operating activities without a compelling value proposition (i.e. Increases efficiency of on-site work).

This Strategy was developed with financial support from the Continuous Improvement Fund (CIF). The CIF's *Guidebook for Creating a Municipal Waste Recycling Strategy* was used to help develop this Strategy.



2.0 Overview of the Planning Process

This Strategy was prepared by environmental consulting firm 2cg Inc and Golder Associates in conjunction with municipal staff.

The development of the Strategy included the following steps:

- Gather relevant data from municipality;
- Meet with municipality to review data and walk through Strategy format;
- Gather and compile additional information from municipality to prepare draft Strategy;
- Submit Draft Strategy to Waste Reduction Committee for review and comment; and
- Prepare final Strategy.

The next steps include:

- Council endorsement of this Waste Recycling Strategy; and
- Council decision on which initiatives to implement.

3.0 Study Area

The study area for this Strategy is the Municipality of North Grenville, located along the Rideau Canal, approximately 60km south of Ottawa, comprised of the Towns/Hamlets of Kemptville, Oxford Mills, Oxford Landing, Oxford Station, Burritt Rapids and Bishops Mills.

The geographic area of the Municipality of North Grenville is depicted in Figure 1. Figure 2 depicts North Grenville in relation to surrounding upper and lower tier municipalities in Eastern Ontario.

This Waste Recycling Strategy addressed the following sectors:

- Residential single family;
- Emerging Multi-Family sector (new condo development); and
- Downtown small businesses.

4.0 Public and Stakeholder Consultation Process

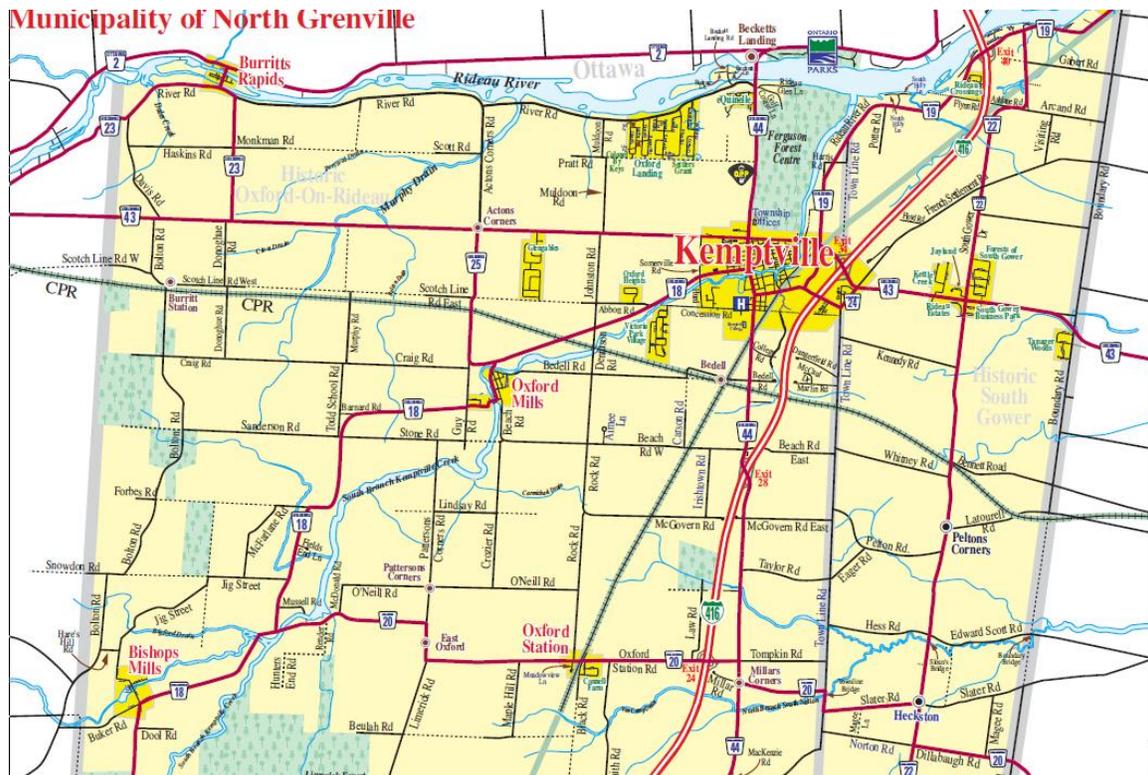
Stakeholder groups included in this consultation included:

- Municipal staff;
- Municipal website;
- Waste Reduction Committee; and
- Municipal Council to adopt the Strategy.

The public and stakeholder consultation process followed the development of this Strategy and consisted of the following activities:

- Notification of Strategy on web-site with opportunity for public feedback;
- Meetings with staff to gather background information and discuss current situation and receive input/guidance into possible enhancements to recycling program;
- Submission of draft Strategy to the Waste Reduction Committee and completion of Recycling Ranking Sheet as a group; and
- Posting of Final Report on the municipal website and submission of Final Report to municipal council to adopt.

Figure 1 Area Map depicting the Municipality of North Grenville



5.0 Stated Problem

Management of municipal solid waste, including the diversion of Blue Box materials, is a key responsibility for all municipal governments in Ontario. The factors that encourage or hinder municipal Blue Box recycling endeavors can vary greatly and depends on a municipality's size, geographic location and population.



The challenges facing the Municipality are:

- Limited municipal budget;
- Low population density;
- Multidisciplinary duties for municipal staff (waste and recycling is not primary responsibility);
- Low incentives to recycle (10 bag waste limit);
- Minimal distinction recorded between residential and commercial waste and Blue Box tonnes creating inaccurate diversion data;
- No Blue Box disposal bans at the Transfer Site (e.g.: clean cardboard bans); and
- No formal enforcement of waste by-law supporting the Blue Box program (material is not rejected at the curb-sends mixed message to residents).

Photos 1-2 depict recyclable collection set outs within North Grenville.

Photo 1 Average Blue Box set out (Container Week)



Photo 2 Variety of Curbside Collection Containers



Items such as film plastic, expanded polystyrene foam and large plastic composite materials are not promoted as part of the Municipality's curbside program but are collected by the contractor without curbside reinforcement. It is uncertain if these materials are recycled by the current processor. Although the majority of rural and urban residents receive alternating weekly curbside collection, the mandate to increase accessibility by way of a drop off depot at Oxford Mills permits residents to participate in the program more frequently.

Photo 3 depicts the rural drop off depot system at the Oxford Mills Transfer Site.

Photo 3 Oxford Mills Transfer Site



Photos 4-5 depict the Blue Box signage at the Oxford Mills Transfer Site.

Photo 4 Glass Drop off Bin



Photo 5 General Signage at Drop off Bins



The curbside and depot trucks collected by BFI are hauled directly to the Metro MRF located in Ottawa ON. Metro MRF provides processing and marketing services for the Municipality inclusive of a 75% revenue rebate from sale of the Municipality’s material. Invoicing and rebate arrangements are administered through the BFI contract (expiry 2014 with a two year renewal option).

The key drivers that led to the development of this Waste Recycling Strategy include:

- Maximize Best Practices funding for the Blue Box program; and
- Increase overall Blue Box capture rate.

6.0 Goals and Objectives

This Strategy development process identified a number of goals and objectives for the Municipality. These are presented in Table 6.1.

Table 6.1 Municipality’s Recycling Goals and Objectives

Waste Recycling Goals and Objectives	
Goals	Objectives
To maintain the cost-effectiveness of recycling for residents.	Current costs are well below the Municipal Grouping but minimal Promotion and Education expenditure. In 2011-12 aim to maintain lower costs but invest in budget money to improve Promotion and Education (P&E). Apply to CIF to offset P&E program costs.
To maximize diversion of residential Blue Box/recycling program	In 2011-12 aim to divert 21% of municipal solid waste through the Blue Box program through implementation of simple measures (listed in Priority Initiatives Table e.g. enhance P&E, improve signage/accessibility at depot sites, training of depot attendants)



	Beyond 2011 <u>consider</u> setting target to divert 25-35% of municipal solid waste through the Blue Box program through the implementation of more comprehensive measures (Outlined in the Future Initiatives Table. e.g. increase bag tag rate, residential bag limits, by-law enforcements, use of clear garbage bags).
To increase capture rate in the recycling program	To monitor current capture rate and aim to increase Blue Box capture rate to 70% .

7.0 Current Solid Waste Trends, Practices and System and Future Needs

Community Characteristics

The reported population for the Municipality is 15,706. The major urban areas are Kemptville, Oxford Mills, Burritts Rapids and Bishops Mills.

The Municipality is home to 5,510 single family households, and approximately 360 multi-families.

Currently, the Municipality has the following policies and programs in place to manage residential solid waste:

- Full User Pay (\$1.50/bag for all bags);
- 10 bag limit for waste; and
- Tipping fees at the Oxford Mills Transfer Site.

The Municipality does not enforce mandatory recycling as part of the waste by-law or have supporting curbside/disposal bans for Blue Box material. The Municipality does not provide free Blue Boxes to its residents to reduce abuse by alternative use.

Existing Recycling Programs and Services

Residential wastes are collected by Tomlinson Environmental based out of Renfrew ON and all recyclables (curbside and depot) delivered to Metro Waste Recycling in Ottawa, ON (BFI). The fees collected from bag tags cover the costs related to Blue Box collection.

Upcoming important Blue Box-related milestones that may affect how collection services are administered within the Municipality include:

- Blue Box collection contract renewal in 2014; and
- Garbage collection contract renewal in 2014 (same time as Blue Box).

Current Waste Generation and Diversion

The Municipality offers alternating week collection of fibres and containers requiring residents to hold material until the designated collection day. The Municipality collects an expanded range of Blue Box material which includes the following:

Containers	Fibres
<ul style="list-style-type: none"> • Glass bottles and jars 	<ul style="list-style-type: none"> • Newspaper, flyers, magazines, inserts and office paper.
<ul style="list-style-type: none"> • Metal food and beverage containers & foil/pie plates 	<ul style="list-style-type: none"> • Boxboard, corrugated cardboard, brown paper bags
<ul style="list-style-type: none"> • Plastic containers (1-7) excluding film and expanded polystyrene 	<ul style="list-style-type: none"> • Aseptic Containers
<ul style="list-style-type: none"> • Polycoat 	<ul style="list-style-type: none"> • Soft cover books

Currently, there is no standard for the type of container permitted for curbside collection. Residents use a variety of shapes and size boxes/ containers for recyclables with some residents using clear plastic bags to set out Blue Box material. Recently, the Municipality has been offering the larger (22) gallon Blue Boxes on a cost recovery basis (\$9/box). Municipal staff indicated that many residents purchase their Blue Boxes from local hardware stores at a lower cost.

Table 7.1 depicts total waste quantities managed by the Municipality in 2009.

Table 7.1 2009 Total Waste Quantities (Residential and IC&I)

Waste Material (2009)	Quantities (Tonnes)
IC&I Self-Haul Waste	223
Municipal Collection- Waste	2,188
Depot- Waste	1,889
Municipal Collection-Blue Box	1,072
Depot- Blue Box	92
Depot- Yard Waste	568
MHSW	24
Residential Self Haul Scrap Metal	167
Used Tires	25
Total	6,245

In 2009, the Municipality managed 6,245 tonnes of waste with a small amount collected from IC&I sector (222 tonnes). Downtown commercial waste is blended with the residential waste as part of the method of collection.

For the purposes of this Strategy, residential Blue Box diversion rates were calculated using 6,023 total residential waste tonnes (garbage and divertibles). Of this 1,163 tonnes (20%) is diverted through the Blue Box program (North Grenville waste



tonnages disposed in landfill has decreased since 2008). Table 7.2 summarizes the current waste generation and **Blue Box** diversion rates.

It is important to note that the Strategy focus is on the Blue Box program and reference to diversion rates and capture rates is specific to Blue Box recyclables and does not incorporate overall waste diversion rates from other sources (SSO, MHSW, etc).

Table 7.2 Municipality's Residential Blue Box Diversion Rate (2009)

Residential Solid Waste Generated and Diverted through Blue Box		
Residential Waste Stream/ Blue Box Material	Tonnes	Percent of Total Waste
Total Waste Generated	6,023	-
Papers (ONP, OMG, OCC, OBB and fine papers)	783	13.0%
Metals (aluminum, steel, mixed metal)	150	2.5%
Plastics (containers, film, tubs and lids)	150	2.5%
Glass	150	9.0%
Total Blue Box material diverted	1,232	20%

*Container material is not segregated (used total of 449 tonnes divided into 3)

Table 7.3 indicates the Municipality's current Blue Box diversion rate is slightly lower than its WDO municipal grouping (Rural Collection South).

Table 7.3 Residential Blue Box Diversion Rate Comparisons To Rural Collection South Rate

Average Blue Box Diversion Rate (2009)	
Municipality of North Grenville	20.5%
Municipal Grouping: Rural Collection South	21.4%

In 2009, the reported (WDO Datacall) overall recycling cost for the Municipality was \$226,955, reflecting 3% of the administration costs eligible for funding from the Datacall. To fully depict all costs associated with the Blue Box program inclusive of curbside and depot contract costs, processing fees from Metro MRF, and a portion of salaries from the depot attendants, waste management staff and clerical staff (30%), the following table (7.4) outlines details of the Municipal residential Blue Box (BB) costs.



Table 7.4 Municipality's Gross Residential Blue Box Costs (2009)

Item	Cost
BB Curbside Collection Contract	\$ 193,477
BB Processing Costs (Net of Rebate)	\$ 17,699
BB Promotion Costs	\$ 1,135
BB Depot Transfer Costs	\$17,576
BB Depot Transfer Staff Costs	\$42,400
BB Administration Costs (30% salaries of supervisors, & clerical staff)	\$ 46,280
BB Total Gross Costs	\$318,567

Revenue received from WDO, or sale of Blue Box material is not included. This amounts to a Gross residential Blue Box program cost of \$258 per tonne, \$20 per capita or \$54 per household for the Municipality of North Grenville.

As the table below shows, net annual recycling costs for the Municipality are **well below average for the WDO Rural Collection South municipal grouping for both gross and net Blue Box program costs.**

Table 7.5 Municipality's Residential Blue Box Costs vs. Rural Collection South Program Costs

Recycling Cost (per tonne per year)	
North Grenville (Net Costs)	\$ 243
Municipal Grouping: Rural Collection South (Gross Program Costs)	\$ 537
Municipal Grouping: Rural Collection South (Net Program Costs)	\$ 517

The Rural Collection South WDO municipal grouping encompasses 69 municipal programs.

Programs where costs are below average to the Rural Collection South average costs tend to be supported by depot services and do not provide curbside service to remote locations.

Potential Waste Diversion

It should be noted that the Municipality's waste composition was calculated using the Rural Collection South waste audit sample generated through Waste Diversion Ontario (WDO) from the Town of the Blue Mountains. This waste audit sample is referenced in the CIF guidebook as a suitable sampling comparator to establish current Blue Box capture rates for this area and the Rural Collection South Municipal Grouping.

Referencing data from the Rural Collection South waste audit sample, it has been estimated that the Municipality's **capture rate of Blue Box material from the current**



waste stream is approximately 37%. Capture rate is different than Blue Box diversion rate. Capture rate can be calculated by using the Municipality's 2009 total residential waste generation of 6,023 tonnes and comparing it to the composition data from the Rural Collection South sample audit. As a result, it can be estimated that approximately 3,192 tonnes of Blue Box material is available in the Municipality's waste stream and currently, the Municipality has captured 1,232 tonnes of the Blue Box material (1,232 Current Blue Box tonnes/3,192 available Blue Box tonnes =37% capture rate).

Table 7.9 depicts details of potential Blue Box material available in the Municipality's waste stream based on the waste audit composition data from the Rural Collection South sample audit conducted by WDO (Town of the Blue Mountains).

Table 7.9 Potential Available Blue Box Material from North Grenville

Current and Potential Diversion			
Waste/Resource Material	Composition (%) (from Rural Collection South sample audit)	Total Residential Waste Generated (tonnes)	Total Blue Box Material in Waste Stream (tonnes)
Papers (ONP, OMG, OCC, OBB and fine papers)	30	6,023	1,807
Metals (aluminum, steel, mixed metal)	3		181
Plastics (containers, film, tubs and lids)	8		482
Glass	12		723
Total Blue Box Materials	53	6,023	3,192

The CIF guidebook has recommended target capture rate of 70% Blue Box material for the Rural Collection South Municipalities. Comparing the 70% desired capture rate of Blue Box material against the existing North Grenville waste stream results in the target capture of approximately 2,317 tonnes of Blue Box recyclable material or an additional 1,105 tonnes that could potentially be captured by the Municipality's Blue Box program from the residential waste stream.

Details of estimates of Blue Box material available for capture are listed in Table 7.10 below.



Table 7.10 Capturing 70% of Available Blue Box Material from North Grenville’s Residential Waste Stream

Current and Potential Diversion			
Waste/Resource Material	Total Available in Waste Stream (tonnes/year)	Currently Recycled (tonnes)	Potential Increase (tonnes/year)
Papers (ONP, OMG, OCC, OBB and fine papers)	1,265	783	482
Metals (aluminum, steel, mixed metal)	126	150	0
Plastics (containers, film, tubs and lids)	337	150	187
Glass	506	150	356
Total Blue Box Materials	2,235	1,232	1,026

*Container material is reported as a blended total of 449 tonnes. For the purpose of estimating, the container total was divided by 3. It is unlikely that all metals are currently being captured. Segregation of materials in future reporting is suggested.

Capturing 70% of Blue Box material from the Municipality’s residential waste stream would raise its **Blue Box diversion rate to about 37%** (i.e. 1,232 Current Blue Box tonnes + 1,026 projected tonnes / total residential waste of 6,023 tonnes). The 1,026 additional tonnes would increase Blue Box diversion by about 17 percentage points.

Anticipated Future Waste Management Needs

It is anticipated that the Municipality’s growth rate is approximately to be 1% per annum over the next 10 year planning period.

The Table below (Table 7.11) depicts the expected growth rates for solid waste generation and Blue Box material recovery (based on a projected population growth rate of 1% and 70% Blue Box capture rate).



Table 7.11 Forecasting 70% Capture of Blue Box Material from Residential Waste Stream

Anticipated Future Solid Waste and Blue Box Recovery Rates			
	Current Year	Current Year + 5	Current Year + 10
Population	15,706	16,507	17,349
Total Waste	6,023	6,330	6,653
Blue Box Material Available	2,235	2,349	2,468

8.0 Planning a Recycling System

The following section outlines some possible strategies that are suitable for the Municipality of North Grenville to consider increasing Blue Box diversion and Blue Box capture rates in the upcoming years.

8.1 Possible Strategy to Increase Recycling

The Municipality presently diverts approximately **20.5%** of its wastes through its Blue Box program. The average for municipalities of its type is approximately **21%**.

Given that the Municipality is very close to the average Blue Box diversion rate for municipalities within the Rural Collection South grouping and has lower than average Blue Box program costs but has a 37% Blue Box capture rate (WDO/CIF target of 70%) **a phased approach is proposed**. This will ensure that results can be closely monitored by existing Municipal staff.

It is anticipated that it should be possible to gradually increase the capture rate of the Blue Box program within the context and costs of the current program structure. This would be done by encouraging residents to recycle more of their wastes using the existing program infrastructures but enhancing the program through greater awareness and public education, supported by enforcing existing recycling by-laws, and training depot attendants, implementing disposal bans, possibly reducing the waste bag limit, increasing the bag tag rate, etc.

A reasonable preliminary goal (2011) would be to increase tonnages to meet the average Blue Box diversion rate for Rural Collection South to achieve a minimum **21%** Blue Box diversion rate.

A second and aspirational future goal (2012-15) would be to achieve a 35% diversion rate as a result of the Blue Box program and strive toward a 70% Blue Box capture rate from the waste stream. The minimum future goal would be to at least reach an average **25%** Blue Box diversion rate and work towards increasing the rate over time.

The following table highlights the estimated number of tonnes that would need to be captured to attain 21% and 25% diversion rates of Blue Box material from the waste stream. It includes consideration of the impact of population growth in the Municipality (1% growth).

Table 8.1 Forecasting Diversion Rates

Capture Rates to Meet Waste Diversion Goals			
	% Waste Diversion		
	Current (20.5)	21	25
	tonnes captured/year		
2010	1,232	1,265	1,506
2015	1,295	1,329	1,583
2020	1,361	1,397	1,663

It is anticipated that it should be possible to capture additional Blue Box materials within the existing Municipality's structure (Status Quo).

Table 8.2 highlights attaining a 25% diversion rate as a result of the current Blue Box program.

Table 8.2 Forecasting Diversion Rates

Meeting 25% Diversion Rate		
Current Capture (20.5%)	tonnes/year	1,232
25% Capture	tonnes/year	1,506
25% Capture (additional tonnes)	tonnes/year	274
Per household	kg/year	49.7
Per household	kg/week	1.0
Collection routes	#	5
Per route	tonnes/year	55
Per route	tonnes/week	1.1
Current program costs	\$/year	\$318,567
Current program costs	\$/tonne	\$259
New program costs	\$/tonne	\$212

On average this would amount to each household recycling an additional 49 kg/year or 1.1 tonnes /week.

From a budgetary perspective, this has potential to drive the current cost/tonne for recycling even lower than the current costs (using the current program costs and increasing tonnes collected). It is important to note that the challenge for the Municipality and other programs in the grouping is the increasing volume of collected material and the distance travelled between collection stops. If the Municipality improves on capture of additional plastic material, existing curbside Blue Boxes and truck capacity decreases and becomes an issue with handling and transportation



costs. If the Municipality enhances promotion specific to capture of fibre material, there is less of an impact on available collection capacity.

The path to approaching or attaining a 25% diversion rate through the Blue Box would need to be evaluated during the future (2015) waste and Blue Box collection tender process.

It will be prudent to consider a longer term collection contract to reduce overall recycling costs. Best practices average a minimum of 7 years allowing sufficient time for the contractor to cover the capital costs. To complement the new collection tender/contract consideration could be given to incorporate the following into the contract:

- Minimum 7 year collection contract;
- Option requesting the provision of weekly Blue Box collection service;
- Supporting diversion infrastructures (enhance composting, take back programs);
- Service Public Space Recycling Areas; and
- Enhancing of Promotion and Education (expand awareness).

8.2 Overview of Planned Initiatives

It is anticipated that the Municipality will make preparations to tender its waste and Blue Box collection contract either before 2014 or in 2015 (renewal clause). Other options to consider are listed below:

- Update Oxford Mills Transfer Station and apply to CIF for capital funds (new signage, new bins, new ramps leading to bins);
- Implement a summer student program to assist with Promotion and Education (apply to CIF for funding);
- Training of depot attendant staff (getting them on board and having them be the first line of defense at your site-handing out flyers etc.); and
- Segregate residential Blue Box from commercial Blue Box tonnages-apply to CIF for a computer software system to support weigh scales at Oxford Mills site.

The best approach for increasing the capture rate and decreasing costs was to stage possible changes to the current Blue Box program and try to develop improvements in the next collection/processing contract.

With that in mind a number of options were reviewed and scored based on a series of criteria, which included:

- Estimate of waste diverted (%);
- Proven Results;
- Reliable Processing facilities/End Use;

- Accessible to Public; and
- Ease of Implementation.

A summary of the options reviewed with Waste Reduction Committee and their scoring are provided in Appendix 1.

Using the evaluation criteria table pulled from the CIF guidebook that lists possible ranking of options surrounding promotion, collection, processing and Best Practices, feedback on areas requiring consideration was provided. **This exercise does not commit to a final decision but acts as a guide to assist with making future decisions.**

From there a refined list of options have been summarized into two tables:

- Possible Priority Initiatives; and
- Possible Future Initiatives.

These tables are tools to be considered by the Environment Committee and to reference as part of this Strategy.

Based on general comments from staff and taking into account comments from the public (the emails) a list of priority and possible future initiatives was developed (see below).

Table 8.3 Priority Initiatives (2011)

Possible Priority Initiatives (Immediate Future 2011)				
Initiative	Estimated Implementation Cost	Estimated Annual Operating Cost	Implementation Time Line	Comments
Enhance Existing Public Education and Promotion (P&E) Program	\$2,500- CIF priority area=50% funding	\$500.00 to maintain new enhancement (flyers, website maintain)	2011 with the assistance of the on-line P&E tool https://blueboxpe.wdo.ca/ to establish marketing plan. CIF REOI deadline March 10 th .	Intent to better publicize program and capture more Blue Box materials-supported with flyers handed out at Transfer Station



New signage at depot bin sites	CIF priority area-50% funding through Transfer Station Upgrades or Promotion and Education.	None	Consider applying for funding from CIF in 2011-12 for visual graphics on depot bins and depot signs.	Increases awareness and reduces depot bins contamination and increase participation.
Computer tracking system at Oxford Mills site.	Approximate cost \$5,000	Low- CIF funds 50% of one third of this cost (computer is shared with disposal and C&D).	2011	Segregates ICI from residential. Allows for fee variance from different sectors. Accurately track tonnages.
Enforce Recycling By-law or Implement Disposal Bans (cardboard etc)	Initial staff time to implement.	\$2,000-\$5,000	2011	By-law officer to be trained on requirements

The following table outlines possible **future initiatives** to take into consideration to improve Blue Box diversion and capture rates.

Table 8.4 Future Initiatives (2012-2015)

Possible Future Initiatives				
Initiative	Estimated Implementation Cost	Estimated Annual Operating Cost	Implementation	Comments
Following Generally Accepted Principles for Effective Procurement and Contract Management	Low to Moderate costs-use of third party contractor to peer review document (~\$3,500)	None	2014-2015	Free templates for developing tender available on-line at CIF/WDO website. In general it is prudent to develop a tender that will result in reply from a variety of contractors.
Processing Tender for Recyclables	Staff time and peer review by third party contractor (~\$3,500)	Could result in decreased processing costs and increase in material recycled.	Consider as separate tender document in 2012 or part of collection contract.	Important to maintain current level of service. Careful not to reduce list of Blue Box material in an effort to reduce processing costs.
Separate Transfer Tender for Recyclables	Staff time and peer review by third party contractor (~\$3,500)	Could result in decrease in transfer costs	Consider as separate tender document in 2012.	Incorporate possible back haul option as part of tender.
Weekly Blue Box Collection and Bag Limits	Staff time and possible increase in curbside collection costs by approx. 7% based on CIF guidebook.	Could result in shift in collection costs from waste to Blue Box and possible overall reduction in costs if incorporated with long	Consider as part of the future collection tender as an option clause supported by reduced Bag Limits.	Potential to increase capture rate to 70% and Blue Box diversion rate to 35%.



Possible Future Initiatives				
Initiative	Estimated Implementation Cost	Estimated Annual Operating Cost	Implementation	Comments
		term collection tender.		

Additional details of some key priority and future Initiatives are described below.

Bag Limits

As outlined in the CIF guidebook for creating a Waste Recycling Strategy, fundamental Best Practices (KPMG /RW Beck Best Practices Report 2007) are for municipalities to use a combination of policy mechanisms and incentives to stimulate recycling and discourage excessive generation of garbage. Economic incentives are diverse. The objective is to place a cost on disposing of residential waste and an importance on Blue Box diversion.

Currently, the Municipality has a Full User Pay program but does not have supporting bag limits to further reduce weekly waste quantities for curbside collection. Another Best Practice outlined in the KPMG/RW Beck Report to increase participation and capture rate of a Blue Box program is by employing a limit to the number of bags a household can set out for collection (e.g. 3-4 bags per household per week). The following table excerpted from the CIF guidebook suggests effective bag limit levels for various Blue Box recycling programs. Programs with alternating weekly Blue Box collection like North Grenville have a suggested bag limit of 3 bags per week and a further reduction to 2 bags per week when supported by an organics collection program. Table 8.3 provides information depicted in the CIF guidebook:

Table 8.3 Suggested Bag Limits

Recycling System	Collection Frequency	Garbage	Suggested Bag Limit	Add Kitchen Organics	Suggested Bag Limit
Multi-Sort	Weekly	Weekly	3	Weekly	2
	Bi-weekly	Weekly	4	Weekly	3
Two Stream	Weekly	Weekly	3	Weekly	2
	Bi-weekly	Weekly	4	Weekly	2
	Alternating weeks	Weekly	3	Weekly	2

Bag limits can generally be administered without capital expense and are typically regarded as a low-cost initiative.



CIF Promotion and Education Tool

CIF can assign the Municipality with a registered username and password. The online tool provides the Municipality with all the elements needed to run a successful Blue Box P&E program. After completing a questionnaire a customized marketing plan and customized marketing materials will be prepared. The marketing plan is a 3-year plan that is organized in seven sections including:

- Program Guiding Principles;
- Goals;
- Key Messages;
- Target Audiences;
- Resources;
- Tactics; and
- Tracking.

The service is free to the Municipality. The costs reflect possible flyer preparations, mail outs, and advertising to promote the participation of the rural Blue Box program.

Transfer Station Upgrade

The rural drop off depot at the Oxford Mills Transfer Site has poor signage and extra handling of material with inefficient depot layout. The signage is limited to small text on the side of the bins and supported with several bins (4-5 bins) but could effectively reduce the number of bins to 2-3 bins (Fibres and Containers), to reduce handling and improve flow at the site. The accessibility to the depot bins is somewhat awkward for residents and a potential health and safety hazard in the winter.

A report commissioned by WDO through the Effectiveness and Efficiency Fund entitled Best Practices for Rural Depot Recycling (2006), outlines the following key factors for effective rural recycling depots:

- **Depot Accessibility** – clean, easy to load depot containers with sufficient turning radius for vehicular traffic and an area separate from congestion of waste disposal traffic;
- **Supportive infrastructure to reduce contamination and increase participation**- including provisions of Blue Boxes to seasonal residents to segregate recyclables at the cottage, illegal dumping and mandatory recycling by-laws, the use of clear bags and bag limits for waste;
- **Entrance signage at the depot site and simple messaging** on the depot container -using graphics and minimal text for easy reading;
- **Depot attendant actively involved in monitoring recycling depot** –hand out literature to new residents, sell Blue Boxes at the depot site for residents.



When considering the financial investment required for improving depot participation, municipal staff outlined there is a limited budget available to the recycling program. As a result, consideration to phasing in depot enhancements for future initiatives (2012, 2013) could be implemented. It is important to highlight that the CIF has a deadline of March 10, 2011 for submission of expressions of interest (REOI) from municipal programs for CIF priority areas including Transfer Station Upgrades and Promotion and Education (up to 50% capital funding). Funding received from CIF in the 2011 budget year can be spent in the upcoming 2012 year providing applications are submitted before March 10, 2011.

Photos 6 and 7 depict new graphics used by the County of Peterborough for their rural depot bins to increase participation and reduce contamination.

County of Peterborough Depot Graphics- 2009



It is recognized that the actual implementation of future initiatives will be a function of the results of the next Blue Box collection tender and costs (2014-15). It may be that none of these initiatives are implemented. Alternately a selection could be implemented with actual implementation timing decided during the tender process.

8.3 Contingencies

The priority initiatives can be impacted if there is no municipal funding available.

The future initiatives will be decided as an outcome of the waste and Blue Box material collection/processing tender. If no future initiatives are implemented then the Municipality will revert to priority initiatives.

9.0 Monitoring and Reporting

The monitoring and reporting of the Municipality's recycling program is considered a Blue Box program fundamental best practice and will be a key component of this Waste Recycling Strategy.

Once implementation of the Strategy begins, the performance of the Waste Recycling Strategy will be monitored and measured against the baseline established for the current system. Once the results are measured, they will be reported to Council and the public. Some suggested approaches for monitoring the Municipality's Strategy is outlined in Table 9.1.

Table 9.1 Blue Box Monitoring Strategy

Recycling System Monitoring		
Monitoring Topic	Monitoring Tool	Frequency
Measurement of Blue Box materials captured.	Documented total weight data as outlined in this Strategy and compare it to target capture rates (70%)	Annual summary
Diversion rate (Blue Box)	Document BB Diversion Rate Formula: (Blue Box materials diversion) ÷ Total waste generated * 100%	Annual summary
Program participation	Documented Curbside Set-out Studies or Curbside Participation Studies to determine frequency of curbside set out, number of boxes, fullness of boxes, and type of boxes used.	Once every 1-2 years.
Program Accuracy	Segregate residential Blue Box material tonnage from Commercial tonnage. Easier if have supporting weight scale system-still need to track ICI vs. residential for downtown collection route.	
Program Cost	Document Blue Box Program Costs to reflect each cost area to determine overall cost composition. Incorporate a revenue column to depict annual revenues from Blue Box program.	Once every 1 year.
Customer satisfaction	Customer survey (e.g., telephone); tracking calls/complaints received to the municipal office.	Every 3 years
Opportunities for improvement	Customer survey (e.g., telephone); tracking calls/complaints received to the municipal office	On-going
Planning activities	Describe what initiatives have been fully or partially implemented, what will be	Annually

	done in the future	
Review of Recycling Strategy	A periodic review of the Recycling Plan to monitor and report on progress, to ensure that the selected initiatives are being implemented, and to move forward with continuous improvement	Annual for current initiatives- 5 yrs to re-evaluate & refine lists.

10.0 Conclusion

The Municipality currently has a good Blue Box waste diversion rate (20.5%) and a low program cost for its Blue Box recycling program. The emphasis is on the need to improve overall low Blue Box capture rate.

A staged process to increase capture rate and reduce per tonne cost was **recommended**.

There are a number of future initiatives that could be implemented.

It is recommended that the Municipality obtain up to date and ongoing data on its Blue Box program so that it can better gauge program effectiveness. It is also recommended that the Municipality increase its level of public Promotion and Education with assistance from the CIF for financial support. Finally, it is recommended that the Municipality annually monitor its progress against this Strategy and update this Strategy as it sees fit. It is **recommended** that this Strategy be fully updated in 2015.

Appendix 1
Waste Recycling Option Scores

Waste Recycling Option Scores- North Grenville Committee Response

Description of Strategies	Strategy Costs	Comments	Criteria (Score out of 5)						Ranking	
	High (H) Med (M) Low (L)		Increased Waste Diverted	Proven Results	Economically Feasible for Township	Public Acceptance	Ease of Implementation	Criteria Score		
Communications										
Flyers handed out at Oxford Mills site by Depot Attendant -Do's and Don'ts of Recycling.	M	Might end up in recycling (thrown out). Enhance website.	2	3	5	4	5	19	2	
Increase Participation of Multi-Family Users-Drop off flyers at new condo development or through developer. Encourage new developers to place Blue Boxes in units.	L	Condo development is ongoing-new-monitor this.	3	3	5	4	4	19	2	
Schools-Distribute posters or have poster contest for students (primary level) to encourage recycling.	M	Use parent committee-get parents onboard.	1	1	4	4	4	14	6	
Free Blue Boxes for Schools	M		3	3	2	4	3	15	5	
Training of Staff										
Depot Attendants	M		4	4	4	5	4	21	First	
Municipal Staff involved in waste management-attend MWA and CIF workshops.	H		3	3	3	3	4	16	4	

Description of Strategies	Strategy Costs	Comments	Criteria (Score out of 5)						Ranking	
	High (H) Med (M) Low (L)		Increased Waste Diverted	Proven Results	Economically Feasible for Township	Public Acceptance	Ease of Implementation	Criteria Score		
<i>Increase Diversion</i>										
Clear Bags for Waste	H	Bad Idea for our area.	4	3	3	2	2	14	6	
Ban of Recyclables at Oxford Site	L		5	4	4	3	2	18	3	
Bag limits for Waste	L		3	2	4	2	3	14	6	
Increase fees for Tags	L		3	3	4	2	3	15	5	
Apply option of weekly collection to upcoming tender	H		3	2	2	3	2	12	7	
<i>Upgrade Oxford Mills Transfer Site</i>										
Apply for CIF funding to upgrade signage	L		2	2	4	4	4	16	4	
Apply for CIF funding to purchase computer weighing software	H		2	2	3	4	4	15	5	
Improve traffic flow at site	H		2	2	2	4	2	12	7	

*CIF will fund 50% of capital improvements such as Transfer station upgrade. Oxford Mills site has other activities unrelated to Blue Box (waste, scrap metal, tires, yard waste, etc) CIF attributes one third of activities of the Oxford Mills site as Blue Box related therefore capital funding would be 50% of one third of the overall costs if you chose to do a full transfer station redesign. If you do an upgrade specific to only the Blue Box depot (new bins/new ramp to bins/shelter for bin area, signage for bins-this is 50% coverage). The weigh scale software and computer would be 50% of one third of the price. Computer and software is approximately \$5,000.

Committee Feedback

- Provide more education to the general public on what is acceptable in the Blue Box
- Use positive motivation when enforcing diversion initiatives
- Ease of use /accessibility for public with program changes and gradual increase in fees for non-recyclables (waste fees).