

A Waste Recycling Strategy for  
The City of Timmins  
Final

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## 1.0 Introduction

This Waste Recycling Strategy (Strategy) was initiated by the City of Timmins (City), to develop a plan to increase the efficiency and effectiveness of its Blue Box recycling program, maximize the amount of Blue Box material diverted from disposal and to help maximize Blue Box funding provided by the stewards (i.e. producers) of packaging waste (i.e. materials that end up in the Blue Box), as managed by Waste Diversion Ontario (WDO). This document was developed with support from the Continuous Improvement Fund (CIF) with 75% of the costs provided from CIF. It is recommended that this Strategy be updated at least every five years.

The development of a Strategy is considered to be a Best Practice (BP) and acts as a standalone document that functions as a tool for the City's waste management staff specific to the Blue Box Program. The Continuous Improvement Fund (CIF) *Guidebook for Creating a Municipal Waste Recycling Strategy* (March 2010) was used to help develop this Strategy, along with considerable feedback from municipal staff. This Strategy uses the most recent WDO Datacall data (2012 submitted data for 2011 reporting year) as its starting point.

**The Strategy is a short term guidance document for staff and is specific to Blue Box only.** All reference to diversion rates is specific to residential Blue Box diversion rates and does not incorporate overall waste diversion rates. This document will highlight best practices suited for the City's municipal grouping of Rural Collection North as classified by Waste Diversion Ontario

Specifically, the purpose of this Strategy is to:

- Help the City maximize WDO Blue Box funding in the upcoming Best Practice section of the WDO data call;
- Act as a high level strategic roadmap and planning document to assist the City with future decision making specific to the residential Blue Box program;
- Assess current performance of the residential Blue Box program that can be used as a baseline to assess future performance (2013-2017);
- Set long-term Blue Box diversion goals and cost targets; and,
- Identify and implement Best Practice initiatives to help improve future performance for the residential Blue Box program for the City of Timmins.

Throughout this Strategy, references are made to Blue Box capture rates and Blue Box diversion rates.

**A Blue Box (Blue Cart) diversion rate** provides specific reference to the City's residential Blue Cart program. It does not include other divertible tonnes captured through leaf and yard waste, backyard composting, MHSW, scrap metal, or electronic recycling (WEEE). A Blue Box diversion rate is calculated using the total residential blue box tonnes divided by the total residential waste tonnes.

**A Blue Box (Blue Cart) capture rate** also provides specific reference to the City's Blue Cart program and does not include other divertibles. The Blue Box capture rate represents the Blue Cart and Depot tonnes that the City is capturing out of the waste stream based on composition data from the City's 2009 Waste Audit data and compared with other Rural Collection North programs.

## 2.0 Overview of the Planning Process

This Strategy was prepared by the environmental consulting firm 2cg Inc in conjunction with City of Timmins staff. The development of the Strategy included the following steps:

- Gather relevant data from the City;
- Prepare Draft Strategy;
- Receive feedback from City staff;
- Conduct Site visit of City diversion systems; and
- Prepare final Strategy.

The next steps include:

- Receipt of this Strategy by the City's Public Works and Engineering Department; and
- City consideration of the Blue Cart supporting initiatives in the future.

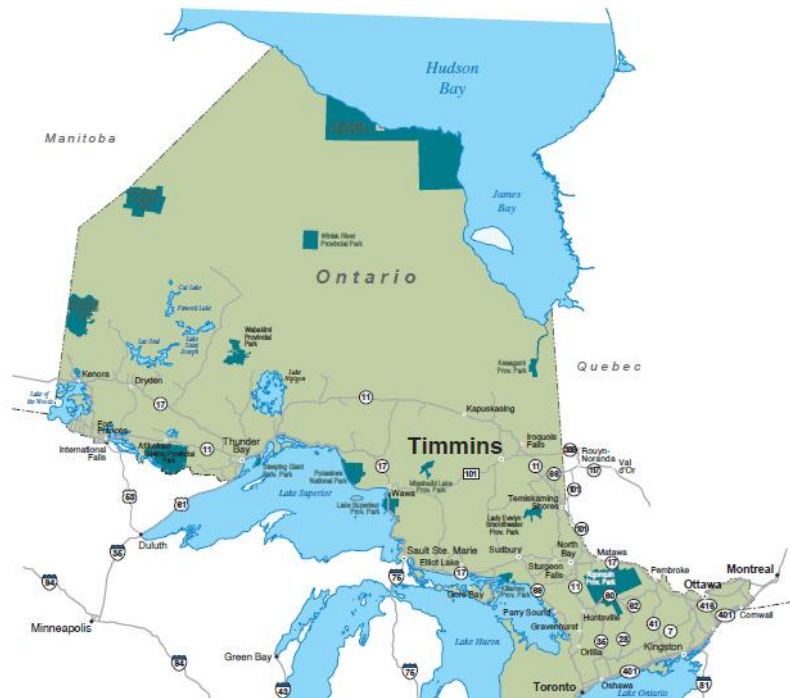
## 3.0 Study Area

The study area for this Strategy is the City of Timmins, is centrally located in Northeastern Ontario (1 hour west of Hwy 11), and situated along the Mattagami River approximately 4.5 hours north of the City of Sudbury and 3 hours west of the City of Rouyn-Noranda, Quebec. Interestingly, the City's geographic size is approximately 3,210 km<sup>2</sup> (1,240 square miles) which makes Timmins one of the largest land based cities in Canada.

Figure 1 is a map depicting the City of Timmins.



Figure 1- Map Depicting the City of Timmins in Proximity to Surrounding Areas



#### 4.0 Consultation Process

City staff were consulted in the development of this Strategy consisting of the following activities:

- Review of Draft Strategy with staff;
- Incorporation of staff comment and feedback
- Site visit ; and
- Finalization of Strategy to be forwarded to Public Works Committee

#### 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 City faces some Blue Box recycling challenges that this Strategy can address including:

- Proximity to available processing capacity (4 hour drive one way to current processor; Sudbury MRF);
- High processing costs and no revenue share from MRF processor;



- Limited staff resources and budget;
- Periodic road closures due to forest fires/snow storms impact on-site storage of recyclables at the transfer site;
- Instances of recycling contamination in larger capacity carts; and,
- Distance to training/workshops for municipal staff;

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

- Maximize Best Practices funding for the Blue Box program;
- Increase overall Blue Box capture rate and reduce contamination; and
- Potentially reduce overall processing rate in a cost effective manner.

## 6.0 Goals and Objectives

This Strategy development process identified a number of goals and objectives for the City. The Strategy goals are summarized in the following table (Table 6.1).

**Table 6.1 City's Recycling Goals and Objectives**

<b>Waste Recycling Goals and Objectives</b>		
<b>Goals</b>	<b>Objectives</b>	<b>Current Situation (2011)</b>
To reduce costs associated with recycling processing and transportation.	In 2013, explore other processing agreements within the area.  In 2013, consider conducting a formal price inquiry for 2-3 year hauling contract to an end processor.	City is charged \$90/tonne at Sudbury MRF with no revenue share.  City has open ended agreement with local hauling contractor.
To maintain effective Blue Cart capture rate and reduce material contamination.	In 2014-2015 aim to divert <b>33%</b> of all residential municipal solid waste through the Blue Box program.  Beyond 2015 <u>consider</u> setting target to divert a minimum of 35% through the Blue Box program.	Recycling (Blue Cart) Diversion Rate is 30%  Recycling (Blue Cart and Depot) Capture Rate is 80%, exceeding the Target Capture Rate of 70% for the area.



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

### *Community Characteristics*

Referencing the recent WDO Datacall submission (2011), the City has a population of 44,507, 18,401 single family households and 1,900 multi-family households (20,301 total households). The City has been experiencing high instances of housing development due to recent mining expansions.

### *Existing Waste Management Services*

The City provides the following waste management services that include:

- Weekly garbage (automated cart collection) with a 4 bag limit using municipal forces;
- Weekly single stream recycling collection (automated cart) for a broad range of materials (inclusive of film and polystyrene);
- Two Blue Box depot sites (landfill and transfer station);
- Annual spring household hazardous waste event day;
- WEEE, scrap metal and tires can be dropped off at no charge at the landfill site; and,
- Support of “at home” waste diversion programs, such as backyard composting with the provision of subsidized backyard composters, and promoting grass cycling.

### *Current Recycling Program*

The City has a processing agreement with the City of Sudbury for single stream processing capacity that is renewed annually. Currently, the City is charged a processing fee of \$90/tonne with no revenue share arrangement. City staff conduct curbside collection using three City owned dual stream side load trucks (Labrie) equipped with automated arm and cameras. The curbside recyclables are tipped at the City Transfer Station located at the City’s landfill site (Deloro). The landfill site has sufficient capacity to manage the City’s material for the next 50 to 60 years based on the current fill rate.

The City’s Transfer Station is an open air Transtor System (NexGen) equipped with 2 50 yard Transtor units and serviced by 2 - 53 foot compacting trailers (City owned). Curbside material is tipped directly into the Transtor units. The City contracts to a local private hauler the transfer service. Recyclables are hauled approximately 5 days per week, with single stream loads averaging 12-14 tonnes per trailer, averaging \$900/load to haul to Sudbury. A further 146 tonnes of corrugated cardboard/boxboard is captured from the residential sector separately at the landfill site in several 6 yard tip bins. This material is collected and marketed by a local private contractor at no charge to the City.



The City uses 95 gallon blue Carts for recycling and 65 gallon grey carts for waste collection with an option for residents to use 35 gallon green carts for waste.

**Photo 1 Automated Dual Stream Side Loader**



**Photo 2 Automated Arm (supported with onboard cameras)**



Photo 3 Weekly Curbside Collection



Photo 4 Transfer System at Deloro Landfill Site



Photo 5 Attended Transfer Site



Photo 6 System Supported with Block Heater and Dual Access Walkways



Photo 7 Fibre Bins for Over Size Material (Landfill Site)



The City collects a broad range of Blue Box material (single stream) which includes the following:

Containers	Fibres
<ul style="list-style-type: none"> <li>• Glass bottles and jars</li> </ul>	<ul style="list-style-type: none"> <li>• Newspaper, flyers, magazines, inserts and office paper.</li> </ul>
<ul style="list-style-type: none"> <li>• Metal food and beverage containers, empty aerosols, paint cans &amp; foil/pie plates and spiral cardboard cans</li> </ul>	<ul style="list-style-type: none"> <li>• Boxboard, corrugated cardboard, brown paper bags, spiral cores.</li> </ul>
<ul style="list-style-type: none"> <li>• Plastic containers (1-6) inclusive of expanded PET shells, polystyrene cups and trays and plastic film.</li> </ul>	<ul style="list-style-type: none"> <li>• Aseptic Containers (Tetra Paks)</li> <li>• Polycoat (Milk and Juice Cartons)</li> </ul>

*Current Waste Generation and Diversion*

Table 7.1 depicts total waste quantities managed by the City in 2011 as gathered from the City’s 2011 Datacall submission. This table does not include any information on self management of wastes by residents (e.g. backyard composting, deposit return).



Table 7.1 2011 Residential Waste Quantities

Waste Material	Tonnes 2011
Curbside Garbage Collection	7,083
Garbage Depot	621
Curbside Blue Cart Collection	2,971
Residential Fibre Depot	146
Scrap Metal	343
Tires	172
WEEE	19
MHSW	38
<b>Total</b>	<b>11,393</b>

In 2011, the City managed a total of 11,393 tonnes of residential waste (garbage and all divertibles) respectively.

In 2011, the City diverted close to 3,689 tonnes/year of material of which 3,117 tonnes per year is characterized as Blue Box material. **This represents an overall residential diversion rate of 32% (3,689 Divertible Tonnes/11,393 Total tonnes).**

A Blue Box diversion rate is typically lower than an overall diversion rate as its focus is specific to the weight of Blue Box material that is diverted from the total residential waste stream. To reflect residential Blue Box diversion rate, calculations will only include material that is curbside collected. The total curbside Blue Box tonnes/total curbside collected tonnes representing 3,117 Blue Cart/Depot tonnes/10,200 tonnes (7,083 curbside waste + 3,117 Blue cart and depot tonnes) =**30% Blue Box diversion rate.**

Table 7.2 summarizes the 2011 **residential curbside waste** generation and the **residential curbside Blue Box** diversion rate, with calculations reflecting the curbside cart waste tonnes and the total residential blue cart/depot tonnes.

Table 7.2 City's Residential Blue Box Diversion Rate (2011)\*

<b>Residential Curbside Waste Generated and Diverted Through Curbside Cart</b>		
<b>Residential Waste Stream/ Blue Cart Material</b>	<b>Tonnes</b>	<b>Percent of Total Waste</b>
Total Curbside Waste Generated (Blue & Green Carts)	10,200	-
Papers (ONP, OMG, OCC, OBB and fine papers)	0	0.0%
Metals (aluminum, steel, mixed metal)	0	0.0%
Plastics (containers, film, tubs and lids)	0	0.0%
Glass	0	0.0%
Commingled Blue Cart/Residential Depot Material	3,117	
<b>Total Blue Box material diverted</b>	<b>3,117</b>	<b>30.6%</b>

\* The City delivers single stream material to Sudbury (material not separated).

The City's recovery rate for Blue Box materials based on 20,301 total households is about 153 kg/hshld, which is somewhat lower than the reported curbside 2010 Provincial average of about 180 kg/hshld.

Waste Diversion Ontario divides municipalities into a number of municipal groupings for comparison purposes. The City is included in the Rural Collection North grouping with 33 other municipalities.

Table 7.3 shows that the City's current Blue Box diversion rate is significantly higher than the **average for its municipal grouping**. It is important to point out that **within this municipal grouping, there are 5 reported programs with less than 5% Blue Box diversion rate which lowers the overall average**.

Table 7.3 Residential Blue Box Diversion Rate Comparison to Rural Collection North Rate (2010 GAP analysis in Datacall)

<b>Average Blue Box Diversion Rate (2011)</b>	
Timmins (2011)	30%
Average Rural Collection North (WDO 2010 Blue Box Gap Posting)	19.52%



### Blue Box Program Costs

In 2011 the cost to manage the Blue Box program was approximately \$972,152. This represents a total Blue cart/depot program cost of \$311/tonne. This cost includes the following:

- Municipal staff conducting curbside collection with municipal fleet
- Private contractor transferring material to Sudbury approximately 5 trips per week;
- Sudbury MRF processing fee; and,
- Municipal administration (inclusive of a portion of Landfill attendant salary).

The City of Timmins full recycling program amounts to \$21 per capita or \$47 per household.

As Table 7.4 shows, 2011 annual recycling costs for the City are well **below average** for the Rural Collection North Municipal Grouping.

Table 7.4 City's Blue Box Costs vs. Rural Collection North Costs

Recycling Cost (per tonne)	
Timmins Recycling Program Costs (2011)	\$ 311
Average Net Costs for Rural Collection North Programs (2010 posted Datacall results)	\$ 723
Weighted average (the group total costs divided by total group tonnage)	\$ 357

### Potential Waste Diversion

The City's projected waste composition for available Blue Box material to potentially be captured from the waste stream was estimated using recent City waste audit data (AET) gathered in 2009.

Referencing the City's total waste tonnes of 10,200 tonnes and applying the 2009 City waste audit composition percentages to the commodities of paper, metals, plastics and glass, it has been estimated that the City potentially has 37% Blue Box material in the residential waste stream. Converting the percentage into tonnes represents approximately 3,812 tonnes as depicted in Table 7.5.



Table 7.5 Representative Waste Audit Data (Referencing 2009 City Audit Data)

<b>Current and Potential Diversion</b>			
<b>Waste/Resource Material</b>	<b>Composition (%) (from Timmins 2009 Audit Results)</b>	<b>Total Residential Waste Generated (tonnes)</b>	<b>Total Blue Box Material in Waste Stream (tonnes)</b>
Papers (ONP, OMG, OCC, OBB and fine papers)	24	10,200	2,456
Metals (aluminum, steel, mixed metal)	2		204
Plastics (containers, film, tubs and lids)	8		816
Glass	3		336
<b>Commingled or Total Blue Box Materials</b>	<b>37</b>	<b>10,200</b>	<b>3,812</b>

Currently, the City is capturing 3,117 tonnes of recyclables through the Blue Cart and Fibre Depot representing a recycling capture rate of 81% (3,117 current Blue Box tonnes/3,812 potentially available Blue Box tonnes).

Based on Blue Box tonnage data, the City exceeds the recommended target capture rate of 70% Blue Box material slated for the Rural collection North municipalities.

To verify the higher than expected capture rate for the City, the City's residual rate was cross referenced. Staff at the Sudbury MRF were contacted to verify the 2011 residual rate. Sudbury MRF indicated that residual did not exceed 6% of the total inbound tonnes generated from the curbside cart program (2,971 tonnes), representing 170 tonnes in 2011 (73% capture).

As a result, the City exceeds the target capture rate of 70% of the available recyclable material for both the material marketed and material curbside collected.

The next step for the City is to maintain the high capture rate, reduce curbside contamination and overtime, gradually improve curbside capture rate in a cost effective manner.

Table 7.6 illustrates a slightly higher target capture rate of 85% of the Blue Box material from the residential waste stream or 3,239 tonnes. The City would need to capture an additional 122 tonnes of additional Blue Box material to achieve this target (i.e. 3,239-3,117=122 additional tonnes to capture).





**Table 7.6 Capturing 85% of Available Blue Box Material from Timmins Residential Waste Stream**

Waste/Resource Material	Composition (%) (from Timmins 2009 Audit Results)	Total Residential Waste Generated (tonnes)	Total Blue Box Material in Waste Stream (tonnes)	Target Blue Box Capture Rate (%)	Blue Box Material Available for Diversion
Papers (ONP, OMG, OCC, OBB and fine papers)	24	10,200	2,456	85.00	2,087.74
Metals (aluminum, steel, mixed metal)	2		204		173.40
Plastics (containers, film, tubs and lids)	8		816		693.60
Glass	3		336		285.24
<b>Commingled or Total Blue Box Materials</b>	<b>37</b>	<b>10,200</b>	<b>3,812</b>	<b>85.00</b>	<b>3,239.98</b>

*Anticipated Future Waste Management Needs*

A typical growth rate for municipal programs is approximately 1% per annum over the next 10 years. Applying the 1% growth rate to the current population of 44,507 will assist with basic forecasting of Blue Box program tonnages (based on capturing 85% of available material).

**Table 7.7 Forecasting 85% Capture of Blue Box Material from the Residential Waste Stream**

<b>Anticipated Future Solid Waste and Blue Box Recovery Rates</b>			
	Current Year	Current Year + 5	Current Year + 10
Population	44,507	49,139	54,254
Total Waste	10,200	11,262	12,434
Blue Box Material Available	3,240	3,577	3,950

**8.0 Planned Recycling System**

The following section outlines some possible initiatives that could be implemented from 2013-2018 to help increase Blue Box capture and reduce processing/handling costs.



The City has a high performing Blue Cart program. Improving performance further will focus on maximizing the capture of recyclables using current program elements and then adding some new initiatives to the exist program to spur further capture of recyclables.

In general Priority initiatives could include improvements to:

- Staff training;
- Promotion and Education to reduce curbside contamination and increase material tonnages; and
- Negotiate cost effective processing contract.

Improving performance further will focus on reducing the contamination levels of material entering the curbside cart program.

In general Future initiatives could include improvements to:

- Multi-residential recycling capture;
- Curbside enforcement and update of By-law;
- Consideration of moving toward smaller 65 gallon grey carts for waste; equivalent to a 2-3 bag limit for bagged based programs.

## 8.1 Possible Strategy to Increase Recycling

**The City presently diverts approximately 30% of all its residential wastes through its Blue Cart program with a high capture rate of about 81%**

A reasonable preliminary goal (2013) would be a **33%** waste diversion rate from Blue Box collection (i.e. about 1 percentage point more than current rate). This would result in meeting the higher target capture rate of **85%**. It is expected that this could be accomplished within the context of the current program based on the current 81% capture rate.

A second and aspirational future goal (2014-16) would be to achieve a **35%** diversion rate as a result of the Blue Box program. This would result in a capture rate of about **90%**. It is expected that this would require new initiatives in addition to the current program which impacts overall program costs. Consideration to maintaining the program and examining opportunities for more competitive processing costs is a realistic approach.

Table 8.1 highlights the estimated number of tonnes that would need to be captured to attain **32%** (current) and **35%** and **38%** diversion rates of Blue Box material from the waste stream. It includes consideration of the impact of population growth in the City (1% growth rate).



**Table 8.1 Forecasting Diversion Rates**

<b>Waste Diversion Goals</b>			
	<b>% Waste Diversion</b>		
	<b>Current (32)</b>	<b>35</b>	<b>38</b>
<b>Year</b>	<b>tonnes captured/year</b>		
<b>2012</b>	<b>3,117</b>	<b>3,570</b>	<b>3,876</b>
<b>2016</b>	<b>3,441</b>	<b>3,942</b>	<b>4,279</b>
<b>2020</b>	<b>3,800</b>	<b>4,352</b>	<b>4,725</b>

Table 8.2 highlights the impact of attaining a 35% Blue Box diversion rate in terms of additional tonnes diverted and the impact on household recycling (divided across all households).

**Table 8.2 Forecasting Diversion Rates**

<b>Meeting 35% Blue Box Diversion Rate</b>		
<b>Current Capture (32%)</b>	tonnes/year	3,117
<b>35% Capture</b>	tonnes/year	3,570
<b>Additional tonnes</b>	tonnes/year	453
<b>Per household</b>	kg/year	24.6
<b>Per household</b>	kg/week	0.5

## **8.2 Overview of Planned Initiatives**

A number of waste recycling options and Best Practices that could be implemented and/or expanded were reviewed with Timmins staff 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.

**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 were summarized into two tables:

- Possible Priority Initiatives (Table 8.3); and
- Possible Future Initiatives (Table 8.4).



These options can be considered by staff and Timmins Environment Committee as part of this Strategy.

**Table 8.3 Priority Initiatives (2013-2014)**

<b>Possible Priority Initiatives (Immediate Future 2013-2014)</b>				
<b>Initiative</b>	<b>Estimated Implementation Cost</b>	<b>Estimated Annual Operating Cost</b>	<b>Implementation Time Line</b>	<b>Comments</b>
<b>Training of Key Program Staff</b>	Staff time	Free training is available from CIF (CIF Blue Box Recycler Training Courses).  Estimate \$3,000-5,000/year in travel costs.	Ongoing	Better educated staff will be able to develop a high quality waste and Blue Box collection tender and better manage the overall program.
<b>Optimization of Process Operations</b>	Staff time. Inquire with Sudbury to determine potential for costs savings if the City guarantees a longer term commitment.	Potential to reduce processing fees from \$90/tonne to \$75/tonne. Potential to reduce haul cost due to less haul time.	2013	Investigate alternative processing arrangement with other area MRF's. It is important to verify acceptable material to ensure maximum diversion potential.  Inquire about long term commitments to protect the City before initiating a switch from processing at Sudbury.
<b>Promotion and Education</b>	Within cost of current program	Within cost of current program or within a specific program re-launch year (2013-add additional P&E material of \$5,000)	Ongoing	Focus on "Call to Action" to get to 85% capture of Blue Box materials.  Ensure that new residents are quickly and well educated on the City's recycling program. Support program with updated by-law to encourage recycling.
<b>Updated Waste By-Law (includes mandatory recycling and diversion)</b>  <b>Reduce capacity of waste carts</b>	Staff time	Not applicable	2013-2014	Develop new by-law to include mandatory requirement to divert Blue Box wastes.  Support the by-law with smaller capacity waste carts.
<b>Curbside Participation Study and Waste Audit</b>	Summer Students or outside consultant contract if students are not available	Incorporate as part of summer student program.  Outside consultant to conduct 2 week curbside audit.	2013-1014	Determine the frequency of Blue Cart set out and cart fullness with the aid of summer staff.  Determine the



<b>Possible Priority Initiatives (Immediate Future 2013-2014)</b>				
<b>Initiative</b>	<b>Estimated Implementation Cost</b>	<b>Estimated Annual Operating Cost</b>	<b>Implementation Time Line</b>	<b>Comments</b>
		\$15,000. Possible funding available from CIF.		effectiveness of the P&E programs by conducting contamination audits of the Blue Carts.

Table 8.4 Future Initiatives (2015-2017)

<b>Possible Future Initiatives (2015-2017)</b>				
<b>Initiative</b>	<b>Estimated Implementation Cost</b>	<b>Estimated Annual Operating Cost</b>	<b>Implementation</b>	<b>Comments</b>
<b>Investigate Inter-municipal hauling arrangements</b>	Staff time	Potential to reduce transfer costs	2014-2015	Work with Cochrane to determine co-operative hauling arrangements to a processor.  Cochrane currently hauls 108 tonnes per annum.  It is anticipated that the City could benefit with funding increases through inter-municipal cooperative contract arrangements.
<b>Purchase Used Transfer Trailer</b>	Capital investment \$45,000-\$50,000.	\$1,000 maintenance	2015-2016	Consider once sufficient tonnage is secured from Cochrane or other programs.
<b>Consider Long-Term Hauling Contract</b>	Staff Time		2015	The City has baseline haul costs to haul 12-14 tonnes 5 times per week over 51 weeks.  Use this baseline to compare with future hauling arrangements.

Some descriptions outlining Best Practice Initiatives outlined in the previous Initiatives Table are highlighted below. Fundamental best practices, outlined in the CIF guidebook for creating a Waste Recycling Strategy are based on the KPMG /RW Beck Best Practices Report 2007. These best practices are for municipalities to use a combination of policy mechanisms and incentives to stimulate recycling and discourage excessive generation of waste.



## ***Bag Limits/Reduction in Cart Capacity for Waste***

A best practice that can support the existing City Blue Box program is residential waste bag limits. Bag limits can generally be administered without capital expense and are typically regarded as a low-cost initiative, but require significant and ongoing public education.

Currently, the City bag limit is four bags and is not stringent enough to encourage a reduction in weekly waste quantities set out by residents for curbside collection. Best practices outlined in the KPMG/RW Beck Report is to increase participation and capture rate of a Blue Box program by employing a limit to the number of bags a household can set out for collection (e.g. 2-3 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 bi-weekly Blue Box collection have a somewhat higher bag limit of three bags per week compared to programs with weekly Blue Box collection.

Table 8.3 provides information depicted in the CIF guidebook.

**Table 8.3 Suggested bag limits**

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

It is understood that the City has recently issued 95 gallon grey carts for the waste collection program. It is advisable to purchase future carts with less capacity (65 gallon or less) to support waste reduction at the curbside. The reduction in bin capacity has similar effect as a 2-3 bag limit at the curb. This reduction initiative must be supported by a waste by-law encouraging mandatory recycling and the use of smaller capacity waste carts.

### ***Inter municipal hauling arrangements***

During the development of this Strategy, staff contacted the municipality of Cochrane to determine if there was interest in combining hauling services to a MRF processor to potentially reduce overall hauling costs. Currently Cochrane hauls approximately 108 tonnes to Rouyn-Noranda in Quebec. Staff from Cochrane indicated an interest with the provision that material be hauled to the most cost effective MRF processor. It is recommended that the City continue discussions with Cochrane to determine co-

hauling arrangements. Further, maintain an open communication with CIF for opportunities for possible funding to offset capital investments in the event that an additional swing trailer is needed to haul the additional material.

### ***Effective Communication Strategy Suggestions:***

#### **Define the City's P&E Goal**

Essentially summarize the facts:

The City currently has a 32% diversion rate and is capturing 81% of available recyclables through the Blue Cart/Depot program.

#### **GOAL**

A good goal for the City's P&E is to boost participation and capture from existing waste diversion programs. It should provide residents with:

- 1. An overview of current progress (i.e. 32% diversion);***
- 2. A "Call to Action" describing the City's current waste diversion target (35%);***
- 3. Specific instructions on how residents can help achieve these goals (in clear and understandable terms).***

The key is to develop a simple message statement, and then have the "creative" (the actual words and visuals) follow from that. This step of crafting your message needs to be consistent throughout the entire City's P&E campaign as it provides resident recognition.

The following example depicts the use of realistic photo style messaging on vehicles and drop off depots. The photos include all items that the municipality intends to target without the clutter of text.

#### **Photo Messaging (County of Peterborough)**





City messaging should state the following key elements:

- **Target specific materials including:**
  - Heavy items such as fibre material (to increase your overall diversion rate and capture rate);
- 
- **Target specific sectors**
  - Single family homes
  - Multi-residential homes

#### Define the City's Target Audience

- SINGLE FAMILY HOUSEHOLDS (18,401 h.h.)
- MULTI-FAMILY HOUSEHOLDS (1,900 units)

Recent Best Practise workshops in 2012 identified that women are considered a Primary Target audience. The research shows that women have a stronger propensity



to recycle. Women tend to cite the benefits of recycling. It may be prudent to target some P&E directly to women.

The multi-residential sector lags behind in recycling (as it does in all communities in Ontario). This is because recycling is typically less convenient than for single family residents. The CIF webpage offers online services to prepare a Superintendent Handbook to distribute to all multi-residential buildings.

### **Method of Communicating**

According to the Blue Box Enhancement and Best Practices Project (KPMG 2007), municipalities that use an integrated communications campaign using a variety of media formats with targeted messaging is most effective. The following is a list of a mix of media including;

### **Website**

To enhance the existing web site, it is recommended that the City work with the existing graphics designer to add some transparency to the City's waste management program and encourage participation through a 'Call to Action' approach. Residents can take pride in their efforts by seeing updates of the City's current Blue Cart capture rate of 81% and then offer challenges to divert more material. Offer links to recent data such as the City's waste recycling strategy and other related topics. In addition, consider the following items:

- Add a new resident log in link where residents can submit a request for updated information. An example is depicted below (County of Northumberland) The website offers links for new residents to receive new resident information packages, helpful hints in graphic format, e-copies of the hardcopy calendar, etc. The example below is taken from the webpage of the County of Northumberland. This website was designed by esolutions group based out of Waterloo, ON.

#### **Need Some Information?**

Are you new to the neighbourhood and looking for information on garbage and recycling collection? We can help! Just complete this form and email it to the address below. Make sure to include your mailing address. Your package will arrive within days.

First Name:	<input type="text"/>
Last Name:	<input type="text"/>
Email:	<input type="text"/>
Comments:	<div style="border: 1px solid gray; padding: 5px; min-height: 100px;"><div style="text-align: right;">▲ ▼</div><div style="text-align: left;">◀ ▶</div></div>



Submit	Clear
--------	-------

- Consider updating the graphics in the website to depict actual photos of target materials. This adds a more realistic approach and provides a modern edge to the City's website.
- Perhaps a Waste Diversion APP for residents to access on their smart phones and tablets. The County of Brant recently implemented this through 'My-Waste' service provider ([my-waste@recyclingcalendars.com](mailto:my-waste@recyclingcalendars.com)). An annual licensing fee supports the link and provides easy access to updated programming of City data.

### ***Calendar***

A popular tool for municipalities is the mail out of waste management calendars.

- Include current progress in the calendar and highlight the targeted materials in the form of actual photographs of the material.
- Add a centre pull out page (double sided) highlighting the Do's and Don'ts of recycling, hazardous waste information, composting, waste collection.
- Consider full page photos depicting local scenes.

These ideas were used by programs that recently won Municipal Waste Association Awards for best calendar (City of Peterborough and the County of Northumberland). Both programs split the design and printing costs to achieve cost efficiencies (separate design RFQ and a separate printing RFQ). Siting recent example of 2012 costs: The County of Northumberland paid \$27,095 (\$25,095 for printing + \$2,000 for design) for 45,000 copies representing \$0.60/calendar. The City of Peterborough paid \$26,834 (\$17,091 for printing + \$8,329 for design) for 45,000 copies representing \$0.59/calendar.

### ***New Resident Packages***

The City of Timmins may wish to consider Welcome Packages for new residents moving into the area if it is felt that there is a surge of new residents to the area due to the increase in mining activity. Generally, a Welcome Package contains the following:



- Cover letter with Important phone numbers and contact information of all services
- Reference to online services
- Upcoming events (all City brochures including public works, fire, water, fair board, art, etc)
- Neighbourhood associations
- Childcare
- All update waste management information

### ***Resident Reward System***

It was noted during a site visit that residents were curious when City staff and the 2cg team were randomly inspecting Blue cart participation. Instead of “polluter pays” approach with user pay, consider the concept of “Recycler’s Win.” The objective is to reward households that fully participate in the curbside Blue Box program (include all the target material, etc).

Some municipal examples:

#### *City of Hamilton Gold Box Program (dedicated website: [mygoldbox.ca](http://mygoldbox.ca))*

A branded Gold Box program supported by the website my gold box has proven successful. Yellow boxes are awarded to residents that demonstrate proper sorting of their material. The program is carried out through a series of random visual audits. The winner receives a letter of congratulations, recognition in the paper and a ‘gold box’. The winner also is entered into a draw to receive a portion of their tax dollars back (\$180/month from April to October in 2011). The premise is that other residents are encouraged by this incentive.

#### *City of Kingston Remarkable Recycler Program*

In conjunction with Earth Week (spring) and Waste Reduction Week (fall) residents register on the City’s website to participate in this program. Approximately 10 residents are selected per an area for a total of 5 areas. Municipal staff audit their waste to determine composition. The top recyclers are awarded a special box branded with Remarkable Recycler and a free composter and are reported with a photo in the City paper in the spring and in the fall each year (program started in 2011).

#### *County of Northumberland Get Caught Recycling Clean Program*

Municipal staff randomly select 100 homes within the County from April to October and award prizes to residents who demonstrate properly sorted recyclables. This program supports a much larger campaign the County launched in 2008 to change the systems from a Dry system to a single stream Blue Box system. The County offers the prize winner the choice of a Tumbler composter (valued at \$56.50) or a County cheque for \$50. The winner is advertised in the paper and on the radio and they have a lawn sign posted on their line that they were Caught Recycling Clean.



### ***Collection Vehicle Advertising***

Following the consistent messaging, investigate cost to place graphics on the side of the City owned trucks. Recent pricing within southern Ontario indicates ranges of \$1,500 to \$3,000 per truck

### **8.3 Contingencies**

The Priority initiatives can be impacted if there is no City funding available. However, there is CIF funding available so at least some of the initiatives should be able to be implemented.

### **9.0 Monitoring and Reporting**

The monitoring and reporting of the City 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 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 City's Strategy is outlined in Table 9.1.

**Table 9.1 Blue Box Monitoring Strategy**

<b>Recycling System Monitoring</b>		
<b>Monitoring Topic</b>	<b>Monitoring Tool</b>	<b>Frequency</b>
Meet regularly with collection contractor	Meet with collection staff to identify any curbside problems with Blue Cart collection(e.g. contamination)	Monthly
Measurement of Blue Box materials captured.	Documented total weight data as outlined in this Strategy and compare it to target capture rates (85%)	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 carts, fullness of carts. Consider curbside waste audits to verify program composition.	Once every 2 years.
Program Cost	Document Blue Box Program Costs to reflect each cost area to determine overall cost composition.	Annual summary
Customer satisfaction	Customer survey (e.g., telephone); tracking calls/complaints received to the municipal office.	Once every 3 years.
Planning activities	Document as an update to this Strategy what initiatives have been fully or partially implemented, what will be done in the future	Annual summary
Review of Strategy	A periodic review of the Strategy to monitor and report on progress, to ensure that the selected initiatives are being implemented, and to move forward with continuous improvement	Annual summary  Update Strategy every 5 years

## 10.0 Conclusion

The City currently has a good Blue Box waste diversion rate (30%), a very high residential curbside capture rate (81%) and a low program cost for its Blue Cart recycling program.

A phased process to increase the capture rate and maintain, if not reduce, costs is **recommended**.

There are some fairly low cost priority initiatives that can be implemented to help boost the capture rate within the context of the current program. There are a number of low cost future initiatives that could be implemented.

It is recommended that the initiatives be reviewed annually and implemented as budget allows.

It is **recommended** that this Strategy be fully updated in 2017.



