

Moving on Diversion:

A Recyclable Material Diversion Plan

June 2009

Prepared for the Municipalities of:

Needing Township
Conmee Township
Township of Oliver Paipoonge
Gillies Township
O'Connor Township
Shuniah Township

© 2009 Waste Diversion Ontario and Stewardship Ontario

All rights reserved. No part of this publication may be reproduced, recorded or transmitted in any form or by any means, electronic, mechanical, photographic, sound, magnetic or other, without advance written permission from the owner.

This Project has been delivered with the assistance of Waste Diversion Ontario's Continuous Improvement Fund, a fund financed by Ontario municipalities and stewards of blue box waste in Ontario. Notwithstanding this support, the views expressed are the views of the author(s), and Waste Diversion Ontario and Stewardship Ontario accept no responsibility for these views.

Moving on Diversion: A Recyclable Material Diversion Plan was prepared by



Table of Contents

1	Introduction.....	1
1.1	About the Six Participating Townships	1
1.2	The Recyclable Material Diversion Project.....	3
2	Overview of Current Systems	4
2.1	Recyclable Materials Collected	4
2.2	Status of Current Diversion Activities	5
2.3	Composition of Recyclables.....	6
3	The Recyclable Material Diversion Plan	8
3.1	Designing the Plan.....	8
3.2	Priority Initiatives.....	10
3.2.1	Assess Tools and Methods to Maximize Reduction and Diversion.....	10
3.2.2	Develop a Communication and Public Engagement Strategy.....	11
3.2.3	Implement Bag Limits and Restrictions	13
3.2.4	Standardize Service Levels and Establish a Collaborative Haulage Contract...13	
3.2.5	Enhance Recycling Depots	14
3.2.6	Monitor and Modify the Program	15
3.2.7	Joint Municipal Recycling Committee.....	16
3.3	Future Initiatives	16
3.4	Implementation	18
4	Conclusion.....	22

Figures

- Figure 1: Percentage of Waste Recycled
- Figure 2: Available Recyclable Material
- Figure 3: Average Household Waste Composition
- Figure 4: Percentage of Recyclable Material Remaining in Garbage Stream
- Figure 5: Percentage of Material Diverted for Recycling After Implementation of Plan

Tables

- Table 1: Township Population and Number of Households
- Table 2: Material Accepted in Each Municipal Recycling Program
- Table 3: Current Program Performance Compared to Other Northern Ontario Depot Recycling Programs
- Table 4: Blue Box Materials Marketed 2007
- Table 5: Overview of Future Initiatives
- Table 6: Estimated Implementation Costs for Priority Initiatives
- Table 7: Implementation Tasks and Timelines

1 Introduction

The six municipalities of Conmee, Gillies, Neebing, O'Connor, Oliver Paipoonge and Shuniah Townships joined together to develop a cooperative solid waste recycling plan to increase the efficiency and effectiveness of their recycling programs and maximize the amount of recyclable material diverted from disposal. The municipalities provide for the diversion of recyclable material through a depot collection program. Residents must separate their recyclable material and drop it off at their recycling depot located at the local municipal landfill site. Under the *Municipal Act, 2001*, each municipality has the responsibility to plan for and manage municipally-generated solid waste within its boundaries.

Communities located in northern Ontario are confronted with unique waste management issues, such as small populations and long distances to recyclable material processing facilities and markets. These issues present operational and economic challenges for the management of recycling programs. The municipalities recognized that they could manage these challenges more effectively working together to pool resources and expertise where applicable. Representatives from each of the six municipalities formed the Joint Municipal Recycling Committee (JMRC) to develop a waste recycling diversion plan. The JMRC applied to the Continuous Improvement Fund (CIF) for financial support and expertise to develop a cooperative recycling plan. The CIF retained Trow Associates to assist the JMRC with the development of a Recyclable Material Diversion Plan. The focus of the recycling plan is the (municipally generated) residential waste stream.

The objectives of the solid waste recycling plan are:

- To design a sustainable waste recycling system; and
- To achieve a target of diverting 100% of recyclable material from disposal

The new Recyclable Material Diversion Plan incorporates the principles of a sustainable community, and it is designed to reflect a balance and integration between the environmental, economic and social values of the community. In setting its objective, the municipalities recognize that their waste diversion system must be socially acceptable, environmentally responsible and cost effective, meets government regulations and targets, successfully diverts a significant quantity of waste from disposal, and fosters public awareness and action.

1.1 About the Six Participating Townships

Municipality of Neebing

The municipality of Neebing sits along the shore of Lake Superior, just south of Thunder Bay and north of the Ontario/Minnesota border. The municipality is comprised of the townships of Blake, Crooks, Pardee, Pearson and Scoble. It is mainly rural, with a population of about 2500 over an area of nearly 890 square kilometers.

Township of Conmee

The Township of Conmee straddles Highway 11 and sits north of the O'Connor Township and west of the Kaministiquia River. About 740 people call this rural community home, which was named after the spirited and popular local politician and businessman James Conmee, who sat in the House of Commons from 1904 to 1911.

Municipality of Oliver Paipoonge

The Municipality of Oliver Paipoonge forms the nexus point for highways 558, 130 and the Trans Canada. One of the largest and most densely populated municipalities in the Thunder Bay District, it encompasses an area of 350 square kilometers and is home to about 6,000 residents. It has a diverse landscape and economy that includes pristine areas as well as areas that support transportation, manufacturing, forestry and service industries. The area also is home to a number of tourist attractions, including the 40 metre Kakabeka Falls, also known as the "Niagara of the North".

Gillies Township

The Township of Gillies is a small rural community rich with natural beauty. The area provides a picturesque country setting for its residents, many of whom work in the large economic centre around Thunder Bay. Approximately 550 people live in the Township, which is situated south of the O'Connor Township and west of Neebing.

Township of O'Connor

The Township of O'Connor is a small bedroom community of Thunder Bay. Approximately 720 people live in the Township, which consists of about 120 square kilometers of valley land, forests, and waterways, including the Whitefish River.

Township of Shuniah

The Township of Shuniah rests above the City of Thunder Bay and the Sleeping Giant Provincial Park. The Township covers an area of about 550 square kilometers, with a shoreline of about 40 kilometres from Bare Point to Bays End and along Black Bay. It is home to about 2900 permanent residents, but this number surges to about 5,000 in the summer months with its considerable cottage population. The Township has little industry of its own, but acts as a bedroom community to Thunder Bay.

1.2 The Recyclable Material Diversion Project

The Recyclable Material Diversion Plan is a shared initiative among the six townships to optimize the municipalities' recyclable materials diversion programs and increase the amount of recyclables diverted from disposal. These northern Ontario townships are mainly rural with some seasonal residents. As seen in Table 1, Oliver Paipoonge, Shuniah and Neebing are the most populated townships, with Oliver-Paipoonge having the greatest population density and Neebing the least.

Table 1: Township Population and Number of Households

Township	Population	Households	Population density per km ²
Neebing	2184	1151	2.5
Conmee	740	298	4.4
Oliver Paipoonge	5757	2155	16.4
O'Connor	720	289	5.9
Gillies	544	219	6.6
Shuniah	2913	2106	5.1

Source: Statistics Canada, 2006 Community Profiles.

To date, this project has:

- Conducted an analysis of recycling and waste generation data from participating municipalities;
- Examined similar data from other jurisdictions in Ontario;
- Reviewed the existing system used by the participating municipalities;
- Developed options to increase diversion of recyclable materials; and
- Drafted a recyclable materials diversion plan and formulated recommendations for improvements.

This document presents the results of the project's work to date. Section 2 of this document describes the current recyclable diversion systems of the participating municipalities. This includes the materials accepted in their systems and their existing and potential diversion. Section 3 presents the Recyclable Material Diversion Plan for enhancing these systems and cost-effectively increasing diversion. Sections 4 and 5 include the project's next steps and conclusion.

2 Overview of Current Systems

2.1 Recyclable Materials Collected

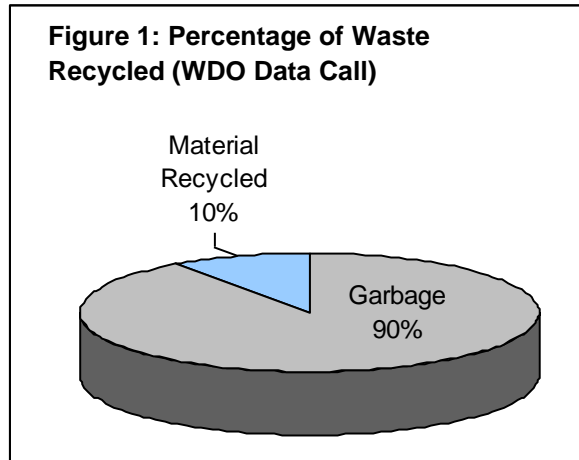
There are 11 main types of recyclable materials that are collected among the participating municipalities. The type of materials most commonly collected include old corrugated cardboard (OCC), old boxboard cartons (OBB), aluminum foil, and HDPE containers. The recycling programs currently do not collect glass and plastics other than number 1 and 2, due to the lack of feasible markets for this material. Recyclable material is collected through depots located at the municipal waste disposal sites. The municipalities contract the transfer and processing of the material to one contractor. The table below presents the materials collected in the Joint Recycling Program and in which Township they are accepted.

Table 2: Material accepted in Each Municipal Recycling Program

Township	Recyclable Material Accepted								
	OCC	OBB	Aluminum Cans & Foil	HDPE & PET Containers	Newsprint	Aseptic Cartons	Gable Top Containers	Empty Paint Cans	Empty Aerosol Cans
Conmee	✓	✓	✓	✓	✓	✓		✓	
Gillies	✓	✓	✓	✓	✓	✓	✓		
Neebing	✓	✓	✓	✓	✓	✓	✓	✓	✓
O'Connor	✓	✓	✓	✓	✓	✓	✓	✓	
Oliver Paipoonge	✓	✓	✓	✓	✓	✓	✓		
Shuniah	✓	✓	✓	✓	✓	✓	✓	✓	✓

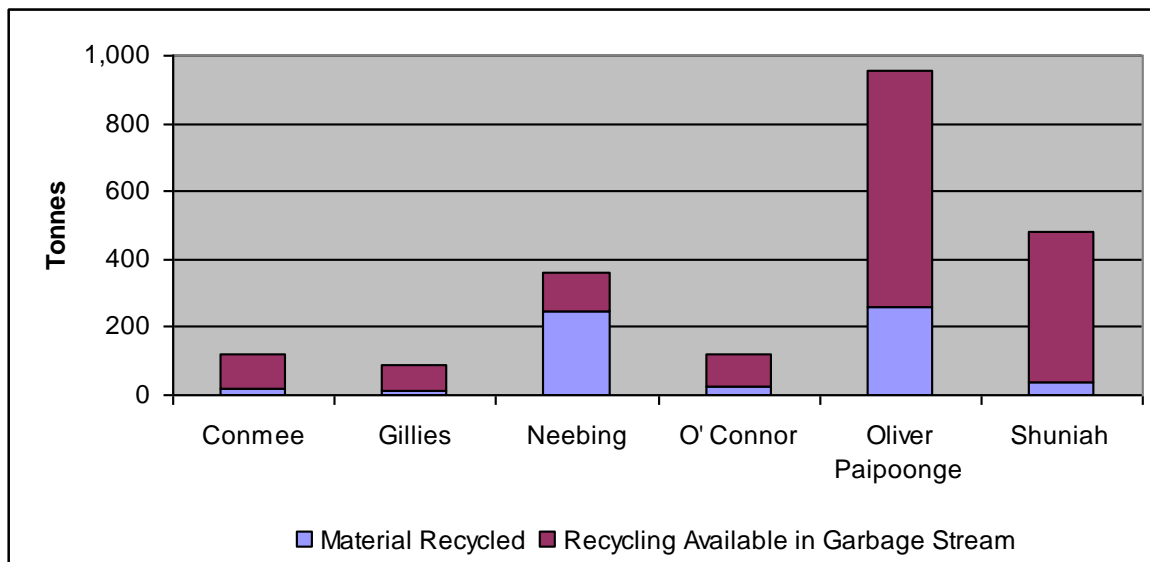
2.2 Status of Current Diversion Activities

Currently, the townships collectively generate approximately 6,080 tonnes of solid waste per year¹. Of this, the townships divert approximately 600 tonnes – or about 10% – through recycling, while the remaining 5,480 tonnes are disposed of in local landfills (figure 1). Based on waste audits conducted in similar-sized municipalities, this leaves approximately 1,500 tonnes of recyclable material left in the waste stream available for diversion.



The amount of recycling taking place varies among the townships. As seen in the chart below, the greatest amount of material recycled comes from Neebing and Oliver Paipoonge. Those Townships with the greatest amount of recyclables available for additional diversion are Oliver Paipoonge and Shuniah. Furthermore, Table 3 on the following page demonstrates the cost of the current municipal recycling programs and the comparison against other northern Ontario municipal depot recycling programs.

Figure 2: Available Recyclable Material



¹ Assuming each person generates on average 473 kilograms of waste per year, based on waste characterization studies of similar northern Ontario communities.

Table 3: Current Program Performance Compared to Other Northern Ontario Depot Recycling Programs

	Conmee	Gillies	Neebing	O'Connor	Oliver-P	Shuniah	Average	Northern Ontario Depot Programs*
Cost/Tonne	\$ 157.50	\$ 215.50	\$ 78.84	\$ 219.36	\$ 444.44	\$ 644.58	\$ 293.37	\$ 407.38
Cost/HHLD	\$ 15.86	\$ 16.93	\$ 7.81	\$ 39.06	\$ 9.28	\$ 3.67	\$ 15.44	\$ 32.97
Kg/cap	30	22	114	39	45	12	43.67	18.34

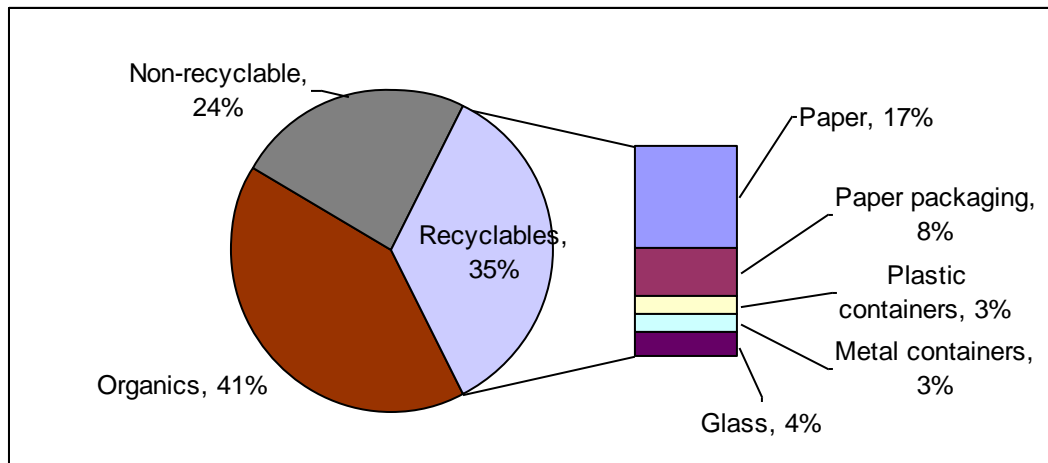
*2007 WDO Data Call

2.3 Composition of Recyclables

Average Household Composition of Waste

Figure 3 below presents the average composition (by weight) of household waste for northern Ontario communities². The largest component is organics (41%), followed by recyclable materials (35% in total). The remaining 24% is material that currently cannot be recycled or composted.

Figure 3: Average Household Waste Composition



The recyclable material stream can be generally divided by five types of recyclable material: paper, paper packaging such as old corrugated cardboard or boxboard, plastic containers, metal containers, and glass. The largest recyclable stream is paper and paper packaging (collectively called fibres), which together comprises about 25% of the entire waste stream.

Blue Box Materials Diverted from Waste Stream

² Based on an averaging of community waste audits completed in northern communities.

While the amount of blue box material collected and marketed from each township varies, it is generally in the range of 12 to 45 kg/person/year. The exception to this is the Township of Neebing, which markets 114 kg/person/year. Table 4 below presents the amount of blue box material marketed for each Township in 2007.

Table 4: Blue Box Materials Marketed 2007

Township	Blue Box Materials (Kg/person)			
	Fibre	Metal	Plastic	Total
Conmee	15	8	7	30
Gillies	9	9	4	22
Neebing	27	57	30	114
O'Connor	22	7	10	39
Oliver Paipoonge	37	6	1	45
Shuniah	10	1	1	12

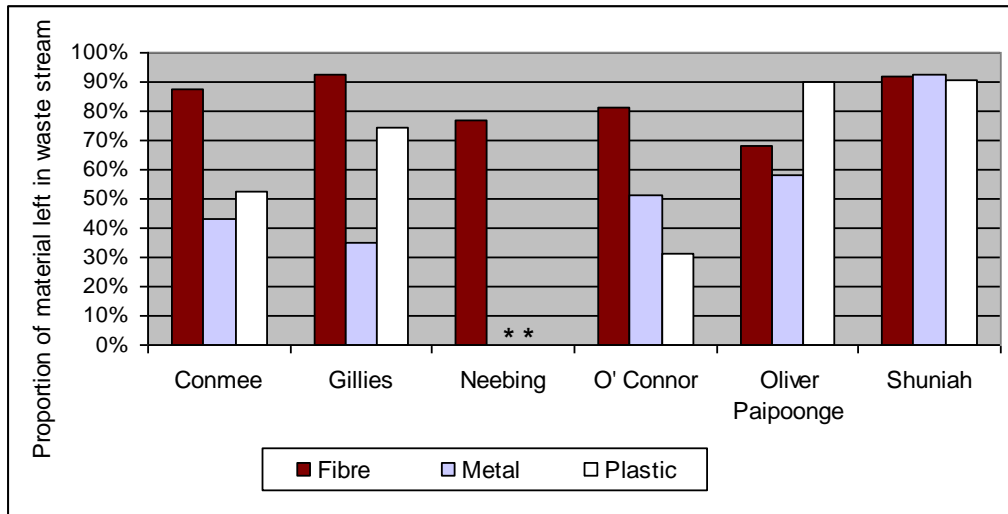
Source: Waste Diversion Ontario Final 2007 Blue Box Tonnage Data for posting Aug-08-08

The table shows that the Township of Neebing is marketing two to three times as much material per person as its neighbouring municipalities. This is due mostly to residents dropping off large amounts metal and plastic recyclable containers. A valid waste audit would need to be completed for Neebing to clearly identify the tonnage anomaly for recyclable metal and plastic material.

Remaining Blue Box Materials in the Waste Stream

While the townships are diverting some blue box material from the waste stream, even more remains to be diverted. Based on the average composition of the household waste stream and estimated total solid waste tonnages for each municipality, between 68% to 92% of the entire fibre stream is still ending up in landfill. This presents a considerable opportunity for recovery. As Figure 4 below illustrates, considerable amounts of fibre as well as metal and plastic blue box materials remain in the waste stream and are available for recovery.

Figure 4: Percentage of Recyclable Material Remaining in Garbage Stream



Because of the large amount of material dropped off by residents, the proportion of metal and plastic blue box materials in Neebing's waste stream deviates from normal averages. As a result, these values are excluded from the above chart.

3 The Recyclable Material Diversion Plan

3.1 Designing the Plan

The Recyclable Material Diversion Plan was developed through two workshops held by the Joint Municipal Recycling Committee, which helped to:

- Identify gaps in their current municipal recycling system;
- Develop and analyze potential waste recycling options;
- Review best practice information on similar municipal recycling programs; and
- Draft a plan forward to maximize the effectiveness of the municipal recycling programs and formulate recommendations for improvements.

In developing the plan, the JMRC recognized that designing the elements of a waste diversion plan depended on the desired objectives from the process as well as a number of other key considerations, which included:

- **The diversion level required:** When contemplating a waste management system, diversion goals must be clearly defined. A wide range of materials needs to be targeted if high diversion is expected however, some programs may be limited by the available capabilities of the processing facility and availability of markets. Programs designed to be the most convenient for the residents will experience the highest participation and are generally required to achieve high diversion levels. Municipalities need to decide what diversion rates they want to achieve.

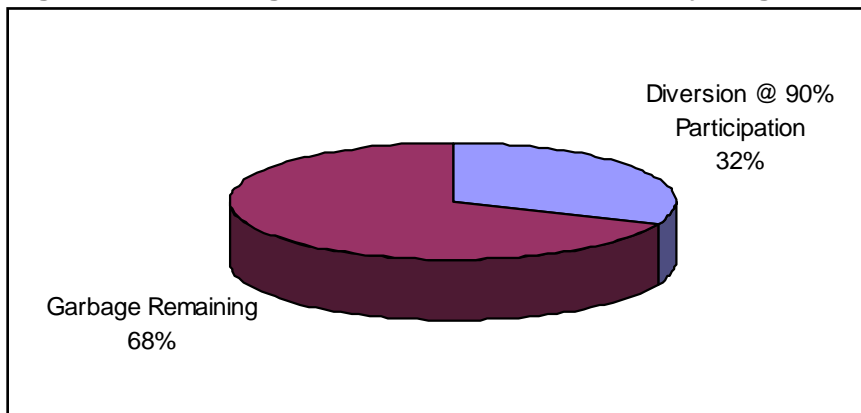
- **Costs:** Costs have an enormous influence on the design decision. As an example, collection of recyclable material using a depot based program is cheaper than a curbside collection program but also recovers less material.
- **Markets:** The availability of stable markets for the material produced by waste diversion programs are a key element of making decisions on the best waste management system design. If stable end markets cannot be found for a material, it should not be included in the program. Again, this does not always happen, as a material may be mandated for collection by various regulations, or there may be strong local push to provide recycling opportunities for a material, even though markets are weak.
- **Policies:** Policies such as bag limits and landfill bans can have a significant impact on how a waste management system design will perform. The willingness of a community and its Councillors to support and enforce waste reduction/diversion policies will ultimately impact its effectiveness.

The Plan was designed to help the Townships move towards reaching their recycling objectives:

- Capture 100% of available recyclable material.
- Provide effective promotion and education of municipal recycling programs to residents, resulting in correct and sustainable participation.
- Any new material added to the recycling stream must have a sustainable market.
- Utilize a collaborative approach between the participating municipalities when implementing initiatives to increase participation in recycling and reduce costs.
- Increase landfill life.

To help meet these objectives, a series of priority initiatives were identified, as well as future initiatives for consideration. The successful implementation of the initiatives will improve the effectiveness of the municipal recycling programs and maximize the amount of recyclable material diverted from disposal. Assuming that public participation for the implementation of the Recyclable Material Diversion Plan is maintained at 90% or greater, the municipalities can achieve a 32% diversion rate for recyclable material.

Figure 5: Percentage of Material Diverted for Recycling after Implementation of Plan



The Recyclable Material Diversion Plan initiatives are described in the following sections.

3.2 Priority Initiatives

The JMRC agreed to and recommended the following priority list of waste diversion programs and initiatives for implementation that will increase the effectiveness and efficiency of their waste recycling programs.

3.2.1 Assess Tools and Methods to Maximize Reduction and Diversion

Waste recycling programs fail or succeed based on their ability to overcome public barriers to participation. To ensure success, the JMRC will determine the appropriate tools and methods to maximize participation in the diversion of recyclables from the waste stream and the reduction of waste going to disposal. This will require research to be undertaken on a variety of topics, including:

- The types of waste diversion behaviours currently undertaken in each household;
- Perceived barriers to participation in waste diversion programs;
- Willingness to participate in waste recycling programs;
- How residents currently receive information - or 'learn' - about local waste recycling programs;
- Current methods used by residents participating in local waste recycling programs;
- Explore opportunities for partnership support from key stakeholders; and

- The types of tools residents perceive they require to increase their participation in a recycling program.

It is recommended that this information be collected through a statistically significant telephone survey. The information collected through the survey will help to determine what methods and types of tools can be used to overcome barriers to participation, e.g. containers vs. bags; operating hours of recycling depot, etc. The methods and tools identified at this stage can then be tested for performance using focus groups or through a pilot project. Determining barriers to participation in recycling programs and identifying methods to overcome the barriers will increase program effectiveness and maximize the diversion of recyclable material from disposal.

3.2.2 Develop a Communication and Public Engagement Strategy

Effective communications and public engagement is typically considered a best practice for any waste diversion program. A communication and public engagement strategy will help the Townships to:

- Raise the awareness of the new waste management initiative; and,
- Foster a change in behaviour in residents so that waste diversion becomes the norm instead of the exception, with the goal of significantly reducing material sent for disposal.

Such a strategy should contain:

- The goals and communications objectives of the strategy;
- Identification of the strategy's audience;
- Branding and slogan development;
- Appropriate tactics, messages and communications methods/vehicles to be used to reach the target audience and achieve the strategy's stated goals and objectives;
- Implementation timeline, including steps to implement the strategy and their cost; and
- Performance measures to evaluate the effectiveness of the communications program.

The following outlines the steps and outcomes regarding the development of a Communications Strategy:

Step 1: Context Scan

- Review local reference materials (existing communications materials, surveys, participation rates, material tonnages, etc.);
- Identify existing communications mechanisms and channels, linked projects/programs, and companion opportunities – including those potentially available in conjunction with major stakeholder groups e.g. Chamber of Commerce;
- Explore opportunities for partnership support from other stakeholders;
- Engage interested stakeholders and the public to discuss potential communications approaches;

Step 2: Audience Identification

- Identify differences in audience receptiveness, based on knowledge of the area, existing demographic data, and experience;
- Identify target audiences and key drivers behind behaviour change;
- Review communication tactics, mechanisms, frequency and reach, to access those audiences and identify core messages and design elements;

Step 3: Identify Core Messages and Design Elements

- Develop core messages and design elements and identify feedback mechanisms;
- Focus test messages and designs;

Step 4: Develop Detailed Communications Strategy

- Draft the Communication and Public Engagement Strategy containing the results of steps 1-3;
- Test messages and design elements for public acceptance.

Possible methods and tools that could result from the communication strategy include:

- Consistent promotion and education across the participating municipalities, including a common theme and a common website (this can reduce the cost of designing the promotion for each municipality);
- Newsletters to the general public and the private sector;
- Public events and speaking engagements;
- Liaison with and leverage stakeholder groups;

- School program; and
- Contests.

Furthermore, the JMRC's communication strategy should utilize the same materials and tools across the six municipalities to take advantage of economies of scale and reduce costs. The JMRC should also explore pooling promotion and communication resources with others such as the City of Thunder Bay.

Estimated Cost: Capital: Estimated \$25,000.00
 Operating: \$1-2/HH

3.2.3 Implement Bag Limits and Restrictions

In recent years, many communities in Ontario have implemented programs that limit the number of bags/items that can be disposed of as garbage. Bag limits restrict the number of bags of garbage a resident is allowed to dispose. In many municipalities, reducing bag limits to 2 bags or less have been seen to result in increased waste diversion. For example some municipalities within the Region of York, Ontario have recently reduced the number of bags residents can set out as garbage to a maximum of 2 per week. Since the change, the municipalities have noticed an increase in waste diversion of 3% to 5%.

The JMRC recommend restricting bag limits to 2 bags or less and using clear bags for garbage.

Estimated Cost: Negligible, consisting mainly of promotional materials and staff time to enforce bag limits.

3.2.4 Standardize Service Levels and Establish a Collaborative Haulage Contract

The development of a standardized service level including the development of a regional contract for the haulage and processing of recyclables for the six participating municipalities is also a priority initiative of the recycling plan. Presently, certain types of recyclable materials are collected by some municipalities but not others and each municipality has a separate haulage and processing contract. Standardizing the collection program would include having all six participating municipalities collect the same types of recyclable material; use the same type of collection containers at the local recycling depots; and enter into a joint cooperative contract for the collection and processing of recyclable material.

The joint contract should require costs to be itemized according to lift, haulage and processing fees to allow municipalities to review specific costs and consider program

changes where necessary to improve efficiencies. Furthermore, the municipalities should share in material revenues or incorporate a revenue rebate from the contractor in such a way to benefit from material revenue when markets are good but not to impede the contractor's financial risk when market prices are low. Standardizing the collection program would:

- Increase the amount of recyclable material diverted from disposal;
- Allow for common promotion and education materials;
- Increase contractor efficiencies through more effective operations; and
- Potentially reduce costs.

3.2.5 Enhance Recycling Depots

The performance of the municipal recycling programs are premised on the participation of residents to deposit recyclable material they have separated from their general waste at the depot located at the local landfill site. This type of program is typical of municipal recycling programs servicing less densely populated areas. According to the WDO data call, the depot systems in Northern Ontario recovered less than 20 kg/cap/yr of recyclable material compared to curbside collection programs which recovered approximately 65 kg/cap/yr. However, curbside collection programs are not economically feasible in most northern rural communities due to low population densities and high seasonal population fluctuations. These types of communities must make the most of a depot system to recover recyclable material. Enhancing the recycling depots has the potential to reduce costs in the medium to long-term and maximize the amount of material recovered.

It is important to take into account the specific characteristics of the community participating in the depot program when evaluating the factors contributing to the success of a given program. A best practice study³ recently undertaken to identify ways to improve recycling capture rates at recycling depots in rural areas identified a number of practices that can be utilized by the JMRC to improve their recycling depots. The study identified four main factors which contribute to an efficient and effective recycling depot system:

1. Depot Capacity and Hauling distance to the MRF
2. Depot Accessibility and Attendant Duties
3. Seasonal Population
4. Waste Diversion Policies

³ SGS Lakefield Research Ltd., Evaluation of Best Practices of Rural Recycling Depot programs, 2006

The JMRC should explore the following practices to improve the recycling depots:

- Optimize recycling depots at satellite locations in addition to those at the local landfills. To ensure that depot locations are as accessible to residents as possible, the locations should be based on input from the public;
- Include the promotion of the depot(s) as part of the communications strategy;
- Incorporate friendly, easy-to-read signage at the depots that uses minimal text to help depot visitors navigate the site easily, prepare their materials correctly, and place their materials in the appropriate containers;
- Standardize and provide larger bins for recyclable materials to accommodate the increasing volume of recyclable material;
- Train depot attendants. An attendant who promotes the program and encourages proper material separation contributes to the program's success and increases its effectiveness which can result in greater community participation and higher material recovery rates;
- Provide additional part time staff during periods of seasonal population fluctuations to encourage proper participation by users;
- Ensure the depot is well maintained to reduce contamination and increase public participation; and
- Diversion policies such as bag limits and/or user pay programs directly impact recycling depot program recovery rates.

3.2.6 Monitor and Modify the Program

A monitoring and evaluation program will be established to ensure the program is continuously improved. Evaluation criteria will be developed based on the municipal objectives and on the objectives of the recycling program the monitoring program will collect information on topics such as:

- Level of program participation;
- Residents' satisfaction with the program;
- How the program could be improved to maximize participation;
- Feedback on the tactics and tools used.

Possible monitoring tools include tonnage data, telephone surveys and waste audits, among others.

Using the data obtained through the monitoring activities, the recycling program will be compared against the evaluation criteria. Based on the results of the evaluation,

recommendations will be made for modifying the program where necessary to achieve the desired results.

3.2.7 Joint Municipal Recycling Committee

The implementation and performance of the waste recycling programs will be monitored by the JMRC, which is made up of municipal staff representatives from the six local municipalities.

This group's role will be to:

- Review the effectiveness of the Recyclable Material Diversion Plan at the end of every year;
- Recommend updates to the Plan as required to maximize diversion of waste from disposal;
- Identify potential joint projects that require inter-municipal coordination;
- Work with Provincial waste management authorities and organizations such as the Waste Diversion Organization to develop and expand northern markets for recyclable material; and
- Report their results back to their respective Municipal Council and residents.

This committee will meet at a minimum of two days a year to review progress towards implementation of the Plan, and report on the effectiveness of the programs delivered. This Plan is to be formally reviewed every two years; however, the JMRC 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.

The Committee's responsibilities will include:

- Delivering public waste recycling programs;
- Delivering instructional/educational information on waste recycling programs to the public; and
- The development and management of required infrastructure.

3.3 Future Initiatives

In addition to the priority initiatives outlined in Section 3.2, the JMRC also identified a number of potential future initiatives which will be reviewed for implementation if the Plan's recycling targets are not met in three to five years. These initiatives are presented in the table on the following page.

Table 5: Overview of Future Initiatives

	Future Initiatives
--	--------------------

	Mandatory Recycling	Disposal Ban on Recyclable Materials	User Pay
Description	A municipal By-law requiring community participation in recycling. Mandatory recycling by-laws can require participation from the residential and IC&I sectors	Provided that suitable markets are available for recyclables other than paper and cardboard, a disposal ban for all other recyclables to be included in the curbside collection program could also be imposed. The effect of the ban would depend on the level of enforcement that is applied.	User-pay systems (also known as Pay-As-You-Throw) require residents to pay by the amount of waste they dispose.
Diversions	Municipalities with mandatory recycling programs have shown increased participation in diversion programs and reduced waste generation.	A strictly enforced ban could have the effect of diverting significant quantities of waste from landfill.	These types of programs can increase participation by as much as 50%
Cost	Implementation costs could vary for enforcement and promotion and education.	Implementation costs could vary for enforcement and promotion and education	Dependent on type of user pay system but generally cost is limited to promotional materials and enforcement.

3.4 Implementation

The JMRC will undertake the following activities for the Implementation of the Recyclable Materials Diversion Plan:

1. Determine appropriate tools and methods required by the public to increase correct participation
 - Complete a statistically valid telephone survey to assess public attitude and barriers to participation;
 - Develop a communication and public engagement plan;
 - Develop appropriate communication materials;
 - Community roll out of public engagement materials, methods and tools.
2. Bag limits
 - Research bag restrictions and determine appropriate limits;
 - Incorporate new policy into communication plan.
3. Enhance Recycling Depot
 - Assess available options including signage, containers, site layout, etc.;
 - Standardize list of recyclable material accepted at the depots;
 - Research potential satellite depot locations (include as part of the telephone survey);
 - Review current haulage and processing contract.
4. Develop Joint Recycling Collection and Processing Contract
 - Assess the six current municipal collection and haulage contracts/agreements;
 - Establish standardized level of service; and
 - Develop a collective collection, haulage and processing contract.
5. Monitor and Modify
 - Survey users at the recycling depot and/or complete a telephone satisfaction survey;
 - Complete a waste audit to assess capture rates of recyclable materials;
 - Revise program accordingly to maximize participation and address gaps in the program.

The JMRC will implement the priority initiatives throughout the remainder of 2009. A detailed list of tasks and timelines to implement the Plan is identified in Table 7 Implementation Tasks and Timelines.

The total estimated cost of implementing the priority initiatives over the six townships is approximately \$73,350 (or between \$11 and \$12 per household), with \$60,600 in capital costs and 12,750 in annual operating costs. A summary of the costs per priority initiative is provided in table 6.

Table 6: Estimated Implementation Costs for Priority Initiatives

Initiative	Capital Cost		Annual Operating Cost	
	Total	Per HHL D	Total	Per HHL D
Barrier research/ Communication Strategy	\$25,000	\$4	\$8,000 - \$12,000	\$1 - \$2
Bag Limit			Incl. in communications	-
Collaborative Haulage Contract	\$10,000	\$1 - \$2	\$(5,000)	\$(0.80)
Recycling Depot	\$10,000 - \$20,000	\$1 - \$2	\$5,000	\$1
Monitoring	\$ 5,000	\$1	-	-
Total	\$60,600	\$7 - \$10	\$12,750	\$2 - \$3

To help implement the plan, it is recommended that the townships consider the feasibility of hiring a university student or other short-term contract staff to assist with managing the priority initiatives' implementation and coordinating between the townships.

A number of funding options exist to assist the municipalities with the capital and operating costs associated with implementation of the Plan. The major government funding programs available to assist regions and municipalities to develop and implement waste diversion programs and infrastructure is listed below:

Continuous Improvement Fund (CIF):

The CIF is a funding program developed through the cooperation of the Association of Municipalities of Ontario, the City of Toronto, Stewardship Ontario and Waste Diversion Ontario. The Continuous Improvement Fund (CIF) provides grants and loans to municipalities to execute projects that will increase the efficiency of municipal Blue Box recycling and help boost system effectiveness. The CIF's mandate is to financially support projects that will:

- Identify and implement best practices;
 - Examine and test emerging technologies;
 - Employ innovative solutions to increase blue box materials marketed;
- and

- Promote gains in cost-effectiveness that can be implemented province-wide.

Green Municipal Enabling Funds:

The Federation of Canadian Municipalities has established the \$100 million Green Municipal Investment Fund (GMIF) and the \$25 million Green Municipal Enabling Fund (GMEF), which are designed to encourage advances in environmental technology and innovation. The expectation is that knowledge and experience gained with support from GMIF/GMEF in best practice and innovative environmental projects will be applied nationally to program and infrastructure projects.

Canada Strategic Infrastructure Fund:

The Federal Government has allocated \$4 billion for regions and municipalities seeking to invest in infrastructure projects that promote effective urban development and use innovative technologies and practices to minimize green house gas emissions pollutants.

Table 7: Implementation Tasks and Timelines

		Jul-09				Aug-09				Sep-09				Oct-09				Nov-09				Dec-09				Jan-10			
		Weeks	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
	Task																												
Determine appropriate diversion tools and methods																													
1	Public attitude/barrier survey					■																							
2	Develop communication/public engagement plan				■	■	■	■	■																				
3	Price communication pieces				■	■	■	■	■	■																			
4	Develop communication pieces				■	■	■	■	■	■	■																		
5	Price recycling containers/bags				■	■	■	■	■	■	■																		
6	Purchase resident recycling containers				■	■	■	■	■	■	■	■	■																
Roll out communication and public engagement strategy																													
7	Distribute communication material via mass mail												■	■	■	■													
8	Train landfill attendant												■	■	■	■													
9	Hire part time landfill attendants for peak periods												■	■	■	■													
10	Create communication material for landfill and satellite depots												■	■	■	■													
Recycling depot																													
11	Assess available depot options					■	■	■	■	■																			
12	Review and negotiate haulage and processing contracts					■	■	■	■	■																			
13	Assess and standardize acceptable recyclable material					■	■	■	■	■																			
14	Review and evaluate applicable bag limits					■	■	■	■	■																			
15	Assess staffing requirements and hire part time staff					■	■	■	■	■	■	■	■																
16	Consult public and assess new satellite depot locations					■	■	■	■	■	■	■	■																
17	Purchase/lease equipment					■	■	■	■	■	■	■	■																
18	Modify existing depots/install satellite depots					■	■	■	■	■	■	■	■	■	■	■													
Monitor/evaluate/revise																													
19	Public survey																								■	■			
20	Waste audit																									■			

4 Conclusion

The JMRC has decided that much more emphasis needs to be put on diverting recyclable wastes from disposal. Based on best practices in other communities for Ontario and elsewhere, greater than 30% of the total municipal wastes generated by the Township's residents can be diverted from disposal for recycling by improving the capture rate of recyclable materials and increasing participation in the municipal program. Key to the future success of maximizing increased recycling will be the ability of Township's to:

- Encourage public support and participation;
- Overcome barriers to participation; and,
- Allocate required financial and human resources.

The Recyclable Material Diversion Plan contains programs and initiatives that meet the JMRC's objective to increase the diversion of recyclable material. The Plan's initiatives to create an effective and efficient recycling program include:

- Barrier Research;
- Development of a Communication and Public Engagement Strategy;
- Implementation of bag limits;
- Standardizing service level;
- Establish a collaborative haulage contract;
- Enhance recycling depots; and
- Monitor the program and revise as necessary to maximize its effectiveness and efficiency.

It is important for the JMRC to plan for a highly flexible implementation schedule in order to respond to changes over time such as adjusted market conditions or innovations in technology.